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ECONOMIC IMPACT OF ERASMUS+ STUDENT MOBILITY

Insights from Croatia, Germany, Hungary, Portugal, and Serbia

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List of abbreviations

ACA	Academic Cooperation Association
AI	Artificial Intelligence
AMEUP	Agency for Mobility and EU Programmes, Croatia
BM	Beneficiary Module (Erasmus+ mobility reporting system)
B1G	Gross Value Added at Basic Prices
CPL	Comparative Price Level
DAAD	German Academic Exchange Service, Germany
EC	European Commission
EU	European Union
EU27	European Union, 27 Member States
FTE	full-time equivalent
GDP	Gross Domestic Product
GGRev	General Government Revenue
GVA	Gross Value Added
HEI	Higher education institution
HICP	Harmonised Index of Consumer Prices
ICT	Information and Communication Technologies
IMF WEO	International Monetary Fund – World Economic Outlook
I–O	Input–Output
KA131	Erasmus+ Key Action 131: Mobility of higher education students and staff (programme countries)
KA171	Erasmus+ Key Action 171: Mobility of higher education students and staff (partner countries)
NA	National Agency
OS	Organisational Support
P1	Total Output (Eurostat national accounts indicator)
PPS	Purchasing Power Standard
SUT	Supply and Use Tables
TCA	Training and Cooperation Activity
TPF	Tempus Public Foundation, Hungary

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Executive summary

Rationale

Student mobility generates wide-ranging educational, intercultural, institutional, and economic benefits, yet the short-term economic footprint of credit mobility remains comparatively underexplored. While extensive research—particularly in market-driven higher education systems—has documented the economic contributions of international degree-seeking students, far fewer analyses address the impacts of short-term exchanges such as those supported by Erasmus+, despite their scale and growing importance in European policy.

Emerging evidence shows that Erasmus+ students contribute meaningfully to local economies through consumption, travel, and longer-term destination loyalty, but the reciprocal nature of Erasmus+ flows requires a net perspective that considers both host-country gains and sending-country opportunity costs. Limited data, methodological constraints, and scarce cross-country studies mean that the distribution, magnitude, and structure of these effects remain insufficiently understood—even as EU ambitions for mobility expand under *Europe on the Move* and the *Union of Skills*.

To help fill this gap, the Academic Cooperation Association (ACA), together with National Agencies in Croatia, Germany, Hungary, Portugal and Serbia, conducted a joint study to quantify the short-term economic effects of Erasmus+ KA131 student mobility and examine its alignment with national development priorities.

The study develops and applies a harmonised analytical framework across five diverse national contexts, offering new comparative evidence on an under-researched but increasingly relevant dimension of European student mobility. It focuses on intra-European student mobility funded under the Erasmus+ KA131 2022 call, covering study periods and traineeships of 5–360 days implemented between the academic years 2021/22 and 2023/24.

Conceptual framework

At the core of the analysis is an input–output (I–O) model, originally developed by Leontief and widely used in studies of international student mobility. The I–O approach is well suited to Erasmus+ credit mobility because it translates expenditure-driven shocks – rather than changes in production or investment – into estimates of their macroeconomic effects. In this study, these effects are expressed as changes in domestic final demand and measured in three indicators:

- Gross value added (GVA)
- Employment (full-time equivalent jobs)
- Fiscal revenue (taxes and social contributions)

The model concentrates on short-term, quantifiable effects arising during the mobility period itself. It deliberately excludes longer-term outcomes – such as skills acquisition, productivity gains, innovation, or "brain circulation" – that are central to the wider value of mobility but cannot be robustly measured with available data.

To reflect the reciprocal nature of Erasmus+ credit mobility – where countries simultaneously host incoming students and send domestic students abroad – the framework distinguishes clearly between benefits and costs for each national economy. A central feature is the explicit treatment of counterfactuals, which estimate what portion of spending would have occurred domestically in a no-mobility scenario. This ensures that only expenditure that genuinely changes domestic economic activity is counted as an economic effect.

In addition to the quantitative modelling, the study includes a qualitative assessment of how Erasmus+ mobility patterns align with each country's long-term economic strategies and priority sectors. This does not forecast future economic impacts, but it situates current mobility in a broader strategic context (e.g. industrial policy, smart specialisation, digital and green transition agendas) in which mobile graduates may contribute to national competitiveness over time.

Model architecture: inflows, outflows and counterfactuals

The model is built around three categories of financial flows:

Inflows – new expenditure entering the domestic economy, notably:

- Living and study expenses of incoming Erasmus+ students
- Domestic shares of relocation costs for incoming students
- Visitor spending by friends and family who travel to visit incoming long-term students

Programme-related transfers: organisational support (OS) to higher education institutions and management fees to National Agencies

Outflows – domestic resources spent abroad, including:

- Living and study expenses of outgoing students in the host country
- Foreign shares of relocation costs for outgoing students
- Visitor spending of friends and family who visit outgoing long-term students abroad
- Erasmus+ mobility grants to outgoing students, recorded as a minus item on the outflow side because they are fully spent outside the home economy

Counterfactual components (opportunity costs) – domestic expenditure that would have occurred in the absence of mobility, and is displaced abroad during the mobility period:

- Domestic living and study expenses that outgoing students would have incurred at home
- Domestic travel costs they would have made between home and study city
- Domestic visitor spending that would have taken place if family and friends had visited them in their home country

For each component, the model calculates a **net impact**. For example, in the case of personal spending by outgoing students, only the part of their foreign expenditure that exceeds the foregone domestic spending is treated as a true economic leakage. This net-of-counterfactual approach avoids both underestimating and overstating the costs of outward mobility.

The overall net domestic final demand generated by Erasmus+ mobility in each country is then:

Net demand = inflows − (outflows − counterfactuals)

This net balance, which can be positive or negative, represents the portion of economic activity that would not exist without Erasmus+ KA131 student mobility.

Because spending behaviour varies strongly by **duration**, the model distinguishes between:

- Short-term mobilities (5–30 days)
- Long-term mobilities (60–360 days)

Short-term participants are modelled as tourist-type consumers, with spending profiles based on Eurostat tourism statistics (per-night expenditure on personal trips by young

EU residents). Long-term participants are treated as medium-term residents, with monthly budgets derived from EUROSTUDENT VIII cost-of-living data for international students.

This differentiation is important for two reasons: first, short-term mobility concentrates spending in tourism-related sectors (accommodation, food services, local transport and leisure), whereas long-term mobility channels more expenditure into housing, groceries, utilities and everyday services; second, only long-term mobility is assumed to generate visits from friends and family, and thus additional tourism demand.

Model components

The model aggregates four main expenditure blocks:

a) **Personal living and study expenses** of incoming and outgoing students – the largest component, covering accommodation, food, local transport, communication, health, leisure, and study materials. For outgoing students, the model subtracts the domestic consumption they would have incurred at home to derive net leakage.

b) **Relocation costs** – one-off travel expenditure to and from the host country, estimated using Erasmus+ distance bands and unit rates, combined with assumptions about the domestic share of international travel spending and counterfactual domestic journeys.

c) **Visitor spending** – tourism expenditure of family and friends visiting long-term students, estimated using Eurostat data on personal trips by age group. For outgoing students, a counterfactual domestic visit is also modelled.

d) **Programme-related transfers** – Organisational Support to higher education institutions and National Agency management fees for Erasmus+, treated as direct injections of EU funds into the domestic economy. No counterfactual is applied, as these transfers only exist because mobility takes place.

Some potential expenditure items are deliberately excluded, either because robust data are lacking or because they would double-count domestic activity. These include: student earnings and associated tax contributions, general public service expenditure on international students (e.g. healthcare, policing, local amenities), and internal operating costs of higher education institutions and National Agencies. Their exclusion makes the results conservative.

Data sources and operational assumptions

The modelling draws on a combination of:

- The Erasmus+ **KA131 2022 call mobility dataset**, providing detailed information on all incoming and outgoing student mobilities in the five countries (duration, country pairs, grants, sending and receiving organisations, field of study, etc.).
- **EUROSTUDENT VIII cost-of-living data** for international students, used to model long-term expenditure.
- **Eurostat tourism statistics** for short-term spending and visitor expenditure.
- Erasmus+ programme guide **travel distance bands** and unit rates, complemented by European mobility distance distributions and national/European transport price data.
- **Programme-level financial data** (OS allocations and management fees) supplied by National Agencies.
- **Eurostat and IMF macroeconomic data** (national accounts, employment, government revenues) used to make adjustments to price contexts and calculate GVA-to-output ratios, employment-to-GVA ratios, and revenue-to-GDP ratios.

Where country-specific data were missing – notably for Serbia and for some consumption and tourism variables – values were imputed using regional proxies (typically the average of Croatia and Hungary) and price-level or income-based scaling. These approximations are clearly flagged in the report and imply that some national estimates, especially for Serbia, should be interpreted with greater caution.

The 2022 call was selected because its project implementation cycle had concluded, providing a complete and stable dataset, while most mobilities took place in the post-pandemic recovery period, reflecting a return to more “normal” mobility patterns. The analysis focuses solely on KA131 intra-European student mobility; mobility under other actions (e.g. KA171, international opening, national scholarship schemes) is excluded, making the estimates a **lower-bound** for the overall economic footprint of student mobility.

Translating net demand into GVA, employment and fiscal effects

Once the net domestic final demand attributable to Erasmus+ mobility has been calculated for each country, it is converted into macroeconomic effects using three sets of parameters:

- **GVA-to-output ratio (*r*)** – derived from Eurostat Supply and Use tables, indicating what share of total output becomes value added.
- **Type I and Type II multipliers** – capturing indirect (supply-chain) and induced (income) effects. In the absence of national sector-specific multipliers, benchmark ranges for small, medium and large economies are applied, chosen conservatively.
- **Employment-to-GVA ratio (*e*)** and **revenue-to-GDP ratio (*f*)** – derived from Eurostat and IMF data, translating GVA effects into supported jobs and fiscal contributions.

The result is an estimate of:

- Direct, indirect and induced GVA generated or foregone through Erasmus+ KA131 student mobility
- The net number of FTE jobs supported
- The net fiscal impact for each country.

These indicators are reported both in aggregate and by type of effect (direct, indirect, induced), making it possible to distinguish between impacts arising from programme-level funding and those driven by student consumption.

Boundaries, limitations and interpretation

The framework has several important boundaries:

- It captures **only short-term, expenditure-based effects** and does not attempt to measure long-term outcomes (skills, productivity, innovation, demographic or labour-market effects).
- It covers **only one call** (KA131 2022) and one action, excluding other Erasmus+ and national mobility schemes.
- It assumes **no student earnings abroad**, omits income-tax effects from student work, and leaves out general public expenditure on services used by international students.
- It relies on harmonised but **imperfect proxies** for spending behaviour, and on counterfactual assumptions that cannot fully mirror individual choices.
- The analysis of alignment with national strategies is **indicative** rather than causal: it compares field-of-study patterns in mobility with stated economic priorities but cannot demonstrate direct cause-and-effect relationships.

Despite these constraints, the model offers a **coherent, transparent and expandable approach** that significantly advances the evidence base on the economic dimensions of Erasmus+ credit mobility. By integrating personal, relocation and visitor spending with programme-level transfers, and by systematically adjusting for opportunity costs, it provides a robust platform for cross-country comparison and for future refinement as better data become available.

Application to five countries

In the subsequent chapters of the report, this framework is applied to Croatia, Germany, Hungary, Portugal and Serbia. For each country, the analysis:

- Reconstructs **mobility patterns** (incoming/outgoing balance, duration, study fields, and share of traineeships) under the KA131 2022 call.
- Estimates **net domestic final demand** and **short-term GVA, employment and fiscal effects**, disaggregated by personal, relocation, visitor and programme-related components.
- Examines how the subject-field distribution of Erasmus+ mobility and the profile of incoming traineeships **relate to national economic development strategies**, including industrial policy, smart specialisation, digital and green transformation plans.

Together, these country analyses generate new comparative insights into the scale, structure and distribution of the short-term economic effects of Erasmus+ KA131 student mobility and highlight where mobility patterns are already well aligned with strategic priorities and where there is scope for better targeting in the future.

Findings

Across all five countries—Croatia, Germany, Hungary, Portugal, and Serbia—the results demonstrate **consistently positive economic impacts** from Erasmus+ student mobility.

Despite significant differences in size, mobility volumes, economic structures, and cost-of-living levels, each country registers **net gains across all categories**: domestic demand, output, GVA, employment, and fiscal effects. This confirms that Erasmus+ mobility acts as a **positive economic stimulus** in every national context examined.

Croatia

Under the KA131 student mobility call 2022, Erasmus+ related spending in Croatia generated the following short-term macroeconomic effects:

- **EUR 6,86 million in total GVA**, including EUR 1,04 million in direct, EUR 3,23 million in indirect, and EUR 2,58 million in induced effects;
- **Around 200 FTE jobs**;
- **EUR 3,08 million in fiscal revenues**.

Even at moderate mobility volumes, KA131 mobilities contribute meaningfully to Croatia's economy, with higher education institutions and public bodies benefitting most directly and wider gains accruing through labour-intensive service sectors. Mobility patterns reinforce human-capital development and regional innovation ecosystems, though alignment with strategic sectors remains uneven. Strengthening institutional capacity, addressing regional imbalances, and expanding mobility in green- and digital-transition fields would enhance KA131's long-term contribution to competitiveness and resilience.

Germany

KA131-related student spending in Germany produced substantial macroeconomic impacts due to the scale of mobility flows and the breadth of economic linkages:

- **EUR 60,78 million in total GVA** (EUR 6,86m direct, EUR 26,96m indirect, EUR 33,82m induced);
- Around **773 FTE jobs**;
- **EUR 29,54 million in fiscal revenues**.

These impacts reflect Germany's strong capacity to absorb incoming mobility and the extensive multiplier effects embedded in its diversified economy. The KA131 action aligns well with national strengths in business, STEM, and digital-transition fields and supports Germany's broader strategic ambitions in AI, sustainability, and renewable energy. Expanding mobility in these areas—particularly through deeper university–industry cooperation and wider regional participation—would further amplify the strategic relevance of KA131 in supporting Germany's dual green–digital transformation.

Hungary

In Hungary, the KA131 call 2022 generated notable short-term economic benefits through Erasmus+ related spending:

- **EUR 11,43 million in total GVA**, including EUR 2,10 million in direct, EUR 5,13 million in indirect, and EUR 4,20 million in induced effects;
- **379 FTE jobs**;
- **EUR 5,60 million in fiscal revenue**.

These results highlight the strong domestic value chain effects driven by student spending and institutional activity. KA131 mobility aligns with parts of Hungary's strategic agenda, particularly in ICT and health, but remains underdeveloped in advanced engineering, manufacturing, and agri-food—areas central to Hungary's industrial, digitalisation, and green-transition strategies. Business and science fields strengthen internationalisation and research objectives, yet mobility still has untapped potential in building the specialised technical and green skills featured in national workforce priorities. Broadening mobility in engineering, ICT, energy technologies, and natural sciences, alongside more traineeships and stronger regional participation, would enhance the strategic contribution of the KA131 action.

Portugal

Portugal recorded a strong economic footprint from KA131-related Erasmus+ spending in 2022:

- **EUR 54,41 million in total GVA**, including EUR 3,81 million in direct, EUR 28,25 million in indirect, and EUR 22,35 million in induced effects;
- **Approximately 1.085 FTE jobs**, alongside;
- **EUR 23,87 million in fiscal contributions**.

These substantial effects stem from high incoming mobility volumes and robust multiplier linkages across Portugal's service sectors and higher education system. KA131 mobility aligns well with national priorities in ICT, natural sciences, health, and other knowledge-intensive areas central to Portugal 2030, INCoDe.2030, and the National Innovation Strategy. However, mobility is less prominent in engineering and social sciences, and participation remains concentrated in Lisbon, Porto, and Coimbra–Aveiro. Expanding mobility in green-transition fields and increasing opportunities in interior regions would strengthen KA131's contribution to territorial cohesion and long-term innovation capacity.

Serbia

Erasmus+ related spending under the KA131 call 2022 produced meaningful macroeconomic effects in Serbia:

- **EUR 1,46 million in total GVA**, consisting of EUR 0,24 million in direct, EUR 0,70 million in indirect, and EUR 0,52 million in induced effects;
- Around **91 FTE jobs**;
- **EUR 0,6 million in fiscal revenues**.

Despite operating at a smaller scale, KA131 mobility delivers tangible benefits through service-sector impacts and supply-chain effects. Mobility patterns align with several national strategic priorities, particularly ICT, natural sciences, and health—fields linked to Serbia's digital transformation, AI Strategy, Smart Specialisation priorities, and Green Agenda commitments. Participation remains more limited in engineering, social sciences, and other innovation-intensive areas. Regionally, incoming mobility is concentrated in Belgrade and Novi Sad, indicating potential to broaden the programme's reach. Strengthening mobility in applied sciences, engineering, and energy technologies, as well as deepening university–industry cooperation across regions, would reinforce KA131's contribution to Serbia's long-term development goals.

Across the five participating countries the comparative analysis shows that **differences in system size, mobility volumes and economic structures play a central role** in shaping the scale of short-term economic effects generated through Erasmus+ student mobility. Mobility volumes vary widely, from Germany's very large long-term cohort to the much smaller flows in Croatia and Serbia, directly influencing the magnitude of the resulting economic impacts. Because the data reflect only one KA131 call, outgoing mobilities represent a very small share of total tertiary enrolments across all systems, although modest differences appear, with Portugal showing comparatively higher participation and Serbia the lowest. These structural variances provide the context for interpreting the cross-country results.

Building on this statistical backdrop, the **comparative economic outcomes** demonstrate that Erasmus+ mobility produces positive short-term effects in every country, though at different scales and through distinct transmission mechanisms. **Germany** generates the largest absolute impacts due to its very high mobility volumes and deep supply-chain linkages, while **Portugal** stands out as a high-intensity mobility system whose labour-intensive economy converts student spending into substantial employment effects. **Hungary** and **Croatia** show stable, proportional gains aligned with their mobility profiles, and even **Serbia**—despite the smallest flows—records meaningful indirect and induced contributions. Cost-of-living differences shape the size and composition of impacts, with high-cost countries generating larger direct inflows and lower-cost countries benefiting more from multiplier effects. Programme-related transfers reinforce gains across all systems, particularly in smaller and medium-sized ones. Overall, the findings show that Erasmus+ mobility acts as a **consistent economic**

stimulus, with outcomes shaped by mobility patterns, economic structures and national cost contexts.

Across all five countries, Erasmus+ mobility patterns show **partial yet meaningful alignment with national long-term economic strategies**, largely reflecting the disciplinary profile of mobile students: business, administration and law—supported by a strong mobility culture—remains the dominant field, followed by engineering, ICT, social sciences and health. These areas map closely onto strategic priorities such as digital transformation, advanced manufacturing, internationalised services, health innovation and green transitions. Country-specific patterns reinforce this alignment: in **Croatia**, mobility supports tourism, services and emerging digital sectors; in **Germany**, it corresponds to priorities in industrial digitalisation, AI, renewable energy and research-intensive industries; in **Hungary**, it strengthens skills for FDI-driven manufacturing, digital technologies and export-oriented sectors; in **Portugal**, it reflects national agendas in digitalisation, innovation, green growth and international services; and in **Serbia**, it contributes to industrial upgrading, digital innovation and EU-market convergence. **Traineeships** further deepen this alignment by embedding students in real workplaces across engineering, ICT, health, green technologies and services, while **blended mobility**—though still emerging in 2022—supports digital transformation priorities and widens participation, particularly for students from smaller institutions and peripheral regions.

Conclusions

Erasmus+ student mobility generates **wide-ranging educational, intercultural, institutional and economic benefits**, and mobile students contribute to host communities in multiple ways. Their spending on accommodation, food, transport and leisure stimulates local demand, while regional travel and strong destination loyalty create longer-term promotional and economic spillovers. The results of this study demonstrate that—even though Erasmus+ is not designed as an economic policy instrument—its KA131 student mobility activities produce **clear and measurable economic gains across all five analysed countries**: Croatia, Germany, Hungary, Portugal and Serbia. Incoming students, visitors, programme-related transfers and mobility-linked institutional activity together raise domestic demand, output, employment and fiscal revenues, with high-cost countries generating larger direct inflows and lower-cost economies benefiting from stronger multiplier effects.

The comparative analysis shows that **smaller and mid-sized economies can achieve disproportionately high return ratios**, and that **programme-related transfers play a stabilising role** by supporting educational supply chains and institutional capacity. Beyond these short-term economic effects, Erasmus+ strengthens national

competitiveness through human-capital development. **Mobility patterns align partially but meaningfully with national economic strategies**: large shares of students in business, administration and law underpin skills for export competitiveness, innovation ecosystems and EU market integration, while engineering, ICT, natural sciences and health mobilities contribute to digital transition, green growth and industrial upgrading. Traineeships further reinforce these benefits by embedding students in real workplaces, and blended mobility formats—though still emerging—expand participation and support digital-skills development.

It is important to emphasise that the findings reflect only one Erasmus+ KA131 call (2022). Erasmus+ supports student and staff mobility across seven annual calls and multiple actions, meaning that the **effects presented here represent only a fraction of the programme's full economic footprint**. Extrapolating the model across the full set of calls—or across all 33 programme countries—would yield substantially higher estimates of the programme's aggregate contribution to European economies. To strengthen **future analyses**, richer and more consistent Beneficiary Module data, improved cost-of-living information, and better insights into students' employment status during mobility are needed. **Follow-up studies** covering subsequent calls, traineeships, blended mobility and KA171 will be essential for validating trends and building a more comprehensive picture of Erasmus+'s economic and human-capital impacts.

Introduction

Student mobility produces a wide range of benefits at individual, institutional, and systemic levels. In addition to its well-documented educational and intercultural outcomes (e.g. Crossman & Clarke, 2010; Cleak et al., 2016; Di Pietro, 2012; Di Pietro, 2023; European Commission, 2019; Iriondo, 2019; Parey & Waldinger, 2011; Teichler, 2017; Van Mol et al., 2021), mobility strengthens the capacities of higher education institutions (e.g. Wächter & Maiworm, 2008; De Wit et al., 2015; Kayashima et al., 2024) and increasingly contributes to national and regional economies. International students generate local demand through housing, food, leisure, and service consumption, while their presence also sustains employment and tax revenues within host communities.

Research—particularly in Anglo-Saxon and other market-driven higher education systems—has examined economic impacts mainly through **international degree-seeking mobility**, where tuition fees and longer study periods make financial contributions highly visible. These studies show that international students stimulate local economies directly through expenditure and indirectly through supply-chain and induced effects (e.g. Global Affairs Canada, 2022; London Economics, 2023; Open Doors, 2023). Beyond these short-term impacts, a growing body of work in continental Europe—where tuition-fee income plays a smaller role—also assesses long-term fiscal returns generated through taxes and social contributions paid by international students and graduates during their studies and subsequent employment in the host country (e.g. Geis-Thöne & Plünnecke, 2025; Büchel & Obermeier, 2013). These fiscal gains complement the broader strategic value of attracting skilled talent, as internationally mobile graduates strengthen national human capital and enhance the innovation capacity of host economies (e.g. Levent, 2016).

By contrast, **credit mobility**—short-term study or traineeship periods abroad—has attracted far less analytical attention, despite its scale and increasing policy relevance within Erasmus+, the EU's largest instrument for short-term student and staff mobility. Existing studies (e.g. Mendoza-Jiménez et al., 2025; Grasset & Menendez, 2024; Rodrigues, 2013) nonetheless demonstrate that Erasmus+ students generate meaningful local economic benefits through spending on accommodation, food, and leisure, with additional gains linked to regional travel. These analyses also highlight strong destination loyalty, with many students intending to return as tourists, generating longer-term economic and promotional advantages for host regions. Erasmus+ students therefore act not only as learners but also as short- and long-term economic contributors.

However, because Erasmus+ mobility is broadly **reciprocal**, with outgoing flows partially balancing incoming ones, understanding its short-term economic footprint requires a

net perspective that considers both the benefits accruing to host countries and the opportunity costs borne by sending countries. Temporary and largely reciprocal exchanges mean that host-country gains may be partly offset by losses elsewhere, making the overall impact harder to quantify. The bilateral character of Erasmus flows therefore underscores the need to assess both sides of the exchange (e.g. Rodríguez-González, Bustillo & Mariel, 2010).

To date, only a few studies—most notably in Austria and Slovenia (Kluge et al., 2018; Kluge & Schnabl, 2019)—have attempted to measure such reciprocal effects, and cross-country comparative evidence remains limited. A lack of harmonised data and suitable methodological tools continues to constrain our understanding of how short-term mobility contributes to economic activity and how its benefits and costs are distributed across Europe. Consequently, the scale, distribution and nature of the short-term economic effects of Erasmus+ mobility remain insufficiently understood.

The EU policy context underscores the growing relevance of understanding these effects. Under the *Europe on the Move* initiative, the European Union set the target that by 2030 at least 23 % of higher education graduates should have experienced a period of learning abroad[1]. This ambition, together with the continued expansion of Erasmus+, which has already supported more than 16 million learners over the last 38 years[2], positions mobility as a structural element of Europe's knowledge economy. The *Union of Skills* initiative further highlights mobility as a mechanism for circulating competences essential to sustainable growth and competitiveness[3].

While the primary purpose of Erasmus+ and related EU policy initiatives is to enhance the quality, inclusiveness, innovativeness, and relevance of education and to strengthen Europe's knowledge economy in a global context—rather than to achieve short-term financial gains—mobility does generate accompanying economic effects that merit systematic measurement. It is important to note that these effects operate alongside, and do not replace, the programme's educational and societal goals. Yet despite their significance, they remain underexplored, particularly for credit mobility.

To advance research in this area, the Academic Cooperation Association (ACA), together with several of its member organisations acting as National Agencies for Erasmus+: the

[1] Council of the European Union. (2024). Europe on the Move – learning mobility opportunities for everyone (Council Recommendation C/2024/3364). Official Journal of the European Union, C/2024/3364. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202403364

[2] European Commission. (2025). Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the interim evaluation of the 2021–2027 Erasmus+ programme and the final evaluation of the 2014–2020 Erasmus+ programme (COM(2025) 395 final). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0395&qid=1753181631004

[3] European Commission. (2025). The Union of Skills. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. COM (2025) 90 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52025DC0090

Agency for Mobility and EU Programmes (AMEUP, Croatia), the German Academic Exchange Service (DAAD, Germany), the Tempus Public Foundation (TPF, Hungary), Tempus Fondacija (Serbia), and the National Agency for Education and Training (Portugal Erasmus+)—conducted a **joint study** to examine the economic effects of Erasmus+ student mobility in five selected countries: **Croatia, Germany, Hungary, Portugal, and Serbia**[4].

Motivated by a **shared interest** of these organisations in exploring this under-researched topic, the present study—conducted in 2025—aims to contribute to the emerging body of evidence on the economic dimensions of student mobility by developing and testing a comparative analytical framework applicable across diverse national contexts.

The report is structured into **four main parts**. It begins with an executive overview and a conceptual foundation that introduces the rationale, analytical framework, and overall architecture of the economic impact model. This includes a detailed explanation of the model's components, step-by-step logic, boundaries, and limitations. The following section outlines the full data strategy, describing the scope of the Erasmus+ KA131 (2022 call) dataset, the integration of multiple complementary data sources (cost-of-living, tourism expenditure, relocation costs, programme-level financial data, and macroeconomic indicators), and the operational assumptions underpinning the cost estimation. It then explains how different spending components—personal, relocation, visitor, and programme-related transfers—are translated into macroeconomic effects in terms of gross value added, employment, and fiscal returns.

The core of the report consists of **five in-depth country analyses**—Croatia, Germany, Hungary, Portugal, and Serbia—each following an identical structure to enable comparability. For every country, the report first provides a mobility context, describing incoming and outgoing Erasmus+ student flows. It then presents a systematic cost estimation and net results, followed by the calculation of short-term economic effects and an assessment of how Erasmus+ mobility aligns with national long-term economic goals.

The final sections synthesize findings across countries through a comparative outlook and conclude with key messages, followed by a comprehensive bibliography and technical appendices.

[4] This study was funded through a Training and Cooperation Activity (TCA) of the Erasmus+ programme (2021-2027).

1. Conceptual framework

The study develops and applies a **comparative analytical framework** based on **input–output** (I–O) modelling to capture the economic effects of Erasmus+ student mobility within each national economy. The I–O approach, originally developed by Wassily Leontief and used in previous studies of international student mobility (Kluge et al., 2018; Kluge & Schnabl, 2019), makes it possible to analyse how additional expenditure linked to mobility circulates through different sectors of the economy. It is particularly suitable for Erasmus+ mobility because it translates expenditure-driven shocks—rather than production or investment shocks—into consistent estimates of macroeconomic effects across countries of different sizes and structures. In this study, these effects are expressed as **changes in domestic final demand** and measured in terms of gross value added (GVA), employment (full-time equivalents), and fiscal revenue generated through taxes and social contributions.

The operational model incorporates the main **financial flows** generated by Erasmus+ student mobility and classifies them into **inflows**, **outflows** and **counterfactual** (opportunity costs) components to ensure that only expenditure which genuinely alters domestic economic activity—compared with a scenario without international mobility—is captured as an economic effect[5]. In line with previous work (e.g. Kluge et al., 2018; Kluge & Schnabl, 2019), it includes living, study and relocation expenses of incoming and outgoing students and institutional expenditures linked to Erasmus+ organisational support funds received by higher education institutions.

In addition, the model explicitly accounts for tourism-related spending by visiting friends and family, and programme-related flows linked to organisational support and management fees received by higher education institutions and National Agencies for Erasmus+, respectively, from the EU budget. Together, these elements provide an expanded representation of the primary short-term expenditure effects directly associated with Erasmus+ mobility.

Accordingly, the model concentrates on quantifiable monetary and employment effects, while excluding other potentially relevant economic dimensions—such as skills acquisition, network expansion or long-term consumer preferences—that remain significant but are not readily measurable.

Although this study analyses Erasmus+ mobility, the Erasmus+ programme is not the only funding source for student exchanges. Its effects only partially capture the broader

[5] The use of counterfactual methods for evaluating the impact of Erasmus+ mobility is discussed in the Joint Research Center report "Feasibility study on measuring the causal impact of Erasmus+ incoming student Mobility" (2017).

economic contribution of student mobility supported through national, regional or institutional schemes, which is likely to be substantially larger.

The model focuses deliberately on **short-term effects**, recognising that the full economic returns of student mobility may unfold over much longer periods. Many of the most significant benefits of international mobility—such as enhanced skills, productivity, innovation and brain circulation—do not manifest immediately and cannot easily be isolated from broader education and labour-market processes (Throsby, 1998; Hanushek & Woessmann, 2021). Robust long-term impact modelling remains constrained by data limitations and methodological challenges.

To partially address these limitations, the study complements the short-term modelling with a **qualitative assessment** of how Erasmus+ incoming and outgoing mobility aligns with each country's long-term economic and development strategies. This assessment does not quantify future impacts, but it situates mobility within a wider strategic context in which mobile graduates may later contribute to national competitiveness, skills development, and innovation.

Figure 1 provides an overview of the study's analytical framework, illustrating how mobility-related expenditures generate short-term economic effects and how these quantitative results are complemented by a qualitative assessment of longer-term national priorities.

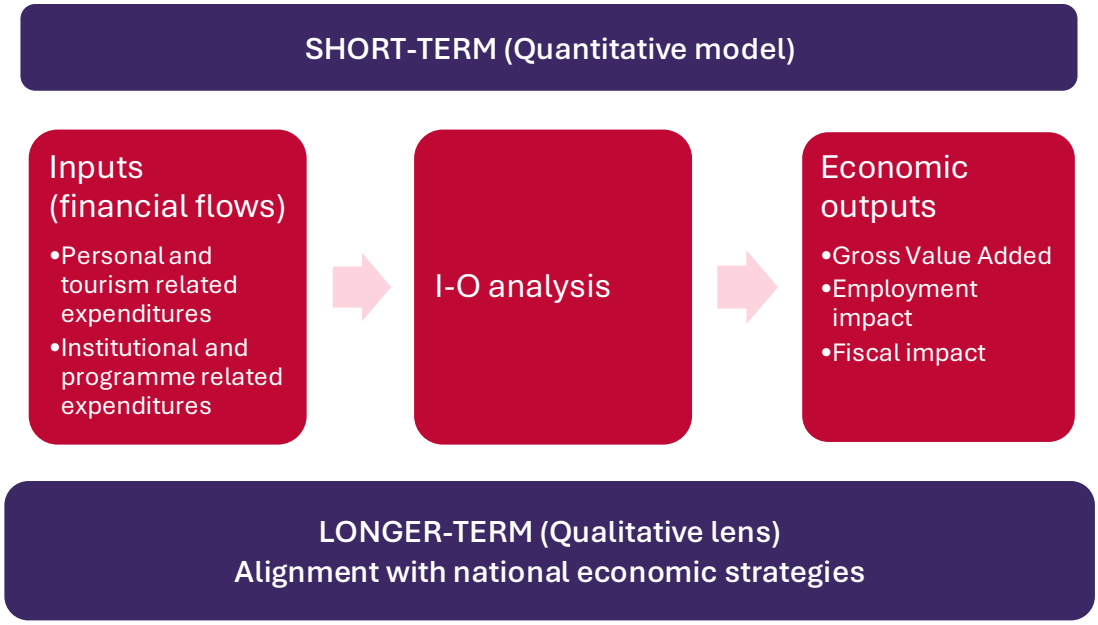

Figure 1. Economic effects of Erasmus+ student mobility

2. Overall approach and model architecture

This section presents the operational architecture of the model, detailing how mobility-related expenditures are structured and translated into short-term economic effects. It sets out the treatment of inflows, outflows, and counterfactual elements, and explains how these combine into net domestic final demand.

Unlike international degree mobility, Erasmus+ credit mobility generally operates on a **reciprocal exchange** basis. Countries host incoming students while simultaneously sending domestic students abroad. This means that part of the economic stimulus generated by incoming students is offset by outward expenditure leakages, while some institutional cost pressures are reduced because outgoing students temporarily lower demand for campus-based services. These dynamics make it essential to incorporate inflows, outflows and counterfactuals when assessing economic effects.

2.1. Model structure

The analytical framework is built around the principle that Erasmus+ mobility generates both benefits (inflows) and costs (outflows) for national economies. These flows arise from the spending of incoming and outgoing students, visitors, higher education institutions, and National Agencies administering the programme. To isolate the true economic effects attributable to mobility, the model also incorporates a **counterfactual scenario**, estimating what portion of these expenditures would have occurred domestically in the absence of mobility.

Accordingly, the model distinguishes three categories:

1) **Inflows**: New expenditure entering the domestic economy as a result of hosting incoming Erasmus+ students or receiving programme-related funds.

2) **Outflows**: Expenditure by outgoing students and their visitors that takes place outside their country of origin.

3) **Counterfactual (opportunity-cost) components**: Domestic expenditure that would have occurred if a student had remained in their home country, but which is displaced abroad during mobility.

To estimate economic outflows accurately, the model uses a **net-of-counterfactual approach**, comparing the actual spending abroad by outgoing students with the theoretical domestic spending that would have occurred had mobility not taken place. This ensures that the analysis captures only the true economic leakage—that is, the

portion of expenditure genuinely displaced from the domestic economy due to Erasmus+ mobility. The core principle is that not all money spent abroad represents a loss for the home country, since students would have incurred many similar costs (such as food, housing or local transport) even if they had remained at home.

Relying solely on the counterfactual would underestimate the economic impact, as it would overlook the portion of consumption that is genuinely redirected abroad. Conversely, counting only the actual expenditure abroad would overstate the loss, because part of that spending is not substitutable—some costs are additional, inflated, or mobility-specific. The net-of-counterfactual method therefore provides a balanced and conceptually sound measure by capturing only the incremental outflow attributable to mobility.

The **net economic effect** of Erasmus+ mobility for each country is calculated as the balance between inflows and adjusted outflows (outflows minus counterfactuals). This net value represents the change in domestic final demand, which forms the basis for estimating effects on gross value added (GVA), employment, and fiscal revenues through input–output modelling.

The **duration of mobility** is a key determinant of its economic footprint, shaping both the scale and structure of expenditure. In line with Erasmus+ rules defining two eligible mobility periods, the model differentiates between short-term mobilities (5–30 days) and long-term mobilities (60–360 days)[6].

Short-term mobility students typically engage in tourist-type consumption, spending more on short-stay accommodation, food services, local transport and cultural activities (Kluge et al., 2018; Kluge & Schnabl, 2019; OECD, 2020). As they do not enter rental markets or establish recurring utility contracts, their expenditure is modelled using a tourism-aligned consumption profile, consistent with research on educational tourism and short-term academic travel (Ritchie et al., 2003; Haines & Phares, 2018; Llewellyn-Smith & McCabe, 2008).

Long-term mobility students incur residence-type expenditure, including medium-term accommodation, groceries, utilities, study materials, communication services and local

[6] According to Erasmus+ rules, the duration of student mobility for studies or for traineeships can vary from 2 months (or one academic term or trimester) to 12 months of physical mobility, excluding travel time. Any student may combine a shorter physical mobility with a virtual component (blended short-term mobility). In addition, any student may participate in blended intensive programmes. In these cases, physical mobility must last between 5 days and 30 days (excluding travel time) and be combined with a compulsory virtual component facilitating collaborative online learning exchange and teamwork. Mobility for studies and/or traineeships for doctoral candidates: varies from 5 to 30 days or from 2 to 12 months of physical mobility (a study mobility may include a complementary traineeship period, if planned), excluding travel time. URL: https://erasmus-plus.ec.europa.eu/programme-guide/part-b/key-action-1/mobility-projects-for-higher-education-students-and-staff?utm_source=chatgpt.com

transport. Their impact is therefore modelled using a distinct expenditure structure consistent with longer-term living arrangements.

Distinguishing these patterns is necessary to estimate economic impacts more precisely, as spending intensity and distribution vary substantially by duration.

2.2. Model components

The model incorporates a comprehensive set of short-term expenditure flows associated with Erasmus+ mobility. These components represent the financial items that:

a) can be quantified based on the adopted model,
b) can be attributed to the mobility period, and
c) directly influence domestic final demand.

To ensure that the model captures only the economic effects genuinely induced by mobility, it includes both **actual monetary flows**—which generate inflows and outflows in the domestic economy—and **counterfactual components**, which represent the domestic expenditure that would have occurred in the absence of mobility. These counterfactual components apply exclusively to outgoing mobility, since only students departing the home country displace domestic expenditure that would otherwise have taken place. Incorporating these adjustments ensures that the net effects reflect only the changes in domestic economic activity attributable to Erasmus+ student mobility.

Expanding earlier approaches, the model also incorporates elements previously unaccounted for, such as visitor spending and programme-level transfers.

Components include:

I. Living and study expenses of incoming and outgoing students

These expenses constitute the largest share of mobility-related economic activity and cover costs for accommodation, food, local transport, communication, healthcare, leisure, and study materials. Expenditure patterns are differentiated by mobility type, with short-term mobility students modelled using a tourist-type consumption profile and long-term mobility students aligned with expenditure patterns typical of medium-term residents.

For **incoming students**, these expenditures represent **domestic inflows**, as they generate new demand within the host economy. Although Erasmus+ mobility grants for

incoming students are reported in the data, they are not shown as a separate inflow in the model because they are assumed to be fully spent domestically and are therefore already embedded in total personal spending.

For **outgoing students**, actual spending abroad constitutes an outflow from the home economy. To isolate the mobility-induced effect, the model also includes a **counterfactual component** representing the domestic consumption that outgoing students would have undertaken had they remained in the home country. This adjustment ensures that the net personal impact captures only the change in domestic economic activity attributable to international mobility.

Finally, **Erasmus+ mobility grants** awarded to outgoing students, although EU-origin programme transfers, are fully spent outside the home economy. As they reduce the amount of domestic funding required to cover students' expenditure abroad, they are recorded on the outflow side **with a minus sign**.

II. Relocation costs of incoming and outgoing students

These costs capture one-off expenditures related to travelling to and from the host country. For **incoming students**, the domestic share of relocation expenses constitutes an **inflow**, as it represents spending that remains within the host economy. For outgoing students, the foreign share of relocation expenses constitutes an outflow, as it leaks abroad and does not contribute to domestic demand.

To isolate the mobility-induced effect, the model also incorporates a **counterfactual domestic relocation cost** for outgoing students, representing the travel or moving-related expenses they would have incurred within the home country had they not gone abroad (e.g., between their home and study city). This counterfactual adjustment ensures that only the mobility-specific change in domestic economic activity is captured.

III. Tourism-related spending by visiting friends and family

Tourism-related spending is included only for long-term mobility (≥60 days), as short-term mobility is assumed to be too brief to generate additional visitor trips.

For **incoming long-term students**, expenditure by visiting friends and family represents an additional inflow into the host economy, as these visits generate new tourism demand that would not have occurred in the absence of international mobility.

For **outgoing long-term students**, spending by friends or family who visit the student abroad constitutes an outflow, as this tourism expenditure takes place outside the home economy.

To isolate the mobility-induced effect, the model also includes a **counterfactual domestic visitor-spending** component for outgoing students, representing visits that would have occurred within the home country had the student remained there. This adjustment ensures that the net visitor impact reflects only the change in domestic tourism activity attributable to Erasmus+ mobility.

IV. Programme-related transfers

Programme-related transfers encompass EU-funded resources that enter the domestic economy as inflows linked to the implementation of Erasmus+ mobility:

a) **Organisational Support (OS)** received by higher education institutions to manage Erasmus+ student mobility, treated as a direct injection into the domestic economy because these funds are spent by institutions on mobility-related services and administrative activities within the host country.

b) **Management fees** allocated to National Agencies to administer the Erasmus+ programme, likewise treated as domestic inflows, as they finance programme management activities carried out within the home economy.

Table 1 summarises the mobility-related financial flows included in the model, distinguishing between inflows, outflows, and counterfactual components.

Table 1. Financial components of Erasmus+ student mobility

Inflows *(new domestic demand)*	**Outflows - Actual** *(domestic funds spent abroad)*	**Counterfactual Components** *(domestic activity displaced by mobility)*
I. Personal expenditures		
A. Living and study expenses of incoming students (short- and long-term)	F. Actual expenditure abroad by outgoing students (short- and long-term)	G. Foregone domestic expenditure of outgoing students (short- and long-term)
	H. Erasmus+ grants of outgoing students (*EU-level transfer, recorded as a minus outflow*)	
Net personal impact = A – (F – G – (–H))		
II. Relocation related expenditures		
B. Relocation expenses of incoming students *(domestic share only)*	I. Actual relocation costs of outgoing students (*foreign share only*)	J. Counterfactual domestic relocation costs (*domestic travel between study and home city*)
Net relocation impact = B – (I – J)		
III. Visitor related expenditures (long-term only)		
C. Visitor spending by friends or family visiting incoming students	K. Visitor spending abroad by friends or family of outgoing long-term students	L. Counterfactual domestic visitor spending (*visits that would have taken place domestically*)
Net visitor impact = C – (K – L)		
IV. Programme-related transfers		
D. Organisational Support (OS) to higher education institutions *(gross inflow)*	-	-
E. Management fees to National Agencies for Erasmus+ *(share attributed to higher education)*	-	-
Net programme-related impact = D + E		
Overall net economic balance = Σ (net personal + net relocation + net visitor + net programme-related impacts)		

2.3. Step-by-step model logic

The operational model follows a structured sequence of steps to translate mobility-related expenditure flows into measurable economic effects:

1) Identification of financial flows (Components A–L)

All expenditure items associated with Erasmus+ mobility—personal spending, relocation costs, visitor expenditure, and programme-related transfers—are identified and categorised according to the model architecture (Table 1).

2) Classification into inflows, outflows, and counterfactuals

Each component is assigned to one of three groups:

- Inflows: expenditure entering the domestic economy,
- Outflows: expenditure occurring abroad,
- Counterfactuals: domestic expenditure displaced due to mobility (opportunity cost).

This classification ensures that only spending that genuinely alters domestic economic activity is counted.

3) Calculation of net domestic final demand

For each country, the net economic contribution of Erasmus+ mobility is computed as:

Net domestic demand = Inflows – (Outflows – Counterfactuals)

This step isolates the net change in final demand attributable to mobility, adjusting outward leakages for the domestic expenditure that would have occurred in the absence of mobility.

4) Conversion into macroeconomic effects using I–O multipliers

Country-specific input–output parameters are applied to translate net domestic demand into macroeconomic effects such as:

- Gross value added (GVA)
- Employment effects (in full-time equivalents)
- Fiscal effects (taxes and social contributions)

These represent the direct, indirect, and induced economic impacts linked to mobility-related spending (Figure 1).

5) Complementary qualitative assessment

The short-term quantitative results are complemented with an assessment of how incoming and outgoing mobility patterns align with each country's long-term economic and development strategies. This step situates the expenditure-based analysis within a broader strategic context (Figure 1).

2.4. Boundaries and limitations

The analytical framework applied in this study provides a structured and transparent way to quantify the short-term economic effects of Erasmus+ student mobility. At the same time, several conceptual and methodological boundaries must be acknowledged.

1) **Focus on short-term, expenditure-based effects**. The model captures only the economic activity directly linked to the mobility period, expressed through changes in domestic final demand. It does not quantify longer-term impacts such as skill accumulation, productivity gains, research collaboration, innovation spillovers, or labour-market effects, even though these may represent some of the most significant outcomes of international student mobility.

2) **Partial coverage of Erasmus+ and other credit mobility programmes**. The analysis includes only intra-European student mobilities funded under Erasmus+ KA131 (2022 call). Other types of mobility (e.g. student mobility to/from international partner countries funded under the international opening of KA131 and KA171, national schemes, bilateral exchanges) are excluded due to data limitations, meaning the results represent a conservative estimate of the full economic footprint of student mobility in the participating countries.

3) **Exclusion of earnings and tax contributions from student employment**. Due to the absence of comparable data on whether Erasmus+ students work during their stay abroad, the model assumes zero employment income. As a result, two potentially significant effects are not captured: additional expenditure in the host economy financed through student earnings, and fiscal effects arising from income taxation and social contributions. Their exclusion therefore contributes to the conservative nature of the estimates presented in this study.

4) **Expenditure items limited to measurable financial flows**. Only financial flows that can be clearly attributed to the mobility period and reliably quantified (Components A–L) are included. Non-monetary or intangible effects—such as institutional capacity building, internationalisation benefits, or reputational gains—are beyond the scope of the model.

5) **Limited comparability of spending profiles**. Spending patterns differ across countries and are modelled using harmonised but imperfectly comparable sources (Eurostat and EUROSTUDENT). While adjustments are applied, the model cannot fully capture cultural or behavioural differences in consumption patterns.

6) **Counterfactual assumptions**. The estimation of opportunity-cost components relies on assumptions about students' likely domestic behaviour in a no-mobility scenario (e.g. living arrangements, likelihood of receiving domestic visitors, domestic travel needs). These assumptions are grounded in EUROSTUDENT and tourism data but cannot perfectly replicate individual choices.

7) **Use of national input–output (I–O) tables**. Economic effects (GVA, employment, fiscal revenues) are derived from national I–O multipliers, which assume fixed production structures and constant returns to scale. While appropriate for short-term analysis, these multipliers do not capture structural economic changes, substitution effects, or dynamic adjustments in the labour market.

8) **No estimation of opportunity costs for institutions**. The model treats organisational support to higher education institutions and National Agency management fees as gross inflows without assessing internal cost structures, administrative overheads, or potential displacement of other institutional activities, which lie outside the scope of available data.

9) **Alignment with national strategies**. The comparison between Erasmus+ mobility patterns and national economic priorities provides broad signals rather than causal evidence, as several structural factors limit the underlying assumptions. National strategies and ISCED subject-field categories are not designed to align, and mobility data capture participation patterns rather than labour-market dynamics. Consequently, observed alignments may reflect programme design or disciplinary traditions rather than strategic priorities. The analysis also excludes more socially oriented strategies, which may prioritise Erasmus+ outcomes differently from economic frameworks.

Despite these limitations—and recognising that additional components (e.g. tourism by the students themselves or institutional overheads) could be incorporated as data improve—the model offers a coherent and operational framework for analysing short-term expenditure effects. By extending earlier approaches and integrating new categories such as visitor spending and programme-level transfers, it provides a comparable and modular basis for assessing economic contributions across diverse national contexts. The structure is intentionally expandable, allowing future studies to refine or add components without altering the core logic.

3. Data and operational assumptions

This section describes the data underpinning the analysis and the main assumptions applied to model the short-term economic effects of Erasmus+ student mobility. It outlines the scope of the dataset, the definition of the sample, the operational rules used to estimate expenditure flows and counterfactuals, and the harmonisation procedures applied to ensure cross-country comparability.

3.1. Data scope and sample definition

The analysis is based on a complete dataset of incoming and outgoing Erasmus+ student mobilities funded under the **KA131 action** (*Mobility of higher education students and staff supported by internal policy funds*) from the 2022 call[7]. The dataset covers all mobilities under this call implemented during the 2021/22, 2022/23 and 2023/24 academic years[8], ensuring that all activities funded under the call had been completed at the time of data collection.

The sample includes **students from all study fields and higher education cycles** (Bachelor, Master, and Doctoral levels corresponding to ISCED 5–8[9]) who undertook study periods or traineeships abroad, with mobility durations ranging from 5 to 360 days.

Only **intra-European mobility** between Erasmus+ programme countries is included. Outgoing mobility supported under the international dimension of KA131 is excluded due to data gaps: Eurostat, used as the main source of harmonised macroeconomic indicators, does not provide fully comparable data for many non-EU destinations. For the same reason, mobilities funded through KA171 (external policy funds)[10] are not included, as many were still ongoing at the time of data extraction and cover destinations for which harmonised macroeconomic data are incomplete.

The **Erasmus+ 2022 call** is deliberately selected a reference point for the analysis because its implementation cycle had concluded, providing a stable and finalised mobility dataset. Although the call was launched during the COVID-19 pandemic (November 2021), most mobilities took place during the recovery period in 2022/23,

[7] This action supports physical and blended mobility of higher education students and staff from EU member states and third countries associated to Erasmus+ to any country in the world. Staff mobility was not included in the scope of the study due to methodologicial complexities linked to different consumption patterns of student and staff.
[8] Not all Erasmus+ mobilities implemented during these three years were exclusively funded by the 2022 call. For example, some mobilities implemented during the academic year 2023/24 were supported through projects funded under KA131 calls 2021, 2023, and 2024.
[9] International Standard Classification of Education (ISCED) is the reference international classification for organising education programmes and related qualifications by levels and fields. ISCED 2011 (levels of education) has been implemented in all EU data collections since 2014. Levels covered in the study include ISCED 5: Short-cycle tertiary education; ISCED 6: Bachelor's or equivalent level; ISCED 7: Master's or equivalent level; ISCED 8: Doctoral or equivalent level. URL: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_Standard_Classification_of_Education_(ISCED)
[10] This action supports physical and blended mobility of higher education students and staff from/to third countries not associated to Erasmus+.

reflecting a return to regular mobility patterns. As such, the dataset offers a robust and broadly typical representation of recent Erasmus+ mobility flows.

Using this dataset, the study provides a conservative estimate of the short-term economic effects of Erasmus+ student mobility. The analysis is designed primarily to illustrate existing expenditure-based impacts—both gains and associated costs—and to test the feasibility of applying a harmonised multi-country framework. As a result, the findings should be interpreted as a lower-bound estimate of the total economic footprint. In practice, the full economic effects of Erasmus+ mobility—across multiple calls[11], funding actions, and beneficiary groups—are likely to be considerably larger, both in the short term and especially over the longer term.

3.2. Data sources and preparation

The analysis draws on a combination of harmonised European datasets and administrative financial data to estimate the expenditure flows associated with Erasmus+ student mobility. These sources provide the information required to model living and study costs, short-term consumption, relocation expenses, visitor spending, and programme-level financial transfers.

The core dataset is the Erasmus+ KA131 mobility dataset, which supplies detailed information on incoming and outgoing mobilities funded under the 2022 call. It is complemented by EUROSTUDENT VIII cost-of-living data for long-term mobility, Eurostat tourism and transport statistics for short-term expenditure and relocation-related costs, and data provided directly by National Agencies on organisational support and management fees. Together, these sources form a coherent evidence base for constructing the expenditure components required for the model.

3.2.1. Erasmus+ KA131 (2022 call) mobility dataset

The main operational dataset used in this study consists of Erasmus+ KA131 mobilities funded under the 2022 call and implemented in the 2021/22, 2022/23 and 2023/24 academic years[12]. The dataset contains information on mobility duration and travel days, Erasmus+ grant amounts, the names and locations of sending and receiving organisations, participant nationality, education level and field of study, mobility format (physical or blended), and indicators related to inclusion support. These variables form the basis for distinguishing types of mobility and for estimating corresponding expenditure flows.

[11] Seven annual calls are planned under the current Erasmus+ programme (2021-2027) along with several supplementary calls.
[12] This dataset was shared by the Directorate-General for Education, Youth, Sport and Culture of the European Commission.

While the dataset is generally complete and consistent, several fields required harmonisation to support cross-country analysis. Fields of study were recoded to ISCED-F categories[13]. Most sigificant gaps were observed in city names: related data was either missing or required normalising to ensure consistency in spelling and the treatment of diacritics. Based on the approximated city data, mobilities were grouped into broader administrative regions. Organisation names were cleaned and assigned to a harmonised typology of institution types, enabling the identification of higher education institutions, companies, public bodies and NGOs, research organisations, school or VET providers, and medical institutions. Inconsistencies—such as duplicate entries or incomplete records—were addressed through systematic data cleaning. The "distance band" variable was unevenly reported, and therefore not applied for this analysis.

Only mobility records with non-zero duration and complete grant information were retained for the analysis, as these variables are necessary to differentiate between short- and long-term mobility and to estimate associated expenditure flows[14].

A small number of mobilities (less than 0,5%) fell outside the Erasmus+ duration ranges for short-term (5–30 days) and long-term (60–360 days) mobility. These cases were reassigned to the nearest appropriate category to ensure consistency in the analysis.

3.2.2. Cost-of-living data (EUROSTUDENT VIII)

Long-term Erasmus+ student expenditure is estimated using **cost-of-living data** from EUROSTUDENT VIII (2021–2024)[15]. This dataset provides the most recent, methodologically robust, and cross-nationally comparable information on student living and study costs across Europe[16]. The timing of its data collection broadly overlaps with the implementation period of mobilities funded under the Erasmus+ 2022 call, reducing the risk of inflation-related distortions.

A central limitation is that EUROSTUDENT VIII covers international degree-seeking students, not exchange students or short-term mobility participants. Nevertheless, previous economic impact studies of Erasmus+ (e.g. Kluge et al., 2018; Kluge & Schnabl, 2019) used EUROSTUDENT data due to its reliability and comparability. Complementary

[13] ISCED-F 2013 broad fields include: 00 Generic programmes and qualifications; 01 Education; 02 Arts and humanities; 03 Social sciences, journalism and information; 04 Business, administration and law; 05 Natural sciences, mathematics and statistics; 06 Information and Communication Technologies; 07 Engineering, manufacturing and construction; 08 Agriculture, forestry, fisheries and veterinary; 09 Health and welfare; and 10 Services. UNESCO UIS – ISCED-F 2013 Classification of Fields of Education and Training: https://uis.unesco.org/en/topic/international-standard-classification-education-isced

[14] In total, less than 1% of mobilities with incomplete duration and/or grant information details were removed from the dataset compiled for each country in the sample.

[15] URL: https://www.eurostudent.eu/

[16] Eurostudent VIII dataset differentiates between costs paid out of own pocket and transfers in kind. Transfers in kind are any costs that are paid by others (parents/partner/employer or others) and not by the students themselves. Payments go directly to the students' creditors, i.e. the respective money is intangible for the students. Both amounts are included in the calculations of total cost of living expenses incurred by Erasmus+ students.

evidence from the ESNsurvey 2023[17] confirms the suitability of this proxy: the average monthly spending of exchange students differs from that of international degree students by only 2%, and the structure of expenditure is nearly identical[18], with both groups allocating around 72–73% of their monthly budget to housing and food. This supports the use of EUROSTUDENT VIII as an appropriate baseline for long-term Erasmus+ students.

To ensure that EUROSTUDENT VIII data accurately reflect the Erasmus+ KA131 population, only a subset of cost categories is included in the analysis. Childcare-related expenditures are excluded, as available empirical evidence indicates that only a negligible proportion of Erasmus+ students have dependents or travel with them[19]. Loan repayments and other debt-servicing costs are also omitted, on the assumption that these obligations are met in the student's home country or country of main study and therefore do not constitute additional expenditure linked to mobility in the host country.

The analysis assumes that Erasmus+ students do not receive remuneration while abroad, as no harmonised data exist on paid employment during mobility[20]; in cases where students may hold paid placements or part-time jobs, any associated income or tax liabilities are excluded due to limited data availability.

In line with Erasmus+ programme rules, tuition fees and other higher education charges are excluded for incoming students, who are exempt from paying such fees at their host institutions[21]. However, study-related charges that give students access to services (e.g. student service fees) are included. For outgoing students, any fees they continue to pay at their home institution are also excluded, since these costs would have been incurred regardless of participation in mobility and therefore do not represent Erasmus+ related expenditure.

Table 2 provides an overview of student living costs included in this study.

[17] https://www.esn.org/ESNsurvey

[18] According to ESNsurvey 2023, international degree-seeking students report average monthly living costs of EUR 808 (n=1,601), compared with EUR 790 for exchange students (n=12,194).

[19] Currently, data on Erasmus+ students with dependants is not collected systematically through the existing data collection tools although some indications can be derived from inclusion-related datasets. EUROSTUDENT data suggest that around 10% of higher education students in Europe are parents, but only about 3–5% among full-time undergraduates, who constitute the main pool for Erasmus+ mobility. Given documented barriers faced by student parents and the lack of direct Erasmus+ statistics, it is assumed that students with children or other dependants represent only a small minority of mobile participants, likely on the order of 1–3% of all Erasmus+ higher-education student mobilities.

[20] According to empirical survey data collected by ESN, around 6% of Erasmus+ students are active in the labour market; however, there is no systematic information on their employers, earnings levels or tax status.

[21] "Erasmus+ students are exempt from paying tuition fees, registration fees, examinations or access to laboratory and library facilities at the receiving institution." (Erasmus+ Programme Guide, 2021–2027).

Table 2. Types of costs of living considered in the study

Type of cost	Eurostudent VIII	15th edition of ESNsurvey	Present study
Accommodation	Yes	Yes	Yes
Food	Yes	Yes	Yes
Transportation	Yes	Yes	Yes
Communication	Yes	No	Yes
Health *(medicine, medical insurance)*	Yes	No	Yes
Childcare	Yes	No	No
Debt payment	Yes	No	No
Social/leisure activities *(going out, sports, books, music, fitness centre, theatre, cinema, etc.)*	Yes	Yes	Yes
Other living costs *(clothing, toiletries, tobacco, pets, insurance [except medical insurance]) or alimony)*	Yes	Yes	Yes
Study related costs (*fees, social welfare contributions, learning materials, and other regular costs*)	Yes	No	Yes
Fees paid to HEIs *(tuition fees, registration fees, examination fees, and administrative fees)*	Yes	No	No

EUROSTUDENT VIII cost-of-living data show substantial variation across the five countries, with Portugal recording the highest levels for international students—exceeding even Germany due to particularly high study related and accommodation costs—and Serbia the lowest. As no alternative harmonised source exists, the analysis relies on this dataset, and the resulting cross-country differences should be interpreted with this limitation in mind.

Furthermore, although EUROSTUDENT VIII provides detailed data on student living costs for 22 Erasmus+ programme countries (Austria, Czechia, Germany, Denmark, Estonia, Spain, Finland, France, Croatia, Hungary, Ireland, Iceland, Lithuania, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, and Slovakia), equivalent information is not available for the remaining Erasmus+ programme countries. To ensure comprehensive coverage, missing values are imputed using a transparent scaling procedure based on Eurostat's 2022 spending-capacity index (GDP per capita in purchasing power standards, PPS; EU27 = 1.00).

In the case of Serbia, because no country-specific EUROSTUDENT data exist, its monthly living-cost estimate is derived from the simple average of Croatian and Hungarian values. While this yields a plausible approximation, the lack of national data inevitably reduces the precision of the Serbian estimate. As a result, all spending-related findings for Serbia should be interpreted as more tentative and subject to greater uncertainty than those for the other countries in the analysis.

Estimation of foregone accommodation expenditure relies on data from EUROSTUDENT VIII, which reports the proportion of students who do not live with their parents during their studies. These figures serve as the empirical basis for identifying the share of mobile

students who would normally incur housing-related costs within their home country in the absence of Erasmus+ mobility. Table 3 summarises the relevant shares for the four countries covered by EUROSTUDENT.

As EUROSTUDENT VIII does not include Serbia, no official data exist on the share of Serbian students living without their parents. To ensure completeness of the analysis, a proxy value is derived from the simple average of two sample countries included in EUROSTUDENT (Croatia and Hungary), resulting in an estimated share of 59%. This approach avoids relying on the higher cross-country average of 22 participating countries (66%), which is likely to overestimate the prevalence of students living independently in Serbia. Instead, the selected set reflects more plausible cultural and socio-economic comparators, with results aligned more closely with countries such as Croatia (52%) and Hungary (65%), which can reasonably serve as cultural and regional reference points.

Table 3. Share of students living without their parents

Country	Share of students living without their parents
Croatia	52%
Germany	71%
Hungary	65%
Portugal	48%
Serbia	59%

3.2.3. Tourism expenditure data

Short-term mobilities (5–30 days) require a different modelling approach because their expenditure patterns resemble those of temporary visitors rather than medium-term residents. For this reason, spending during short-term mobilities is estimated using Eurostat tourism statistics on the average expenditure of EU residents during personal trips within the European Union (reference year: 2022)[22]. Eurostat provides per-night expenditure data by country of residence and age group, including 15–24 and 25–34 years, which correspond to the typical profile of Erasmus+ students. These data offer a consistent and comparable basis for modelling short-term student spending across countries.

The same Eurostat dataset also forms the foundation for estimating visitor-related expenditure associated with both incoming and outgoing Erasmus+ students. Because visitors typically include not only peers but also parents and other family members, the analysis extends the age groups to 15–24, 25–34, 35–44 and 45–54 years to capture a realistic range of likely visitor profiles. As Eurostat reports total nightly expenditure rather

[22] Eurostat 2022: Expenditure by socio-demographic characteristics of the tourist. URL: https://ec.europa.eu/eurostat/databrowser/view/tour_dem_exage/default/table?lang=en&category=tour.tour_dem.tour_dem_ex.tour_dem_exsd

than category-specific spending, the dataset is used in aggregate form for both short-term student spending and visitor-related spending.

To estimate visitor spending for Serbia, no country-specific Eurostat data are available. Instead, the analysis uses the simple average of the Croatian and Hungarian values for per-trip expenditure for personal visits (across relevant age groups). This produces an approximate Serbia-specific estimate, but the absence of direct national data makes Serbian results more tentative than for the other countries included in the study sample.

3.2.4. Relocation cost data

Relocation costs—representing the travel required for students to reach and return from their host country—are not covered in datasets such as EUROSTUDENT or the ESNsurvey[23]. For this reason, data on relocation were drawn from two sources:

- Erasmus+ distance bands and travel unit rates from the Erasmus+ Programme Guide (2022), which provide standardised funding amounts linked to specific distance brackets (10–3,999 km) used across all programme countries.
- European distribution of Erasmus+ mobility distances, as reported by the European Education and Culture Executive Agency (EACEA), which offers information on the relative prevalence of different distance bands among Erasmus+ participants at European level[24].

In addition, estimating the domestic and international share of these relocation costs required supplementary data from European and national transport statistics, including average domestic rail and bus fares, airport transfer costs, and local transport price indices. These datasets provide the proxies necessary to approximate the portion of total travel expenditure that typically remains within the host-country economy.

To estimate domestic travel costs in the counterfactual (no-mobility) scenario, the analysis uses intercity bus fares from FlixBus, one of Europe's largest long-distance operators. For each of the five countries, two representative domestic routes linking major university cities are selected (e.g. Zagreb–Split, Berlin–Munich, Lisbon–Porto, Budapest–Debrecen, and Belgrade–Novi Sad). Average round-trip fares from December 2025 are compiled and later adjusted to 2022 price levels using national inflation indices. These benchmarks provide a comparable approximation of typical domestic long-distance travel costs in the absence of Erasmus+ mobility.

[23] ESN collects information on the transport modes used by Erasmus+ students; however, it does not currently gather data on the magnitude of their transportation costs.

[24] Estimates are made based on the following data derived from DG EAC monitoring and distance bands and unit costs from the 2022 Erasmus+ Programme Guide: 10-99km band: neighbouring cross-border exchanges (2%; EUR 23 in unit costs); 100-499km: short regional travel (20%; EUR 180); 500-1,999km: medium intra-European (55%; EUR 275); 2,000-2,999: long intra-European (20%; EUR 360); and 3,000-3,999: extreme distances within Europe (3%; EUR 530).

Calculation of domestic counterfactual costs also draws on EUROSTUDENT VIII data, specifically the share of students who do not live with their parents in each of the analysed countries. This indicator serves as the basis for estimating how many outgoing students would, in a no-mobility scenario, have incurred domestic travel costs between their home and study locations. To remain conservative, only half of the students living away from their parents were assumed to study in a different city, and therefore likely to undertake such domestic trips.

Domestic counterfactual cost estimates draw on EUROSTUDENT VIII data on students' living arrangements. Specifically, the variable indicating the share of students who do not live with their parents is used to approximate how many outgoing Erasmus+ students would, in a no-mobility scenario, have incurred domestic travel costs between their home and study locations. These nationally representative figures vary substantially across countries (Table 3).

These estimates are approximations, constrained by the counterfactual scenarios used in the study and do not fully reflect the range of real-world possibilities, including the actual frequency of visits or the types and costs of transport used.

3.2.5. Programme level financial data

Data on Erasmus+ programme-level financial transfers, namely Organisational Support (OS) received by higher education institutions and management fees allocated to National Agencies for Erasmus+, are provided directly by the respective National Agencies participating in this study. These data include estimates of OS allocations under KA131 (2022 call) attributed specifically to intra-European student mobility and the share of National Agency management fees attributed to higher education activities (Erasmus+ Heading 2 contribution to Management Costs). For the analysis conducted for Hungary and Serbia, the management fee for all education sectors is applied in the absence of more granulated data. These figures are used to estimate direct programme-induced inflows into each national economy, complementing the student-level expenditure flows derived from the other datasets.

3.2.6. Macroeconomic data

Macroeconomic variables used to estimate GVA, employment and fiscal impacts across all countries are sourced primarily from Eurostat[25], as summarised in Table 4. Total output (P1), gross value added (B1G), total employment and GDP are taken from Eurostat's 2022 national accounts and labour statistics. For Serbia, where Eurostat does not provide general government revenue data, the analysis uses the corresponding revenue-to-GDP ratio from the IMF World Economic Outlook[26] to ensure full coverage and consistency across the model.

Table 4. Eurostat macroeconomic data (2022)

Model component	Indicator	Data source
Gross value added (GVA) estimation	Total output (P1)	Eurostat 2022
	Gross value added at basic prices (B1G)	Eurostat 2022
Employment impact estimation	Total employment (number of persons employed)	Eurostat 2022
	Gross value added at basic prices (B1G)	Eurostat 2022
Fiscal impact estimation	General government revenue (national level)	Eurostat 2022
	Gross domestic product (GDP)	Eurostat 2022
	Share of general government revenue in GDP (Serbia)	IMF WEO

3.2.7. National economic development strategies

The analysis of how Erasmus+ student mobility aligns with national economic development priorities draws on two main sources. First, it uses country-level Erasmus+ mobility statistics extracted from the primary dataset employed in this study (section 3.2.1), which provide detailed information on the number, direction, type, and subject-field distribution of incoming and outgoing student mobilities. Second, it incorporates national policy documents collected through targeted desk research, including long-term economic development strategies and sector-specific frameworks that outline countries' priority areas for economic growth and skills development. Only documents with clear economic relevance—specifically the most recent and currently valid national strategies—are included to ensure alignment with present policy priorities, while more specialised documents focused primarily on the social dimension fall outside the scope of this analysis.

[25] Eurostat. URL: https://ec.europa.eu/eurostat
[26] International Monetary Fund. URL: https://data.imf.org/en/Data%20Explorer?datasetUrn=IMF.RES%3AWEO%289.0.0%29&timeseriesName=DJI.GGR_NGDP.A

3.3. Cost estimation

3.3.1. Personal spending

Personal expenditure represents the largest component of mobility-related economic effects and includes spending on accommodation, food, local transport, communication, study materials, leisure, and other daily living costs. Because spending behaviour differs markedly between short-term (5–30 days) and long-term (60–360 days) mobility participants, these two groups are modelled separately.

For outgoing students, the model distinguishes between:

- **Actual spending abroad** (economic leakage), and
- **Foregone domestic expenditure**, i.e., the consumption that would have occurred in the home economy in a no-mobility scenario.

This ensures that only true economic leakage is counted, while domestic spending that is merely geographically displaced is not treated as an economic loss.

A. Incoming students

Incoming students generate only positive inflows to the domestic economy, as their presence does not displace any domestic spending (i.e. no foregone or counterfactual expenditure applies). Although part of their expenses may be covered by Erasmus+ mobility grants, these grants are not modelled as a separate item. Instead, they are assumed to be fully spent in the host country and are thus captured within the students' total consumption. As such, all related expenditure contributes directly to domestic final demand.

1. Short-term stays (5–30 days)

Short-term incoming students are assumed to behave economically like young tourists. Their average per-night expenditure in the host country (in-destination spend such as accommodation, food, local transport, activities, and shopping excluding international transport) is estimated using Eurostat data which reports origin-country specific average spending of residents aged 15–24 and 25–34 on personal trips within the EU[27].

Because this expenditure reflects origin-country prices and not host-country prices, the values are adjusted using Comparative Price Level (CPL) indices (AIC, EU27 = 100):

[27] Eurostat 2022: Expenditure by socio-demographic characteristics of the tourist. URL: https://ec.europa.eu/eurostat/databrowser/view/tour_dem_exage/default/table?lang=en&category=tour.tour_dem.tour_dem_ex.tour_dem_exsd

$$E_{i,x} = E_i \times \frac{CPL_x}{CPL_i}$$

where:

- (*E_{i,x}*) = adjusted per-night spending of a traveller from country *i* in host country *x*
- (*E_i*) = Eurostat per-night expenditure for residents of country *i* travelling in the EU
- (*CPL_x*) = CPL of host country *x*
- (*CPL_i*) = CPL of origin country *i*

The resulting daily estimate is multiplied by the number of mobility days.

2. Long-term stays (60–360 days)

Long-term incoming students exhibit expenditure patterns similar to medium-term residents. Baseline monthly spending in each host country is taken from EUROSTUDENT VIII, which provides the most recent and comparable data on living and study costs of international students.

Because the spending capacity of students depends partly on their country of origin, the baseline was adjusted using GDP per capita in PPS (EU27 = 100)[28]:

$$M_{i,x} = M_x \times \frac{GDP_i^{PPS}}{GDP_{EU}^{PPS}}$$

where:

- (*M_{i,x}*) = estimated monthly spending in host country *x* by a student from country *i*;
- (*M_{x}*) = EUROSTUDENT VIII baseline monthly cost for host country *x*;
- (*GDP^{PPS}_{i}*) = GDP per capita (PPS) of origin country *i*;
- (*GDP^{PPS}_{EU}*) = EU27 PPS reference value (=100).

After converting the monthly estimate to a daily value, the adjusted figure is multiplied by the actual number of days each incoming student from a given country spent in the host country.

[28] Ukraine's GDP per capita in PPS equivalent is estimated at 33 for the year 2022 (EU = 100).

The two components described above—short-term and long-term spending—together constitute the **total personal expenditure generated by incoming Erasmus+ students** in each host country. This combined value represents the full inflow of student-driven consumption captured by the model for incoming mobility.

B. Outgoing students

Outgoing expenditure represents an economic outflow from the home country. For each mobility type, the model accounts for three components:

a) the actual spending incurred abroad by outgoing students,
b) the domestic consumption that would have taken place had the students remained in their home country (foregone domestic expenditure), and
c) the portion of mobility costs covered by Erasmus+ grants.

These components are used to calculate the net economic leakage from the domestic economy using the following formula:

> ***Net outflow = Actual spending abroad – Foregone domestic spending – Erasmus+ grants of outgoing students***

Erasmus+ mobility grants awarded to outgoing students are modelled as a programme-level inflow. While they reduce the volume of domestic resources required to finance mobility abroad, they are still included in the calculation of GVA, employment, and fiscal effects, as they represent an external financial injection into the economy from EU-level sources.

1. Short-term stays (5–30 days)

Actual spending abroad

The same Eurostat dataset is used also for incoming students. Because the Eurostat values represent spending of residents of country *i* expressed in origin-country price levels, they must again be adjusted for host-country prices using:

$$E_{i,x} = E_i \times \frac{CPL_x}{CPL_i}$$

The adjusted daily expenditure estimate is then multiplied by the number of days spent in each host country, yielding the total outgoing expenditure for each short-term mobility.

Foregone domestic expenditure

For short-term outgoing mobility, foregone domestic expenditure represents the **tourism-related spending** that would likely have taken place within the home-country economy if the student had not gone abroad. Rather than assuming that students would have undertaken a domestic trip of the same length as their Erasmus+ stay—a behaviour that would be unrealistic for most—the model adopts a conservative counterfactual: in the absence of Erasmus+ mobility, each short-term participant is assumed to have made one typical short (1-3 night) domestic trip.

This opportunity cost is proxied using Eurostat data on average expenditure per domestic personal trip undertaken by young residents (15–24 and 25–34 years) of each country *i*. The resulting foregone domestic expenditure per short-term outgoing student from country *i* is therefore:

$$F_i^{\text{short}} = T_i^{\text{dom}}$$

where:

- *(F^{\text{short}}_{i})* = foregone domestic expenditure for a short-term outgoing student from country *i*;
- *(T^{\text{dom}}_{i})* = average expenditure per domestic personal trip by young residents of country *i* (Eurostat).

This value is then multiplied by the number of short-term outgoing mobilities from each country to obtain the total short-term foregone domestic expenditure.

2. Long-term stays (60–360 days)

Actual spending abroad

For outgoing Erasmus+ students undertaking long-term mobilities (60–360 days), expenditure abroad is estimated using host-country cost-of-living data adjusted by the spending capacity of the student's country of origin. This method parallels the approach used for incoming students and ensures that both host-country price levels and home-country income constraints are appropriately reflected.

First, the model uses EUROSTUDENT VIII data on the average monthly living and study costs of outgoing students in each host country. These values represent the baseline cost structure faced by a student residing in that country for an extended period.

Second, because outgoing students finance their stay primarily from household income originating in their home country, the baseline host-country cost of living is scaled according to the relative spending capacity of the origin country. This adjustment uses GDP per capita in purchasing power standards (PPS) for the origin country, expressed relative to the EU27 average (100). The adjusted expenditure estimate is therefore calculated as:

$$M_{i,x}^{\text{out}} = M_x \times \frac{GDP_i^{PPS}}{GDP_{EU}^{PPS}}$$

where:

- *(M^{\text{out}}_{i,x})* = estimated monthly expenditure abroad by a long-term outgoing student from origin country *i* in host country *x*
- *(M_x)* = baseline monthly cost of living in host country *x* (EUROSTUDENT VIII)
- *(GDP^{PPS}_i)* = PPS-indexed GDP per capita of the student's home country
- *(GDP^{PPS}_{EU})* = EU27 = 100 (reference value)

The resulting monthly estimate is then converted into a daily value, and each student's total long-term expenditure abroad is obtained by multiplying the daily cost by the number of mobility days spent in the host country.

Foregone domestic expenditure

For long-term outgoing Erasmus+ students, foregone domestic expenditure reflects the daily living costs they would have incurred in their home country had they remained there instead of spending a study or traineeship period abroad. Because long-term mobility replaces a student's ordinary life at home, the counterfactual is based on resident-type domestic consumption patterns, not on tourism behaviour.

The counterfactual includes regular monthly spending typically borne by domestic students, such as food, local transportation, communication, healthcare, leisure, and other day-to-day expenses, as well as study-related costs (e.g. materials and contributions). These components are derived from EUROSTUDENT VIII for each home country and converted into daily values.

Accommodation is treated separately. Since a substantial share of students—differing by country—live with their parents and therefore do not incur domestic housing costs, only the proportion of students who normally live away from their parents generate foregone domestic accommodation costs[29]. Let (s^{\text{parent}}_{i}) denote the share of students in country *i* living with their parents. The daily foregone accommodation component therefore becomes:

$$d_i^{\text{accom, forgone}} = d_i^{\text{accom}} \times (1 - s_i^{\text{parent}})$$

where (d^{\text{accom}}_{i}) is the average daily domestic accommodation cost of students in country *i*.

Combining all non-housing categories with the adjusted accommodation component yields the total daily foregone domestic expenditure for a long-term outgoing student from country *i*.

Because long-term mobility substitutes the student's normal domestic life for the full duration of their stay abroad, the total foregone domestic expenditure for each participant is obtained by multiplying the daily counterfactual value by the number of days spent abroad:

$$F_i^{\text{long}}(D) = d_i^{\text{forgone}} \times D$$

This approach ensures that the counterfactual mirrors the real domestic consumption profile of students in their home country while adjusting for differences in living arrangements. It also maintains consistency with the economic logic of long-term mobility, where participation displaces regular domestic spending for an extended period rather than a short or occasional domestic trip.

The model sums the net short-term and net long-term outflows to obtain the total personal expenditure outflow associated with outgoing student mobility. This consolidated amount feeds directly into the **inflow–outflow balance** used in subsequent sections of the model to calculate the net domestic final demand.

[29] As EUROSTUDENT data are unavailable for Serbia, a proxy estimate is used. The share of students living without their parents is imputed as the simple average of the two countries for which EUROSTUDENT VIII data exist (Croatia and Hungary).

3.3.2. Relocation costs

Relocation costs represent the one-off travel expenditure associated with Erasmus+ students' journeys to and from the host country. Because international travel is not captured in data sources such as EUROSTUDENT or ESNsurvey, these costs are estimated separately using **Erasmus+ travel distance bands** and corresponding unit rates from the 2022 Programme Guide.

A weighted average round-trip cost of **EUR 276** per mobility is calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km). This reflects the typical mix of short-, medium- and long-distance travel observed across Europe and aligns with patterns reported by EACEA[30].

The **domestic-share coefficient** reflects the portion of relocation spending that remains in the host economy (incoming students) or the home economy (outgoing students). A value of 50% is applied symmetrically to both flows. Evidence from Eurostat transport accounts and tourism satellite accounts indicates that roughly 45–60% of expenditure linked to international trips accrues domestically (airport and passenger charges, ground transport, booking services, and other fees paid to domestic infrastructure operators). Fixing the domestic share at **0.5** therefore represents a conservative central estimate and ensures methodological consistency between incoming and outgoing mobility.

A. Incoming students

For incoming students, only the domestic share of the relocation cost is treated as an inflow to the host economy. The host-country relocation inflow is calculated as:

$$\mathrm{RelocCost}_{\mathrm{in}} = a_x \times 276$$

where

- *276 EUR* = weighted average Erasmus+ relocation cost per mobility (round trip, 2022),
- *(a_x)* = domestic share coefficient for host country *x* (fixed at 0.5).

No counterfactual is defined for incoming relocation costs, as there is no realistic domestic equivalent trip that would have taken place in the host country in the absence of Erasmus+ mobility.

[30] Estimates are made based on the following data derived from DG EAC monitoring and distance bands and unit costs from the 2022 Erasmus+ Programme Guide: 10-99km band: neighbouring cross-border exchanges (2%; EUR 23 in unit costs); 100-499km: short regional travel (20%; EUR 180); 500-1.999km: medium intra-European (55%; EUR 275); 2.000-2.999: long intra-European (20%; EUR 360); and 3.000-3.999: extreme distances within Europe (3%; EUR 530).

B. Outgoing students

Actual relocation costs

For outgoing students, relocation costs are treated as a combination of domestic and foreign spending. The domestic part is retained in the home economy and therefore does not constitute a leakage, while the foreign part is treated as an outflow. Using the same average relocation cost and domestic-share coefficient, the relocation expenditure abroad for an outgoing student from country *i*

$$\mathrm{RelocCost}_i^{\mathrm{out,\,abroad}} = (1 - a_i) \times 276$$

with (*a_i* = 0.5) for all five countries. The domestic part (*a_i \times 276*) is not counted as an outflow.

Counterfactual domestic relocation costs

The counterfactual for domestic relocation costs reflects the one-off travel that would have occurred if a student had remained in their home country—for example, travelling between their home town and university city or transporting personal belongings. Because these trips would have taken place regardless of Erasmus+ participation, they are deducted from outgoing students' international relocation expenditure to obtain the net effect.

To approximate these domestic travel expenses, representative round-trip bus fares were derived from FlixBus connections linking major university cities in each country. As the model uses 2022 as the reference year, fares collected for December 2025 are converted to 2022 price levels using the national Harmonised Index of Consumer Prices (HICP)[31]. A simple deflation factor is applied by dividing the country's 2022 HICP index by its 2024/2025 index. Multiplying this factor by the 2025 fare yields an estimated 2022-equivalent cost. The resulting tentative benchmark domestic travel costs for each country are presented in Table 5.

[31] Eurostat 2022. Harmonised Index of Consumer Prices. URL: https://ec.europa.eu/eurostat/databrowser/view/prc_hicp_aind/default/table?lang=en&category=prc.prc_hicp

Table 5. Domestic round-trip bus cost estimates (2025 benchmark; 2022-adjusted)

Country	Estimated cost: 2025 (EUR)	Estimated cost: 2022 (EUR)	Benchmark	Data source
Croatia	25	20	Zagreb <-> Split Zagreb <-> Rijeka	FlixBus
Germany	35	30	Berlin <-> Munich Berlin <-> Hamburg	Flixbus
Hungary	25	20	Budapest <-> Debrecen Budapest <-> Szeged	Flixbus
Portugal	25	20	Lisbon <-> Porto Lisbon <-> Faro	Flixbus
Serbia	25	20	Belgrade <-> Nis Belgrade <-> Novi Sad	Flixbus

The counterfactual scenario assumes that domestic relocation costs would arise only for students who normally live away from their parents and reside in a different city. Let *(s^{\text{away}}_{i})* denote the share of students in country *i* who do not live with their parents.

To avoid overstating the number of students who would have undertaken domestic travel in the no-mobility scenario, the model applies a conservative adjustment: it assumes that only a subset of students living away from their parents actually live in another city. This is operationalised by reducing the national share of students not living with their parents by 10 percentage points.

The resulting proportion is defined as:

$$q_i = s_i^{\text{away}} - 0.10$$

The country-specific values of this adjusted share, which determine what portion of students are assumed to incur domestic relocation travel in the counterfactual scenario, are summarised in Table 6.

Table 6. Estimated share of students who live away from their parents and study in another city

Country	Share included in the counterfactual scenario
Croatia	42%
Germany	61%
Hungary	55%
Portugal	38%
Serbia	49%

Domestic travel costs are represented by a benchmark round-trip fare *(c^{\text{dom}}_i)*, adjusted to 2022 prices. The per-student counterfactual domestic relocation cost is calculated as:

$$\mathrm{RelocCF}_i = q_i \times c_i^{\mathrm{dom}}$$

Multiplying this value by the number of long-term outgoing students yields the total domestic relocation cost that would have occurred in the no-mobility scenario. This amount is deducted from the gross international relocation expenditure when computing the net relocation impact in the overall model.

3.3.3. Visitor spending

Visitor spending captures the tourism-related expenditure of family members or friends who travel to visit Erasmus+ students during their mobility period. Although no official statistic directly reports how many visitors students receive, several previous studies—most notably London Economics (2023)[32]—demonstrate that international students typically attract at least **one personal visit** during extended stays abroad. In line with this literature, the model assumes that Erasmus+ students staying longer than 60 days (incoming or outgoing) receives one visit from family or friends.

Because visits to students differ from general tourist behaviour and are closely linked to socio-economic and intergenerational dynamics, the model uses age-specific Eurostat data on expenditure for personal trips of 1–3 nights within the EU (2022). The relevant age brackets are:

- 15–24 years and 25–34 years, representing friends, partners and peers, and
- 35–44 years and 45–54 years, representing parents and older relatives.

Using these four brackets ensures that visitor expenditure reflects the demographic profile most likely to visit Erasmus+ students.

A. Incoming students

For incoming mobility, the model estimates the spending generated by friends and family travelling from their home country *i* to visit a student in host country *x*. Eurostat expenditure values represent origin-country–specific spending behaviour, expressed in

[32] London Economics (2023) estimated that every international first-year student enrolled in UK higher education attracted 0.63 international visitors in 2021/22 and 0.99 in subsequent years of study, assuming that EU students typically attract more int ernational visitors than non-EU students (1.9 visits per EU student compared to 0.5 visits per non-EU student in 2021/22, and 3.1 and 0.8 respectively in subsequent years) although non-EU visitors were estimated to spend more on average during each visit (GBP 1,140) compared to EU student visitors (GBP 340). URL: www.hepi.ac.uk/wp-content/uploads/2023/05/Full-Report-Benefits-and-costs-of-international-students.pdf

the price level of the visitor's own country. Because expenditure ultimately occurs in the host country, the raw Eurostat values must be adjusted to reflect host-country price levels.

Visitor expenditure is therefore calculated using the same CPL adjustment applied to short-term personal spending:

$$V_{i,x} = V_i \times \frac{CPL_x}{CPL_i}$$

where

- *(V_{i,x})* = adjusted visitor expenditure per visit in host country *x*
- *(V_i)* = Eurostat expenditure per personal trip (1–3 nights) by residents of country *i*
- *(CPL_x)* = price level of host country *x*
- *(CPL_i)* = price level of origin country *i*

This formulation ensures that the estimated spending reflects the actual purchasing environment of the host country while preserving origin-country behavioural patterns.

Total visitor spending for incoming students is obtained by multiplying *(V_{i,x})* by the number of long-term incoming students from each origin country.

No counterfactual is calculated for incoming visitor spending because such visits would not occur domestically in the host country in the absence of Erasmus+ mobility.

B. Outgoing students

Actual visitor spending abroad

For outgoing students, the same Eurostat dataset and the same adjustment method are used, because the raw data again represents country-*i* residents, expenditure is expressed in origin-country price levels, and must be adjusted to reflect the host-country price level of the student's destination.

Thus, actual visitor spending abroad is computed as:

$$V_{i,x} = V_i \times \frac{CPL_x}{CPL_i}$$

The adjusted value is then applied to each long-term outgoing student, assuming one visit.

Counterfactual visitor spending

In a no-mobility scenario, long-term outgoing students who live away from their parents would likely have been visited domestically—for example, by parents or friends travelling to their study city for a short stay. In this case, the relevant counterfactual is not international travel but a typical domestic personal trip. Therefore, for each outgoing student from country *i*, the model estimates foregone domestic visitor spending as:

$$F_i^{visit} = V_i^{dom}$$

where:

- *(V^{dom}_i)* = average expenditure per domestic personal trip (1–3 nights) by residents of country i (Eurostat)

To ensure realistic estimates, only students who do not live with their parents, and study in a different city than their parents' residence are assumed to attract domestic visitors.

Similar to the method applied to the calculation of counterfactual relocation costs, the proportion of such students is taken from EUROSTUDENT and adjusted downward by 10% to account for those who, despite living independently, remain in the same city as their parents (Table 6).

Total counterfactual domestic visitor spending is obtained by multiplying the per-trip value *(F^{visit}_i)* by the number of eligible outgoing students.

The net visitor-related effect for outgoing students is obtained as follows:

Net = actual visitor spending abroad – foregone domestic visitor spending

This net value ensures that only expenditure that is truly gained (incoming) or genuinely lost (outgoing) is incorporated into the economic impact model.

3.3.4. Programme-related transfers

No calculations are applied to programme-related transfers. Lump-sum values for organisational support and National Agency management fees are taken directly from NA-provided data (excluding support for staff mobilities and KA131 international opening, to the extent possible).

Although previous studies (e.g. London Economics, 2023) have included public expenditure associated with general services used by incoming students—such as healthcare, community amenities, cultural and recreational facilities, or public order and safety—these items are not incorporated in the present analysis. The primary reason is that comparable, mobility-specific expenditure data are not available across countries, making it impossible to apply a consistent methodology within a multi-country framework.

Similarly, while higher education institutions incur administrative, educational, infrastructure and other operational costs related to hosting incoming Erasmus+ students, these are not treated as economic outflows. Part of these costs is implicitly offset by continued tuition payments made by outgoing domestic students while studying abroad, and—as recognised in earlier studies (OeAD & WIFO, 2018; DAAD & Prognos, 2013; Universities UK International & London Economics, 2021; European Commission, 2020)—outgoing students reduce their on-campus consumption of institutional resources during their mobility period. Consequently, the presence of incoming students does not lead to a measurable reduction in institutional activity, nor does it create additional leakage from the domestic economy.

It is also important to note that the operational costs borne by higher education institutions remain entirely within national borders. These expenditures represent domestic economic activity rather than funds lost abroad. The same applies to National Agency management costs for Erasmus+, which are financed by the programme and fully executed in the home economy. As such, institutional operating expenditures and NA management costs are intentionally excluded from the outflow calculation.

The counterfactual value for Organisational Support and management fees is set to zero, as these transfers exist only because Erasmus+ mobility takes place; in a no-mobility scenario, no OS or management fees would be awarded to institutions and agencies, and no equivalent domestic expenditure would occur.

3.4. Translating net domestic demand into economic effects

The final step of the model converts the net change in domestic final demand generated by Erasmus+ student mobility into three core economic indicators: gross value added (GVA), employment effects, and fiscal effects. This section outlines the methodological approach used to perform this translation.

3.4.1. Gross value added (GVA)

The net economic balance derived in the preceding sections represents the **net domestic final demand** attributable solely to Erasmus+ mobility—that is: all inflows generated by incoming students, visitors, and programme-related transfers minus all adjusted outflows associated with outgoing students, after subtracting counterfactual domestic expenditure.

This net figure reflects the portion of economic activity that would not exist in a no-mobility scenario and therefore forms the direct basis for estimating economic value added.

Because Erasmus+ related expenditures take the form of final consumption rather than domestic production or investment, most of their economic impacts materialise through **indirect (supply-chain) and induced (income) effects**. Direct effects are included only where programme funds directly finance institutional operations, namely through organisational support (OS) to higher education institutions and National Agency management fees.

To translate domestic final demand into economic value, the study applies a **GVA-to-output ratio** (*r*), which expresses the share of total economic output that translates into value added after intermediate inputs are deducted. The ratio is derived from each country's Supply and Use Tables derived from Eurostat for the year 2022[33] as:

$$r = \frac{B1G}{P1}$$

where *B1G* denotes gross value added and *P1* total output, both at basic prices.

To capture broader linkages within the economy, the model applies **Type I and Type II multipliers**:

- Type I multipliers reflect **indirect effects**, i.e. supply-chain effects generated by demand for intermediate goods and services.
- Type II multipliers extend the analysis to **induced effects**, i.e. additional economic activity resulting from employees' re-spending of income within the economy.

[33] Eurostat 2022. "Gross value added and income by detailed industry". URL: https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64/default/table?lang=en

In the absence of country-specific values, the following **benchmarks** (lowest values) corresponding to large, medium and small-sized economies are applied (Table 7):

Table 7. Type I and Type II multipliers

	Type I multiplier m_{I}	Type II multiplier m_{II}
Croatia *(small-sized economy)*	1.5-1.7	1.9-2.1
Germany (*large economy*)	1.3-1.45	1.6-1.8
Hungary (*medium-sized economy*)	1.45-1.6	1.8-2.0
Portugal (*medium-sized economy*)	1.45-1.6	1.8-2.0
Serbia *(small-sized economy)*	1.6-1.75	2.0-2.3

For each expenditure category X (e.g. inflows, outflows, OS, education costs), the following calculations are made:

Direct effect	$GVA_X^{direct} = X \times r$
Indirect effect	$GVA_X^{indirect} = GVA_X^{direct} \times (m_I - 1)$
Induced effect	$GVA_X^{induced} = GVA_X^{direct} \times (m_{II} - m_I)$
Total Type I (direct + indirect)	$GVA_X^{I} = GVA_X^{direct} \times m_I$
Total Type II (direct + indirect + induced)	$GVA_X^{II} = GVA_X^{direct} \times m_{II}$
For components with no direct effects (all inflows and outflows except OS and NA fees):	$GVA_X^{I} = X \times r \times m_I$ $GVA_X^{II} = X \times r \times m_{II}$

Finally, the overall or **net GVA** impact is calculated as:

$$GVA^{net} = GVA^{+} - GVA^{-} + GVA^{OS}$$

where

- *(GVA^{+})* = GVA from inflows (incoming students, visitors, programme transfers),
- *(GVA^{-})* = GVA from outflows (net of counterfactual),
- *(GVA^{OS})* = direct, indirect and induced GVA generated by Organisational Support and NA management fees.

3.4.2. Employment effects

Employment impacts show how Erasmus+ mobility supports or sustains domestic jobs. They are derived using the employment-to-GVA ratio, estimated as:

$$e = \frac{EMP}{B1G}$$

where:

- (*EMP*) = total national employment (in persons or FTEs)[34], and
- (*B1G*) = total gross value added at basic prices[35].

This ratio expresses the **number of jobs supported per euro of value added**. The employment impact for each GVA component is then estimated as:

$$Employment_X = GVA_X \times e$$

The net employment effect of Erasmus+ student mobility is given by:

$$Employment^{net} = Employment^{+} - Employment^{-} + Employment^{OS}$$

3.4.3. Fiscal effects

Fiscal impacts estimate the contribution of Erasmus+ related economic activity to public revenues. These impacts derive from GVA via the general government revenue-to-GDP ratio:

$$t = \frac{GGRev}{GDP}$$

where:

- (*GGRev*) = total general government revenue (Eurostat 2022)[36],
- (*GDP*) = gross domestic product at market prices[37].

Fiscal effects for each component are:

[34] Eurostat 2022. "Employment by detailed industry". URL: https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64_e/default/table?lang=en
[35] Eurostat 2022. "Gross value added and income by detailed industry". URL: https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64/default/table?lang=en
[36] Eurostat 2022. "Government revenue, expenditure and main aggregates". URL: https://ec.europa.eu/eurostat/databrowser/view/gov_10a_main/default/table?lang=en
[37] Eurostat 2022. "Gross domestic product (GDP) and main components (output, expenditure and income)". URL: https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp/default/table?lang=en

$$Fiscal_X = GVA_X \times t$$

The **net fiscal impact** of Erasmus+ student mobility is calculated as:

$$Fiscal^{net} = Fiscal^{+} - Fiscal^{-} + Fiscal^{OS}$$

Table 8 summarises the main multiplier values calculated to estimate GVA, employment and fiscal impact of Erasmus+ student mobility in each country.

Table 8. Macroeconomic multipliers (GVA, employment and fiscal impact)

	Croatia	Germany	Hungary	Portugal	Serbia
r	0,472	0,459	0,398	0,545	0,402
e	29,17	12,70	33,2	19,9	66,7
f	0,449	0,486	0,490	0,439	0,412

3.5. Comparing Erasmus+ student mobility against national economic priorities

This analysis compares the key economic priorities outlined in national strategic documents with the structure of Erasmus+ student mobility—specifically the balance between study and traineeship mobilities and, most importantly, the subject-field distribution of incoming and outgoing students. The comparison is based on two core **analytical assumptions**. First, subject-field patterns in mobility can provide a broad indication of how Erasmus+ contributes to national economic development, given that different disciplines correspond to different skill areas in national strategies. Second, traineeship mobilities are treated as particularly relevant for assessing alignment with labour-market needs, due to their direct link to workplace learning and employer engagement.

These assumptions are, however, shaped by **structural characteristics** of the Erasmus+ programme and national higher education systems. Erasmus+ has historically placed stronger emphasis on study mobility, which influences the overall distribution of mobilities even as support for traineeships expands in recent programme cycles. Likewise, national enrolment structures affect the potential pool of mobile students: fields with larger student populations—such as business, administration and law, which account for roughly one fifth of students in the EU[38]—are expected to generate proportionally higher levels of mobility.

[38] Eurostat 2018. "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table

The analysis also draws on existing research on disciplinary mobility cultures. Prior studies show that students in fields where international experience is perceived as academically or professionally valuable (e.g. business, languages) tend to participate at higher rates (Vossensteyn et al. 2010). These insights guide the interpretation of observed patterns by acknowledging that mobility behaviour arises from a combination of programme design, curricular structures, and institutional partnerships, rather than top-down economic priorities.

Taken together, this means that the comparison serves as an indicative rather than a causal assessment. It highlights broad patterns of correspondence between mobility flows and national economic priorities, while recognising that the structure of national strategies and the organisation of study fields do not map perfectly onto one another, and that the available data reflect participation patterns rather than the underlying drivers shaping them.

In the following chapters, the above methodology is applied to five selected Erasmus+ programme countries—Croatia, Germany, Hungary, Portugal, and Serbia—in an attempt to capture the specific economic impacts of incoming and outgoing student mobility within each national context.

Each chapter presents disaggregated results across key components of the model, offering a detailed view of mobility-related inflows and outflows, as well as the resulting net economic balance. Variations in national cost structures, mobility patterns, and levels of Erasmus+ support are reflected in the individual analyses, allowing for both country-specific insights and cross-country comparisons. In addition, each chapter provides an indicative comparison between Erasmus+ mobility patterns and national strategic economic priorities.

4. CROATIA

This chapter presents the estimated economic effects of Erasmus+ student mobility under the KA131 2022 call in Croatia. It begins with an overview of incoming and outgoing student mobility, analysing patterns by type, duration, field of study, and country of sending institution. It then proceeds to assess the short-term economic impacts of these mobilities, including effects on gross value added (GVA), employment, and fiscal revenues arising from overall consumption and economic activity. The chapter concludes with reflections on how Erasmus+ mobility—both incoming and outgoing—aligns with Croatia's long-term economic and human capital development priorities in a longer run.

4.1. Mobility context

4.1.1. Incoming Erasmus+ student mobility

A total of **3.187** students from 31 countries came to Croatia between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[39]. Of these, 79% participated in study mobility and 21% in traineeships.

The gender distribution was 60% female and 40% male.

By study level, the majority were Bachelor's students (66%), followed by Master's students (31%), and doctoral candidates (3%).

In total, 17% of mobilities were conducted as blended, combining physical mobility and a virtual component.

In terms of duration, most students pursued semester-long mobilities (60–180 days), representing 76% of the total. Short-term mobilities of up to one month (5–30 days) accounted for 17%, while only 7% of students stayed longer than one semester (Figure 2).

[39] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

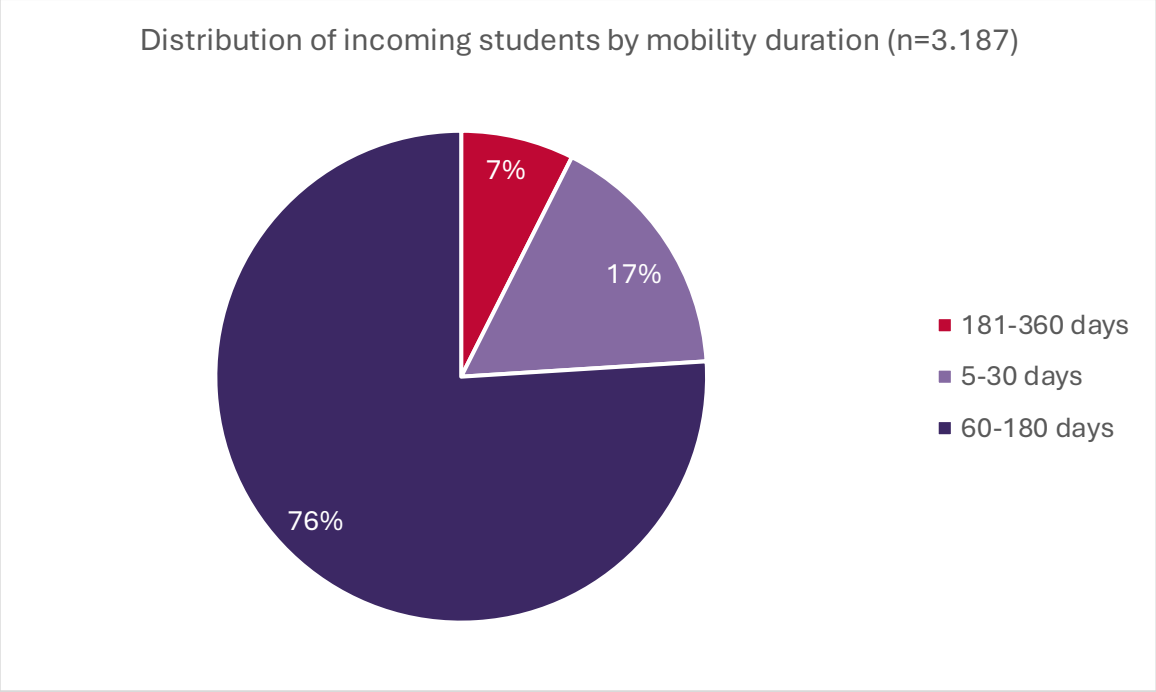

Figure 2. Incoming student distribution by mobility duration (Croatia)

The top ten sending countries of Erasmus+ students to Croatia were led by France (14%), Spain (13%), and Germany (11%), followed by Poland (10%), Portugal (9%), and Italy (8%). Smaller, though still notable, shares came from Czechia (4%), Türkiye (3%), Lithuania (3%), Romania (3%), and Slovenia (3%) (Figure 3).

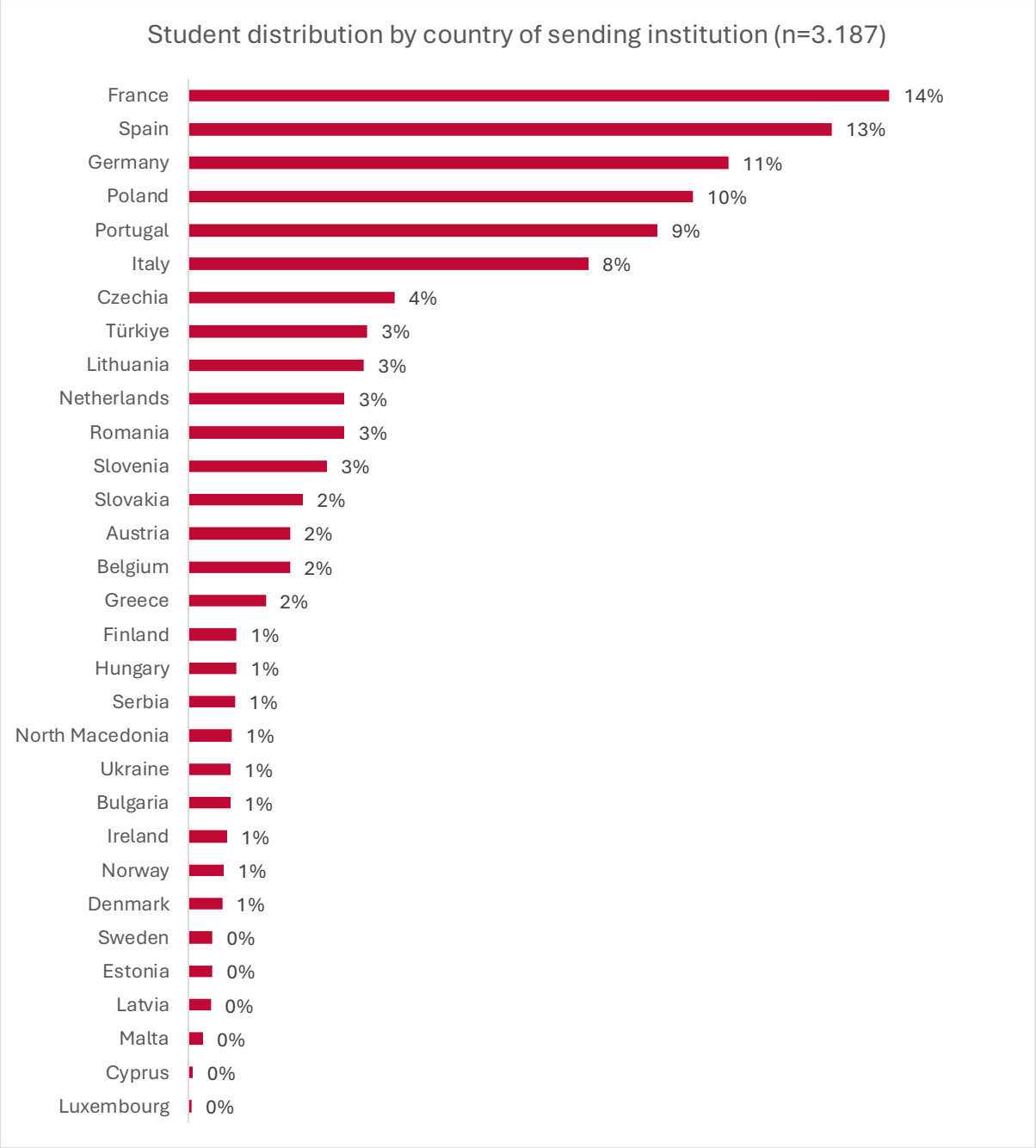

Figure 3. Incoming student distribution by country of sending institution (Croatia)

The **top five study fields**[40] of incoming Erasmus+ students to Croatia were led by business, administration and law (32%), followed by social sciences, journalism and information (12%), arts and humanities (12%), services (11%), and engineering, manufacturing and construction (10%) (Figure 4).

[40] Based on 11 broad level fields specified in ISCED-F 2013.

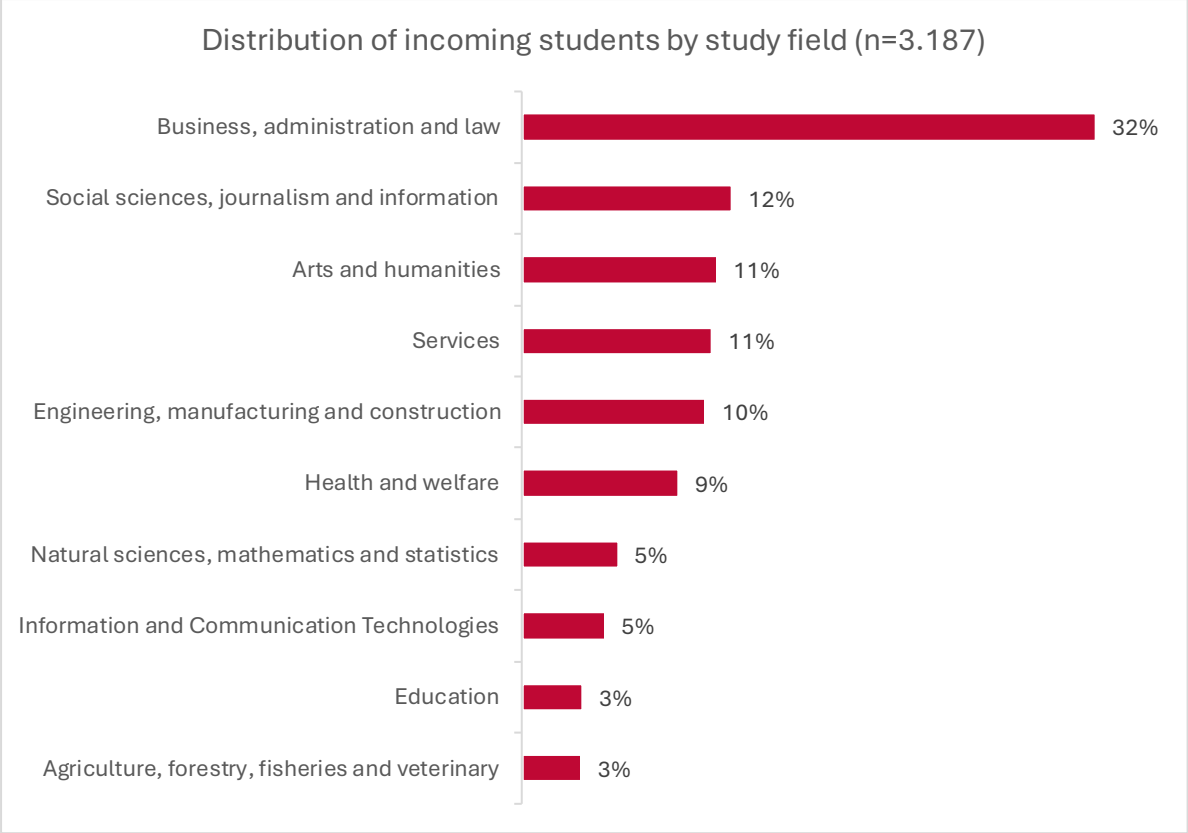

Figure 4. Incoming student distribution by study field (Croatia)

Across both study fields and sending countries, **mobility for studies** was the dominant form. The main exceptions were found in agriculture, forestry, fisheries and veterinary (61% of mobilities in this field) and health and welfare (63%), where traineeships accounted for the majority of mobilities in these fields. At country level, traineeships also prevailed in a small number of cases, most notably in Denmark (95% of all mobilities from the country), Sweden (60%), Romania (56%), Hungary (53%), and Norway (50%).

When broken down by **country** and **field of study**, distinct patterns emerge. Business, administration and law accounted for more than half of mobilities from the Netherlands (71%), Belgium (51%), and Finland (50%). Engineering, manufacturing and construction was particularly prominent among students from Denmark (38%). Health and welfare dominated for North Macedonia (52%) and Norway (36%), while Information and Communication Technologies (ICT) were especially significant for Latvia (21%). While services stood out for Slovenia (36%), social sciences were highly represented among students from Greece (52%) and Ukraine (50%).

Looking at the regional distribution across **Croatia's four macro-regions**, Central Croatia hosted nearly half (47%) of all incoming students, driven overwhelmingly by the City of Zagreb. Beyond the capital, major coastal centres also stand out: Split-Dalmatia County accounted for 17%, while Primorje-Gorski Kotar County hosted 14%, reflecting

the pull of large university cities such as Split and Rijeka with their multiple higher education institutions (Figure 5).

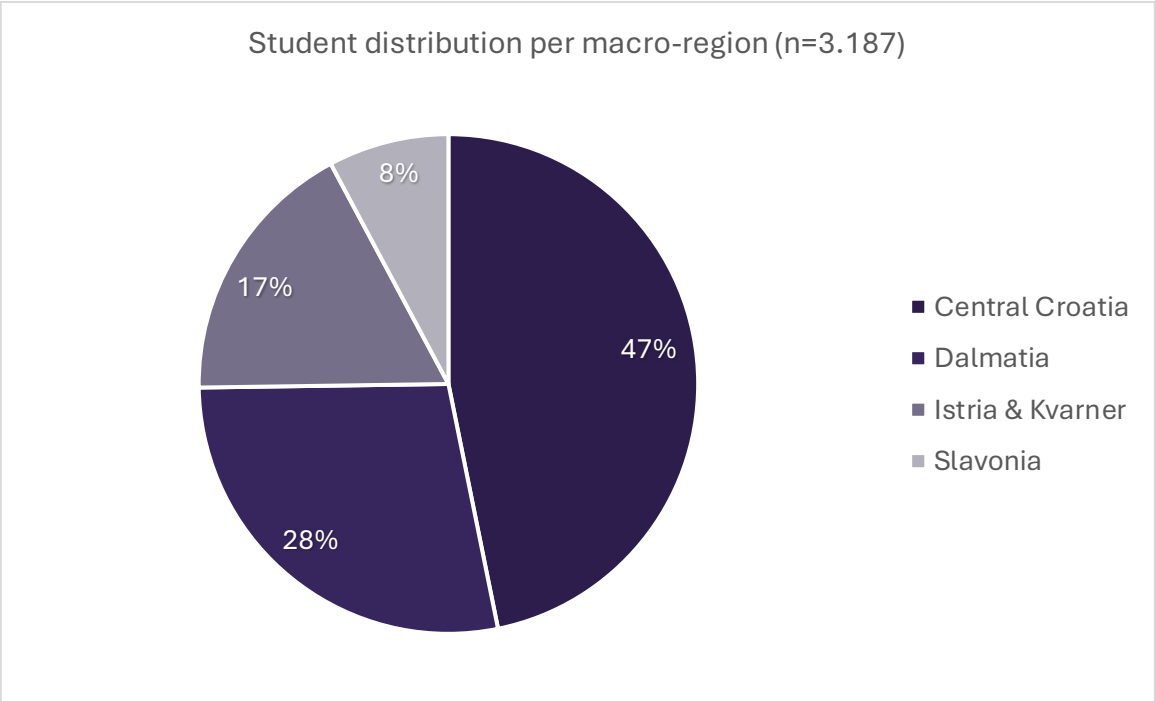

Figure 5. Student distribution per macro-region (Croatia)

Based on the available data for 663 **incoming traineeships**, higher education institutions hosted the largest share, accounting for 43% of all placements. Companies represented the second most common host type with 28%, while public bodies, NGOs, and cultural institutions hosted 14% of trainees. Smaller proportions of trainees completed their mobility in hospitals or medical centres (5%), schools or VET providers (5%), and research institutions (5%) (Figure 6). Overall, the distribution shows that although higher education institutions remain the main destination, traineeships are spread across a diverse set of organisational environments in Croatia.

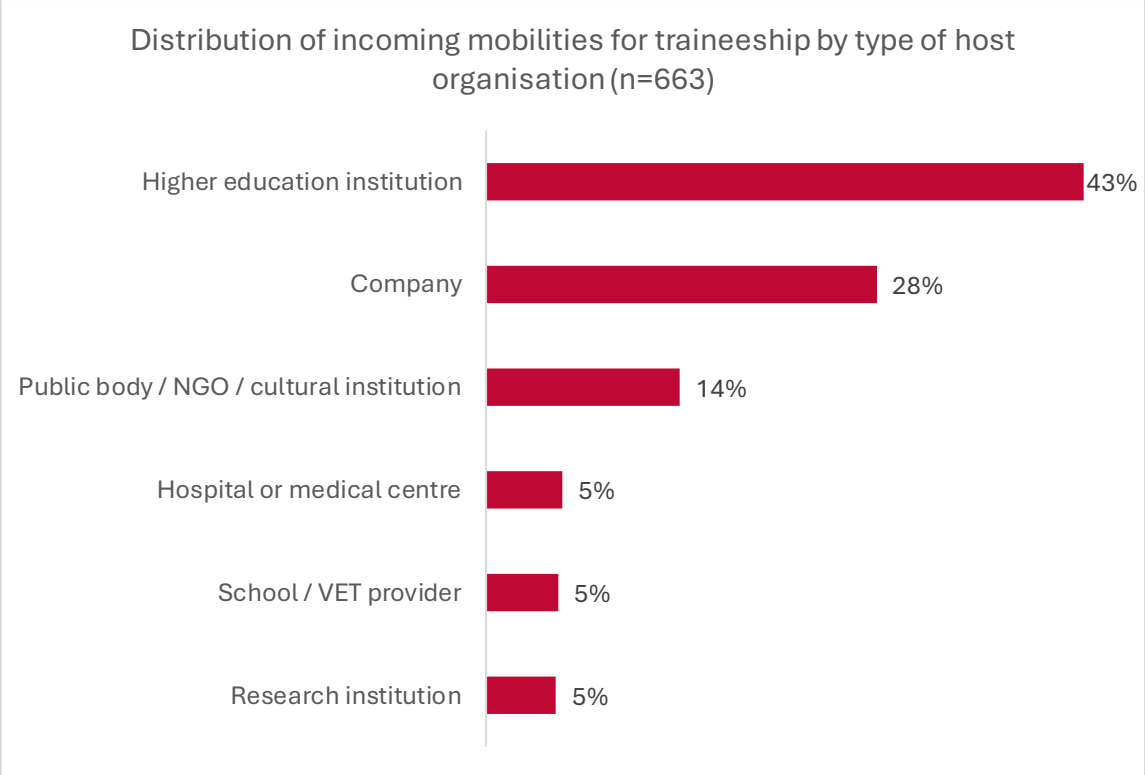

Figure 6. Distribution of traineeship mobilities by type of organisation (Croatia)

4.1.2. Outgoing Erasmus+ student mobility

A total of **2.604** Croatian students travelled to 31 countries between 2022 and 2024 through the Erasmus+ KA131 2022 call (see section 3.1)[41]. Of these, 74% participated in study mobility and 26% in traineeships.

The gender distribution was 69% female and 31% male.

By study level, the majority were Master's students (58%), followed by Bachelor's students (39%), and doctoral candidates (3%).

Nearly one third of outgoing students (28%) participated in blended mobility, including Blended Intensive Programmes (BIPs).

The majority of outgoing students (72%) spent between 60 and 360 days abroad (long-term mobility), followed by those who engaged in short-term mobility of up to one month (28%) (Figure 7).

[41] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

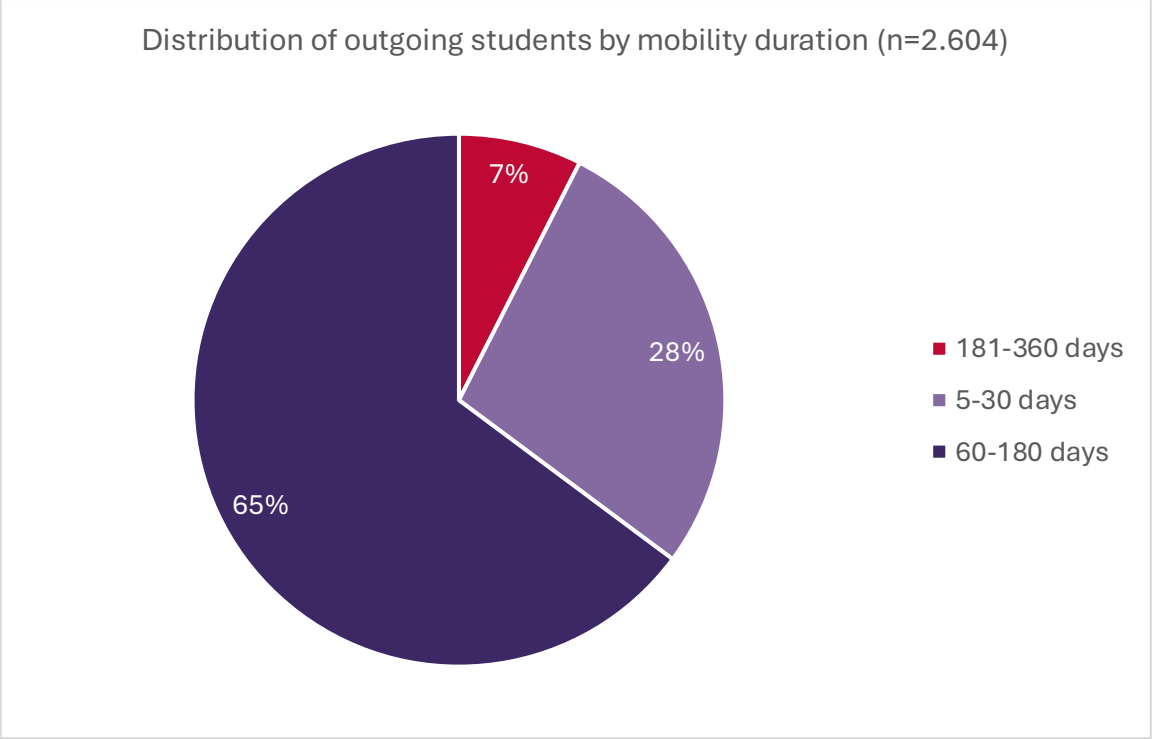

Figure 7. Outgoing student distribution by mobility duration (Croatia)

More than half of all outgoing Croatian Erasmus+ mobilities (55%) were concentrated in just five countries. Spain remained the most popular destination (19%), followed by Portugal (13%), Italy (10%), Germany (8%), and Slovenia (6%), confirming the strong orientation of Croatian students toward southern and central European destinations (Figure 8).

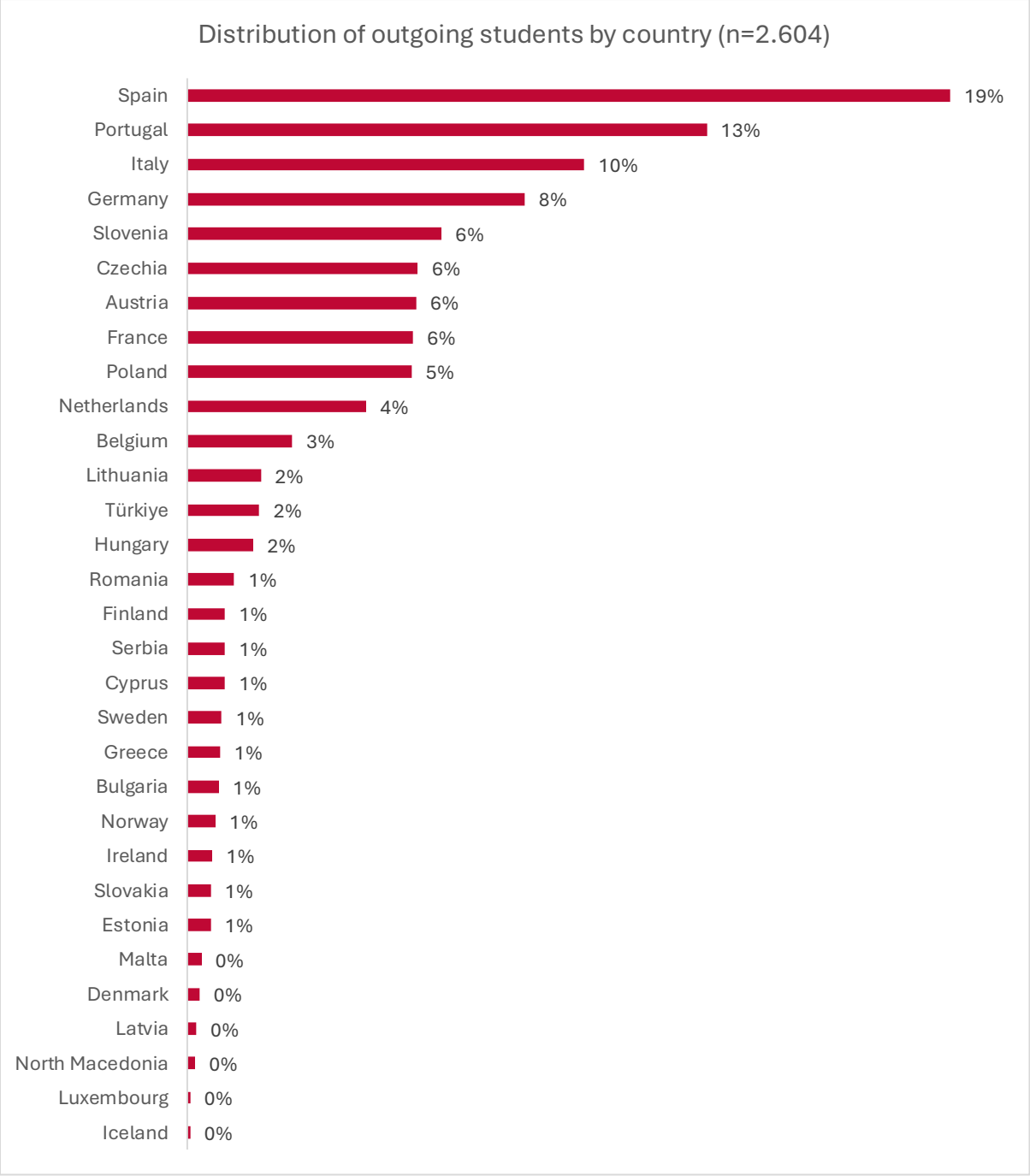

Figure 8. Outgoing student distribution by country of receiving institution (Croatia)

The largest share of Croatian Erasmus+ students abroad studied business, administration and law (30%), followed by health and welfare (13%), and arts and humanities (12%). Other prominent fields included engineering, manufacturing and construction (11%), and ICT (10%). Smaller proportions were recorded in natural sciences, mathematics and statistics (7%), services (6%), education (4%), agriculture, forestry, fisheries and veterinary (3%), and social sciences, journalism and information (3%) (Figure 9). This distribution highlights the predominance of business-related and professionally oriented disciplines among Croatian Erasmus+ participants.

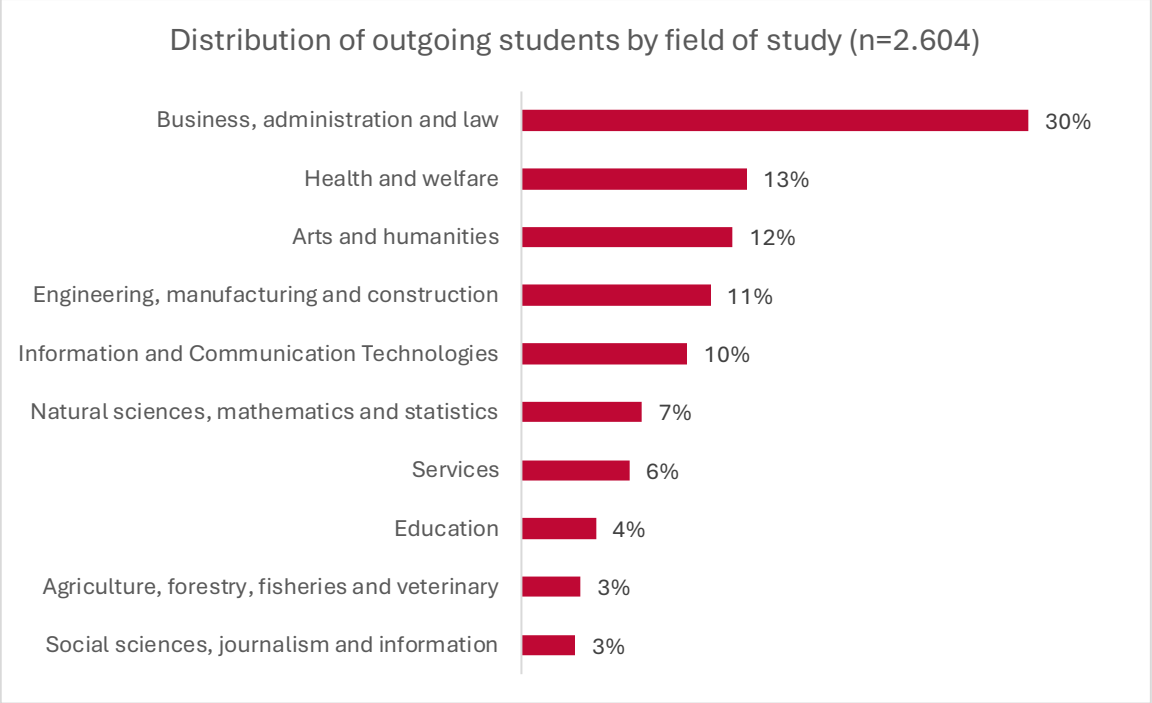

Figure 9. Outgoing student distribution by field of study (Croatia)

The majority of Croatian Erasmus+ students (74%) took part in mobility for studies, while approximately one quarter (26%) participated in traineeships. However, the balance between the two types of mobility varies considerably across destinations. Denmark and Germany stood out with exceptionally high proportions of traineeship placements—63% and 51%, respectively—reflecting their strong focus on practical learning and well-established links between universities and industry. Similarly, Ireland (56%) showed a clear predominance of traineeships. By contrast, most other countries—particularly Spain, Portugal, Italy, and Poland—remained dominated by study mobility, accounting for over 80% of exchanges. These patterns suggest that Croatian students tend to choose northern and western European destinations for hands-on professional experience, while southern Europe remains the primary choice for traditional study-based mobility.

When it comes to the distribution of outgoing Croatian Erasmus+ students by field of study across countries, indicating which destinations attract the largest shares of students in each discipline, several clear patterns can be observed. Spain emerges as the leading destination overall, attracting 21% of students studying business, administration and law, 19% studying engineering, manufacturing and construction, 19% studying information and communication technologies, and 28% in services. France held the top position for agriculture, forestry, fisheries and veterinary (20%), while Portugal attracted the highest share of engineering students (18%), reflecting its growing prominence in technical education. Distinctive thematic patterns are visible elsewhere: Italy stood out in arts and humanities (17%), while Lithuania attracted a notable share of Croatian students in services (11%). Czechia and Slovenia also played visible roles, particularly in arts, social sciences, and education.

Table 9. Erasmus+ mobility statistics (Croatia)

Mobility direction	Short-term	Long-term	Total
Incoming students	528	2.659	3.187
Outgoing students	721	1.883	2.604

4.2. Cost estimation

4.2.1. Personal spending

A. Incoming students

Short-term stays

A total of **528 Erasmus+ students** undertook short-term mobilities of less than 30 days in Croatia, accounting collectively for **4.794 student days** spent in the country.

To estimate the expenditure associated with these stays, the analysis uses Eurostat data (2022) on the average per-night spending of EU residents aged 15–24 and 25–34 on personal trips within the EU. As these values represent origin-country spending patterns, they are adjusted to Croatian price levels using Comparative Price Level (CPL) indices. This adjustment aligns each origin country's typical travel spending with the cost environment faced by students during their stay in Croatia.

Applying this country-specific adjustment and aggregating across all short-term mobilities yields an estimated total spending of **EUR 351.512** attributable to short-term incoming students (Table 10).

Long-term stays

A total of **2.659 Erasmus+ students** (83% of incoming students) stayed more than 60 days in Croatia, accounting for a combined total of 351.007 student days.

Based on EUROSTUDENT VIII data, the average monthly spending of international students in Croatia is estimated at **EUR 608,2**, equivalent to **EUR 18,25 per day**. To account for differences in spending capacity among students from different countries of origin, these expenditures are adjusted using GDP per capita in purchasing power standards (PPS, Eurostat 2022), which reflects the relative income levels of the students' home countries. After applying this adjustment, the total spending attributable to long-term incoming students in Croatia is estimated at **EUR 6.672.275** (Table 10).

Total incoming student spending

The total estimated spending of Erasmus+ incoming students in Croatia (both short-term and long-term) funded through the KA131 2022 call amounts to **EUR 7.023.787** (Table 10).

Incoming students received **EUR 5.580.279** in Erasmus+ grants to support their mobility-related costs. This indicates that students contributed an additional EUR 1.443.508 from their own or family resources—equivalent to 21% of total spending—demonstrating that Erasmus+ funding is supplemented by substantial private financial inputs (Table 10).

Table 10. Personal spending of incoming Erasmus+ students (Croatia)

Mobility duration	Personal spending	Erasmus+ grant (included in personal spending)
Short-term stays	351.512	*378.678*
Long-term stays	6.672.275	*5.201.601*
Total	**7.023.787**	*5.580.279*

B. Outgoing students

1. Short-term stays

Actual spending abroad

A total of **721 Croatian students** undertook Erasmus+ short-term mobilities of 5–30 days abroad, amounting to **5.746 student-days** spent across various host countries.

To estimate the expenditure associated with these stays, the analysis relies on the same Eurostat (2022) data used for incoming students, capturing the average per-night travel spending of young residents aged 15–24 and 25–34. These values are adjusted to reflect the specific price levels of each host country, ensuring that the estimated spending aligns with the cost environment faced by Croatian students during their stay abroad. After applying these country-specific adjustments and aggregating across all short-term mobilities, the total actual spending of Croatian short-term outgoing students is estimated at **EUR 679.698** (Table 11).

Foregone domestic expenditure

To estimate the counterfactual for short-term outgoing mobility, the analysis assumes that—had these students not participated in Erasmus+—each would have undertaken one typical short domestic trip of 1–3 nights. Using Eurostat data on the average

expenditure per domestic personal trip among young Croatian residents (15–24 and 25–34 years), the representative value of EUR 150,89 per trip was applied.

Multiplying this by the 721 short-term outgoing students yields a total estimated foregone domestic expenditure of **EUR 108.792**. This amount represents the level of tourism-related spending that would likely have occurred within Croatia in the absence of short-term Erasmus+ mobility (Table 11).

Subtracting the counterfactual domestic expenditure from the actual spending abroad results in a net short-term outflow of **EUR 570.906**, representing the portion of expenditure that genuinely leaves the Croatian economy due to short-term Erasmus+ mobility (Table 11).

2. Long-term stays

Actual spending abroad

A total of **1.883 Croatian students** undertook long-term mobilities lasting between 60 and 360 days, amounting to **260.791 student days** spent abroad.

To estimate their total expenditure, the analysis applies EUROSTUDENT VIII data on the average monthly living and study costs of international students in each host country. These baseline values are further adjusted using GDP per capita in PPS to reflect differences in spending capacity between Croatia and the respective destination countries.

After applying these adjustments and aggregating across all long-term stays, the total spending of long-term outgoing Croatian students is estimated at **EUR 7.152.722** (Table 11).

Foregone domestic expenditure

For long-term outgoing Croatian students, the counterfactual assumes that, had they remained in Croatia, they would have incurred regular living and study costs at domestic price levels. Using EUROSTUDENT data for Croatian students, all non-housing items (food, local transport, communication, leisure and study-related expenses) are taken at full value, while the accommodation component was scaled by the share of students who normally live away from their parents (50%). This yields an average domestic cost of living of **EUR 571,45 per month**, equivalent to around EUR 19,05 per day. Applied to the 260.791 long-term mobility days undertaken by 1.883 Croatian students, the total foregone domestic expenditure is estimated at **EUR 4.967.634** (Table 11).

Subtracting the domestic living costs that long-term students would have incurred at home from their actual expenditure abroad results in a net long-term outflow of **EUR 2.185.088**, representing the share of spending that genuinely leaves the Croatian economy due to long-term Erasmus+ mobility (Table 11).

Total outgoing student spending

The total estimated spending leakage associated with Erasmus+ outgoing students—combining short-term and long-term mobility and accounting for the difference between actual expenditure abroad and the domestic spending that would have occurred in a no-mobility scenario—amounts to **EUR 2.755.994** (Table 11).

Table 11. Personal spending of outgoing Erasmus+ students (Croatia)

Mobility duration	Actual spending abroad	Foregone domestic expenditure	Net of counterfactual
Short-term stays	+679.698	-108.792	+570.906
Long-term stays	+7.152.722	-4.967.634	+2.185.088
Total	**+7.832.420**	**-5.076.426**	**+2.755.994**

Total personal spending

After combining all inflows generated by incoming students and subtracting the net outflows associated with outgoing mobility, the net personal expenditure effect amounts to **EUR 4.267.793**, representing the overall gain to the Croatian economy from Erasmus+ student mobility in terms of student-driven consumption (Table 12).

As shown in Table 12, this net personal expenditure effect is then combined with the **EUR 7.027.856 in Erasmus+ grants** received by Croatian outgoing students to arrive at the final total for personal spending of **EUR 11.295.649** (Table 12).

This step is necessary because the net personal expenditure effect reflects only the balance of private consumption, whereas Erasmus+ grants represent an additional external financial inflow from the EU. Including these transfers ensures that all programme-related resources entering the Croatian economy—both student-driven and EU-funded—are fully captured in the total personal spending.

Table 12. Net personal impact (Croatia)

Component	Incoming (actual spending)	Outgoing (net of counterfactual)	Erasmus+ grants (outgoing students)	Net effect
Short-term spending	+351.512	-570.906	+581.391	+361.997
Long-term spending	+6.672.275	-2.185.088	+6.446.465	+10.933.652
Total	**+7.023.787**	**-2.755.994**	**+7.027.856**	**+11.295.649**

4.2.2. Relocation costs

A. Incoming students

Based on the estimated average round-trip cost of **EUR 276** per mobility, calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km), the resulting amount is multiplied by the domestically attributed share (50%) and the total number of incoming mobilities (3.187), leading to an overall estimate of **EUR 439.806**.

B. Outgoing students

Actual costs

Similar to incoming Erasmus+ students, outgoing students' expenses related to travel from Croatia to the host destination are conservatively estimated at the level of **EUR 276 per mobile student**. The 50% rate is attributed to international spending and calculated as a cost leakage. This amount is multiplied by the total number of outgoing mobilities (2.604), leading to an overall estimate of **EUR 359.352**.

Counterfactual domestic relocation costs

In line with the methodological framework, a counterfactual relocation cost is applied to long-term outgoing students to reflect the domestic travel they would have undertaken had they remained in Croatia. Since international relocation replaces a typical home-to-study travel pattern, the counterfactual assumes that each long-term student who normally studies away from their parental home would have made one domestic round trip during the period in question.

To operationalise this, a representative domestic travel cost is set at **EUR 20**, corresponding to the price of an average round-trip intercity bus journey in Croatia in 2022 (

Table 5). This value captures a realistic, low-cost estimate of the type of domestic mobility most students rely on.
Applying this rate to the number of long-term outgoing students who fall into this category yields a total counterfactual domestic relocation cost of **EUR 21.717**.

Subtracting the domestic counterfactual (EUR 21.717) from the estimated international relocation outflow of outgoing Croatian students (EUR 359.352) results in a net relocation outflow of **EUR 337.635**, reflecting the portion of travel-related expenditure that genuinely leaves the Croatian economy.

As shown in Table 13, when combining the inflow generated by incoming students' relocation spending (EUR 439.806) with the net outflow from outgoing students (EUR 345.889), the overall balance results in a net positive relocation effect of **EUR 102.171** for the Croatian economy.

Table 13. Net relocation impact (Croatia)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Relocation spending	**+439.806**	-359.352	+21.717	**-337.635**	+102.171
Total	**+439.806**			**-337.635**	**+102.171**

4.2.3. Visitor spending

A. Incoming students

A total of **2.659 Erasmus+ students** stayed in Croatia for more than 60 days (long-term mobility). In line with the model assumptions, each long-term student is expected to receive at least **one visit** from family members or friends during their stay.

Visitor-related spending is estimated using Eurostat data (2022) on the average expenditure of EU residents on personal trips of one to three nights within the EU (excluding the reporting country). To reflect the typical profile of visitors to Erasmus+ students, the calculation uses the weighted average across four age groups most relevant for peers and parents: 15–24, 25–34, 35–44, and 45–54 years.

Since the Eurostat values represent origin-country spending patterns, these expenditures are adjusted to the Croatian price level and to the price levels of the visitors' countries of residence using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022), ensuring comparability across all sending countries (see section 3.3.1).

Applying this adjustment to all long-term incoming students results in an estimated total visitor spending of **EUR 800.393**.

B. Outgoing students

Actual visitor spending abroad

A total of **1.883 Croatian stu**dents spent more than 60 days abroad. Following the same assumption applied to incoming mobility, it is considered that each long-term outgoing student received at least **one visit** from family members or friends during their stay.
To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. As these figures reflect origin-country spending patterns, they are first adjusted to Croatia's relative spending capacity using Comparative Price Level (CPL) indices. This adjustment aligns Croatian visitors' expected travel expenditure with the price context of the countries in which they are likely to visit their mobile students.

The adjusted average per-trip expenditure (EUR 311) is multiplied by the number of long-term outgoing students, resulting in an estimated total visitor spending of **EUR 819.551** associated with Croatian students' families and friends travelling abroad.

Counterfactual visitor spending

The opportunity cost of visitor spending represents the domestic tourism expenditure that would have occurred if Croatian students had not participated in Erasmus+ mobility. Among the 1.883 Croatian students who undertook long-term stays abroad (over 60 days), a share would, in a no-mobility scenario, have received at least one domestic visit from family members or friends—particularly those who normally study away from their parental home.

To reflect this, the model assumes that 42% of long-term outgoing students would have been visited domestically, which corresponds to the share of students living without parents reduced by 10%. For these hypothetical domestic visits, Eurostat (2022) data on the average expenditure per domestic personal trip of 1–3 nights by Croatian residents aged 15–24, 25–34, 35–44, and 45–54—the age groups corresponding to Erasmus+ peers and parents—is applied. The average expenditure per domestic trip is EUR 146.

Multiplying this representative trip cost by the share of students expected to receive a domestic visit yields a total counterfactual domestic visitor expenditure of **EUR 114.641**.

This figure represents the domestic tourism spending that would have accrued within the Croatian economy had these students remained in the country.
Subtracting the counterfactual domestic visitor expenditure (EUR 114.641) from the actual visitor spending abroad associated with outgoing Croatian students (EUR 819.551) results in a net visitor-related outflow of **EUR 704.911**, representing the portion of visitor expenditure that genuinely leaves the Croatian economy.

When incoming visitor inflows (EUR 800.393) are combined with the net outgoing visitor outflow (EUR 704.911), the result is a positive net visitor-related effect of **EUR 95.482**, indicating that Croatia experiences a net gain from visitor spending linked to Erasmus+ mobility (Table 14).

Table 14. Net visitor impact (Croatia)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Visitor spending	**+800.393**	-819.551	+114.641	**-704.911**	+95.482
Total	**+800.393**			**-704.911**	**+95.482**

4.2.4. Programme transfers

Based on the data provided by the Croatian National Agency for Erasmus+ (AMEUP), the total organisational support (OS) provided to Croatian higher education institutions to student mobility (intra-European) under the KA131 2022 call is estimated at the level of **EUR 783.500**. In practice, these funds were used to provide support services to outgoing and incoming Erasmus+ students in Croatia.

The management fee is estimated at **EUR 1.427.772**.

4.2.5. Net result

Table 15 presents **Domestic Final Demand**, identifying the portion of Erasmus+ related expenditure that translates into actual spending within the Croatian economy. It includes living and study costs of incoming students, relocation and visitor-related spending, and institutional inflows through Organisational Support and National Agency management funding. The foregone domestic consumption of outgoing students is deducted to account for expenditure that would have occurred domestically in the absence of mobility. The resulting **net domestic final demand of EUR 13,7 million** represents the effective increase in internal expenditure attributable to Erasmus+ student mobility funded under the KA131 call 2022 in Croatia.

Table 15. Domestic final demand (Croatia)

Component	Incoming mobility	Outgoing mobility (net of counterfactual)	Erasmus+ grants to outgoing students	Programme transfers	Net effect
Personal spending	+7.023.787	-2.755.994	+7.027.856	n/a	+11.295.649
Relocation costs	+439.806	-337.635	n/a	n/a	+102.171
Visitor spending	+800.393	-704.911	n/a	n/a	+95.482
Total domestic demand (consumption)	**+8.263.985**	**-3.798.539**	**+7.027.856**	**n/a**	**+11.493.302**
Programme transfers (OS + NA management fee)	**n/a**	**n/a**	**n/a**	**+2.211.272**	**+2.211.272**
Total domestic demand (consumption + transfers)	**+8.263.985**	**-3.798.539**	**+7.027.856**	**+2.211.272**	**+13.704.574**

4.3. Short-term economic effects

To estimate the short-term economic effects of Erasmus+ mobility in Croatia, the model incorporates four key expenditure components:

a) personal consumption related to student mobility, including living and study costs, relocation expenses, and tourism-related spending by visiting friends and family;
b) net outflows resulting from outgoing student mobility, adjusted for counterfactual domestic spending and Erasmus+ grants;
c) Erasmus+ Organisational Support (OS) funds allocated to higher education institutions;
d) the management fee allocated to the Croatian National Agency for programme implementation in the field of higher education.

As components (a) and (b) represent final consumption rather than domestic production, their impact on the Croatian economy is assessed through indirect and induced effects only. These reflect the supply chain and household income responses triggered by consumption.

In contrast, components (c) and (d) are treated as partially productive expenditure, generating direct, indirect, and induced effects due to their direct impact on employment and institutional operations. The calculations therefore distinguish between **two sources of final domestic demand** (Table 16**):**

- **Mobility-related consumption**, which includes the net impact of incoming and outgoing student spending, visitor expenditure, and relocation costs;
- **Programme-related transfers**, consisting of the direct funding flows to higher education institutions and the National Agency.

Together, these components form the basis for computing gross value added (GVA), employment, and fiscal effects using Type I and Type II multipliers.

Gross Value Added (GVA) for Croatia is calculated by translating all Erasmus+ related expenditures into economic value using the national GVA-to-output ratio and applying Type I (1,5) and Type II (1,9) multipliers to capture indirect and induced effects (Table 7).

The GVA-to-output ratio for Croatia is derived from Eurostat's Supply and Use Tables (2022), which provide national accounts at basic prices. Specifically, the ratio (0,472) is obtained by dividing gross value added (B1G) by total output (P1) for all industries in Croatia. This indicates that, on average, 47% of each euro of economic output generated in Croatia represents value added, while the remaining 53% accounts for intermediate inputs and imported goods and services (Table 8).

The employment impact of Erasmus+ related spending in Croatia is estimated by converting the GVA results into employment equivalents using the national employment-to-GVA ratio. Based on Eurostat data for 2022, Croatia recorded total employment of 1,66 million persons and a gross value added (B1G) of EUR 56,3 billion, resulting in an employment intensity of 29,2 jobs per EUR 1 million of GVA (Table 8). This coefficient is applied uniformly across all GVA components to estimate the number of jobs supported, directly and indirectly, by Erasmus+ activities.

The fiscal impact of Erasmus+ in Croatia is estimated by applying the national government revenue-to-GDP ratio to the GVA results. Based on Eurostat data for 2022, Croatia's general government revenue amounted to EUR 30,39 billion and GDP to EUR 67,61 billion, yielding a fiscal coefficient (f) of 0,45 (Table 8). This ratio is multiplied by the GVA values for each expenditure category, capturing the tax and contribution revenues indirectly generated through consumption, supply-chain and income effects. In line with the GVA model, inflows and outflows are treated as generating only indirect and induced fiscal effects, while OS and National Agency expenditures also produced direct effects.

The overall economic impact of Erasmus+ student mobility (KA131 2022 call) on Croatia is **positive across all measured dimensions** (Table 16).

Table 16. GVA, employment and fiscal effects of Erasmus+ student mobility (Croatia)

EUR	Direct	Indirect	Induced	Type I (Direct + Indirect)	Type II (Direct + Indirect + Induced)
Output (EUR)	2.211.272	6.852.287	5.481.830	9.063.559	14.545.389
GVA (EUR)	1.042.686	3.231.073	2.584.858	4.273.759	6.858.617
Jobs (FTE)	30	94	76	124	200
Fiscal (EUR)	468.734	1.452.512	1.162.010	1.921.246	3.083.256

Erasmus+ related spending in Croatia generated an estimated **EUR 6,86 million in total GVA**. This includes EUR 1,04 million in direct effects, primarily from institutional funding to higher education institutions and National Agency operations; EUR 3,23 million in indirect effects through supply chain activities; and EUR 2,58 million in induced effects resulting from increased household income and consumption (Table 16).

The corresponding employment impact is estimated at approximately **200 full-time equivalent (FTE) jobs**, consisting of 30 direct, 94 indirect, and 76 induced positions (Table 16).

The **total fiscal contribution is estimated at EUR 3,08 million**, comprising EUR 1,92 million from Type I effects (direct + indirect) and EUR 1,16 million from induced effects (Table 16).

These results confirm that Erasmus+ activities in Croatia generate **tangible economic benefits** across the national economy, particularly in labour-intensive service sectors. Even modest Erasmus+ inflows stimulate **measurable growth** in domestic value added, employment and fiscal revenue, with the education and public administration sectors acting as the primary direct beneficiaries.

4.4. Alignment with national long-term economic goals

Croatia's current development framework, articulated in the *National Development Strategy of the Republic of Croatia until 2030* (NDS 2030)[42] and supported by complementary sectoral strategies—such as the *Smart Specialisation Strategy* (S3 2021–2029)[43], the *National Energy and Climate Plan* (NECP 2021–2030)[44], the *Digital Croatia 2030 Strategy*[45], and the *National Tourism Development Strategy 2030*[46]—sets the overarching direction for the country's long-term economic and social transformation.

Collectively, these documents aim to accelerate the **green and digital transitions, enhance regional competitiveness, and strengthen human capital**. The NDS 2030 is structured around four development directions: building a sustainable economy and society, strengthening resilience to crises, advancing digital and green transitions, and ensuring balanced regional development. Its thirteen strategic goals span a wide spectrum—from fostering a competitive and innovative economy, cultivating a skilled and adaptable workforce, and ensuring energy transition and food security, to supporting sustainable mobility, boosting cultural visibility, and promoting regional cohesion.

These national priorities are reinforced by complementary sectoral agendas. The *Smart Specialisation Strategy* (S3 2021–2029) identifies priority domains in health and quality of life, energy and sustainable environment, transport and mobility, food and bioeconomy, and digital technologies, with cross-cutting emphasis on research excellence and innovation ecosystems. The *Digital Croatia 2030* strategy focuses on expanding digital infrastructure, developing ICT skills, and supporting e-services for citizens and enterprises. Meanwhile, the NECP and Energy Development Strategy to 2030 (with outlook to 2050)[47] highlight the transition to renewable energy, improved energy efficiency, and sustainable industrial processes. Together, these frameworks situate Croatia's long-term growth in the context of technological advancement, human capital, and sustainability.

[42] Government of the Republic of Croatia. (2021). Croatia 2030: National Development Strategy. URL: https://hrvatska2030.hr/
[43] Ministry of Science and Education, Republic of Croatia. (2023). Smart Specialisation Strategy of the Republic of Croatia 2021 – 2029 (S3-do-2029). URL: https://mzom.gov.hr/UserDocsImages/dokumenti/EUfondovi/PKK-2021-2027/S3-do-2029-Tekst-VRH-2023-7-2-2025.pdf
[44] Ministry of Economy and Sustainable Development, Republic of Croatia. (2023). Integrated National Energy and Climate Plan of the Republic of Croatia: Updated Version. URL: https://mingo.gov.hr/UserDocsImages/UPRAVA%20ZA%20ENERGETIKU/NECP_Update_CRO_EN_Revised.pdf
[45] Government of the Republic of Croatia. (2022). Digital Croatia Strategy (Strategija Digitalne Hrvatske). URL: https://mpudt.gov.hr/UserDocsImages/RDD/SDURDD-dokumenti/Strategija_Digitalne_Hrvatske_final_v1_EN.pdf
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[47] Government of the Republic of Croatia. Energy Strategy of the Republic of Croatia. URL: https://mzozt.gov.hr/UserDocsImages/UPRAVA%20ZA%20ENERGETIKU/Strategije,%20planovi%20i%20programi/Energy%20Stareg%20of%20the%20Republic%20of%20Croatia.pdf

Erasmus+ mobility patterns, both incoming and outgoing, **broadly align with these national development priorities**, reflecting Croatia's growing integration into the European knowledge economy and its ability to both attract and export skills in sectors essential to future competitiveness.

On the **incoming side**, Erasmus+ students predominantly study in business, administration and law, engineering, and services (Figure 4)—fields closely linked to *NDS 2030* objectives of economic competitiveness, innovation, and sustainable tourism. These disciplines reinforce immediate economic linkages through entrepreneurship, service innovation, and applied technical expertise, while supporting long-term goals such as industrial modernisation, sustainable mobility, and digital transformation. Similarly, social sciences, journalism and information underpin good governance and institutional capacity—key enablers of Croatia's resilience and investment attractiveness. Arts and humanities further contribute to Croatia's creative industries and international visibility, advancing the *Tourism Strategy 2030* goal of diversifying tourism products through culture and heritage.

The uneven **regional distribution** of incoming mobility (Figure 5) suggests potential for using Erasmus+ in ways that contribute to reducing territorial disparities—an important focus of *NDS 2030*—and for supporting the role of higher education institutions within regional innovation ecosystems. Increasing the share of ICT- and STEM-related mobilities hosted in less developed regions, particularly Slavonia, could help reinforce local specialisations in agriculture, bioeconomy and sustainable energy, while also addressing ongoing demographic and skills shortages. Targeted efforts to attract more incoming Erasmus+ students to these regions—alongside complementary development initiatives—would directly support the *Smart Specialisation Strategy* and regional development frameworks, especially their objectives of fostering inclusive growth and improving regional talent attraction and human capital.

Patterns in outgoing mobility mirror the incoming mobility trends. Among the 2.614 Croatian students who studied abroad through Erasmus+ between 2022 and 2024, the dominant fields were business, administration and law (30%), health and welfare (13%), arts and humanities (12%), and engineering, manufacturing and construction (11%) (Figure 9). These reflect strong alignment with NDS 2030's objectives on competitiveness, health and social resilience, and innovation.

When Erasmus+ outgoing mobility is considered relative to overall enrolment, notable trends emerge. ICT and natural sciences are significantly over-represented among outgoing students, while humanities also show higher-than-expected participation (Table 51). By contrast, professionally regulated programmes—such as engineering and education—consistently display lower mobility, reflecting wider European trends (Table 51). These patterns matter for alignment with national priorities. Strong ICT participation

supports *Croatia's Digital Croatia 2030* and *Smart Specialisation Strategy* priorities on digital skills and innovation. By contrast, the under-representation of engineering and services students points to a potential gap in developing internationally experienced technical and service-sector talent—an issue relevant for Croatia's competitiveness objectives and the strategic importance of tourism. This indicates considerable scope to expand mobility opportunities in these fields.

More than one quarter of Croatian outgoing students participated in blended mobility, which supports the development of **digital competences** essential for Croatia's digital transition. Because blended mobility combines virtual and physical components, it enhances students' digital literacy, remote-collaboration abilities, and capacity to participate in digitally enabled labour markets (European Commission, 2022; OECD, 2021)—core objectives of the *Digital Croatia 2030 strategy*. This mode of mobility also broadens access for students from regions and institutions with limited internationalisation capacity, contributing to *NDS 2030* goals on skills development and regional cohesion.

Traineeship mobility—both incoming and outgoing—also supports applied learning in priority sectors such as agriculture, health, and sustainable resource management, all of which are closely aligned with the *NDS 2030* and *NECP* objectives relating to food security, the green transition, and demographic revitalisation. Because trainees are directly involved in the day-to-day activities of host organisations, they contribute not only to their own skills development but also to immediate productivity and service delivery—an effect widely documented in studies of Erasmus+ traineeships and work-based learning (European Commission, 2019; OECD, 2018; Cedefop, 2015). Nearly one third of incoming trainees were placed in companies—primarily in administration and law, services, and engineering, manufacturing and construction—while others were hosted by higher education institutions, public bodies, NGOs and cultural institutions, research institutes, hospitals and medical centres, and schools or VET providers (Figure 6). This broad distribution of placements illustrates the multidimensional linkages between Erasmus+ mobility and the Croatian economy, extending the programme's impact well beyond the education sector.

Geographic mobility patterns further demonstrate Croatia's European integration and regional connectivity. Over half of outgoing students choose destinations in southern and central Europe—Spain, Portugal, Italy, Germany, and Slovenia—while incoming flows follow similar routes, consolidating Croatia's position within established European knowledge and mobility networks.

In summary, Erasmus+ mobility—through both incoming and outgoing student flows—contributes meaningfully to Croatia's human capital development and to strengthening regional innovation ecosystems. While direct alignment with specific priority sectors is

not always straightforward, the findings point to clear opportunities to increase the attractiveness of under-represented fields and regions, including by offering targeted support to higher education institutions engaged in strategically important areas. With strengthened institutional capacity and closer connection to national economic frameworks, Erasmus+ mobility could play an even greater role in advancing Croatia's green and digital transitions and supporting a more competitive, resilient, and regionally balanced economy in long term.

5. GERMANY

This chapter presents the estimated economic effects of Erasmus+ student mobility under the KA131 2022 call in Germany. It begins with an overview of incoming and outgoing student mobility, examining patterns by type, duration, field of study, and country of sending institution. It then assesses the short-term economic impacts of these mobilities, including their contributions to Gross Value Added (GVA), employment, and fiscal revenues generated through consumption and related economic activity. The chapter concludes by reflecting on how Erasmus+ mobility—both incoming and outgoing—supports Germany's long-term economic and human-capital development priorities.

5.1. Mobility context

5.1.1. Incoming Erasmus+ student mobility

A total of **29.907** students from 33 countries came to Germany between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[48]. Of these, 68% participated in study mobility and 32% in traineeships.

The gender distribution was 59% female and 41% male participants.

By study level, the majority were Bachelor's students (including short-cycle students) (58%), followed by Master's students (38%) and doctoral candidates (3%).

In total, 11% of mobilities were conducted as blended, combining physical mobility and a virtual component.

In terms of duration, most students pursued semester-long mobilities (60–180 days), representing 72% of the total. Short-term mobilities of up to one month (5–30 days) accounted for 11%, while 16% of students stayed longer than one semester (Figure 10).

[48] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

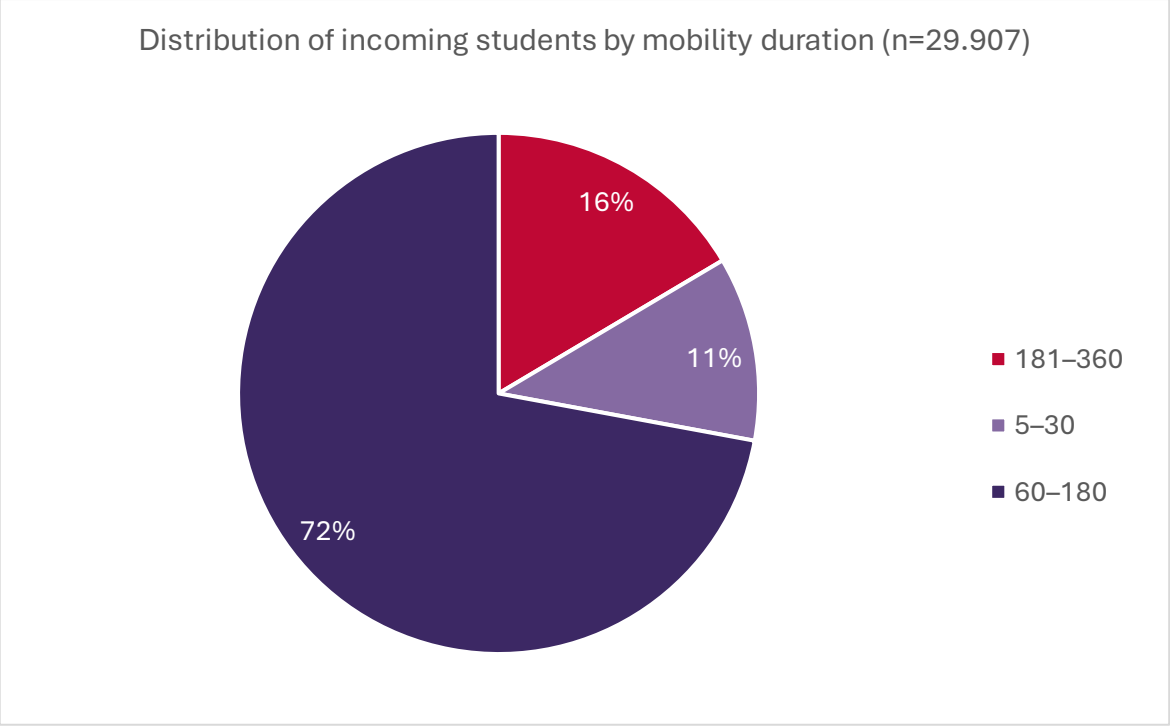

Figure 10. Incoming student distribution by mobility duration (Germany)

The top ten sending countries of Erasmus+ students to Germany are led by France (18%), Italy (15%), and Spain (13%), followed by Türkiye (8%), Austria (5%), and Poland (5%). Smaller but still significant shares come from the Netherlands (4%), Czechia (3%), Greece (3%), and Hungary (3%) (Figure 11).

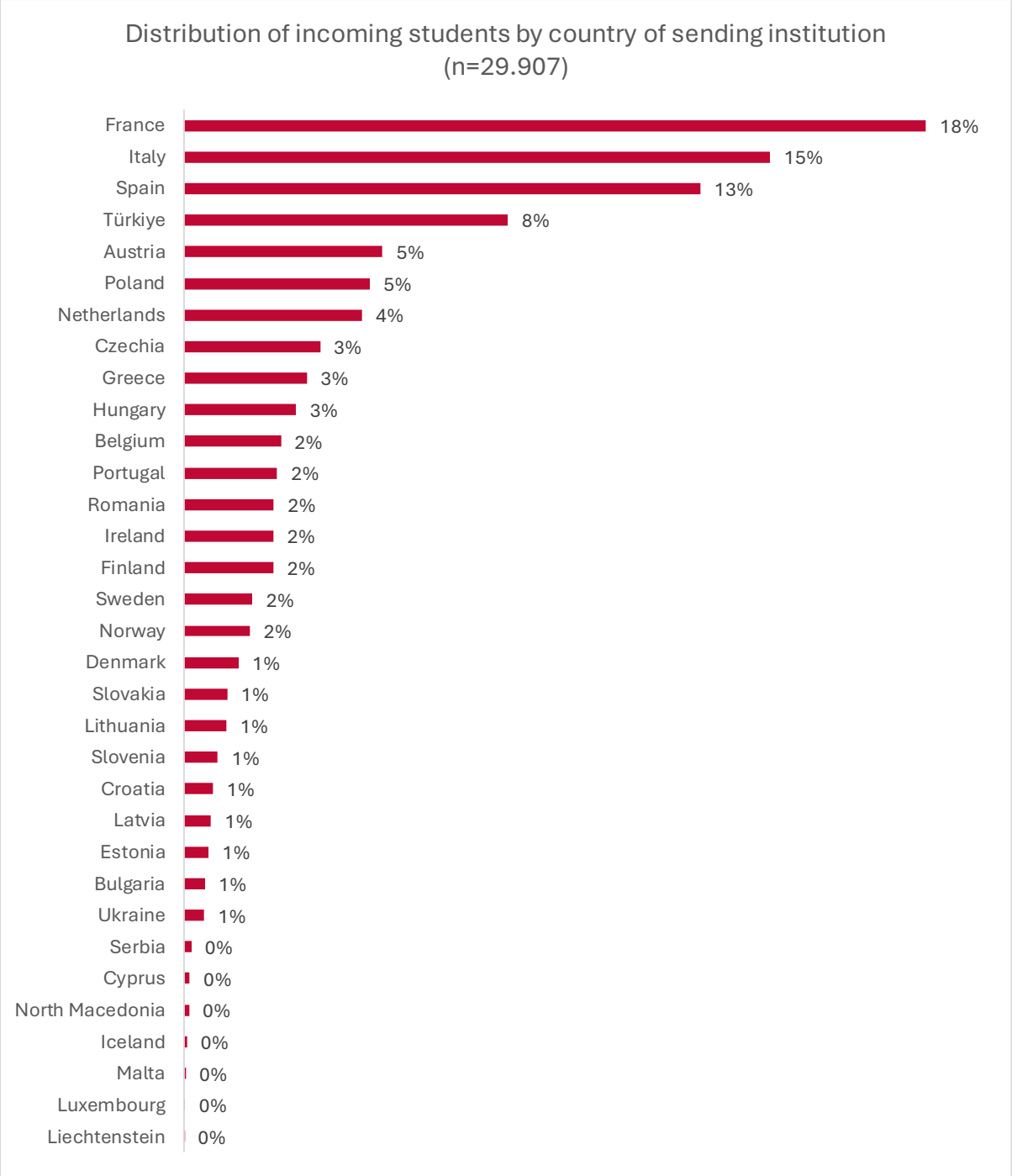

Figure 11. Incoming student distribution by country of sending institution (Germany)

The **top five study fields**[49] of incoming Erasmus+ students to Germany are led by business, administration and law (25%), and arts and humanities (19%) closely followed by engineering, manufacturing and construction (18%), as well as social sciences, journalism, and health and welfare (9%) (Figure 12).

[49] Based on 11 broad level fields specified in ISCED-F 2013.

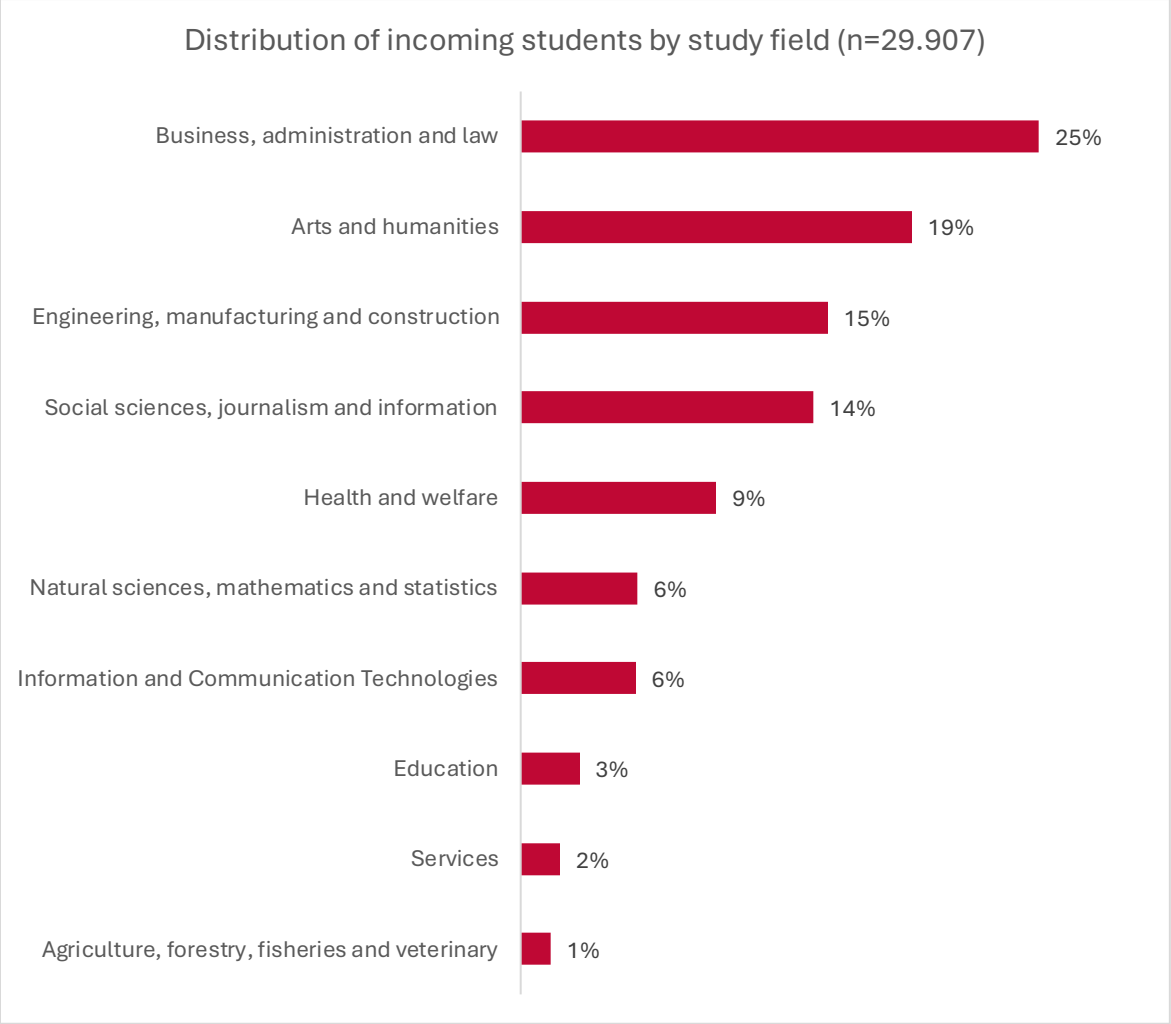

Figure 12. Incoming student distribution by study field (Germany)

Based on the data available for 29.095 mobilities, incoming Erasmus+ students in Germany were highly concentrated in the country's major academic and economic hubs. Bavaria attracted the largest share with 17%, followed closely by North Rhine–Westphalia and Baden-Württemberg, each hosting 16% of all incoming students. Berlin was another key destination, accounting for 15% (Figure 13).

A second group of regions received moderate shares: Hesse hosted 7%, while Lower Saxony and Saxony each accounted for 6% of all mobilities. Rhineland-Palatinate and Hamburg followed with 4% each (Figure 13).

The smallest proportions of incoming students were recorded in several eastern and northern regions. Thuringia, Brandenburg, and Schleswig-Holstein each hosted 2% of all incoming mobilities, while Bremen, Saxony-Anhalt, and Mecklenburg–Western Pomerania received only 1%. Saarland in the south-west likewise accounted for just 1% of incoming students (Figure 13).

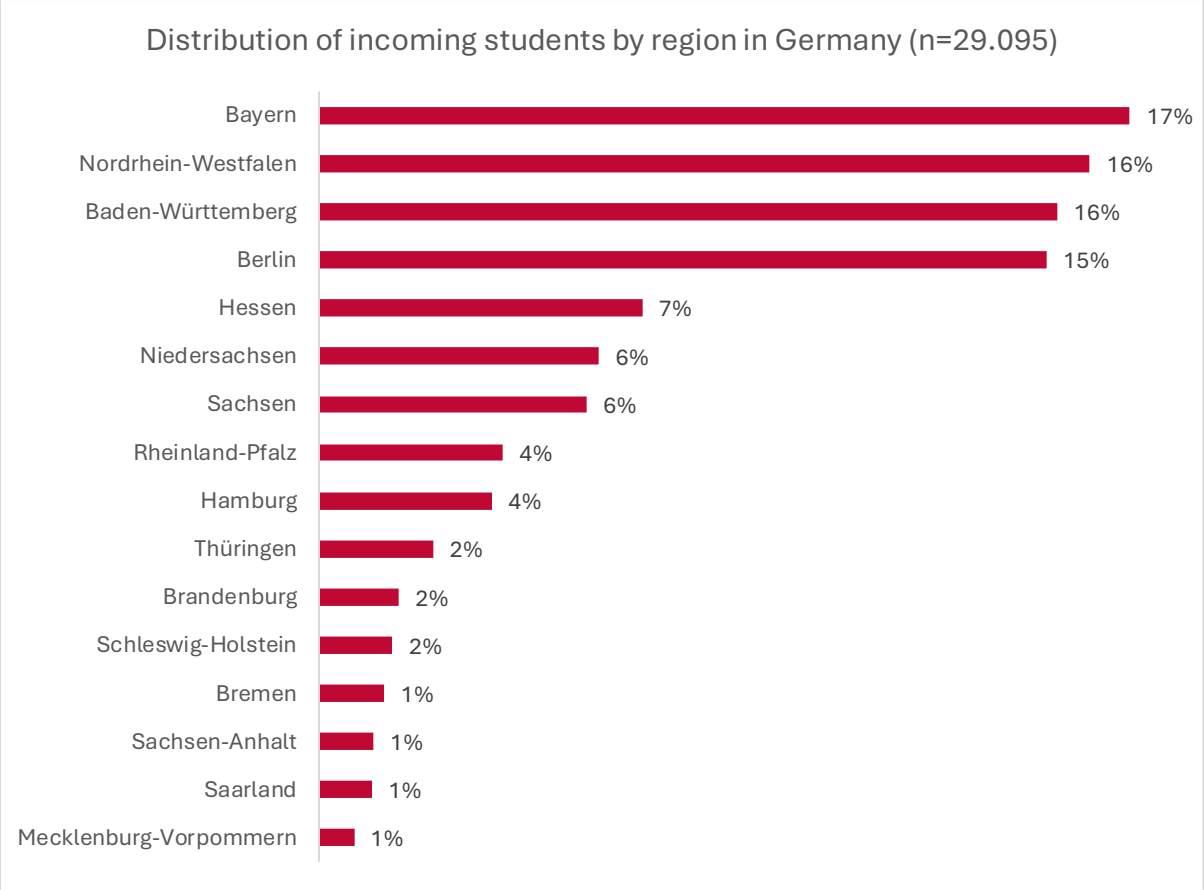

Figure 13. Distribution of incoming students by region (Germany)

For Germany, **mobility for studies** remained the dominant form across almost all fields and sending countries. Nonetheless, notable exceptions were found in agriculture, forestry, fisheries and veterinary (59%), and in health and welfare (60%), where traineeships represented the majority of mobilities, underlining the strong practical and professional orientation of these disciplines. At country level, traineeships also prevailed for a small group of sending countries—most prominently Lithuania (67% of German-bound mobilities), Iceland (64%), Austria (60%), Malta (58%), the Netherlands (55%), and Croatia (51%), suggesting that students from these systems viewed Germany primarily as a destination for hands-on, practice-based experience, rather than traditional study mobility.

Across fields of study, incoming students to Germany displayed well-defined **thematic preferences** that varied significantly by country. Business, administration and law attracted the largest shares of students from Finland (43% of all Finnish incoming students), Ireland (36%), Ukraine (36%), and Cyprus (36%). Arts and humanities dominated among students from Italy (29% of all Italian students), Romania (29%), Greece (22%), and Denmark (22%), while engineering, manufacturing and construction stood out for Slovakia (24%) and Malta (33%). Health and welfare drew substantial shares from Austria (26%), Hungary (24%), Lithuania (37%), and Luxembourg (70%), while ICT was particularly prominent among students from North Macedonia (22%) and

Türkiye (7%). Social sciences were most represented among students from Belgium (27%) and Türkiye (21%), while education held notable shares among those from Hungary (7%), the Netherlands (6%), and Finland (6%). Together, these patterns highlight Germany's multifaceted academic landscape and its diverse pull factors across disciplinary and national contexts.

Based on the 8.695 incoming traineeships for which data were available, companies hosted the largest share of Erasmus+ mobilities (36%), making **the private sector the most common destination for trainees in Germany**. Higher education institutions accounted for 26%, while public bodies, NGOs, and cultural institutions hosted 13% of trainees. A further 12% undertook their placements in hospitals or medical centres, and 10% in research organisations. Schools and VET providers represented a small share of placements (3%) (Figure 14). Overall, the distribution highlights the strong role of companies and higher education institutions in hosting incoming traineeships in Germany, complemented by a diverse range of public, medical, and research organisations.

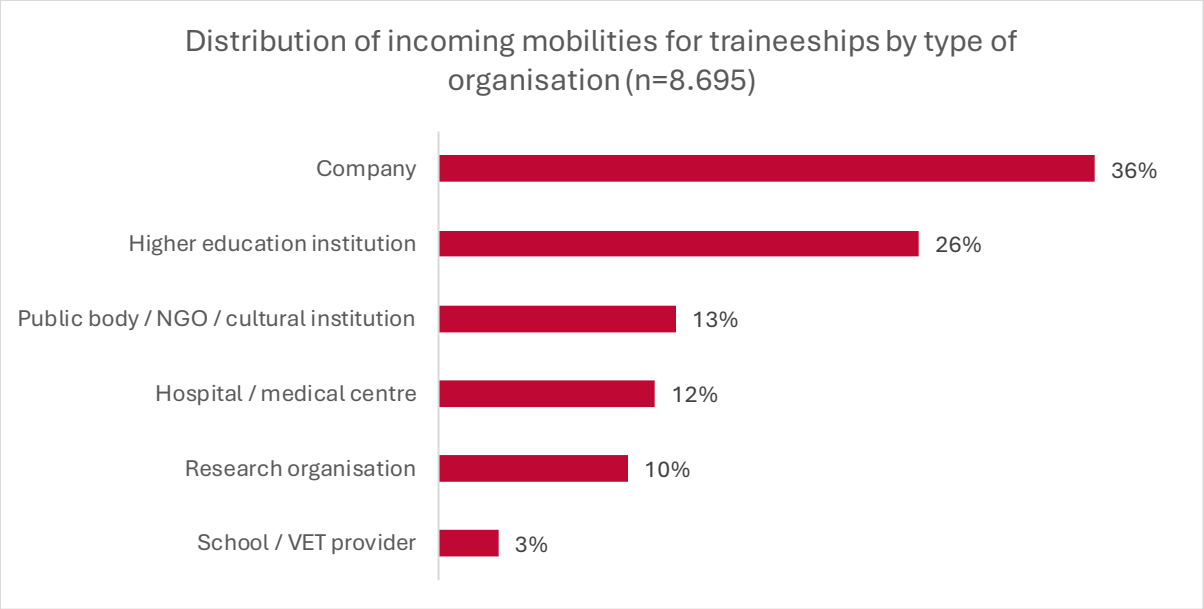

Figure 14. Distribution of incoming mobilities for traineeships by type of organisation (Germany)

5.1.2. Outgoing Erasmus+ student mobility

A total of **42.643** German students travelled to 33 countries between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[50]. Of these, 85% participated in study mobility and 16% in traineeships.

[50] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

The gender distribution was 62% female, 37% male, and 0.3% undefined.

By study level, the majority were Bachelor's students (63%), followed by Master's students (34%), and doctoral candidates (0,5%), while 3% were unclassified.

Overall, 7% of outgoing mobilities were conducted in blended format, including Blended Intensive Programmes (BIPs).

The majority of outgoing students (84%) spent 60-180 days abroad, followed by those who stayed for two semesters abroad (9%) and those who engaged in short-term mobility of up to 30 days (7%) (Figure 15).

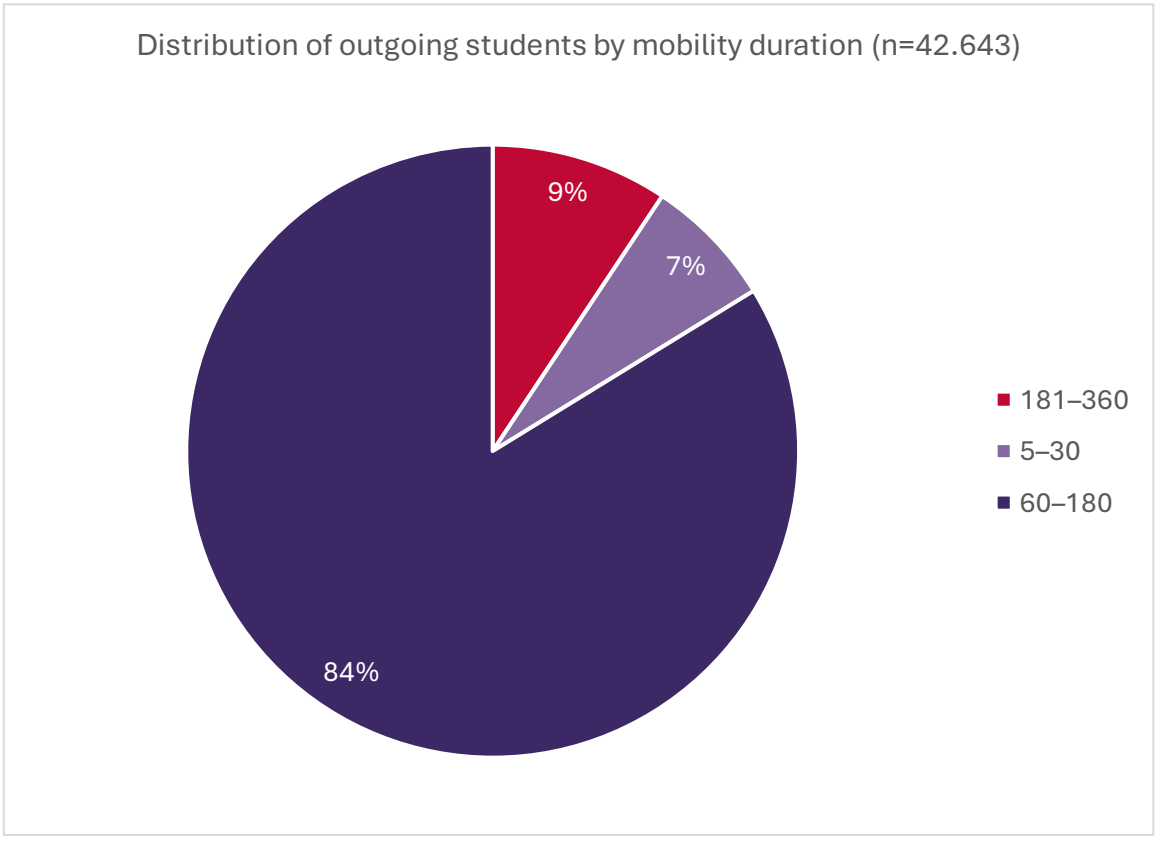

Figure 15. Outgoing student distribution by mobility duration (Germany)

German students most often completed their Erasmus+ mobility in Spain (18%), France (13%), and Italy (10%), which together attracted over 40% of all outgoing participants. Northern and Western European countries such as Sweden, Austria, Norway, Finland, and the Netherlands also hosted significant numbers (5–6% each). Portugal, Türkiye, Ireland, and Belgium followed with moderate shares (3–4%). Central, Eastern, and smaller programme countries—including Poland, Czechia, Greece, and the Baltic States—each hosted around 2% or less. The pattern reflects students' strong preference for Western and Southern Europe as study abroad destinations (Figure 16).

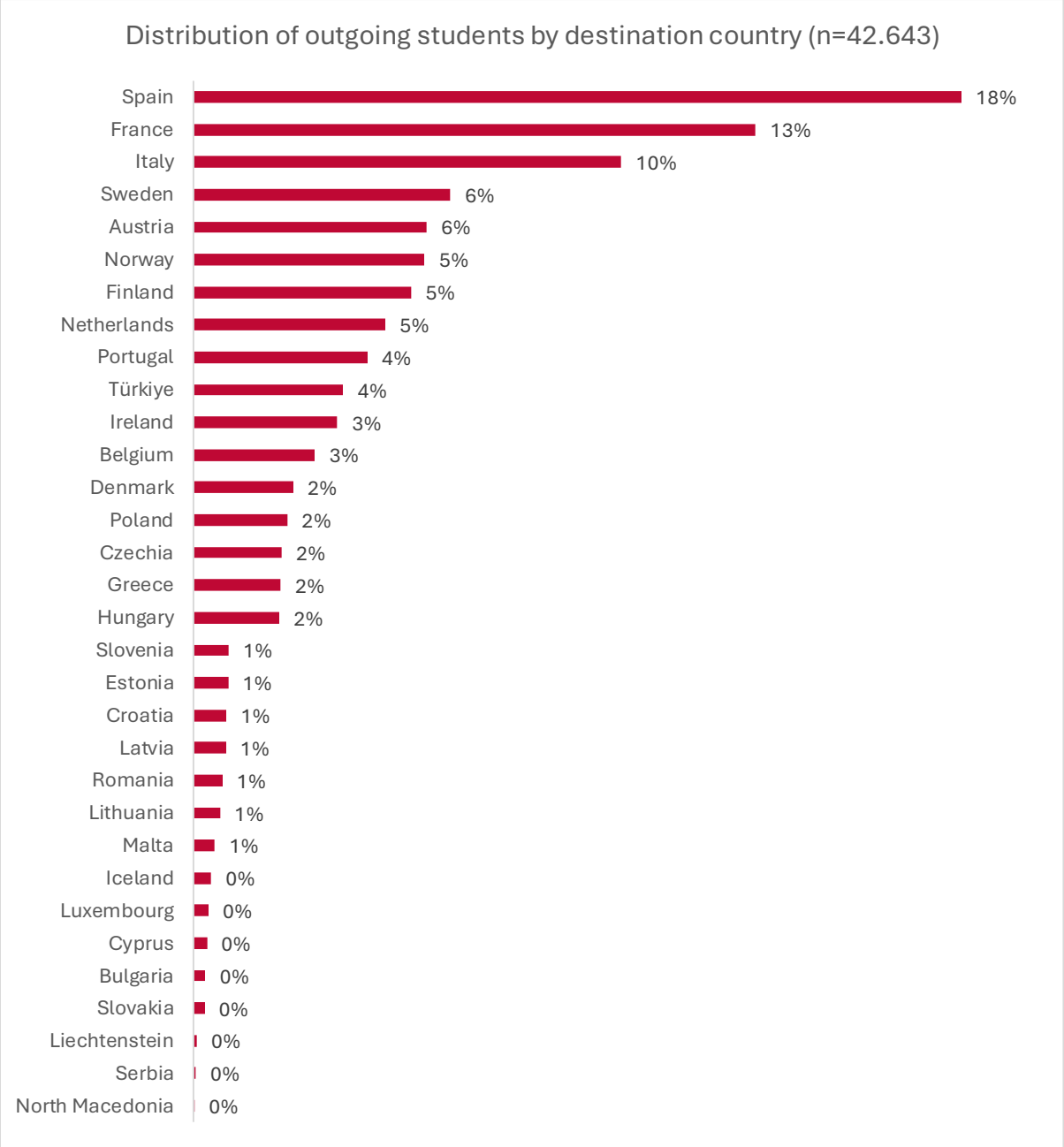

Figure 16. Outgoing student distribution by country of receiving institution (Germany)

Most German Erasmus+ students went abroad to study business, administration, and law (30%), making it the largest academic field for mobility. Substantial shares also came from arts and humanities (15%), social sciences, journalism and information (14%), and engineering, manufacturing and construction (13%), reflecting a broad academic spread. Health and welfare accounted for 11%, while natural sciences, mathematics and statistics represented 7%. Fewer mobilities originated from education (5%), information and communication technologies (2%), services (2%), and agriculture, forestry, fisheries and veterinary (1%). Overall, German outgoing mobility under the KA131 call 2022 was dominated by business and social disciplines, followed by strong participation from engineering and health fields (Figure 17).

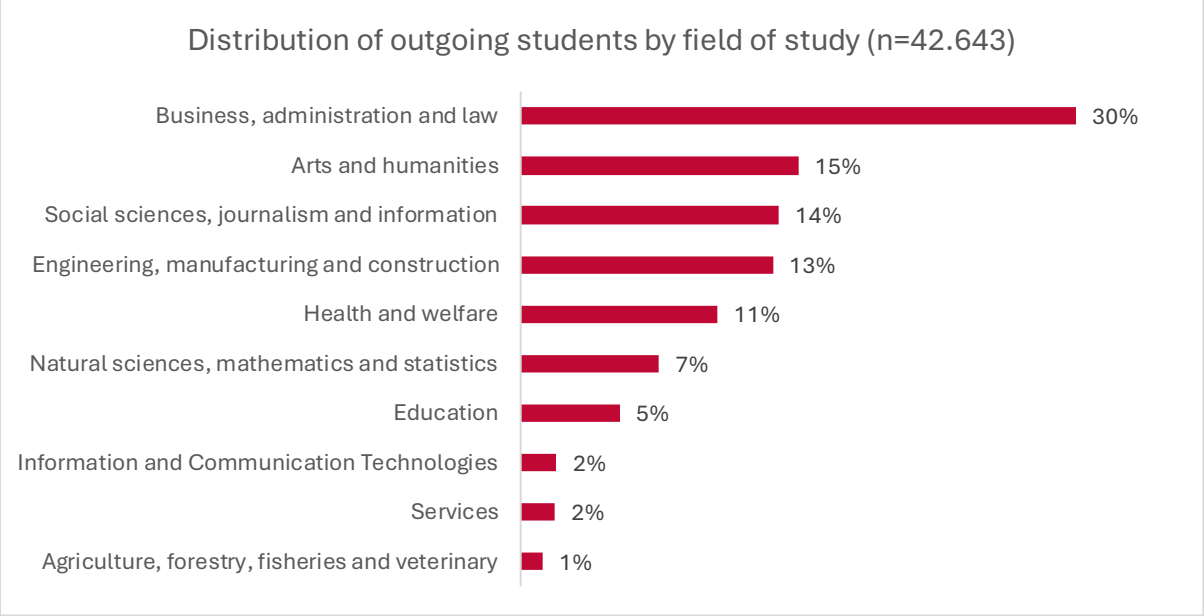

Figure 17. Outgoing student distribution by field of study (Germany)

When it comes to the distribution of outgoing German Erasmus+ students by field of study across destination countries, indicating which destinations attracted the largest shares of students in each discipline, several clear patterns can be observed.

Across all academic disciplines, Spain, France, and Italy consistently emerged as the main host countries for German outgoing Erasmus+ students—a pattern that reflects overall mobility volume rather than field-specific specialisation. Nonetheless, several countries displayed distinct disciplinary strengths. Austria stood out in agriculture, forestry, fisheries and veterinary, hosting 15% of German students in this field, while Ireland—together with France—was a key destination for education students (10%). Sweden attracted notable shares in engineering and manufacturing (7%) and was among the leading destinations for natural sciences (17%) and ICT (8%). These patterns indicate that, although most German students tended to gravitate toward Southern Europe, certain Northern European countries offered strong appeal in technical, scientific, and education-related disciplines.

Across most destination countries, study mobility accounted for around 68% of German Erasmus+ mobilities, while traineeships represented a substantial 32%. Several countries stood out with comparatively high proportions of traineeship placements. The highest shares were observed in Luxembourg (70%), Malta (67%), and Austria (45%), where practical placements outweighed or approached study exchanges. Liechtenstein (40%) and Romania (32%) also recorded above-average shares. A more balanced mix between study and traineeship mobility could be seen in Ireland (23%), Portugal (13%), Greece (16%), Türkiye (13%), and Croatia (11%), while in most other destinations, traineeships represented less than 10% of total German mobilities.

Table 17. Erasmus+ mobility statistics (Germany)

Mobility direction	Short-term	Long-term	Total
Incoming students	3.420	26.487	29.907
Outgoing students	2.938	39.705	42.643

5.2. Cost estimation

5.2.1. Personal spending

A. Incoming students

1. Short-term stays

A total of **3.420 Erasmus+ students** (representing 11% of all incoming students) undertook short-term mobilities of less than 30 days in Germany, accounting collectively for **33.001 student days** spent in the country.

The total expenditure of this group is estimated based on Eurostat data (2022) on the average spending of EU residents on personal trips of one night or more within the EU, considering the two age groups most relevant to Erasmus+ participants (15–24 and 25–34 years). These average EU spending patterns are converted into the German price context and the price levels of students' countries of sending institutions using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022) (section 3.3.1).

Based on this adjustment, the total spending attributable to short-term incoming students in Germany is estimated at **EUR 4.227.389**, distributed proportionally according to the students' country of sending institution (Table 18).

2. Long-term stays

A total of **26.487 Erasmus+ students** (89% of incoming students) stayed more than 60 days in Germany, accounting for a combined total of **3.955.841 student days**.

Based on EUROSTUDENT VIII data, the average monthly spending of international students in Germany is estimated at **EUR 1.107**, equivalent to **EUR 36,9 per day**. To account for differences in spending capacity among students from different countries of origin, these expenditures are adjusted using GDP per capita in purchasing power standards (PPS, Eurostat 2022), which reflects the relative income levels of the students' home countries.

After applying this adjustment, the total spending attributable to long-term international students in Germany is estimated at **EUR 145.480.361** (Table 18).

Total incoming student spending

The total estimated spending of Erasmus+ incoming students in Germany (both short-term and long-term) funded through the KA131 2022 call amounts to **EUR 149.707.750** (Table 18).

In total, incoming students hosted by Germany under the KA131 2022 call received **EUR 63.837.840** in Erasmus+ grants to support the costs of their mobilities (Table 18). This implies that students contributed an **additional EUR 85.869.910** from their own or family resources, representing the share of expenses covered beyond Erasmus+ funding equal to 43%.

Table 18. Personal spending of incoming Erasmus+ students (Germany)

Mobility duration	Personal spending	Erasmus+ grant (included in personal spending)
Short-term stays	4.227.389	*2.432.663*
Long-term stays	145.480.361	*61.405.177*
Total	**149.707.750**	***63.837.840***

B. Outgoing students

1. Short-term stays

Actual spending abroad

A total of **2.938 German Erasmus+ students** undertook short-term mobilities of 5–30 days abroad, amounting to 23.211 student-days spent across various host countries.

To estimate the expenditure associated with these stays, the analysis relies on the same Eurostat (2022) data used for incoming students, capturing the average per-night travel spending of young residents aged 15–24 and 25–34. These values are adjusted to reflect the specific price levels of each host country, ensuring that the estimated spending aligns with the cost environment faced by German students during their stay abroad.

After applying these country-specific adjustments and aggregating across all short-term mobilities, the total actual spending of German short-term outgoing students is estimated at **EUR 2.776.741** (Table 19).

Foregone domestic expenditure

To estimate the counterfactual for short-term outgoing mobility, the analysis assumes that—had these students not participated in Erasmus+—each would have undertaken one typical short domestic trip of 1–3 nights. Using Eurostat data on the average expenditure per domestic personal trip among young German residents (15–24 and 25–34 years), the representative value of **EUR 197,42 per trip** is applied.

Multiplying this by the 2.938 short-term outgoing students yields a total estimated foregone domestic expenditure of **EUR 580.005** (Table 19).This amount represents the level of tourism-related spending that would likely have occurred within Germany in the absence of short-term Erasmus+ mobility.

Subtracting the counterfactual domestic expenditure from the actual spending abroad results in a net short-term outflow of **EUR 2.196.736**, representing the portion of expenditure that genuinely leaves the Germany economy due to short-term Erasmus+ mobility (Table 19).

2. Long-term stays

Actual spending abroad

A total of **39.705 German students** undertook long-term mobilities lasting between 60 and 360 days, amounting to 5.277.361 student days spent abroad. To estimate their total expenditure, the analysis applies EUROSTUDENT VIII data on the average monthly living and study costs of international students in each host country. These baseline values were further adjusted using GDP per capita in purchasing power standards (PPS) to reflect differences in spending capacity between Germany and the respective destination countries.

After applying these adjustments and aggregating across all long-term stays, the total spending of long-term outgoing German students is estimated at **EUR 248.978.903** (Table 19).

Foregone domestic expenditure

For long-term outgoing German students, the counterfactual assumes that, had they remained in Germany, they would have incurred regular living and study costs at domestic price levels. Using EUROSTUDENT data for German students, all non-housing items (food, local transport, communication, leisure and study-related expenses) are taken at full value, while the accommodation component is scaled by the share of students who normally live away from their parents (71%). This yields an average domestic cost of living of **EUR 962,58 per month**, equivalent to around EUR 30 per day. Applied to the 5.277.361 long-term mobility days undertaken by 39.705 German students, the total foregone domestic expenditure is estimated at **EUR 169.328.753** (Table 19).

Subtracting the domestic living costs that long-term students would have incurred at home from their actual expenditure abroad results in a net long-term outflow of **EUR 79.650.150**, representing the share of spending that genuinely leaves the German economy due to long-term Erasmus+ mobility (Table 19).

Total outgoing student spending

The total estimated spending leakage associated with Erasmus+ outgoing students—combining short-term and long-term mobility and accounting for the difference between actual expenditure abroad and the domestic spending that would have occurred in a no-mobility scenario—amounts to **EUR 81.846.886** (Table 19).

Table 19. Personal spending of outgoing Erasmus+ students (Germany)

Mobility duration	Actual spending abroad	Foregone domestic expenditure	Net of counterfactual
Short-term stays	+2.776.741	-580.005	+2.196.736
Long-term stays	+248.978.903	-169.328.753	+79.650.150
Total	**+251.755.644**	**-169.908.758**	**+81.846.886**

Total personal spending

After combining all inflows generated by incoming students and subtracting the net outflows associated with outgoing mobility, the net personal expenditure effect amounts to **EUR 67.860.864**, representing the overall gain to the German economy from Erasmus+ student mobility in terms of student-driven consumption (Table 20).

As shown in Table 20, this net personal expenditure effect is then combined with the **EUR 119.697.464 in Erasmus+ grants** received by German outgoing students to arrive at the final total for personal spending of **EUR 187.558.327**.

This adjustment is necessary because the net personal expenditure effect captures only the balance of private consumption, whereas Erasmus+ grants constitute an additional external inflow of EU funding. By adding these transfers to the net spending balance, the model ensures that all financial resources associated with the mobility—both the students' own expenditures and the EU-funded support they receive—are fully reflected in the total personal spending entering the German economy.

Table 20. Net personal impact (Germany)

Component	Incoming (actual spending)	Outgoing (net of counterfactual)	Erasmus+ grants (outgoing students)	Net effect
Short-term spending	+4.227.389	-2.196.736	+2.084.794	+4.115.447
Long-term spending	+145.480.361	-79.650.150	+117.612.669	+183.442.880
Total	**+149.707.750**	**-81.846.886**	**+119.697.463**	**+187.558.327**

5.2.2. Relocation costs

A. Incoming students

Based on the estimated average round-trip cost of **EUR 276** per mobility, calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km), the resulting amount is multiplied by the domestically

attributed share (50%) and the total number of incoming mobilities (29.907), leading to an overall estimate of **EUR 4.127.166** (Table 21).

B. Outgoing students

Actual costs

Similar to incoming Erasmus+ students, outgoing students' expenses related to travel from Germany to the host destination are conservatively estimated at the level of EUR 276 per mobile student. The 50% rate is attributed to international spending and calculated as a cost leakage. This amount is multiplied by the total number of outgoing mobilities (42.643), leading to an overall estimate of **EUR 5.884.734** (Table 21).

Counterfactual domestic relocation costs

In line with the methodological framework, a counterfactual relocation cost is applied to long-term outgoing students to reflect the domestic travel they would have undertaken had they remained in Germany. Since international relocation replaces a typical home-to-study travel pattern, the counterfactual assumes that each long-term student who normally studies away from their parental home would have made one domestic round trip during the period in question.

To operationalise this, a representative domestic travel cost was set at **EUR 30**, corresponding to the price of an average round-trip intercity bus journey in Germany in 2022 (Table 5). This value captures a realistic, low-cost estimate of the type of domestic mobility most students rely on. Applying this rate to the number of long-term outgoing students who fall into this category (section 3.3.2) yields a total counterfactual domestic relocation cost of **EUR 779.088** (Table 21).

Subtracting the domestic counterfactual (EUR 779.088) from the estimated international relocation outflow of outgoing German students (EUR 5.884.734) results in a net relocation outflow of **EUR 5.105.646**, reflecting the portion of travel-related expenditure that genuinely leaves the German economy (Table 21).

Combining the inflow generated by incoming students' relocation spending (EUR 4.127.166) with the net outflow from outgoing students (EUR 5.105.646) results in a net negative relocation effect of **EUR -978.480** for the German economy (Table 21).

Table 21. Net relocation impact (Germany)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Relocation spending	**+4.127.166**	-5.884.734	+779.088	**-5.105.646**	-978.480
Total	**+4.127.166**			**-5.105.646**	**-978.480**

5.2.3. Visitor spending

A. Incoming students

A total of **26.487 Erasmus+ students** stayed in Germany for long-term mobility (60-360 days). In line with the model assumptions, each long-term student is expected to receive at least one visit from family members or friends during their stay.

Visitor-related spending is estimated using Eurostat data (2022) on the average expenditure of EU residents on personal trips of one to three nights within the EU (excluding the reporting country). To reflect the typical profile of visitors to Erasmus+ students, the calculation uses the weighted average across four age groups most relevant for peers and parents: 15–24, 25–34, 35–44, and 45–54 years.

Since the Eurostat values represent origin-country spending patterns, these expenditures are adjusted to the German price level and to the price levels of the visitors' countries of residence using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022), ensuring comparability across all sending countries (section 3.3.1).

Applying this adjustment to all long-term incoming students results in an estimated total visitor spending of **EUR 9.219.916** (Table 24).

B. Outgoing students

Actual visitor spending abroad

A total of **39.705 German students** spent more than 60 days abroad. Following the same assumption applied to incoming mobility, it is considered that each long-term outgoing student received at least one visit from family members or friends during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. As these figures reflect origin-country spending patterns, they are adjusted to Germany's relative spending capacity using Comparative Price Level (CPL) indices. This adjustment aligns German visitors' expected travel expenditure with the price context of the countries in which they are likely to visit their mobile students.

The adjusted average per-trip expenditure (EUR 521) is multiplied by the number of long-term outgoing students, resulting in an estimated total visitor spending of **EUR 20.017.618** associated with German students' families and friends travelling abroad (Table 24).

Counterfactual visitor spending

The opportunity cost of visitor spending represents the domestic tourism expenditure that would have occurred if German students had not participated in Erasmus+ mobility. Among the 39.705 German students who undertook long-term stays abroad (over 60 days), a share would, in a no-mobility scenario, have received at least one domestic visit from family members or friends—particularly those who normally study away from their parental home.

To reflect this, the model assumes that 61% of long-term outgoing students would have been visited domestically, which corresponds to the share of students living without parents reduced by 10%. For these hypothetical domestic visits, Eurostat (2022) data on the average expenditure per domestic personal trip of 1–3 nights by German residents aged 15–24, 25–34, 35–44, and 45–54—the age groups corresponding to Erasmus+ peers and parents—is applied. The average expenditure per domestic trip is EUR 203.

Multiplying this representative trip cost by the share of students expected to receive a domestic visit yields a total counterfactual domestic visitor expenditure of **EUR 4.902.686** (Table 24). This figure represents the domestic tourism spending that would have accrued within the German economy had these students remained in the country.

Subtracting the counterfactual domestic visitor expenditure (EUR 4.902.686) from the actual visitor spending abroad associated with outgoing German students (EUR 20.017.618) results in a net visitor-related outflow of EUR 15.114.932, representing the portion of visitor expenditure that genuinely leaves the German economy (Table 24).

When incoming visitor inflows (EUR 9.219.916) are combined with the net outgoing visitor outflow (EUR 15.114.932), the result is a negative net visitor-related effect of **EUR 5.895.016**, indicating that Germany experiences a net loss from visitor spending linked to Erasmus+ mobility (Table 21).

Table 22. Net visitor impact (Germany)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Visitor spending	**+9.219.916**	-20.017.618	+4.902.686	**-15.114.932**	-5.895.016
Total	**+9.219.916**			**-15.114.932**	**-5.895.016**

5.2.4. Programme transfers

Based on the data provided by the German National Agency for Erasmus+ (DAAD), the total organisational support (OS) provided to German higher education institutions to student mobility (intra-European) under the KA131 2022 call is **EUR 11.360.000**. In practice, these funds were used to provide support services to outgoing and incoming students.

The EU contribution to management costs for Erasmus+ (Heading 2) is **EUR 3.559.975**.

5.2.5. Net result

Table 23 presents **Domestic Final Demand**, identifying the portion of Erasmus+ related expenditure that translates into actual spending within the German economy. It includes living and study costs of incoming students, relocation and visitor-related spending, and institutional inflows through OS and National Agency funding. The foregone domestic consumption of outgoing students is deducted to account for expenditure that would have occurred domestically in the absence of mobility.

The resulting **net domestic final demand of EUR 195.604.806** represents the effective increase in internal expenditure attributable to Erasmus+ mobility in Germany (Table 25).

Table 23. Domestic final demand (Germany)

Component	Incoming mobility	Outgoing mobility (net of counterfactual)	Erasmus+ grants to outgoing students	Programme transfers	Net effect
Personal spending	+149.707.750	-81.846.886	+119.697.464	n/a	+187.558.327
Relocation costs	+4.127.166	-5.105.646	n/a	n/a	-978.480
Visitor spending	+9.219.916	-15.114.932	n/a	n/a	-5.895.016
Total domestic demand (consumption)	**+163.054.832**	**-102.067.464**	**+119.697.464**	**n/a**	**+180.684.831**
Programme transfers (OS + NA management fee)	**n/a**	**n/a**	**n/a**	**+14.919.975**	**+14.919.975**
Total domestic demand (consumption + transfers)	**+163.054.832**	**-102.067.464**	**+119.697.464**	**+14.919.975**	**+195.604.806**

5.3. Short-term economic effects

To estimate the short-term economic effects of Erasmus+ mobility in Germany, the model incorporates four key expenditure components:

a) Personal consumption related to student mobility, including living and study costs, relocation expenses, and tourism-related spending by visiting friends and family;
b) Net outflows resulting from outgoing student mobility, adjusted for counterfactual domestic spending and Erasmus+ grants;
c) Erasmus+ Organisational Support (OS) funds allocated to higher education institutions;
d) The management fee allocated to the German National Agency for Erasmus+ (DAAD) for programme implementation in the field of higher education.

As components (a) and (b) represent final consumption rather than domestic production, their impact on the German economy is assessed through indirect and induced effects only. These reflect the supply chain and household income responses triggered by consumption. In contrast, components (c) and (d) are treated as partially productive expenditure, generating direct, indirect, and induced effects due to their direct impact on employment and institutional operations. The calculations therefore distinguish between **two sources of final domestic demand** (Table 24):

- **Mobility-related consumption**, which includes the net impact of incoming and outgoing student spending, visitor expenditure, and relocation costs;
- **Programme-related transfers**, consisting of the direct funding flows to higher education institutions and the National Agency.

Together, these components form the basis for computing gross value added (GVA), employment, and fiscal effects using Type I and Type II multipliers.

Gross Value Added (GVA) for Germany is calculated by translating all Erasmus+ related expenditures into economic value using the national GVA-to-output ratio and applying Type I (1,3) and Type II (1,6) multipliers to capture indirect and induced effects (Table 7).

The GVA-to-output ratio for Germany is derived from Eurostat's Supply and Use Tables (2022), which report national accounts aggregates at basic prices. The ratio (0,459) is calculated by dividing gross value added (B1G) by total output (P1) across all industries in Germany (Table 8). This means that, on average, 46% of the value of economic output produced domestically reflects value added, while the remaining 54% corresponds to

intermediate consumption, including domestically purchased inputs and imported goods and services.

The employment impact of Erasmus+-related spending in Germany is estimated by converting GVA effects into employment equivalents using the national employment-to-GVA ratio. Based on Eurostat data for 2022, Germany recorded total employment of 45,629 million persons and a gross value added (B1G) of EUR 3.591.874 million. Dividing total employment by total GVA yields an employment intensity of 12,7 jobs per EUR 1 million of GVA (Table 8). This coefficient is applied uniformly across all GVA components to estimate the number of full-time equivalent (FTE) jobs supported, directly and indirectly, by Erasmus+-related economic activity.

The fiscal coefficient used in the model for Germany is derived from Eurostat national-accounts data for 2022. General government revenue amounted to EUR 1,94 trillion, while GDP totalled EUR 3,99 trillion, with both values expressed in million-euro units. Dividing total public revenue by GDP yields a fiscal coefficient of 0,486, indicating that approximately 48,6 cents of every euro of GDP generated in Germany accrue to public finances through taxes, social contributions, and other government receipts (Table 8). This coefficient is applied uniformly across all GVA components to estimate the fiscal impact of Erasmus+ related economic activity.

The overall economic impact of Erasmus+ student mobility (KA131 2022 call) on Germany is **positive across all measured dimensions** (Table 24).

Table 24. GVA, employment and fiscal effects of Erasmus+ student mobility (Germany)

EUR	Direct	Indirect	Induced	Type I (Direct + Indirect)	Type II (Direct + Indirect + Induced)
Output (EUR)	14.919.975	58.681.442	58.681.442	73.601.417	132.282.859
GVA (EUR)	6.855.282	26.962.365	26.962.365	33.817.646	60.780.012
Jobs (FTE)	87	343	343	430	773
Fiscal (EUR)	3.332.293	13.106.173	13.106.173	16.438.466	29.544.639

Erasmus+ related spending in Germany generated an estimated **EUR 60,78 million in total GVA**. This includes EUR 6,86 million in direct effects, primarily from organisational support funding to higher education institutions and National Agency operations; EUR 26,96 million in indirect effects generated through supply-chain linkages; and EUR 33,82 million in induced effects arising from increased household income and consumption (Table 24).

The corresponding employment impact is estimated at approximately **773 full-time equivalent (FTE) jobs**, consisting of 87 direct, 343 indirect, and 343 induced positions (Table 24).

The total **fiscal contribution is estimated at EUR 29,54 million**, comprising EUR 16,44 million in Type I effects (direct + indirect) and EUR 13,11 million from induced effects (Table 24).

These results demonstrate that Erasmus+ activities in Germany generate sizeable economic benefits across the national economy, reflecting the scale of incoming mobility and the breadth of economic linkages activated through student spending and institutional funding. The programme's impacts extend across a wide range of service sectors, with higher education institutions and related public bodies acting as the principal direct beneficiaries, and additional gains accruing through Germany's extensive supply chains and household income effects.

5.4. Alignment with national long-term economic goals

Germany's current economic strategy, articulated in the *Initiative for Growth – New Economic Dynamism for Germany*[51], and supported by complementary frameworks such as the *National Industrial Strategy 2030*[52], the *High-Tech Strategy 2025*[53], the *German Sustainable Development Strategy (2021)*[54], and the *Climate Action Programme 2030*[55], seeks to boost productivity and competitiveness through **investment in digital transformation, green innovation, and industrial renewal**. Together, these frameworks define Germany's vision of a sustainable, technologically advanced, and globally competitive economy. They prioritise skills and innovation in science, technology, engineering, digitalisation, renewable energy, and sustainability as key drivers of long-term growth and resilience.

These objectives are further detailed in a range of sectoral strategies. The *National Hydrogen Strategy* (2020, updated 2023)[56] positions hydrogen technologies as central to Germany's energy transition and industrial decarbonisation efforts. The *Digital Strategy*

[51] Federal Government of Germany. (2024). Growth initiative: Key measures for strengthening competitiveness and securing prosperity. URL: www.bundesregierung.de/resource/blob/998440/2298242/b27ba5f4d51b2f9bad3a67d4e7234da8/2024-07-08-wachstumsinitiative-en-data.pdf?download=1
[52] Federal Ministry for Economic Affairs and Climate Action. Modern industry policy. URL: www.bundeswirtschaftsministerium.de/Redaktion/EN/Dossier/modern-industry-policy.html
[53] Federal Ministry for Education and Research. (2021). Report on the Hightech Strategy 2025. URL: www.bmftr.bund.de/SharedDocs/Publikationen/DE/FS/657232_Bericht_zur_Hightech-Strategie_2025_en.pdf
[54] Federal Government of Germany. (2021). German sustainable development strategy. www.bundesregierung.de/resource/blob/974430/1940716/1c63c8739d10011eb116fda1aecb61ca/german-sustainable-development-strategy-en-data.pdf
[55] Federal Government of Germany. Climate action. URL: https://www.bundesregierung.de/breg-en/issues/climate-action
[56] Federal Ministry for Economic Affairs and Climate Action. (2020). National hydrogen strategy. URL: www.bundeswirtschaftsministerium.de/Redaktion/EN/Hydrogen/Dossiers/national-hydrogen-strategy.html

2030[57] and *Artificial Intelligence Strategy*[58] (AI made in Germany) emphasise widespread digital transformation, data competence, and human-centred AI applications in education, health, and manufacturing. Meanwhile, the *Skilled Labour Strategy 2030*[59] focuses on developing and attracting talent for high-tech and green sectors, and the *National Research and Innovation Strategy for the Bioeconomy*[60] promotes sustainable industrial processes and resource-efficient production. Collectively, these strategies reinforce the government's commitment to a dual transformation—green and digital—supported by advanced skills, applied research, and inclusive regional development.

Erasmus+ student mobility patterns reveal a partial alignment with these national economic and skills priorities. Business, administration and law—by far the largest field in both incoming (25%) and outgoing mobility (30%) (Figure 12; Figure 17)—play an important role for Germany's export-oriented economy, supporting the development of managerial, legal and administrative capacities that underpin cross-border trade, regulatory cooperation and global market integration (Germany Trade & Investment, 2022; OECD, 2023).

However, the strong representation of business fields also underscores the comparatively lower participation of STEM disciplines, a widespread pattern across Erasmus+ that reflects smaller enrolment bases in these programmes as well as persistent structural barriers such as tightly sequenced curricula and recognition challenges (Vossensteyn et al., 2010; European Commission, 2014; Souto-Otero et al., 2012). This contrasts with degree-seeking international student trends, where around half of all international students in Germany enrol in STEM programmes (DAAD & DZHW, 2023), underscoring the country's strong attractiveness and the strategic relevance of these fields. This STEM orientation among international degree-seeking—and some credit mobility—students aligns closely with *Germany's High-Tech Strategy* and *Skilled Labour Strategy*, both of which prioritise talent attraction in engineering, digital technologies and applied sciences.

Geographical patterns reinforce this picture. Most incoming Erasmus+ students are hosted in Germany's major innovation regions—Bavaria, North Rhine-Westphalia, Baden-Württemberg and Berlin (Figure 13)—home to leading industrial clusters, research universities and applied science ecosystems. These regions are central to Germany's technological and scientific leadership, and the concentration of mobility here suggests that Erasmus+ contributes to strengthening talent flows into the country's

[57] Federal Government of Germany. (2022). Digital Strategy 2030. URL: www.digitalstrategie-deutschland.de
[58] Federal Government of Germany. (2020). Artificial Intelligence Strategy: AI Made in Germany. URL: www.ki-strategie-deutschland.de
[59] Federal Ministry of Labour and Social Affairs (BMAS). Skilled Labour Strategy. URL: www.bmas.de/EN/Labour/Skilled-labour-and-migration/Skilled-Labour-Strategy/skilled-labour-strategy.html
[60] Federal Ministry of Education and Research (BMBF). (2020). National Bioeconomy Strategy 2030. URL: www.pflanzenforschung.de/application/files/4415/7355/9025/German_bioeconomy_Strategy_2030.pdf

strongest research and industrial hubs, even if much of this mobility channels into broad disciplinary areas rather than highly specialised STEM pathways.

Incoming traineeships offer a valuable lens on how Erasmus+ mobility contributes to Germany's skills ecosystem—not only by supporting day-to-day productivity and service delivery (European Commission, 2019; OECD, 2018; Cedefop, 2015), but also by bringing fresh perspectives, up-to-date academic knowledge, and intercultural approaches that can stimulate innovation and enhance organisational adaptability. Among incoming trainees, 36% completed placements in companies, underscoring strong higher education–industry linkages in fields such as business, engineering and applied sciences (Figure 14). Substantial numbers were also hosted by higher education institutions, research organisations, hospitals, public bodies and NGOs, illustrating the breadth of organisations that benefit from access to emerging talent while offering students structured practical experience.

These patterns point to the strategic relevance of Erasmus+ traineeships: placements in engineering, ICT, applied sciences and digital fields complement national priorities under the *High-Tech Strategy* and the *Skilled Labour Strategy*, while traineeships in agriculture, veterinary fields and health address skills needs associated with the green transition and demographic change. Strengthening cooperation between universities, companies and public-sector employers—especially in regions with skill shortages—could further enhance the contribution of Erasmus+ traineeships to Germany's long-term innovation and workforce objectives.

Outgoing mobility broadly mirrors the overall distribution of German higher education students by subject field (Table 52). German students most frequently go abroad to study business, law and administration (30%), followed by arts and humanities (15%), social sciences (14%) and engineering (13%) (Figure 17; Table 46

Table 53). Fields such as arts and humanities, social sciences and health and welfare are over-represented among outgoing students, reflecting strong mobility cultures in language-, culture- and society-oriented programmes. By contrast, participation in engineering, ICT, natural sciences, education and sustainability-related fields remains comparatively lower, reflecting not only structural barriers such as tightly sequenced curricula and recognition challenges, but also strong domestic labour-market opportunities, including access to traineeships and part-time roles, including access to traineeships and part-time work, that encourage students to enter the workforce without extending study duration (Teichler, 2004; Teichler, 2017).

Destination patterns reflect these dynamics. While Spain, France and Italy continue to attract the largest shares of German outgoing students—largely due to longstanding Erasmus+ networks—mobility to countries such as Sweden and Austria shows that stronger thematic alignment is possible, particularly where partner systems offer excellence in engineering, agriculture, natural sciences and ICT. Such flows illustrate the potential for targeted partnerships to better leverage Erasmus+ in support of Germany's high-tech and green-transition priorities.

Taken together, these findings highlight both strengths and opportunities within Germany's Erasmus+ mobility profile. Business-related mobility contributes directly to Germany's export-oriented economic model, while STEM, digitalisation, AI, renewable energy and sustainability-related fields—central to long-term competitiveness—offer significant potential for further expansion. Enhancing Erasmus+ opportunities in these areas, particularly through university–industry cooperation and stronger links to regional industrial and research clusters, could amplify the programme's contribution to Germany's dual transformation. Such efforts would also support more geographically balanced innovation, benefiting regions beyond the major metropolitan centres.

6. HUNGARY

This chapter presents the estimated economic effects of Erasmus+ student mobility implemented under the KA131 2022 call in Hungary. It opens with an overview of incoming and outgoing mobility flows, examining their distribution by type, duration, field of study, and country of origin or destination. The analysis then turns to the short-term economic impacts generated by these mobilities, focusing on contributions to Gross Value Added (GVA), employment, and fiscal revenues derived from related spending and economic activity. The chapter concludes with reflections on the longer-term relevance of Erasmus+ mobility—both incoming and outgoing—for Hungary's economic development and human capital objectives.

6.1. Mobility context

6.1.1. Incoming Erasmus+ student mobility

A total of **6.641** students from 31 countries visited Hungary between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[61]. Of these, 77% participated in study mobility and 23% in traineeships.

The gender distribution was 61% female and 39% male participants.

By study level, the majority were Bachelor's students (including short-cycle students) (69%), followed by Master's students (27%) and doctoral candidates (3%).

In total, 16% of mobilities were conducted as blended, combining physical mobility and a virtual component.

In terms of duration, most students pursued semester-long mobilities (60–180 days), representing 74% of the total. Short-term mobilities of up to one month (5–30 days) accounted for 16%, while 10% of students stayed longer than one semester (Figure 18).

[61] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

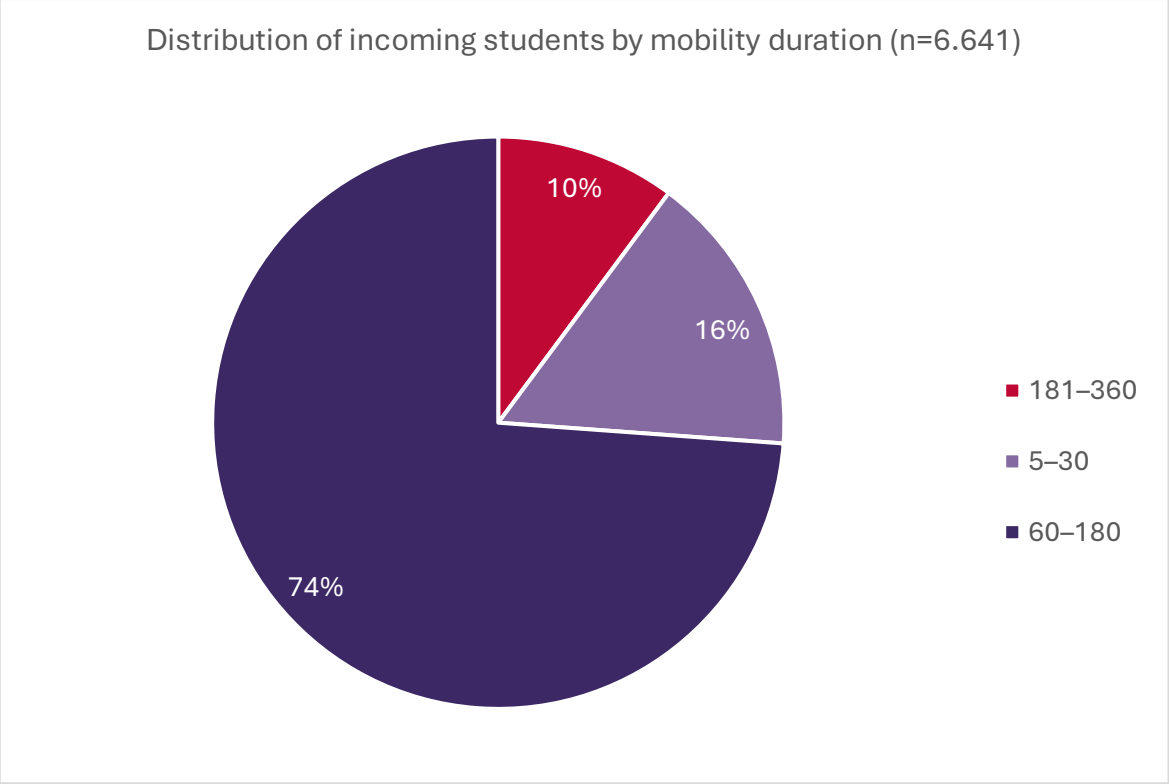

Figure 18. Incoming student distribution by mobility duration (Hungary)

The top ten sending countries of Erasmus+ students to Hungary were led by Romania (20%), France (14%), and Germany (13%), followed by Italy (7%), Türkiye (6%), and Portugal (5%), Smaller but still significant shares came from the Netherlands (4%), Slovakia (3%), and Poland (3%) (Figure 19).

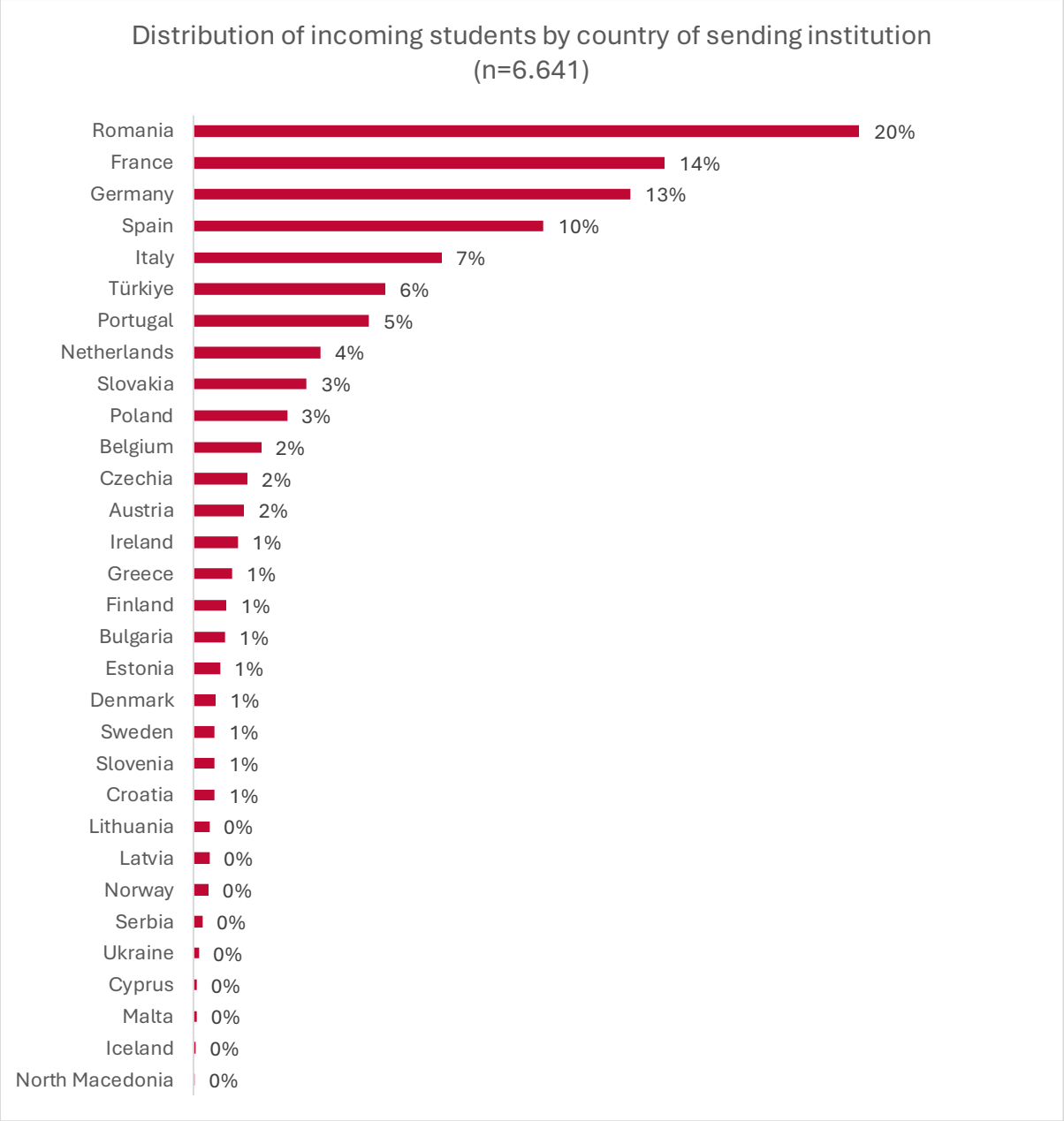

Figure 19. Incoming student distribution by country of sending institution (Hungary)

The **top five study fields**[62] of incoming Erasmus+ students to Hungary were led by business, administration and law (29%), and arts and humanities (17%) closely followed by health and welfare (15%) as well as engineering, manufacturing and construction (12%), and natural science, mathematics and statistics (8%) (Figure 20).

[62] Based on 11 broad level fields specified in ISCED-F 2013.

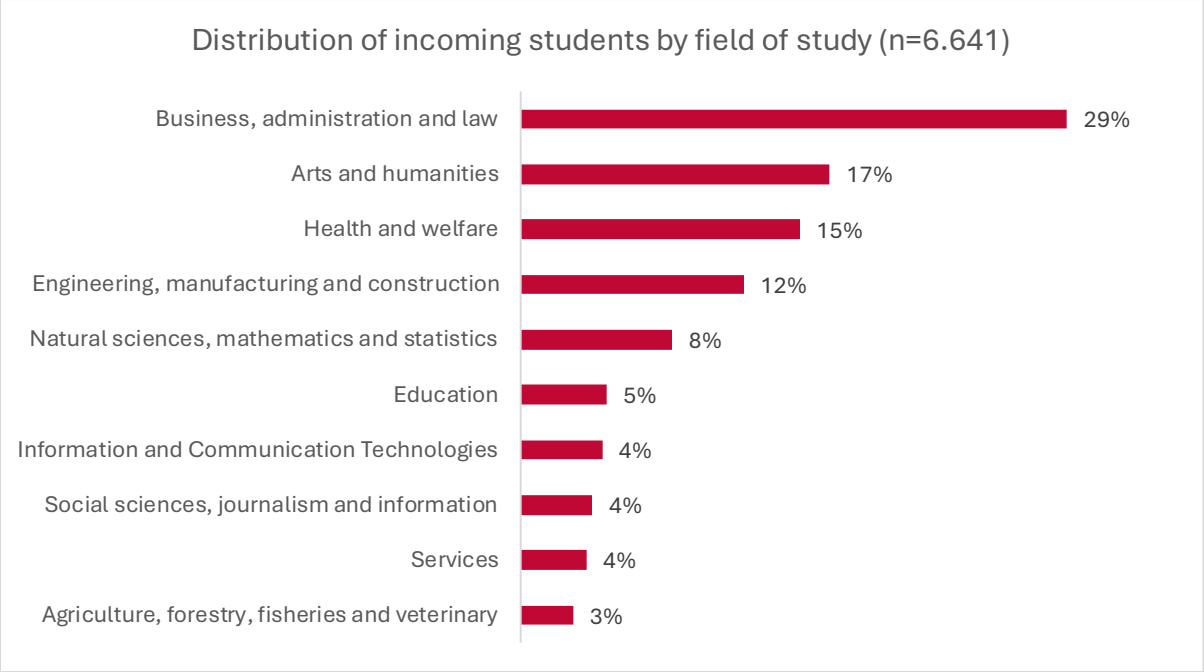

Figure 20. Incoming student distribution by study field (Hungary)

Looking at the distribution of incoming Erasmus+ students in Hungary across academic fields by country of origin, France, Germany, Italy and Spain emerged as major contributors across nearly all disciplines. For example, France accounted for 30% of all incoming students in agriculture, 19% in business, and 30% in engineering, making it a dominant sender in several STEM-related fields. Germany also featured prominently, contributing 17,5% to business, 12,9% to engineering, and nearly 30% to social sciences. Southern European countries—Italy, Spain, and Portugal—each supplied notable shares across multiple disciplines, especially in education, services, and natural sciences. Some Eastern European partners, such as Romania and Poland, played significant roles in specific areas: Romania represented 36,6% of all incoming students in arts and humanities, while Poland accounted for 14% in services.

Figure 21 shows the **regional distribution** of the 6.599 incoming Erasmus+ students hosted by Hungarian institutions, excluding additional 42 mobilities for which the host city (and therefore region) could not be identified. Central Hungary accounted for 81% of all incoming students, reflecting the overwhelming dominance of Budapest, the country's largest academic centre. Beyond the capital, much smaller shares were found across other regions. The Southern Great Plain, including the major university city of Szeged, hosted 5% of students. The Northern Great Plain, which is home to Debrecen accounted for 4%. Southern Transdanubia, including Pécs university hub, received another 4%; and Northern Hungary, including Miskolc, attracted 2%. The western regions showed similarly modest shares, with Western Transdanubia (including Győr) and Central Transdanubia (including Veszprém and Székesfehérvár) each hosting 2% of students.

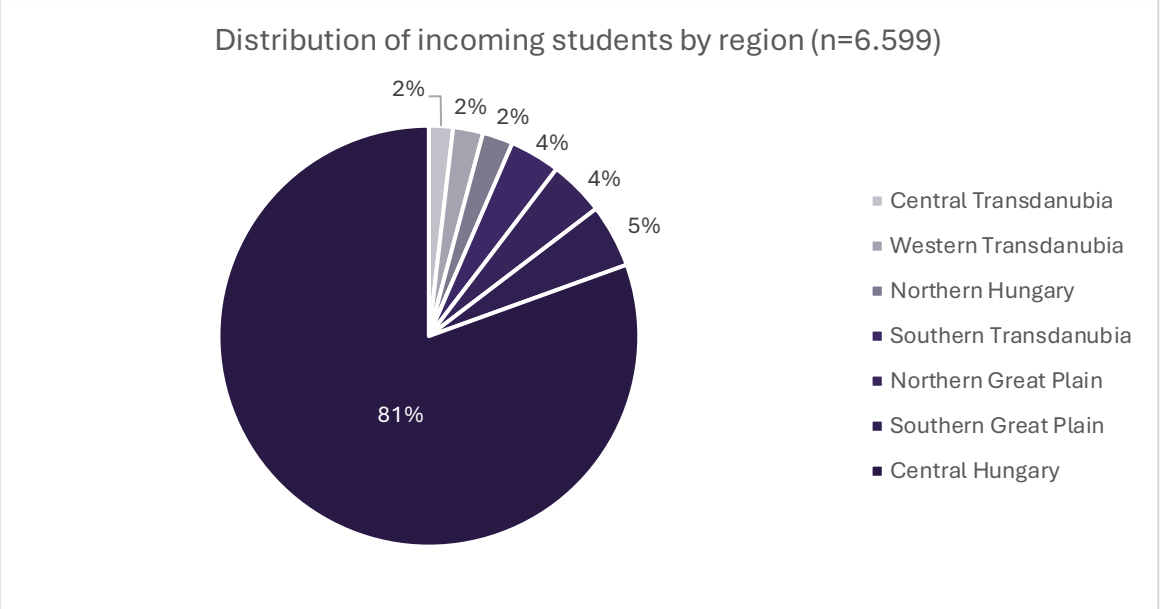

Figure 21. Distribution of incoming students by region (Hungary)

The distribution of **different types of mobility across sending countries** shows that while study mobility remained the dominant form of incoming Erasmus+ activity in Hungary, certain countries exhibited a clear orientation toward traineeships, resulting in a diverse mobility profile. Several countries sent students almost exclusively for studies—for example Cyprus, Iceland, North Macedonia, Finland, and Greece (all above 90% study mobility). Others showed a more mixed profile: Denmark (45% studies, 55% traineeships), Romania (39% studies, 61% traineeships), Serbia (71% studies, 29% traineeships), and Slovakia (59% studies, 41% traineeships). Many EU countries—such as Belgium, Germany, France, Portugal, and Spain—sent strong majorities of students for study purposes (80–96%), while maintaining smaller but notable shares of traineeship mobilities.

Based on the available data for 1.227 out of 1.529 **incoming traineeships**, the distribution of incoming Erasmus+ traineeships showed a broad spread across organisational types, with higher education institutions hosting the largest share (33%). Companies followed closely at 29%, highlighting demand for hands-on experience in applied fields. Hospitals and medical centres accounted for 19% of placements, reflecting the practical nature of health-related programmes. Public bodies, NGOs and cultural organisations hosted a further 17%, offering diverse learning environments in social and civic sectors. Schools and VET providers represented a small share (2%), while research organisations accounted for just 1% of traineeships (Figure 22).

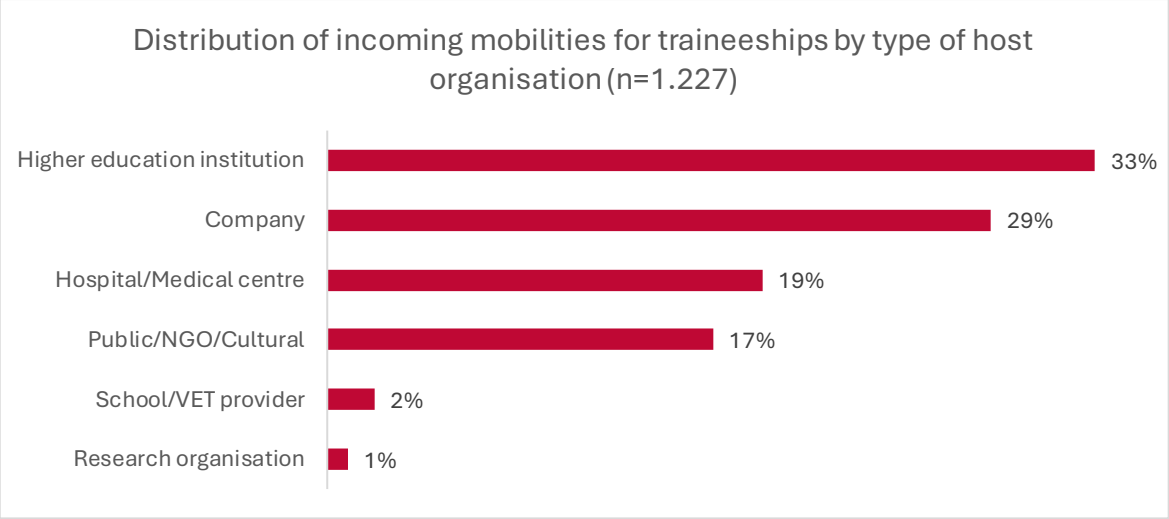

Figure 22. Distribution of incoming mobilities for traineeships (Hungary)

6.1.2. Outgoing Erasmus+ student mobility

A total of **5.495** Hungarian students travelled to 30 countries between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[63]. Of these, 77% participated in study mobility and 23% in traineeships.

The gender distribution was 62% female, 37% male, and 0,02% undefined.

By study level, the majority were Bachelor's students (53%), followed by Master's students (42%), and doctoral candidates (5%).

Overall, 12% of outgoing mobilities were conducted in blended format, including Blended Intensive Programmes (BIPs).

The majority of outgoing students (82%) spend 60-180 days abroad, followed by those who engaged in short-term mobility of up to 30 days (12%) and those who stayed for two semesters abroad (7%) (Figure 23).

[63] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

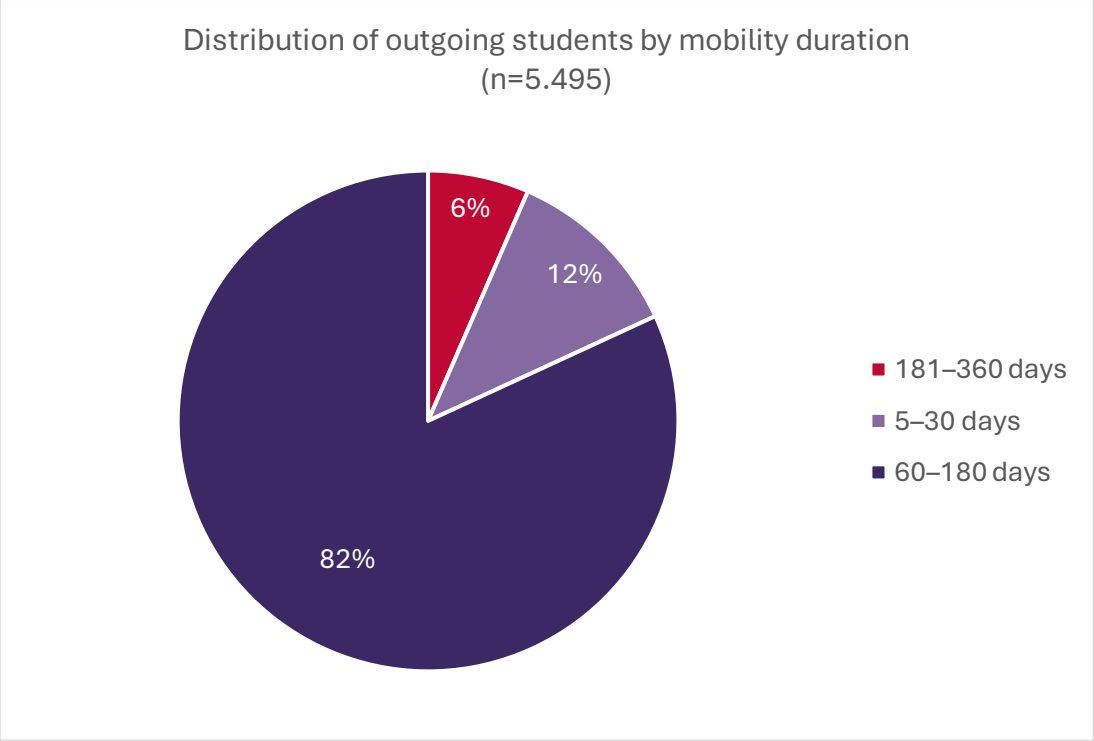

Figure 23. Outgoing student distribution by mobility duration (Hungary)

Hungarian students most often completed their Erasmus+ mobility in Germany (15%), Spain (13%), and Italy (12%), followed by France (7%) and Portugal (7%) which together attract over 40% of all outgoing participants. The Netherlands (6%), Austria (5%), Belgium (4%) and Romania (4%) also attracted noticeable shares of Hungarian students. The pattern highlights a strong preference for Western and Southern European destinations, with Germany clearly leading (Figure 24).

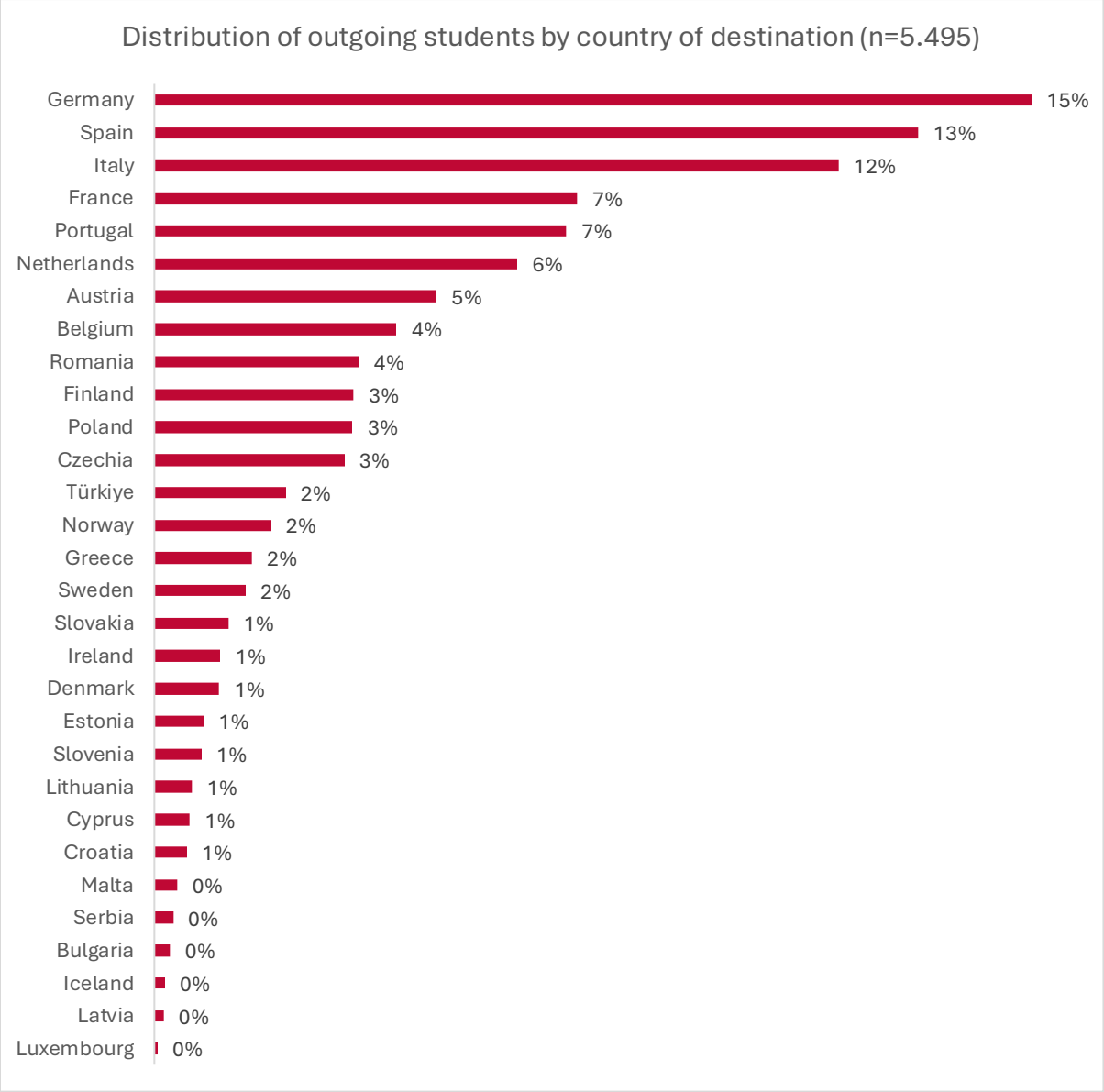

Figure 24. Outgoing student distribution by country of receiving institution (Hungary)

Most Hungarian Erasmus+ students went abroad to study business, administration and law (32%), making it the largest academic field for mobility. Substantial shares also came from arts and humanities (18%), as well as natural sciences, mathematics and statistics (10%), health and welfare (10%) and engineering, manufacturing and construction (10%). Fewer mobilities originated from ICT (7%), education (5%), social sciences, journalism and information (5%), services (2%), and agriculture, forestry, fisheries and veterinary (1%) (Figure 25). Overall, the data suggest that Hungarian Erasmus+ mobility is strongly concentrated in business-related and humanities disciplines, with a broad but tapering distribution across STEM and health fields, and limited participation from vocational, agricultural, and service-oriented areas.

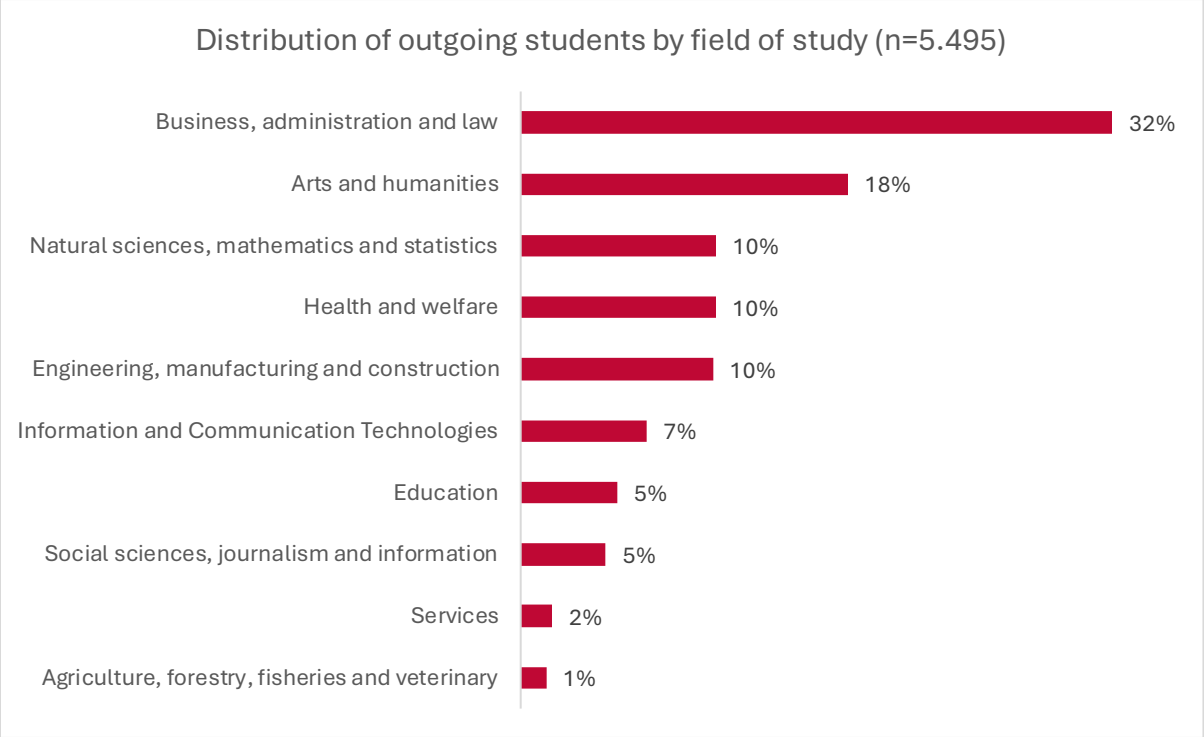

Figure 25. Outgoing student distribution by field of study (Hungary)

Across all broad fields of study, the distribution of outgoing Hungarian students varied significantly by host country. Larger destination countries such as Germany, Italy, Spain, France, the Netherlands, and Portugal appeared prominently across many subject areas, each accounting for substantial shares of mobilities in fields such as business, engineering, ICT, natural sciences, and social sciences. Germany hosted the highest shares of Hungarian outgoing students in several fields—including health and welfare (30%), education (20%), social sciences (17%), and engineering (16%)—reflecting its strong pull across diverse disciplines. Other countries show strong specialisation in particular fields. For example, Romania (16%) had the highest share in agriculture, Italy (18%) led in arts and humanities, Spain (22%) in ICT, and Portugal (11%) in engineering. Meanwhile, smaller countries such as Lithuania, Latvia, Cyprus, and Malta contributed only marginal shares across most subject areas.

For outgoing Hungarian students, the majority of mobilities were carried out for study purposes. In most destination countries, study mobility clearly dominated, with particularly high shares in Lithuania (97%), Poland (90%), Ireland (89%), Latvia (89%), and Estonia (85%), where over four-fifths of Hungarian students went abroad for studies. In contrast, several countries showed a more balanced pattern or a higher share of traineeships. These included Croatia (55% traineeships), Slovakia (51%), Malta (64%), Türkiye (43%), and Greece (44%), where traineeships represented a substantial share of mobilities and in some cases exceeded study placements.

Table 25. Erasmus+ mobility statistics (Hungary)

	Short-term	Long-term	Total
Incoming students	1.062	5.579	6.641
Outgoing students	637	4.858	5.495

6.2. Cost estimation

6.2.1. Personal spending

A. Incoming students

1. Short-term stays

A total of **1.062 Erasmus+ students** (representing 16% of all incoming students) undertook short-term mobilities of less than 30 days in Hungary, accounting collectively for **8.625 student days** spent in the country.

The total expenditure of this group is estimated based on Eurostat data (2022) on the average spending of EU residents on personal trips of one night or more within the EU, considering the two age groups most relevant to Erasmus+ participants (15–24 and 25–34 years). These average EU spending patterns are converted into the Hungarian price context and the price levels of students' countries of sending institutions using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022) (see section 3.3.1).

Based on this adjustment, the total spending attributable to short-term incoming students in Hungary is estimated at **EUR 791.249**, distributed proportionally according to the student's country of sending institution (Table 26).

2. Long-term stays

A total of **5.579 Erasmus+ students** (84% of incoming students) stayed more than 30 days in Hungary, accounting for a combined total of **759.514 student days**.

Based on EUROSTUDENT VIII data, the average monthly spending of international students in Hungary was estimated at **EUR 576,3**, equivalent to **EUR 19,2 per day**. To account for differences in spending capacity among students from different countries of origin, these expenditures are adjusted using GDP per capita in purchasing power standards (PPS, Eurostat 2022), which reflects the relative income levels of the students' home countries.

After applying this adjustment, the total spending attributable to long-term Erasmus+ students in Hungary is estimated at **EUR 13.955.866** (Table 26).

Total incoming student spending

The total estimated spending of Erasmus+ incoming students in Hungary (both short-term and long-term) funded through the KA131 2022 call amounts to **EUR 14.747.115** (Table 26).

In total, incoming students hosted by Hungary under the KA131 2022 call received **EUR 11.685.720** in Erasmus+ grants to support the costs of their mobilities. This implies that students contributed an **additional EUR 3.061.395** from their own or family resources, representing the share of expenses covered beyond Erasmus+ funding equal to 21% (Table 26).

Table 26. Personal spending of incoming Erasmus+ students (Hungary)

Mobility duration	Personal spending	Erasmus+ grant (included in personal spending)
Short-term stays	791.249	*663.277*
Long-term stays	13.955.866	*11.022.443*
Total	**14.747.115**	***11.685.720***

B. Outgoing students

1. Short-term stays

Actual spending abroad

A total of **637 Hungarian Erasmus+ students** undertook short-term mobilities of 5–30 days abroad, amounting to 6.625 student-days spent across various host countries.

To estimate the expenditure associated with these stays, the analysis relies on the same Eurostat (2022) data used for incoming students, capturing the average per-night travel spending of young residents aged 15–24 and 25–34. These values are adjusted to reflect the specific price levels of each host country, ensuring that the estimated spending aligns with the cost environment faced by Hungarian students during their stay abroad.

After applying these country-specific adjustments and aggregating across all short-term mobilities, the total actual spending of Hungarian short-term outgoing students is estimated at **EUR 719.126**.

Foregone domestic expenditure

To estimate the counterfactual for short-term outgoing mobility, the analysis assumes that—had these students not participated in Erasmus+—each would have undertaken one typical short domestic trip of 1–3 nights. Using Eurostat data on the average expenditure per domestic personal trip among young Hungarian residents (15–24 and 25–34 years), the representative value of EUR 76,08 per trip is applied.

Multiplying this by the 637 short-term outgoing students yields a total estimated foregone domestic expenditure of **EUR 48.463**. This amount represents the level of tourism-related spending that would likely have occurred within Hungary in the absence of short-term Erasmus+ mobility.

Subtracting the counterfactual domestic expenditure from the actual spending abroad results in a net short-term outflow of **EUR 670.663**, representing the portion of expenditure that genuinely leaves the Hungarian economy due to short-term Erasmus+ mobility.

2. Long-term stays

Actual spending abroad

A total of **4.858 Hungarian students** undertook long-term mobilities lasting between 60 and 360 days, amounting to 673.207 student days spent abroad. To estimate their total expenditure, the analysis applies EUROSTUDENT VIII data on the average monthly living and study costs of international students in each host country. These baseline values are further adjusted using GDP per capita in purchasing power standards (PPS) to reflect differences in spending capacity between Hungary and the respective destination countries.

After applying these adjustments and aggregating across all long-term stays, the total spending of long-term outgoing Hungarian students is estimated at **EUR 20.301.811** (Table 27).

Foregone domestic expenditure

For long-term outgoing Hungarian students, the counterfactual assumes that, had they remained in Hungary, they would have incurred regular living and study costs at domestic price levels. Using EUROSTUDENT data for Hungarian students, all non-housing items (food, local transport, communication, leisure and study-related expenses) are taken at full value, while the accommodation component is scaled by the share of students who

normally live away from their parents (70%). This yields an average domestic cost of living of EUR 506,85 per month, equivalent to around EUR 16,89 per day. Applied to the long-term mobility days undertaken by 4.858 Hungarian students, the total foregone domestic expenditure is estimated at **EUR 11.373.799** (Table 27).

Subtracting the domestic living costs that long-term students would have incurred at home from their actual expenditure abroad results in a net long-term outflow of **EUR 8.928.012**, representing the share of spending that genuinely leaves the Hungarian economy due to long-term Erasmus+ mobility (Table 27).

Total outgoing student spending

The total estimated spending leakage associated with Erasmus+ outgoing students—combining short-term and long-term mobility and accounting for the difference between actual expenditure abroad and the domestic spending that would have occurred in a no-mobility scenario—amounts to **EUR 9.598.675** (Table 27).

Table 27. Personal spending of outgoing Erasmus+ students (Hungary)

Mobility duration	Actual spending abroad	Foregone domestic expenditure	Net of counterfactual
Short-term stays	+719.126	-48.463	+670.663
Long-term stays	+20.301.811	-11.373.799	+8.928.012
Total	**+21.020.937**	**-11.422.262**	**+9.598.675**

Total personal spending

After combining all inflows generated by incoming students and subtracting the net outflows associated with outgoing mobility, the net personal expenditure effect amounts to **EUR 5.148.439**, representing the overall gain for the Hungarian economy from Erasmus+ student mobility in terms of student-driven consumption (Table 28).

As shown in Table 28, this net personal expenditure effect is then combined with the **EUR 16.983.479 in Erasmus+ grants** received by Hungarian outgoing students to arrive at the final total for personal spending of **EUR 22.131.919**.

This step is necessary because the net personal expenditure effect reflects only the balance of private consumption, whereas Erasmus+ grants represent an additional external financial inflow from the European Union. Including these transfers ensures that all programme-related resources entering the Hungarian economy—both student-driven and EU-funded—are fully captured in the total personal spending.

Table 28. Net personal impact (Hungary)

Component	Incoming (actual spending)	Outgoing (net of counterfactual)	Erasmus+ grants (outgoing students)	Net effect
Short-term spending	+791.249	-670.663	+487.246	+607.832
Long-term spending	+13.955.866	-8.928.012	+16.496.233	+21.524.087
Total	**+14.747.115**	**-9.598.675**	**+16.983.479**	**+22.131.919**

6.2.2. Relocation costs

A. Incoming students

Based on the estimated average round-trip cost of **EUR 276** per mobility, calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km), the resulting amount is multiplied by the domestically attributed share (50%) and the total number of incoming mobilities (6.641), leading to an overall estimate of **EUR 916.458** (Table 29).

B. Outgoing students

Actual costs

Similar to incoming Erasmus+ students, outgoing students' expenses related to travel from Hungary to the host destination were conservatively estimated at the level of **EUR 276** per mobile student. The 50% rate is attributed to international spending and calculated as a cost leakage. This amount was multiplied by the total number of outgoing mobilities (5.495), leading to an overall estimate of **EUR 758.310** (Table 29).

Counterfactual domestic relocation costs

In line with the methodological framework, a counterfactual relocation cost is applied to long-term outgoing students to reflect the domestic travel they would have undertaken had they remained in Hungary. Since international relocation replaces a typical home-to-study travel pattern, the counterfactual assumes that each long-term student who normally studies away from their parental home would have made one domestic round trip during the period in question.

To operationalise this, a representative domestic travel cost was set at **EUR 20**, corresponding to the price of an average round-trip intercity bus journey in Hungary. This

value captures a realistic, low-cost estimate of the type of domestic mobility most students rely on. Applying this rate to the number of outgoing students who fall into this category (section 3.3.2) yields a total counterfactual domestic relocation cost of **EUR 59.896** (Table 29).

Subtracting the domestic counterfactual (EUR 59.896) from the estimated international relocation outflow of outgoing Hungarian students (EUR 758.310) results in a net relocation outflow of **EUR 698.414** reflecting the portion of travel-related expenditure that genuinely leaves the Hungarian economy (Table 29).

When combining the inflow generated by incoming students' relocation spending (EUR 916.458) with the net outflow from outgoing students (EUR 916.458), the overall balance results in a net positive effect of **EUR 218.044** for the Hungarian economy (Table 29).

Table 29. Net relocation impact (Hungary)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Relocation spending	**+916.458**	-758.310	+59.896	**-698.414**	+218.044
Total	**+916.458**			**-698.414**	**+218.044**

6.2.3. Visitor spending

A. Incoming students

A total of **5.579 Erasmus+ students** stayed in Hungary for long-term mobility (60-360 days). It is assumed that each long-term student in this group received at least **one visit from family or friends** during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. Because these figures reflect the spending patterns of travellers in their home-country price context, they are adjusted to Hungary's relative price level using Comparative Price Level (CPL) indices. This adjustment ensures that expected visitor spending reflects the cost environment visitors face when travelling to Hungary.

The adjusted average per-trip expenditure is multiplied by the number of long-term outgoing students, resulting in an estimated total visitor spending of **EUR 2.059.291** associated with the families and friends of Hungary's incoming Erasmus+ students (Table 30).

B. Outgoing students

Actual visitor spending abroad

A total of 4.858 Hungarian students spent more than 60 days abroad. Following the same assumption applied to incoming mobility, it is considered that each long-term outgoing student received at least one visit from family members or friends during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. As these figures reflect origin-country spending patterns, they are first adjusted to Hungary's relative spending capacity using Comparative Price Level (CPL) indices. This adjustment aligns Hungarian visitors' expected travel expenditure with the price context of the countries in which they are likely to visit their mobile students.

The adjusted average per-trip expenditure (EUR 159,5) is then multiplied by the number of long-term outgoing students, resulting in an estimated total visitor spending of **EUR 1.278.615** associated with Hungarian students' families and friends travelling abroad (Table 30).

Counterfactual visitor spending

The opportunity cost of visitor spending represents the domestic tourism expenditure that would have occurred if Hungarian students had not participated in Erasmus+ mobility. Among the 4.858 Hungarian students who undertook long-term stays abroad (over 60 days), a share would, in a no-mobility scenario, have received at least one domestic visit from family members or friends—particularly those who normally study away from their parental home.

To reflect this, the model assumes that 55% of long-term outgoing students would have been visited domestically, which corresponds to the share of students living without parents reduced by 10%. For these hypothetical domestic visits, Eurostat (2022) data on the average expenditure per domestic personal trip of 1–3 nights by Hungarian residents aged 15–24, 25–34, 35–44, and 45–54—the age groups corresponding to Erasmus+ peers and parents—is applied. The average expenditure per domestic trip is EUR 84.

Multiplying this representative trip cost by the share of students expected to receive a domestic visit yields a total counterfactual domestic visitor expenditure of **EUR 222.571** (Table 30). This figure represents the domestic tourism spending that would have accrued within the Hungarian economy had these students remained in the country.

Subtracting the counterfactual domestic visitor expenditure (EUR 222.571) from the actual visitor spending abroad associated with outgoing Hungarian students (EUR 1.278.615) results in a net visitor-related outflow of **EUR 1.056.044**, representing the portion of visitor expenditure that genuinely leaves the Hungarian economy (Table 30).

When incoming visitor inflows (EUR 2.059.291) are combined with the net outgoing visitor outflow (EUR 1.056.044), the result is a positive net visitor-related effect of **EUR 1.003.247**, indicating that Hungarian experiences a net gain from visitor spending linked to Erasmus+ mobility (Table 30).

Table 30. Net visitor impact (Hungary)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Visitor spending	**+2.059.291**	-1.278.615	+222.571	**-1.056.044**	+1.003.247
Total	**+2.059.291**			**-1.056.044**	**+1.003.247**

6.2.4. Programme transfers

Based on the data provided by the Hungarian National Agency for Erasmus + (Tempus Public Foundation – TPF), the total organisational support (OS) provided to Hungarian higher education institutions to student mobility (intra-European) under the KA131 2022 call was **EUR 2.080.910**. In practice, these funds were used to provide support services to outgoing and incoming students.

The management fee is estimated at **EUR 3.185.978**. This amount covers all education sectors, not only higher education, and therefore overstates the effects attributable specifically to Erasmus+ student mobility.

6.2.5. Net result

Table 31 presents **Domestic Final Demand**, identifying the portion of Erasmus+ related expenditure that translates into actual spending within the Hungarian economy. It includes living and study costs of incoming students, relocation and visitor-related spending, and institutional inflows through Organisational Support and National Agency funding. The foregone domestic consumption of outgoing students is deducted to account for expenditure that would have occurred domestically in the absence of mobility. The resulting **net domestic final demand of EUR 28.620.098** represents the effective increase in internal expenditure attributable to Erasmus+ mobility in Hungary.

Table 31. Domestic final demand (Hungary)

Component	Incoming	Outgoing (net of counterfactual)	Erasmus+ grants to outgoing students	Programme transfers	Net effect
Personal spending	+14.747.115	-9.598.676	+16.983.480	n/a	**+**22.131.919
Relocation costs	**+**916.458	-698.415		n/a	+218.044
Visitor spending	**+**2.059.291	-1.056.044		n/a	+1.003.247
Total domestic demand (consumption)	**+17.722.864**	**-17.417.311**	**+16.983.480**	**n/a**	**+23.353.210**
Programme transfers (OS + NA management fee)	**n/a**	**n/a**	**n/a**	**+5.266.888**	**+5.266.888**
Total domestic demand (consumption + transfers)	**+17.722.864**	**-17.417.311**	**+16.983.480**	**+5.266.888**	**+28.620.098**

6.3. Short-term economic effects

To estimate the short-term economic effects of Erasmus+ mobility in Hungary, the model incorporates four key expenditure components:

a) Personal consumption related to student mobility, including living and study costs, relocation expenses, and tourism-related spending by visiting friends and family;
b) Net outflows resulting from outgoing student mobility, adjusted for counterfactual domestic spending and Erasmus+ grants;
c) Erasmus+ Organisational Support (OS) funds allocated to higher education institutions;
d) The management fee allocated to the Hungarian National Agency for Erasmus+ (Tempus Public Foundation - TPF) for programme implementation across fields. As it was not possible to attribute the share to the field of higher education, this figure overstates the impact under related category.

As components (a) and (b) represent final consumption rather than domestic production, their impact on the Hungarian economy is assessed through indirect and induced effects only. These reflect the supply chain and household income responses triggered by consumption. In contrast, components (c) and (d) are treated as partially productive expenditure, generating direct, indirect, and induced effects due to their

direct impact on employment and institutional operations. The calculations therefore distinguish between **two sources of final domestic demand**:

- **Mobility-related consumption**, which includes the net impact of incoming and outgoing student spending, visitor expenditure, and relocation costs;
- **Programme-related transfers**, consisting of the direct funding flows to higher education institutions and the National Agency.

Together, these components form the basis for computing gross value added (GVA), employment, and fiscal effects using Type I and Type II multipliers.

Gross Value Added (GVA) for Hungary is calculated by translating all Erasmus+ related expenditures into economic value using the national GVA-to-output ratio and applying Type I (1,45) and Type II (1,8) multipliers to capture indirect and induced effects (Table 7).

The GVA-to-output ratio for Hungary is derived from Eurostat's Supply and Use Tables (2022), which report national accounts aggregates at basic prices. The ratio (0,398) is calculated by dividing gross value added (B1G) by total output (P1) across all industries in Hungary (Table 8). This means that, on average, 40% of the value of economic output produced domestically reflects value added, while the remaining 60% corresponds to intermediate consumption, including domestically purchased inputs and imported goods and services.

The employment impact of Erasmus+-related spending in Hungary is estimated by converting GVA effects into employment equivalents using the national employment-to-GVA ratio. According to Eurostat data for 2022, Hungary recorded total employment of 4.760.000 persons and a gross value added (B1G) of EUR 143.250,0 million (i.e. EUR 143,25 billion). Dividing total employment by total GVA yields an employment intensity of 33,2 jobs per EUR 1 million of GVA (Table 8). This coefficient is applied uniformly across all GVA components to estimate the number of full-time equivalent jobs supported, directly and indirectly, by Erasmus+-related economic activity.

The fiscal coefficient used in the model was calculated from Hungary's 2022 national accounts data. Using Eurostat figures for general government revenue (EUR 82.633 million) and GDP (EUR 168.546 million), the fiscal ratio is derived as the share of total public revenue in national output. This results in a fiscal coefficient of 0,4903, indicating that approximately 49 cents of each euro of GDP generated in Hungary is captured by public finances through taxes, social contributions, and other government receipts (Table 8). This coefficient is then applied uniformly to all GVA components to estimate the fiscal impact of Erasmus+-related economic activity.

The overall economic impact of Erasmus+ student mobility (KA131 2022 call) on Hungary was **positive across all measured dimensions** (Table 32).

Table 32. GVA, employment and fiscal impact of Erasmus+ student mobility (Hungary)

EUR	Direct	Indirect	Induced	Type I (Direct + Indirect)	Type II (Direct + Indirect + Induced)
Output (EUR)	5.266.888	12.879.044	10.543.723	18.145.932	28.689.655
GVA (EUR)	2.097.711	5.129.503	4.199.384	7.227.214	11.426.598
Jobs (FTE)	70	170	139	240	379
Fiscal (EUR)	1.028.444	2.514.840	2.058.831	3.543.284	5.602.115

Erasmus+ related spending under the KA131 call 2022 in Hungary generated an estimated EUR **11,43 million in total GVA**. This includes EUR 2,10 million in direct effects, largely stemming from, primarily from organisational support funding to higher education institutions and National Agency operations; EUR 5,13 million in indirect effects generated through supply-chain linkages; and EUR 4,20 million in induced effects resulting from increased household income and consumption.

The corresponding employment impact is estimated at **379 full-time equivalent (FTE) jobs**, comprising 70 direct, 170 indirect, and 139 induced positions.

The total **fiscal contribution amounts to EUR 5,60 million**, including EUR 3,54 million in Type I fiscal effects and EUR 2,06 million generated through induced tax revenues.

These results show that Erasmus+ activities in Hungary create substantial short-term economic benefits, driven by the scale of incoming mobility and the strong domestic interlinkages activated through student spending. The programme's impacts extend across a broad range of service and consumer-facing sectors, with higher education institutions and related entities benefiting most directly, and further gains arising through supply-chain activity and increased household consumption within the Hungarian economy.

6.4. Alignment with national long-term economic goals

Hungary's current economic development strategy, set out in the *National Development and Territorial Development Concept* (OFTK 2030)[64] and complemented by sectoral frameworks such as the *National Digitalisation Strategy 2030*[65], the *Research, Development and Innovation Strategy 2021–2030*[66], the Smart Specialisation Strategy[67], and the *National Energy Strategy 2030*[68], aims to strengthen competitiveness, employment, and regional cohesion through innovation, resource efficiency, and sustainable growth. Together, these strategies position Hungary to become a leading Central European economy by 2030, driven by high-value manufacturing, technological transformation, and a transition to clean and secure energy. National priorities emphasise a knowledge-based and export-oriented industrial base, digital transformation and AI adoption, energy independence and low-carbon development, and balanced territorial growth built on strong local economies.

A comparison with Erasmus+ mobility patterns shows only **partial alignment with Hungary's strategic priorities**. Incoming mobility flows remain strongly anchored in traditional academic disciplines rather than strategically important STEM and technology fields. Among incoming Erasmus+ students, business, administration and law (29%), and arts and humanities (17%) dominate, followed by health (15%), engineering (12%), and natural sciences (8%) (Figure 20).

The distribution of **incoming Erasmus+ traineeships** (Figure 22) aligns partly with Hungary's strategic priorities for skills development and economic modernisation. The strong role of companies (29%) and hospitals (19%) reflects demand for applied learning in sectors highlighted in the National Digitalisation Strategy, and the Smart Specialisation Strategy (S3), including industry, technology, and health. Placements in public bodies and NGOs (17%) also support OFTK 2030 objectives related to social and territorial development. However, the very limited presence of research organisations (1%) and schools/VET providers (2%) indicates underused potential in areas essential for innovation and teacher training (Figure 22). Variation among sending countries—some oriented almost entirely toward studies, others with high traineeship shares—adds further diversity to the skills and sectoral profiles entering Hungary, but alignment remains strongest in fields already prioritised by national strategies.

[64] Government of Hungary. Hungary's National Development 2030 (English version). URL: https://ngmszakmaiteruletek.kormany.hu/accessibility/download/4/7f/d0000/OFTK_vegleges_EN.pdf
[65] Government of Hungary. (2024). National Digitalisation Strategy. URL: www.digitaliskeszsegek.hu/wp-content/uploads/2024/08/National-Digitalisation-Strategy.docx.pdf
[66] National Research, Development and Innovation Office (2021). Research, Development and Innovation Strategy. URL: https://nkfih.gov.hu/hivatalrol/strategia-alkotas/kutatasi-fejlesztesi-innovacios-strategia
[67] National Research, Development and Innovation Office (2021). National Smart Specialisation Strategy (S3) – 2021–2027. URL: https://nkfih.gov.hu/english/national-smart-specialisation-strategy/s3-2021-2027
[68] Government of Hungary. (2012). Hungarian Energy Strategy 2030. URL: https://2010-2014.kormany.hu/download/7/d7/70000/Hungarian%20Energy%20Strategy%202030.pdf

The **regional concentration** of incoming mobility also affects strategic alignment. Over 80% of all incoming students study in Central Hungary, reflecting the dominance of Budapest and its major universities (Figure 21). While Budapest is Hungary's strongest research and innovation hub, this centralisation means that other regions—despite hosting important industrial clusters aligned with the *Smart Specialisation Strategy*—benefit less from international knowledge flows and human-capital exchange. Strengthening mobility links with university centres in Debrecen, Szeged, Pécs, Győr, Miskolc, and Veszprém would better support the territorial development and regional convergence objectives of OFTK 2030.

Outgoing mobility mirrors these patterns: arts and humanities, natural sciences, and business are overrepresented relative to their share of national enrolments (Table 53Table 53), indicating that established academic cultures and partnership networks continue to shape mobility more strongly than labour-market needs. In contrast, engineering, agriculture, and service-related disciplines—critical for Hungary's industrial, agri-food, and territorial development goals—remain underrepresented (Table 54), partly due to rigid curricula, practical requirements, and limited mobility windows.

The resulting mobility profile aligns with some horizontal national objectives but less with sector-specific priorities. ICT and health show reasonable correspondence with the *Smart Specialisation Strategy*, yet key strategic domains such as advanced manufacturing, engineering, and agri-food attract comparatively few mobile students in Hungary despite their prominence in industrial, digitalisation, and green-transition strategies. While the strong presence of business and scientific fields supports Hungary's broader goals of research excellence and international openness, mobility contributes less to developing the technical and green skills emphasised in national workforce agendas. Overall, Erasmus+ participation advances Hungary's internationalisation aims but leaves significant potential to strengthen talent pipelines in strategically important sectors.

Strengthening mobility pathways in engineering, ICT, energy technologies, natural sciences, and sustainability; encouraging more traineeships in companies and research environments; and expanding regional participation beyond Budapest would significantly enhance the programme's contribution to Hungary's industrial upgrading, digital transformation, and balanced territorial development.

7. PORTUGAL

This chapter presents the estimated economic effects of Erasmus+ student mobility implemented under the KA131 2022 call in Portugal. It begins with an overview of incoming and outgoing mobility flows, analysing their distribution by type, duration, field of study, and country of origin or destination. It then examines the short-term economic impacts generated by these mobilities, including their contributions to Gross Value Added (GVA), employment, and fiscal revenues arising from associated spending and economic activity. The chapter concludes by considering the longer-term relevance of Erasmus+ mobility—both incoming and outgoing—for Portugal's economic development and human capital priorities.

7.1. Mobility context

7.1.1. Incoming Erasmus+ student mobility

A total of **19.183** students from 31 countries visited Portugal between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[69]. Of these, 79% participated in study mobility and 21% in traineeships.

The gender distribution was 63% female and 34% male participants.

By study level, the majority were Bachelor's students (including short-cycle students) (62%), followed by Master's students (36%) and doctoral candidates (2%).

Overall, 11% of mobilities took place in blended format, including Blended Intensive Programmes (BIPs).

In terms of duration, most students pursued semester-long mobilities (60–180 days), representing 75% of the total. Short-term mobilities of up to one month (5–30 days) accounted for 11%, while 14% of students stayed longer than one semester (Figure 26).

[69] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

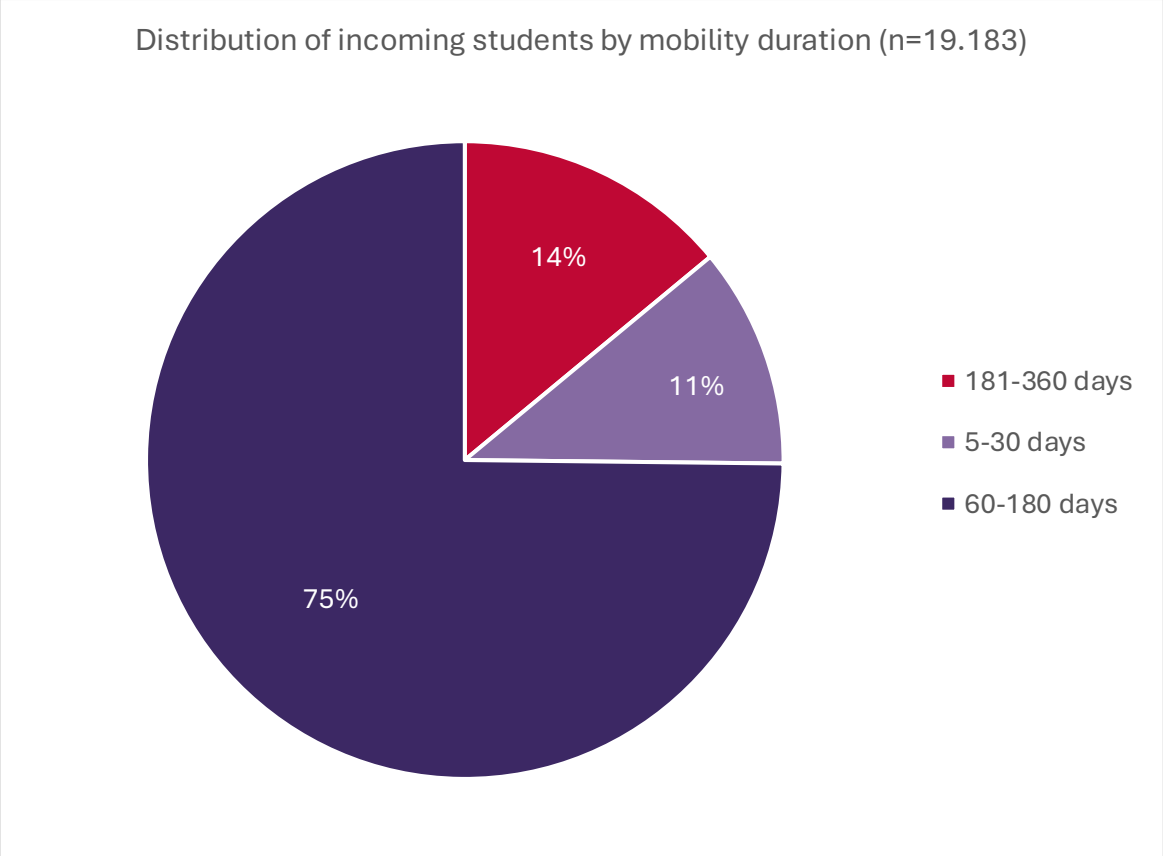

Figure 26. Incoming student distribution by mobility duration (Portugal)

The **top ten sending countries** of Erasmus+ students to Portugal were led by Spain (21%), Italy (14%), and France (10%), followed by Germany (9%) and Poland (9%). Smaller but still significant shares came from Belgium (4%), the Netherlands (4%), Czechia (4%), Turkey (3%) and Romania (3%) (Figure 27).

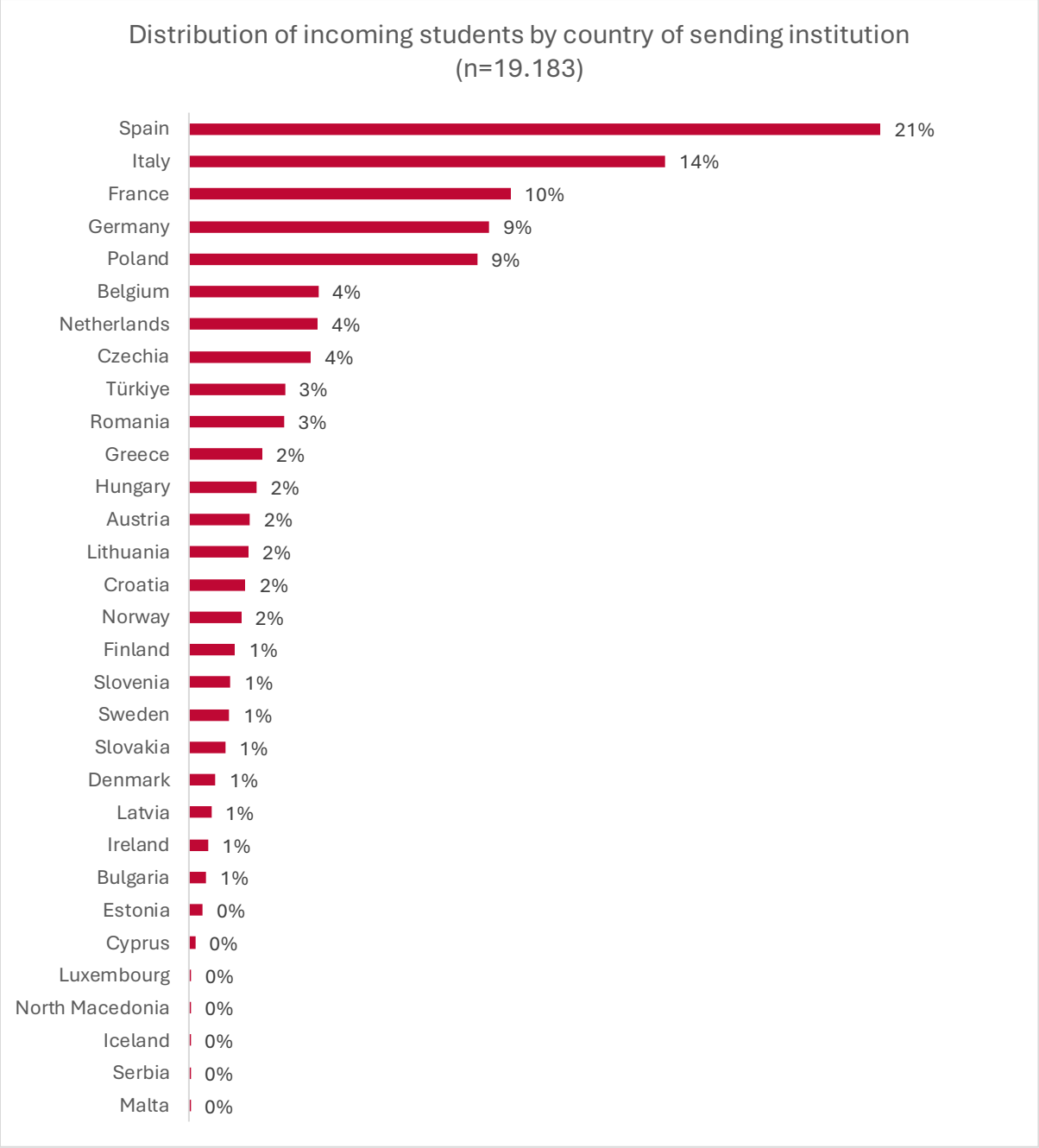

Figure 27. Incoming student distribution by country of sending institution (Portugal)

The **top five study fields**[70] of incoming Erasmus+ students to Portugal were led by business, administration and law (26%), and engineering, manufacturing and construction (17%) closely followed by health and welfare (12%) and arts and humanities (12%) as well as natural science, mathematics and statistics (10%) (Figure 28).

[70] Based on 11 broad level fields specified in ISCED-F 2013.

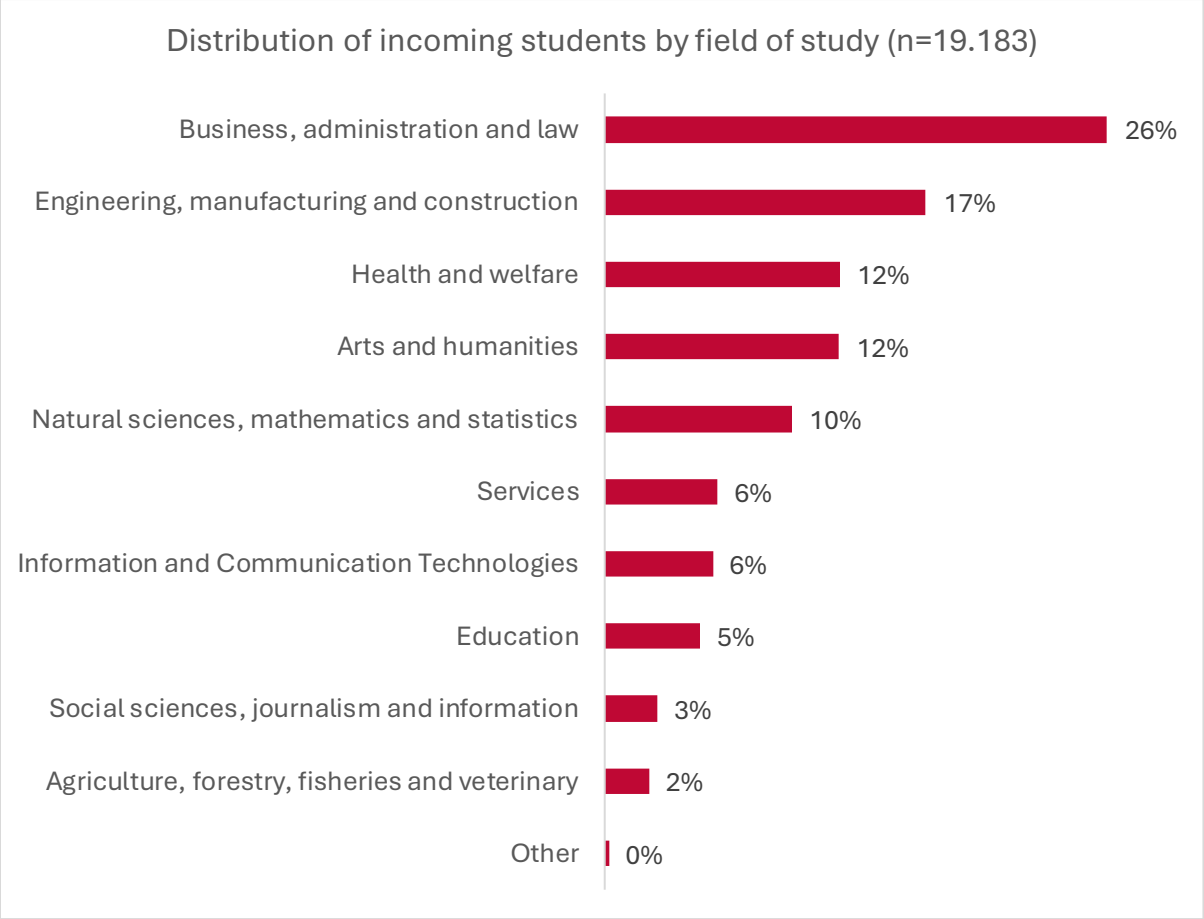

Figure 28. Incoming student distribution by study field (Portugal)

For incoming Erasmus+ students in Portugal, the majority of mobilities were undertaken for study purposes. While most sending countries showed a strong dominance of study mobility, certain countries sent a comparatively high share of traineeships. Notable examples included France (40%), Latvia (35%), Slovakia (37%), and Estonia (27%), while Malta (67%) and Luxembourg (85%) stood out as countries where traineeships exceeded study mobilities.

Across all fields of study, incoming mobility to Portugal was dominated by a small number of sending countries—most notably Spain, Italy, France, Germany and Poland. These countries appeared prominently across nearly every discipline, often accounting for the largest shares of students. Spain stood out in particular, contributing the highest proportion in many fields, including education (48%), social sciences (33%), arts and humanities (20%), health and welfare (30%), and natural sciences (20%). Italy also showed strong representation across several areas, such as arts (19%), business (12%), engineering (14%), and health (19%), while Germany and France consistently contributed between 5% and 15% across numerous disciplines. In contrast, most other countries supplied only small shares of students overall, although some exhibited field-specific strengths. For example, Belgium contributed notably to health (6%) and Greece had a marked presence in services (4%).

Region-specific information (available for 18.863 out of 19.183 incoming student mobilities) shows a strong concentration in the *Área Metropolitana de Lisboa*, which hosted 45% of all incoming students — reflecting the prominence of major comprehensive universities and several large technical universities. The *Norte region* received 28% of mobilities, driven primarily by the strong higher education cluster in Porto. The *Centro region* attracted 19%, with Coimbra and Aveiro representing key hubs. All other regions hosted much smaller shares: Alentejo, Algarve, Azores, and Madeira each accounted for 2% of incoming students, reflecting a more limited number and capacity of higher education institutions in these areas (Figure 29). This distribution underscores the dominant pull of Lisbon, Porto, and Coimbra–Aveiro as the main academic destinations for Erasmus+ students in Portugal.

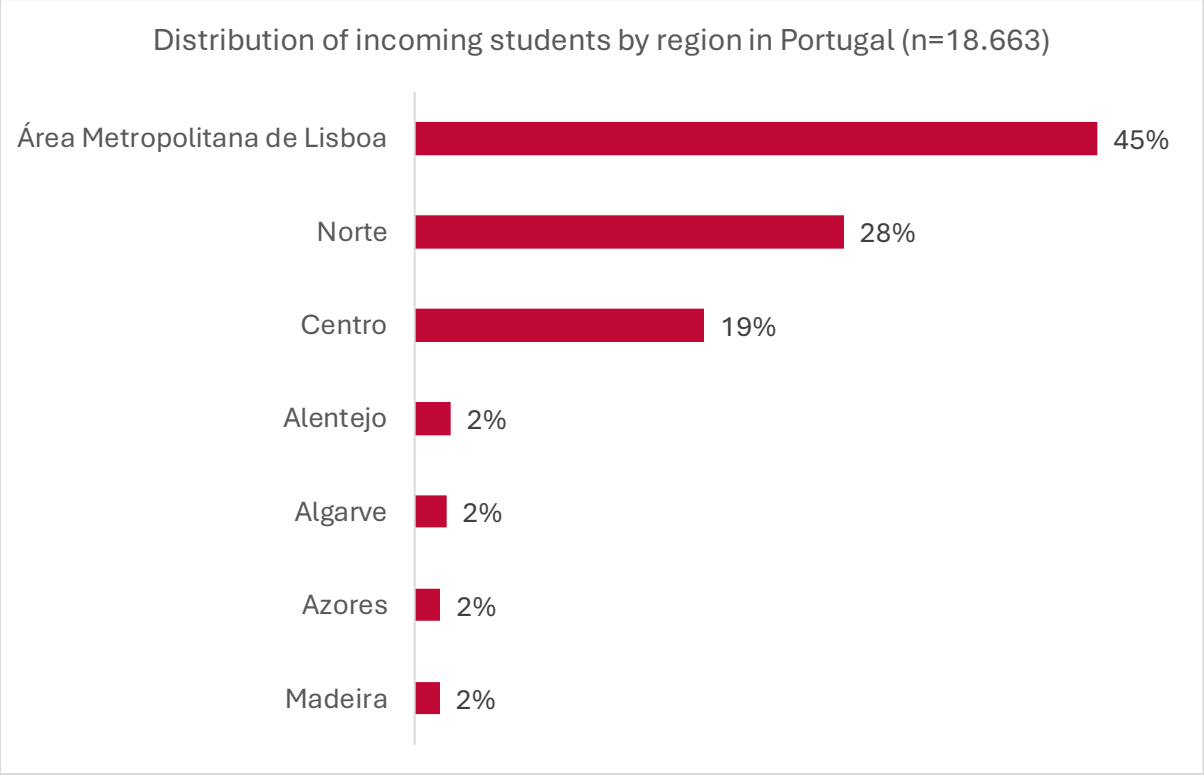

Figure 29. Distribution of incoming students by region (Portugal)

Based on the available data for **traineeships**, higher education institutions hosted the largest share of placements, accounting for 32%. Companies represented the second most common type of host (23%), followed closely by public bodies, NGOs, and cultural institutions (21%). Research organisations hosted 12% of trainees, while hospitals and medical centres accounted for 7%, and schools or VET providers for 6% (Figure 30). Overall, the distribution shows that while academia remains the primary host environment, traineeships are spread across a diverse range of organisational types.

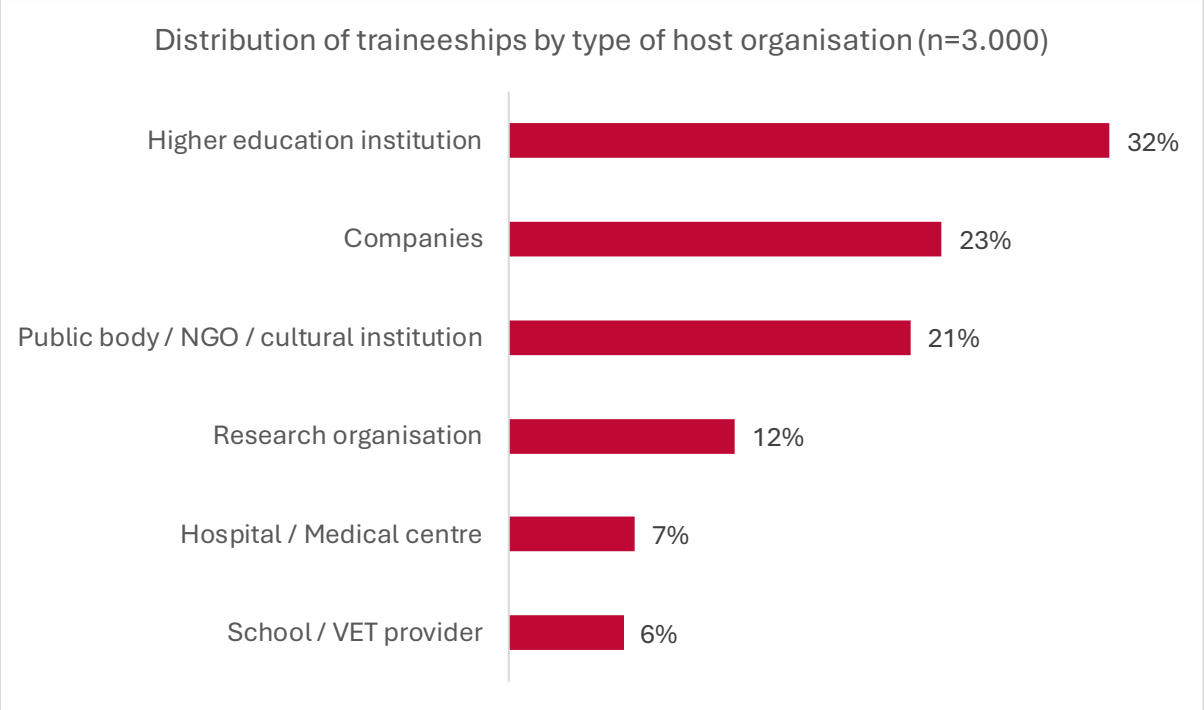

Figure 30. Distribution of traineeships by type of host organisation (Portugal)

7.1.2. Outgoing Erasmus+ student mobility

A total of **11.126** Portuguese students travelled to 32 countries between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[71]. Of these, 80% participated in study mobility and 20% in traineeships.

The gender distribution was 62% female, 38% male, and 0,02% undefined.

By study level, the majority were Bachelor's students (66%), followed by Master's students (32%), and doctoral candidates (2%).

Overall, 16% of outgoing mobilities were conducted in blended format, including Blended Intensive Programmes (BIPs).

The majority of outgoing students (80%) spend 60-180 days abroad, followed by those who engaged in short-term mobility of up to 30 days (16%) and those who stayed for two semesters abroad (4%) (Figure 31).

[71] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

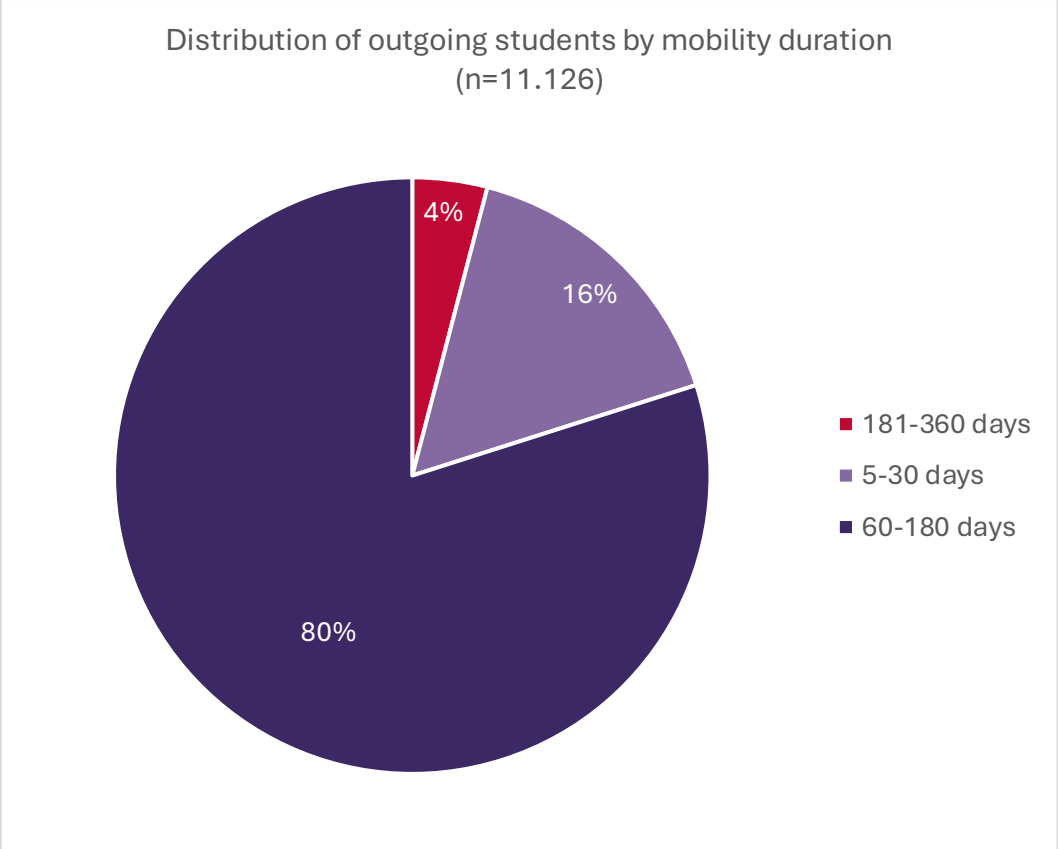

Figure 31. Outgoing student distribution by mobility duration (Portugal)

Portuguese students most often completed their Erasmus+ mobility in Spain (19%), Italy (14%), and Poland (10%), which together attract over 40% of all outgoing participants. France (7%), Germany (6%), Czechia (5%), Belgium (5%) and the Netherlands (5%) also attracted noticeable shares of Portuguese students (Figure 32). Portuguese students showed a clear preference for nearby Southern European destinations, followed by strong engagement with Central and Eastern Europe.

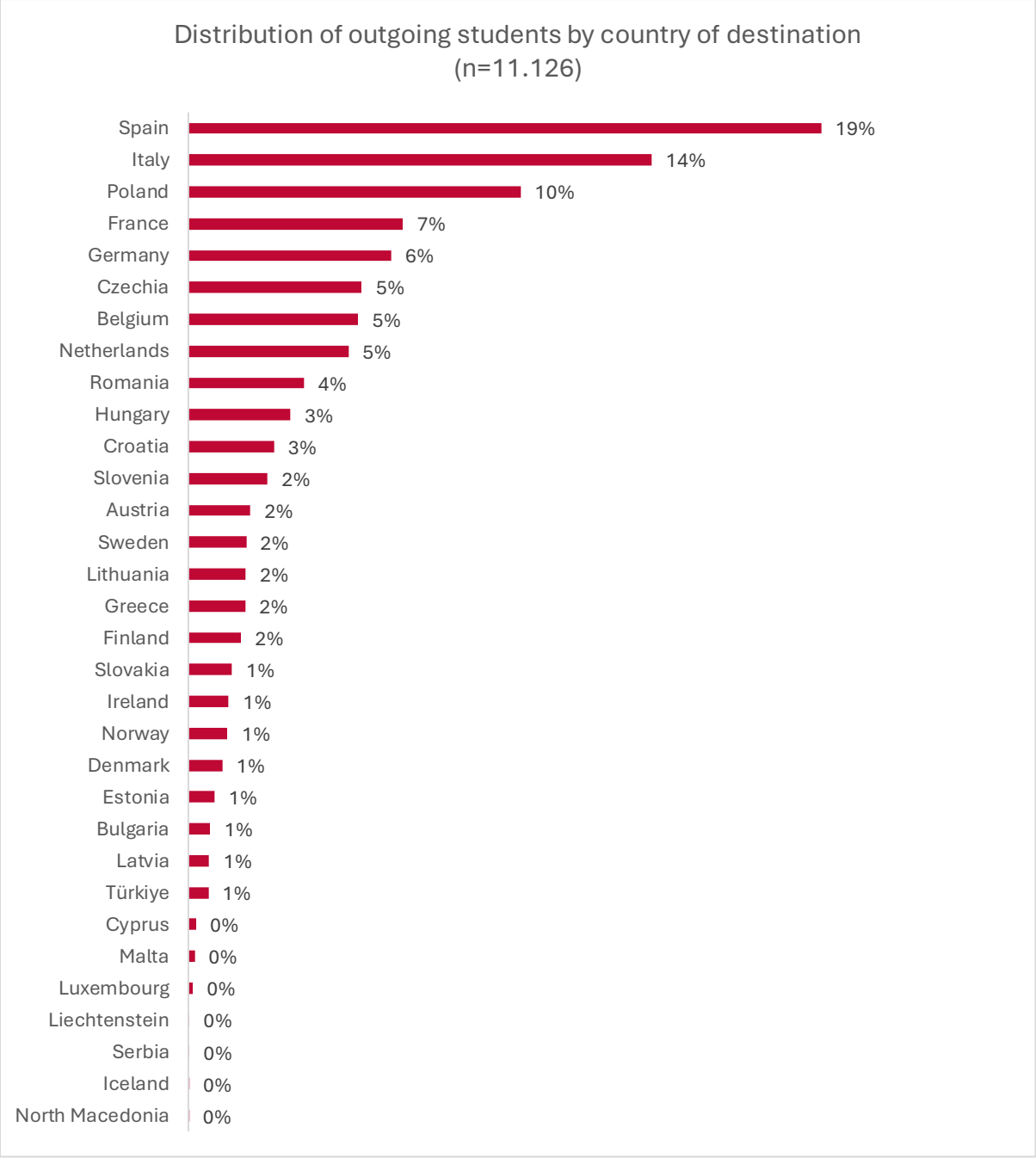

Figure 32. Outgoing student distribution by country of receiving institution (Portugal)

Most Portuguese Erasmus+ students travelled abroad to study business, administration and law (27%), making it the largest academic field for mobility. Substantial shares also came from health and welfare (18%), engineering, manufacturing and construction (15%), and arts and humanities (11%), as well as natural sciences, mathematics and statistics (10%). Fewer mobilities originated from fields such as ICT (7%), services (6%) education (5%), social sciences, journalism and information (2%), and agriculture, forestry, fisheries and veterinary (2%) (Figure 33). Together, these patterns show that Erasmus+ mobility among Portuguese students spans a broad academic spectrum, though with a clear concentration in business-related and health-related studies.

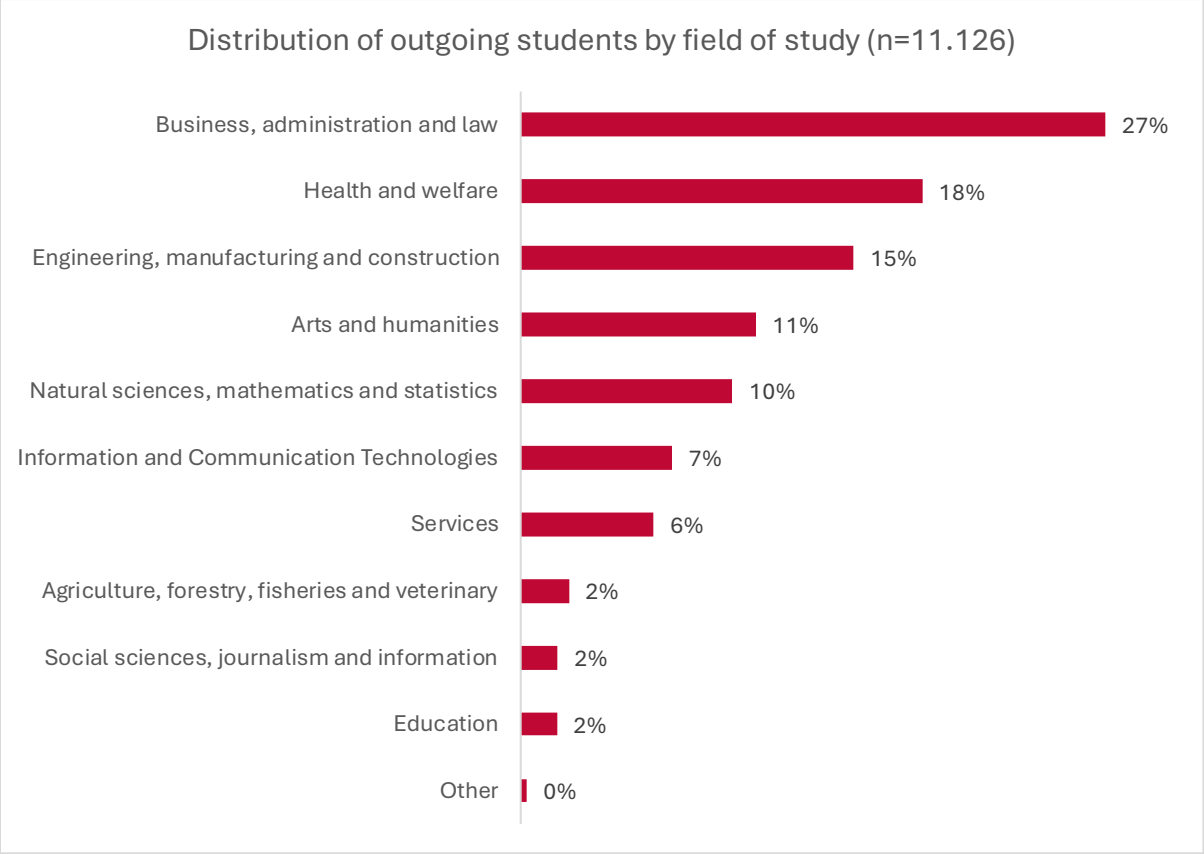

Figure 33. Outgoing student distribution by field of study (Portugal)

Outgoing Portuguese students participated far more frequently in study mobility (80%) than in traineeships (20%). For most destination countries, studies clearly dominated—for example Italy (83%), Finland (89%), Slovenia (90%), Poland (96%), and Lithuania (98e%) all showed very high proportions of study periods compared to traineeships. A smaller group of destinations stood out for their high shares of traineeships, including Malta (95%), Luxembourg (87%), Serbia (75%), and Cyprus (39%). Other countries with above-average traineeship proportions included Ireland (43%), Greece (44%), Iceland (33%), Spain (30%), Denmark (30%), and Germany (28%). Overall, while studies remain the primary purpose of Portuguese outward mobility, a distinct group of host countries attracts students predominantly for traineeship placements.

Across all fields of study, clear country-level specialisations emerged. Spain dominated many subject areas, accounting for exceptionally large shares in education (50%), social sciences (34%), health and welfare (27%), services (28%), and arts and humanities (22%). Italy featured prominently across disciplines, particularly in arts and humanities (18%), education (8%), engineering (17%) and health (19%). Other countries showed more concentrated profiles: Poland was strongly represented in business (14%), engineering (12%) and ICT (16%), while Germany had notable shares in engineering (8%) and natural sciences (9%). Smaller yet distinctive patterns included France in natural sciences (7%) and business (10%), and Ireland in agriculture (8%). Hungary contributed notably to agriculture (6%), Belgium to social sciences (15%), and Greece to services

(7%). Altogether, the distribution reveals both highly diversified destination countries and others with narrow, field-specific profiles, highlighting the varied academic and labour-market linkages across Europe.

Table 33. Erasmus+ mobility statistics (Portugal)

	Short-term	Long-term	Total
Incoming students	2.144	17.039	19.183
Outgoing students	1.783	9.343	11.126

7.2. Cost estimation

7.2.1. Personal spending

A. Incoming students

1. Short-term stays

A total of **2.144 Erasmus+ students** (representing 11% of all incoming students) undertook short-term mobilities of less than 30 days in Portugal, accounting collectively for **19.392 student days** spent in the country.

To estimate the total expenditure of this group, we used Eurostat data (2022) on the average spending of EU residents on personal trips of one night or more within the EU, considering the two age groups most relevant to Erasmus+ participants (15–24 and 25–34 years). These average EU spending patterns were converted into the Portuguese price context and the price levels of students' countries of sending institutions using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022) (see section 3.3.1).

Based on this adjustment, the total spending attributable to short-term incoming students in Portugal is estimated at **EUR 1.875.336**, distributed proportionally according to the student's country of sending institution (Table 34).

2. Long-term stays

A total of **17.039 Erasmus+ students** (89% of incoming students) stayed more than 30 days in Portugal, accounting for a combined total of **2.500.571 student days**.

Based on EUROSTUDENT VIII data, the average monthly spending of international students in Portugal is estimated at **EUR 1216,8** equivalent to **EUR 40,6 per day**. To account for differences in spending capacity among students from different countries of origin, these expenditures are adjusted using GDP per capita in purchasing power standards (PPS, Eurostat 2022), which reflects the relative income levels of the students' home countries.

After applying this adjustment, the total spending attributable to long-term Erasmus+ students in Portugal is estimated at **EUR 98.810.193** (Table 34).

Total incoming student spending

The total estimated spending of Erasmus+ incoming students in Portugal (both short-term and long-term) funded through the KA131 2022 call amounts to **EUR 100.685.529** (Table 34).

In total, incoming students hosted by Portugal under the KA131 2022 call received **EUR 41.212.893**, in Erasmus+ grants to support the costs of their mobilities (Table 34). This implies that students contributed an **additional EUR 59.472.636** from their own or family resources, representing the share of expenses covered beyond Erasmus+ funding equal to 59%.

Table 34. Personal spending of incoming Erasmus+ students (Portugal)

Mobility duration	Personal spending	Erasmus+ grant (included in personal spending)
Short-term stays	1.875.336	*1.511.423*
Long-term stays	98.810.193	*39.707.470*
Total	**100.685.529**	***41.212.893***

B. Outgoing students

1. Short-term stays

Actual spending abroad

A total of **1.783 Portuguese Erasmus+ students** undertook short-term mobilities of 5–30 days abroad, amounting to **13.144 student-days** spent across various host countries.

To estimate the expenditure associated with these stays, the analysis relies on the same Eurostat (2022) data used for incoming students, capturing the average per-night travel spending of young residents aged 15–24 and 25–34. These values are adjusted to reflect the specific price levels of each host country, ensuring that the estimated spending aligns with the cost environment faced by Portuguese students during their stay abroad.

After applying these country-specific adjustments and aggregating across all short-term mobilities, the total actual spending of Portuguese short-term outgoing students is estimated at **EUR 1.528.839** (Table 35).

Foregone domestic expenditure

To estimate the counterfactual for short-term outgoing mobility, the analysis assumes that—had these students not participated in Erasmus+—each would have undertaken one typical short domestic trip of 1–3 nights. Using Eurostat data on the average expenditure per domestic personal trip among young Portuguese residents (15–24 and 25–34 years), the representative value of EUR 89,69 per trip is applied.

Multiplying this by the 1.783 short-term outgoing students yields a total estimated foregone domestic expenditure of **EUR 159.908** (Table 35).This amount represents the level of tourism-related spending that would likely have occurred within Portugal in the absence of short-term Erasmus+ mobility.

Subtracting the counterfactual domestic expenditure from the actual spending abroad results in a net short-term outflow of **EUR 1.368.931**, representing the portion of expenditure that leaves the Portuguese economy due to short-term Erasmus+ mobility (Table 35).

2. Long-term stays

Actual spending abroad

A total of **9.343 Portuguese students** undertook long-term mobilities lasting between 60 and 360 days, amounting to **1.233.072 student days** spent abroad. To estimate their total expenditure, the analysis applies EUROSTUDENT VIII data on the average monthly living and study costs of international students in each host country. These baseline values are further adjusted using GDP per capita in PPS to reflect differences in spending capacity between Portugal and the respective destination countries.

After applying these adjustments and aggregating across all long-term stays, the total spending of long-term outgoing Portuguese students is estimated at **EUR 44.309.609** (Table 35).

Foregone domestic expenditure

For long-term outgoing Portuguese students, the counterfactual assumes that, had they remained in Portugal, they would have incurred regular living and study costs at domestic price levels. Using EUROSTUDENT data for Portuguese students, all non-housing items (food, local transport, communication, leisure and study-related expenses) are taken at full value, while the accommodation component is scaled by the share of students who normally live away from their parents (48%). This yields an average domestic cost of living of EUR 733,71 per month, equivalent to around EUR 24,46 per day. Applied to the long-term mobility days undertaken by 9.343 Portuguese students, the total foregone domestic expenditure is estimated at **EUR 30.157.313** (Table 35).

Subtracting the domestic living costs that long-term students would have incurred at home from their actual expenditure abroad results in a net long-term outflow of **EUR 14.152.296** (Table 35), representing the share of spending that genuinely leaves the Portuguese economy due to long-term Erasmus+ mobility.

Total outgoing student spending

The total estimated spending leakage associated with Erasmus+ outgoing students—combining short-term and long-term mobility and accounting for the difference between actual expenditure abroad and the domestic spending that would have occurred in a no-mobility scenario—amounts to **EUR 15.521.227** (Table 35).

Table 35. Personal spending of outgoing Erasmus+ students (Portugal)

Mobility duration	Actual spending abroad	Foregone domestic expenditure	Net of counterfactual
Short-term stays	+1.528.839	-159.908	+1.368.931
Long-term stays	+44.309.609	-30.157.313	+14.152.296
Total	**+45.838.448**	**-30.317.221**	**+15.521.227**

Total personal spending

After combining all inflows generated by incoming students and subtracting the net outflows associated with outgoing mobility, the net personal expenditure effect amounts to **EUR 85.164.302**, representing the overall gain to the Portuguese economy from Erasmus+ student mobility in terms of student-driven consumption (Table 36).

As shown in Table 36, this net personal expenditure effect is then combined with the **EUR 19.524.411 in Erasmus+ grants** received by Portuguese outgoing students to arrive at the final total for personal spending of **EUR 104.688.713**.

This step is necessary because the net personal expenditure effect reflects only the balance of private consumption, whereas Erasmus+ grants represent an additional external financial inflow from the European Union. Including these transfers ensures that all programme-related resources entering the Portuguese economy—both student-driven and EU-funded—are fully captured in the total personal spending.

Table 36. Net personal impact (Portugal)

Component	Incoming (actual spending)	Outgoing (net of counterfactual)	Erasmus+ grants (outgoing students)	Net effect
Short-term spending	+1.875.336	-1.368.931	+1.042.430	+1.548.835
Long-term spending	+98.810.193	-14.152.296	+18.481.981	+103.139.878
Total	**+100.685.529**	**-15.521.227**	**+19.524.411**	**+104.688.713**

7.2.2. Relocation costs

A. Incoming students

Based on the estimated average round-trip cost of **EUR 276** per mobility, calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km), the resulting amount is multiplied by the domestically attributed share (50%) and the total number of incoming mobilities (19.183), leading to an overall estimate of **EUR 2.647.254** (Table 37).

B. Outgoing students

Actual costs

Similar to incoming Erasmus+ students, outgoing students' expenses related to travel from Portugal to the host destination are conservatively estimated at the level of **EUR 276** per mobile student. The 50% rate is attributed to international spending and calculated as a cost leakage. This amount is multiplied by the total number of outgoing mobilities (11.126), leading to an overall estimate of **EUR 1.535.388** (Table 37).

Counterfactual domestic relocation costs

In line with the methodological framework, a counterfactual relocation cost is applied to long-term outgoing students to reflect the domestic travel they would have undertaken had they remained in Portugal. Since international relocation replaces a typical home-to-study travel pattern, the counterfactual assumes that each long-term student who normally studies away from their parental home would have made one domestic round trip during the period in question.

To operationalise this, a representative domestic travel cost is set at EUR 20, corresponding to the price of an average round-trip intercity bus journey in Portugal. This value captures a realistic, low-cost estimate of the type of domestic mobility most students rely on.

Applying this rate to the number of outgoing students who fall into this category (section 3.3.2) yields a total counterfactual domestic relocation cost of **EUR 53.405** (Table 37).

Subtracting the domestic counterfactual (EUR 53.405) from the estimated international relocation outflow of outgoing Portuguese students (EUR 1.535.388) results in a net relocation outflow of **EUR 1.481.983**, reflecting the portion of travel-related expenditure that genuinely leaves the Portuguese economy.

When combining the inflow generated by incoming students' relocation spending (EUR 2.647.254) with the net outflow from outgoing students (EUR 1.481.983), the overall balance results in a net negative relocation effect of **EUR 1.165.271** for the Portuguese economy (Table 37).

Table 37. Net relocation impact (Portugal)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Relocation spending	+2.647.254	-1.535.388	+53.405	-1.481.983	+1.165.271
Total	**+2.647.254**			**-1.481.983**	**+1.165.271**

7.2.3. Visitor spending

A. Incoming students

A total of **17.039 Erasmus+ students** stayed in Portugal for long-term mobility (60-360 days). It is assumed that each long-term student in this group received at least **one visit from family or friends** during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits lasting one to three nights. Because these spending figures reflect price levels in travellers' home countries, they were first adjusted to Portugal's cost of living using Comparative Price Level (CPL) indices. This ensures that the expected visitor expenditure reflects Portugal's domestic price context, rather than the price levels of visitors' origin countries.

The CPL-adjusted average expenditure per trip is then multiplied by the number of long-term incoming students from each country. Based on this approach, the estimated total visitor spending in Portugal associated with Erasmus+ students' family members and friends amounts to **EUR 5.988.800** (Table 38).

B. Outgoing students

Actual visitor spending abroad

A total of 8.891 Portuguese students spent more than 60 days abroad. Following the same assumption applied to incoming mobility, it is considered that each long-term outgoing student received at least one visit from family members or friends during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. As these figures reflect origin-country spending patterns, they are first adjusted to Portugal's relative spending capacity using CPL indices. This adjustment aligns Portuguese visitors' expected travel expenditure with the price context of the countries in which they are likely to visit their mobile students.

The adjusted average per-trip expenditure (376 EUR) is then multiplied by the number of long-term outgoing students, resulting in an estimated total visitor spending of **EUR 3.887.039** associated with Portuguese students' families and friends travelling abroad (Table 38).

Counterfactual visitor spending

The opportunity cost of visitor spending represents the domestic tourism expenditure that would have occurred if Portuguese students had not participated in Erasmus+ mobility. Among the 8.891 Portuguese students who undertook long-term stays abroad (over 60 days), a share would, in a no-mobility scenario, have received at least one domestic visit from family members or friends—particularly those who normally study away from their parental home.

To reflect this, the model assumes that 38% of long-term outgoing students would have been visited domestically, which corresponds to the share of students living without parents reduced by 10%. For these hypothetical domestic visits, Eurostat (2022) data on the average expenditure per domestic personal trip of 1–3 nights by Portuguese residents aged 15–24, 25–34, 35–44, and 45–54—the age groups corresponding to Erasmus+ peers and parents—is applied. The average expenditure per domestic trip is EUR 90,5.

Multiplying this representative trip cost by the share of students expected to receive a domestic visit yields a total counterfactual domestic visitor expenditure of **EUR 321.306** (Table 38). This figure represents the domestic tourism spending that would have accrued within the Portuguese economy had these students remained in the country.

Subtracting the counterfactual domestic visitor expenditure (EUR 321.036) from the actual visitor spending abroad associated with outgoing Portuguese students (EUR 3.887.039) results in a net visitor-related outflow of **EUR 3.565.733**, representing the portion of visitor expenditure that genuinely leaves the Portuguese economy (Table 38).

When incoming visitor inflows (EUR 5.988.800) are combined with the net outgoing visitor outflow (EUR 3.565.733), the result is a positive net visitor-related effect of **EUR**

2.423.066, indicating that Portugal experiences a net gain from visitor spending linked to Erasmus+ mobility (Table 38).

Table 38. Net visitor impact (Portugal)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Visitor spending	+5.988.800	-3.887.039	+321.306	-3.565.733	+2.423.066
Total					**+2.423.066**

7.2.4. Programme transfers

Based on the data provided by the Portuguese National Agency for Erasmus +, the total organisational support (OS) provided to Portuguese higher education institutions to student mobility (intra-European) under the KA131 2022 call is estimated at **EUR 3.877.160**. In practice, these funds were used to provide support services to outgoing and incoming students.

The EU contribution to management costs for Erasmus+ (Heading 2) is **EUR 3.112.978**.

7.2.5. Net result

Table 39 presents **Domestic Final Demand**, identifying the portion of Erasmus+ related expenditure that translates into actual spending within the Portuguese economy. It includes living and study costs of incoming students, relocation and visitor-related spending, and institutional inflows through Organisational Support and National Agency funding. The foregone domestic consumption of outgoing students is deducted to account for expenditure that would have occurred domestically in the absence of mobility. The resulting **net domestic final demand of EUR 115.267.188** represents the effective increase in internal expenditure attributable to Erasmus+ mobility in Portugal.

Table 39. Domestic final demand (Portugal)

Component	Incoming	Outgoing (net of counterfactual)	Erasmus+ grants to outgoing students	Programme transfers	Net effect
Personal spending	+100.685.529	-15.521.227	+19.524.411	n/a	+104.688.713
Relocation costs	+2.647.254	-1.481.983	n/a	n/a	+1.165.271
Visitor spending	+5.988.800	-3.565.733	n/a	n/a	+2.423.066
Total domestic demand (consumption)	**+109.321.583**	**-20.568.944**	**+19.524.411**	**n/a**	**+108.277.050**
Programme transfers (OS + NA management fee)	**n/a**	**n/A**	**n/a**	**+6.990.138**	**+6.990.138**
Total domestic demand (consumption + transfers)	**+109.321.583**	**-20.568.944**	**+19.524.411**	**+6.990.138**	**+115.267.188**

7.3. Short-term economic effects

To estimate the short-term economic effects of Erasmus+ mobility in Portugal, the model incorporates four key expenditure components:

a) Personal consumption related to student mobility, including living and study costs, relocation expenses, and tourism-related spending by visiting friends and family;
b) Net outflows resulting from outgoing student mobility, adjusted for counterfactual domestic spending and Erasmus+ grants;
c) Erasmus+ Organisational Support (OS) funds allocated to higher education institutions;
d) The management fee allocated to the Portuguese National Agency for Erasmus+ for programme implementation across fields.

As components (a) and (b) represent final consumption rather than domestic production, their impact on the Portuguese economy are assessed through indirect and induced effects only. These reflect the supply chain and household income responses triggered by consumption. In contrast, components (c) and (d) are treated as partially productive expenditure, generating direct, indirect, and induced effects due to their direct impact on employment and institutional operations. The calculations therefore distinguish between **two sources of final domestic demand**:

- **Mobility-related consumption**, which includes the net impact of incoming and outgoing student spending, visitor expenditure, and relocation costs;
- **Programme-related transfers**, consisting of the direct funding flows to higher education institutions and the National Agency.

Together, these components form the basis for computing gross value added (GVA), employment, and fiscal effects using Type I and Type II multipliers.

Gross Value Added (GVA) for Portugal was calculated by translating all Erasmus+ related expenditures into economic value using the national GVA-to-output ratio and applying Type I (1,45) and Type II (1,8) multipliers to capture indirect and induced effects (Table 7).

The GVA-to-output ratio for Portugal is derived from Eurostat's Supply and Use Tables (2022), which report national accounts aggregates at basic prices. The ratio (0,545) was calculated by dividing gross value added (B1G) by total output (P1) across all industries in Portugal (Table 8). This means that, on average, 55% of the value of economic output produced domestically reflects value added, while the remaining 45% corresponds to

intermediate consumption, including domestically purchased inputs and imported goods and services.

The employment impact of Erasmus+-related spending in Portugal is estimated by converting GVA effects into employment equivalents using the national employment-to-GVA ratio. According to Eurostat data for 2022, Portugal recorded total employment of 5.138.000 persons and a gross value added (B1G) of EUR 257.785 million (i.e. EUR 257,785 billion). Dividing total employment by total GVA yields an employment intensity of 19,9 jobs per EUR 1 million of GVA (Table 8). This coefficient is applied uniformly across all GVA components to estimate the number of full-time equivalent jobs supported, directly and indirectly, by Erasmus+-related economic activity.

The fiscal coefficient used in the model was calculated from Portugal's 2022 national accounts data. Using Eurostat figures for general government revenue (EUR 107.034 million) and GDP (EUR 249.957 million), the fiscal ratio is derived as the share of total public revenue in national output. This results in a fiscal coefficient of 0,439, indicating that approximately 43 cents of each euro of GDP generated in Portugal is captured by public finances through taxes, social contributions, and other government receipts (Table 8). This coefficient is applied uniformly to all GVA components to estimate the fiscal impact of Erasmus+-related economic activity.

The overall economic impact of Erasmus+ student mobility (KA131 2022 call) on Portugal is **positive across all measured dimensions** (Table 40).

Table 40. GVA, employment and fiscal effects of Erasmus+ student mobility (Portugal)

EUR	Direct	Indirect	Induced	Type I (Direct + Indirect)	Type II (Direct + Indirect + Induced)
Output (EUR)	6.990.138	51.870.235	41.042.530	58.860.373	99.902.903
GVA (EUR)	3.806.921	28.249.211	22.352.301	32.056.132	54.408.433
Jobs (FTE)	76	563	446	639	1085
Fiscal (EUR)	1.670.253	12.394.094	9.806.876	14.064.347	23.871.223

Erasmus+ related spending in Portugal generated an estimated **EUR 54,41 million in total GVA**. This includes EUR 3,81 million in direct effects, primarily from organisational support funding to higher education institutions and National Agency operations; EUR 28,25 million in indirect effects generated through supply-chain linkages; and EUR 22,35 million in induced effects arising from increased household income and consumption.

The corresponding employment impact is estimated at approximately **1085 full-time equivalent (FTE) jobs**, consisting of 76 direct, 563 indirect, and 446 induced positions.

The total **fiscal contribution is estimated at EUR 23,87 million**, comprising EUR 14,06 million in Type I effects (direct + indirect) and EUR 9,81 million from induced effects.

These results demonstrate that Erasmus+ activities in Portugal generate sizeable economic benefits across the national economy, reflecting the scale of incoming mobility and the breadth of economic linkages activated through student spending and institutional funding. The programme's impacts extend across a wide range of service sectors, with higher education institutions and related public bodies acting as the principal direct beneficiaries, and additional gains accruing through Portugal's extensive supply chains and household income effects.

7.4. Alignment with national long-term economic goals

Portugal's long-term economic development priorities are articulated across several strategic frameworks, including *Portugal 2030*[72] and the *National Research and Innovation Strategy for Smart Specialization (ENEI)*[73], and sector-specific strategies such as the *National Digital Skills Initiative* (INCoDe.2030)[74], the *Hydrogen Strategy* (EN-H2)[75], and the *Energy and Climate Plan* (PNEC 2030)[76]. Together, these frameworks aim to strengthen productivity, technological upgrading, green and digital transitions, regional cohesion, and the international competitiveness of the Portuguese economy. They place particular emphasis on expanding digital transformation—including advanced ICT, cybersecurity, artificial intelligence, and digital skills—while simultaneously advancing green transition sectors such as renewable energy, hydrogen, sustainable mobility, and circular economy solutions. Moreover, they highlight the importance of upgrading industrial capacity through Industry 4.0 technologies, fostering growth in health and life sciences, supporting sustainable tourism and creative industries, and reinforcing the innovation potential of interior regions through stronger higher-education networks.

A **comparison with Erasmus+ mobility patterns** reveals that student exchanges **align only partially** with these national priorities. The majority of incoming mobilities are concentrated in business, administration and law (26–27%), alongside significant shares in engineering, health, arts and humanities, and natural sciences (Figure 28).

Outgoing mobility patterns mirror the broader structure of Portuguese higher education but reveal areas of both strong alignment and missed opportunities (Table 54). Business,

[72] PORTUGAL 2030. Portugal 2030 – Strategic framework. URL: https://portugal2030.pt/en
[73] Government of Portugal / ENEI. (2022). Estratégia Nacional de Especialização Inteligente (ENEI) – National Strategy for Smart Specialisation. URL: https://portugal2030.pt/wp-content/uploads/sites/3/2022/06/20220623_ENEI_VF_Pub.pdf
[74] Government of Portugal. INCoDe.2030 – National Initiative for Digital Competences. URL: www.incode2030.gov.pt/en/incode-2030-en
[75] Direção-Geral de Energia e Geologia (DGEG). National Strategy for Hydrogen. URL: www.dgeg.gov.pt/en/transversal-areas/international-affairs/energy-policy/national-strategy-for-hydrogen
[76] European Commission. (2023). Portugal – Draft Updated National Energy and Climate Plan (NECP). URL: https://commission.europa.eu/system/files/2023-07/EN_PORTUGAL%20DRAFT%20UPDATED%20NECP.pdf

health, engineering, arts, and natural sciences together account for the majority of mobilities, reflecting strong internationalisation cultures in these fields and contributing to the objectives of Portugal 2030, INCoDe.2030, and the National Innovation Strategy, all of which prioritise advanced skills, R&D excellence, and a competitive, knowledge-based economy. Natural sciences and ICT stand out as particularly well represented (Table 54), aligning closely with Portugal's digital-transformation ambitions under INCoDe.2030 and the National Innovation Strategy, and suggesting a healthy capacity for international cooperation in technology-intensive areas. However, mobility in engineering (15%) remains below the field's overall weight in enrolments, despite its importance for industrial upgrading and the green transition, and social sciences remain sharply underrepresented (2% vs. 11%) (Table 54). Overall, Portugal's mobility profile reinforces established strengths—including an encouraging pattern in ICT.

The distribution of incoming **traineeships** across higher education institutions, companies, public bodies, NGOs, research organisations, and health institutions broadly supports Portugal's strategic emphasis on strengthening university–industry collaboration, expanding applied learning, and reinforcing scientific and technological capacity as outlined in *Portugal 2030*, *INCoDe.2030*, and the *National Innovation Strategy*. The presence of traineeships in research, health, and civic-sector organisations further aligns with national goals to boost innovation, address skills shortages, and promote societal resilience. The varied mix of sending-country profiles—ranging from predominantly study-oriented systems to those with high traineeship participation—adds to the diversity of skills and sectoral exposure entering Portugal, complementing national ambitions to attract talent and deepen knowledge exchange across priority areas.

These patterns show that Erasmus+ mobility aligns well with several of Portugal's strategic priorities, particularly in ICT, natural sciences, health, and other knowledge-intensive areas that underpin digital transformation, research excellence, and innovation capacity. These strengths reflect Portugal's ambitions under *Portugal 2030*, *INCoDe.2030*, and the *National Innovation Strategy*. However, mobility is less pronounced in fields central to industrial upgrading and the green transition—such as advanced engineering—and social sciences remain markedly underrepresented. Strengthening mobility flows toward regions outside the main urban centres—especially those targeted in *Portugal 2030* for territorial cohesion and regional innovation—alongside expanding mobility in strategic technological and green-transition fields, would enhance the long-term contribution of Erasmus+ to Portugal's development ambitions and support a more balanced, innovation-ready national workforce.

8. SERBIA

This chapter examines the economic impacts associated with Erasmus+ student mobility carried out under the KA131 2022 call in Serbia. It begins by outlining the profile of incoming and outgoing participants, detailing how mobility flows are distributed across different types, durations, academic fields, and sending or receiving countries. The chapter then assesses the short-term economic effects generated by these mobilities, including their contribution to Gross Value Added (GVA), employment, and public revenues through associated spending patterns. Finally, it reflects on the broader, longer-term relevance of Erasmus+ mobility—both inbound and outbound—for Serbia's economic development priorities and its wider human capital strategies.

8.1. Mobility context

8.1.1. Incoming Erasmus+ student mobility

A total of **783** students from 25 countries visited Serbia between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[77]. Of these, 42% participated in study mobility and 58% in traineeships.

The gender distribution was 54% female and 46% male participants.

By study level, the majority were Bachelor's students (including short-cycle students) (59%), followed by Master's students (31%) and doctoral candidates (10%).

Half of incoming mobilities were conducted in blended format, including Blended Intensive Programmes (BIPs).

In terms of duration, half of students pursued short-term mobilities (5-30 days). Semester-long mobilities (60–180 days) accounted for 44%, while only 7% of students stayed longer than one semester (Figure 34).

[77] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

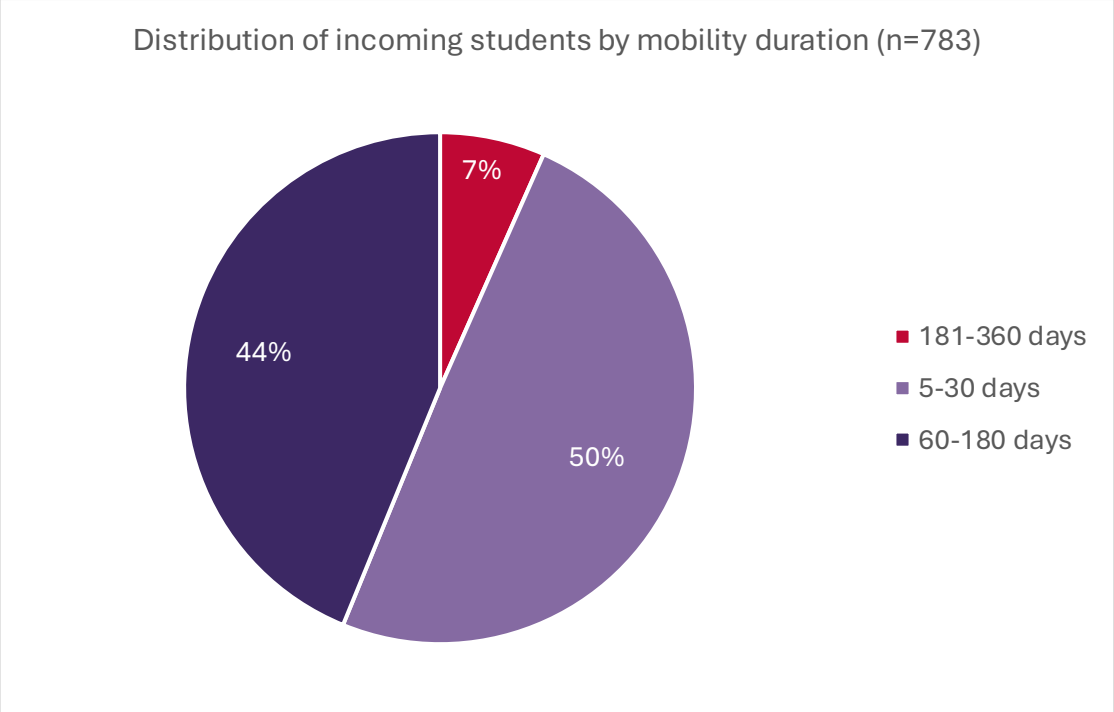

Figure 34. Incoming student distribution by mobility duration (Serbia)

The distribution of incoming Erasmus+ students to Serbia under the 2022 call was highly concentrated among a few sending countries. Romania was by far the largest source, accounting for 30% of all incoming students, followed at a distance by Bulgaria (10%), Italy (8%), Greece (7%), and Türkiye (6%), with France also contributing 6%. Several other European countries sent smaller but still notable shares of students, including Slovenia, Spain, and Slovakia (each 4%), and Germany, North Macedonia, and Croatia (each 3%) (Figure 35).

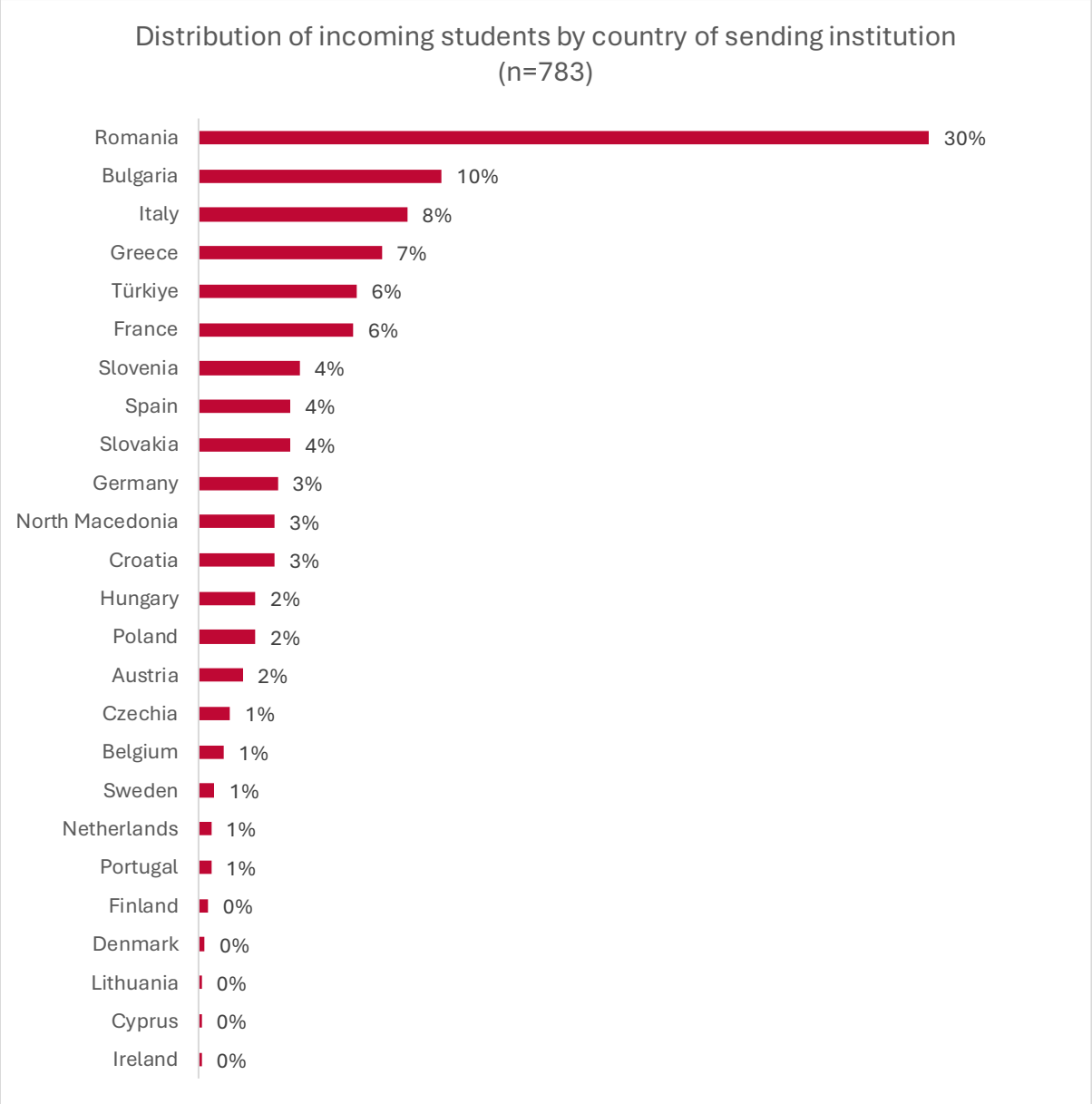

Figure 35. Incoming student distribution by country of sending institution (Serbia)

The distribution of incoming Erasmus+ students to Serbia showed a strong concentration in a few academic fields[78]. Business, administration and law was by far the largest field, accounting for 34% of all incoming students. The second-largest group was arts and humanities (19%), followed by health and welfare (11%). Other notable fields included engineering, manufacturing and construction (9%), and social sciences, journalism and information (7%). Smaller but still meaningful shares were observed in agriculture, forestry, fisheries and veterinary (5%), natural sciences, mathematics and statistics (5%), and ICT (4%). The least represented fields among incoming students were education and services (3% each) (Figure 36). Overall, the pattern indicates that Serbia's incoming mobility is dominated by business-related studies, with a wide distribution across other academic disciplines.

[78] Based on 11 broad level fields specified in ISCED-F 2013.

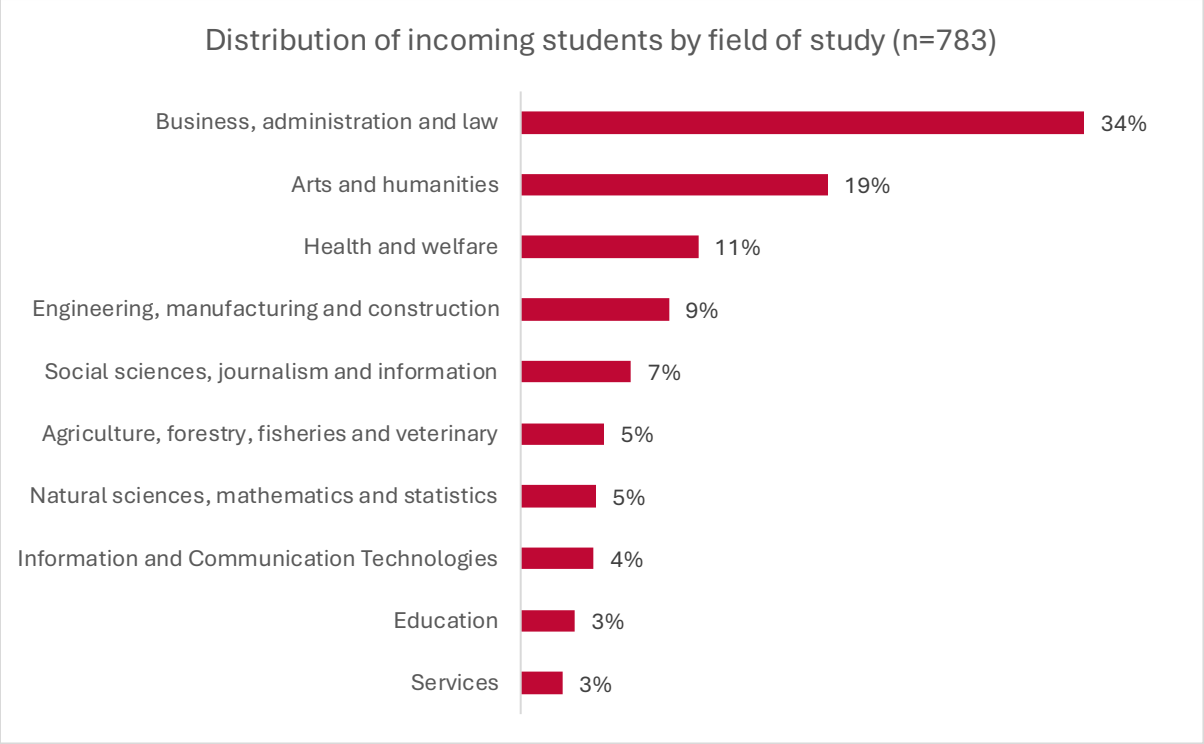

Figure 36. Incoming student distribution by study field (Serbia)

When it comes to the distribution of incoming Erasmus+ students in Serbia by field of study and country of origin, notable patterns in how different sending countries contributed to specific academic disciplines are revealed. Romania dominated several fields, contributing over 70% of all students in agriculture, forestry, fisheries and veterinary (73%) and a substantial share of students in business, administration and law (51%), education (31%), and health and welfare (13%). This suggests that Romanian mobility to Serbia was both large and strongly concentrated in applied and professional disciplines. Other countries showed more moderate but still notable contributions across selected fields. Bulgaria stood out with 19% of all students in education, 18% in business, administration and law, and 19% in social sciences, journalism and information. Italy accounted for 31% of all students in health and welfare, and 11% in engineering, manufacturing and construction, indicating a strong presence in medically and technically oriented subjects. Türkiye also made a significant contribution to education (35%) and services (45%), making it another major source country in these specialised fields.

Western and Nordic countries contributed smaller proportions overall but showed occasional peaks in specific fields. For example, France provided 25% of all students in natural sciences, mathematics and statistics, while Germany accounted for 20% of those in ICT. Greece dominated arts and humanities (33%), and Slovakia contributed meaningfully to natural sciences (28%). Overall, the distribution reflects a highly asymmetrical incoming mobility pattern, with a few countries—especially Romania,

Bulgaria, Italy, Türkiye, and France—playing an outsized role in shaping Serbia's Erasmus+ field-level intake.

Figure 37 shows a highly concentrated regional pattern in the distribution of incoming Erasmus+ students to Serbia. Belgrade dominated as the primary host region, attracting 48% of all incoming students. This underscores the capital's central role in Serbian higher education, reflecting its large concentration of universities, wider programme offer, and stronger international visibility.

Beyond Belgrade, incoming students were distributed across three other regions, though in much smaller proportions. Southern and Eastern Serbia hosted 23% of students, making it the second most common destination. Vojvodina followed with 21%, supported by major university centres such as Novi Sad and Subotica. The smallest share (8%) went to Šumadija and Western Serbia, indicating more limited international student presence in this part of the country. Overall, the distribution suggests that incoming mobility to Serbia is heavily urban-centred, with participation concentrating across the main academic hubs.

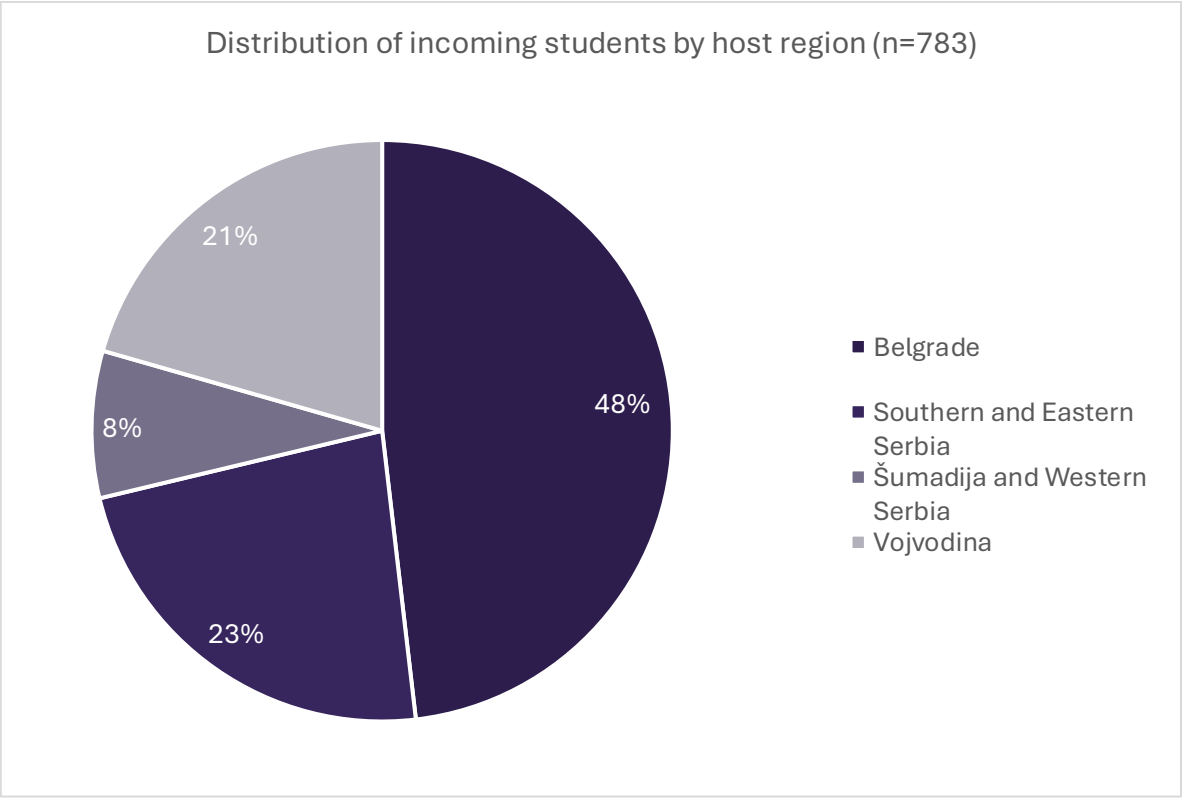

Figure 37. Incoming student distribution by country region (Serbia)

Looking at the **distribution of mobility types** among incoming Erasmus+ students to Serbia, clear differences emerged across countries of origin. Overall, a majority of students arrived for traineeships (58%), while 42% came for study mobility, but individual sending countries displayed very distinct patterns. Several countries sent almost

exclusively traineeship students to Serbia—for example Bulgaria, Slovakia, Lithuania, Cyprus, Romania and North Macedonia, where traineeships accounted for roughly three quarters to all incoming students. In contrast, countries such as Finland, Greece, Ireland, Italy, Hungary, and Belgium sent predominantly study-mobility students. Other countries such as Austria, Denmark, France, Croatia, Germany, and Spain showed a more balanced pattern.

Based on the data available for 426 incoming **traineeships**, research organisations hosted the largest share at 31%, followed closely by higher education institutions with 29%. Companies accounted for 21% of traineeships, while public bodies, NGOs, and cultural institutions hosted 15%. A smaller proportion of trainees completed their placements in hospitals or medical centres (4%) and schools or VET providers (1%) (Figure 38).

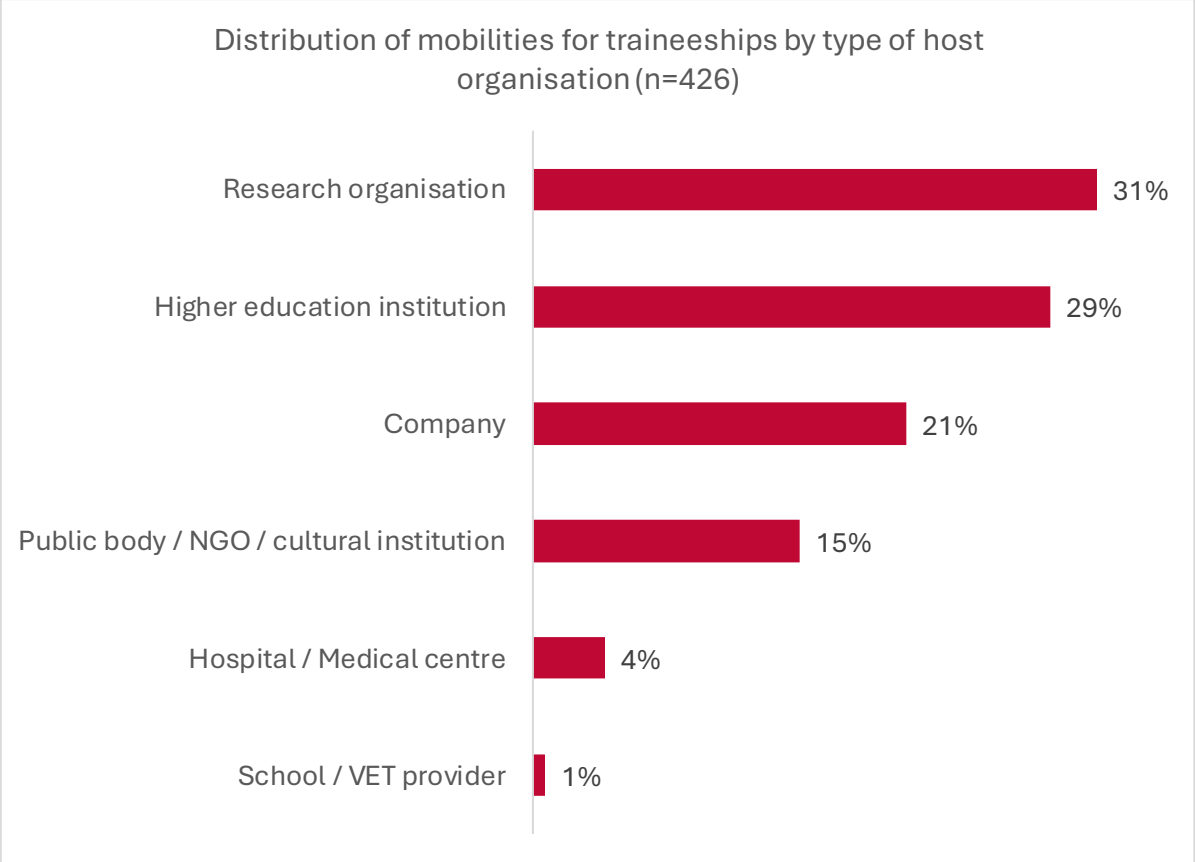

Figure 38. Incoming mobilities for traineeship by type of organisation (Serbia)

8.1.2. Outgoing Erasmus+ student mobility

A total of **608** Serbian students travelled to 26 countries between 2022 and 2024 through the Erasmus+ KA131 2022 call (section 3.1)[79]. Of these, 69% participated in study mobility and 31% in traineeships.

The gender distribution was 69% female and 31% male.

By study level, the majority were Bachelor's students (65%), followed by Master's students (22%), and doctoral candidates (13%).

Overall, 22% of outgoing mobilities were conducted in blended format, including Blended Intensive Programmes (BIPs).

The majority of outgoing students (75%) spend 60-180 days abroad, followed by those who engaged in short-term mobility of up to 30 days (22%) and those who stayed for two semesters abroad (3%) (Figure 39).

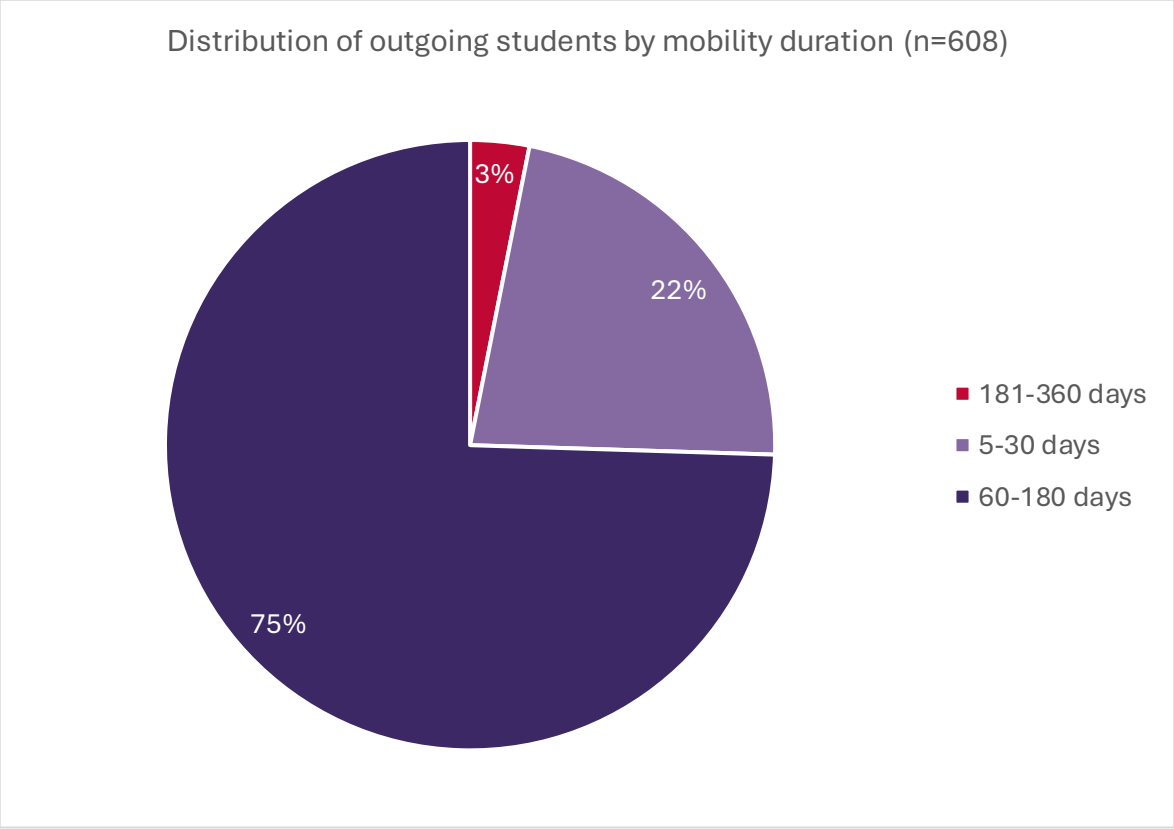

Figure 39. Outgoing student distribution by mobility duration (Serbia)

Serbian outgoing Erasmus+ students were spread across a wide range of destination countries, with a clear preference for nearby or regionally connected study

[79] Only mobilities with valid information on duration and grant amount are included in the study sample, leading to discrepancies of less than 1% compared with the figures in the NAs' datasets.

environments. The most common destination was Slovenia, attracting 16% of all outgoing students, followed by Spain (12%), Italy (10%), and Germany (9%), which together accounted for nearly one-third of all Serbian mobilities. Western European countries such as France (7%), Austria (5%), and Czechia (4%) also featured prominently, while Poland, Croatia, Türkiye, and Romania each attracted around 5% of Serbian students (Figure 40).

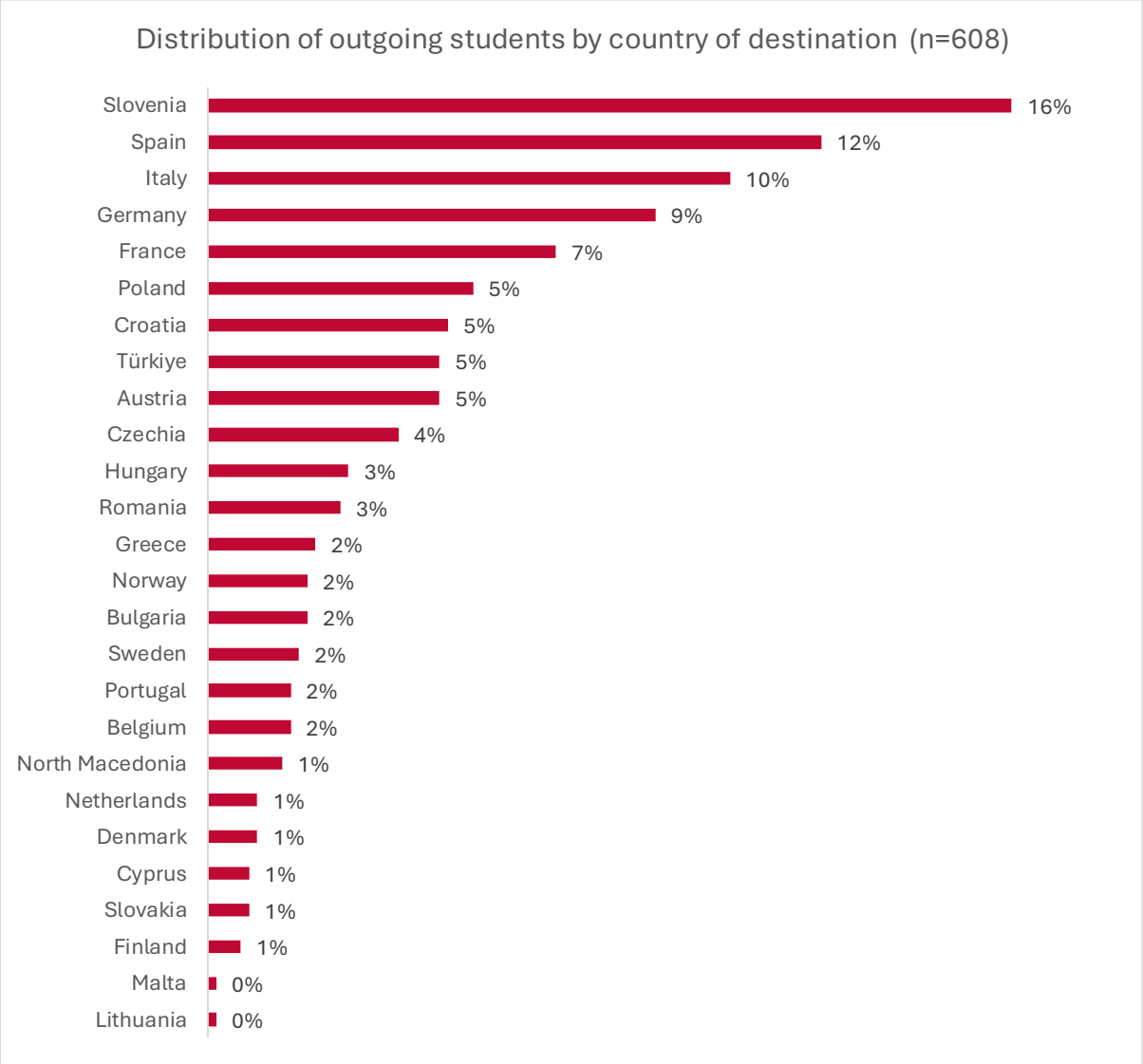

Figure 40. Outgoing student distribution by country of receiving institution (Serbia)

The distribution of outgoing Erasmus+ students by field of study showed a clear concentration in a few academic areas. Arts and humanities were the most common field, accounting for 26% of all outgoing mobilities, followed by business, administration and law at 18% and engineering, manufacturing and construction at 15%. Health and welfare (13%), ICT (9%) and natural sciences (8%) also represented notable shares. By contrast, education, services, social sciences, and agriculture/forestry/veterinary each accounted for only 3% of outgoing students (Figure 41). Overall, the pattern suggests that Serbian students predominantly pursue mobility in humanities, business-related

disciplines, and technical fields, while several other domains remain much less represented.

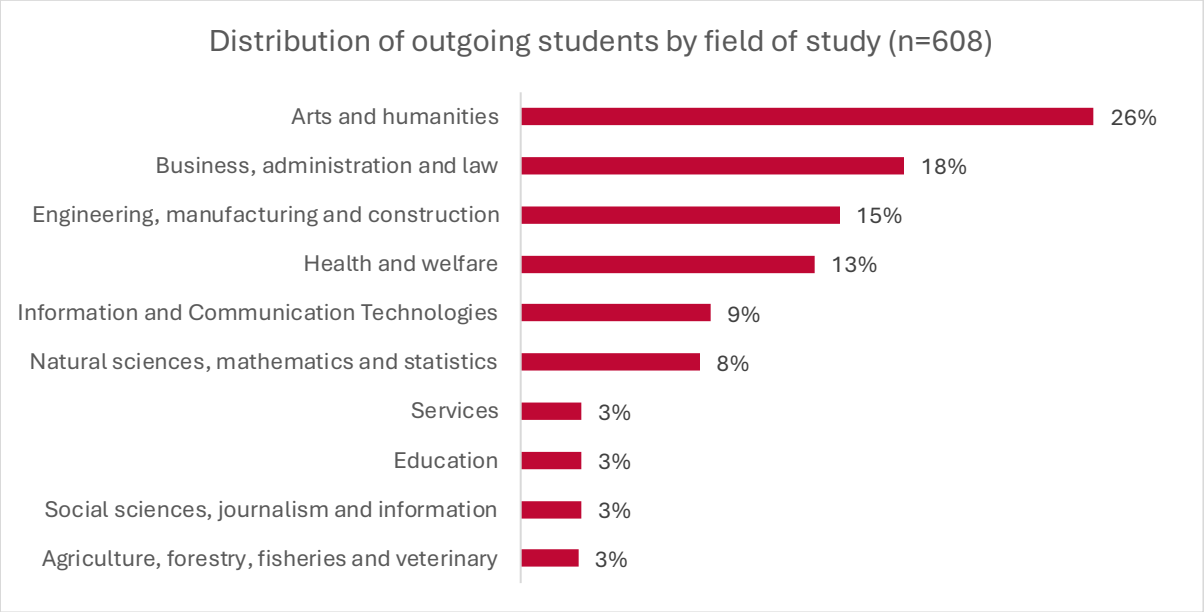

Figure 41. Outgoing student distribution by field of study (Serbia)

Looking at the distribution of Serbian outgoing Erasmus+ mobilities by activity type, the data reveal that around 69% of all mobilities were for study periods, while 31% involved traineeships. Beneath this overall split, however, destination countries differed markedly in the type of mobility they attracted. Several countries—such as Poland, France, Sweden, and Romania—received predominantly study-mobility students from Serbia. Others, including the Netherlands, North Macedonia, and Greece, hosted a higher share of traineeship students. A number of destinations displayed a more balanced profile, with Portugal, Spain, Croatia, and Italy receiving both types of mobility in proportions close to the national average.

An examination of outgoing Serbian Erasmus+ students by destination country and academic field shows clear patterns of concentration across disciplines. Because the percentages reflect each country's share within a given field, the data reveal which destinations dominate particular study areas. For example, Slovenia accounted for exceptionally high proportions in several disciplines, including 35% of Serbian students in education, 27% in health and welfare, 45% in ICT, and 18% in social sciences, making it a major hub across STEM and social science fields. Spain also attracted sizeable shares, such as 18% in arts and humanities, 16% in business, and 18% in services, indicating its broad appeal across creative and applied disciplines. Italy played a similarly prominent role, hosting 21% of students in health, 12% in natural sciences, and around 11% in arts and humanities. Other countries showed more specialised patterns: Germany received 14% of students in natural sciences and 11% in social sciences, while France attracted 19% in arts and humanities. Overall, Serbian outgoing mobility is

strongly shaped by a small group of key countries whose disciplinary strengths align with students' study choices.

Table 41. Erasmus+ mobility statistics (Serbia)

	Short-term	Long-term	Total
Incoming students	388	395	783
Outgoing students	136	472	608

8.2. Cost estimation

8.2.1. Personal spending

A. Incoming students

1. Short-term stays

A total of **388 Erasmus+ students** (representing 50% of all incoming students) undertook short-term mobilities of less than 30 days in Serbia, accounting collectively for **3.505 student days** spent in the country.

To estimate the total expenditure of this group, we used Eurostat data (2022) on the average spending of EU residents on personal trips of one night or more within the EU, considering the two age groups most relevant to Erasmus+ participants (15–24 and 25–34 years). These average EU spending patterns were converted into the Serbian price context and the price levels of students' countries of sending institutions using Comparative Price Level (CPL) indices for overall consumption (Eurostat, 2022) (see section 3.3.1).

Based on this adjustment, the total spending attributable to short-term incoming students in Serbia is estimated at **EUR 318.922**, distributed proportionally according to the student's country of sending institution (Table 42).

B. Long-term stays

A total of **395 Erasmus+ students** (50% of incoming students) stayed more than 30 days in Portugal, accounting for a combined total of **54.167 student days**.

Since EUROSTUDENT VIII does not include Serbia, the national student cost-of-living benchmark is estimated by taking the average monthly expenditure of Croatia and Hungary. Applying this method yields an estimated **EUR 592 per month**, or approximately EUR 19,7 per day. Given that the EUROSTUDENT sample includes several

high-income countries, this estimate provides a more reliable and methodologically consistent benchmark for Serbia.

After applying this adjustment, the total spending attributable to long-term Erasmus+ students in Serbia is estimated at **EUR 870.030** (Table 42).

Total incoming student spending

The total estimated spending of Erasmus+ incoming students in Serbia (both short-term and long-term) funded through the KA131 2022 call amounts to **EUR 1.188.952** (Table 42).

Overall, students hosted by Serbia under the KA131 2022 call received **EUR 1.217.973**, in Erasmus+ grants to support the costs of their mobilities (Table 42). This means that the grants more than covered the students' total estimated expenditure, resulting in a net surplus of **EUR 29.021**, which students could retain for their own or their families' resources.

Table 42. Personal spending of incoming Erasmus+ students (Serbia)

Mobility duration	Personal spending	Erasmus+ grant (included in personal spending)
Short-term stays	318.922	*267.450*
Long-term stays	870.030	*950.523*
Total	**1.188.952**	***1.217.973***

B. Outgoing students

1. Short-term stays

Actual spending abroad

A total of **136 Serbian Erasmus+ students** undertook short-term mobilities of 5–30 days abroad, amounting to 1.251 student-days spent across various host countries.

To estimate the expenditure associated with these stays, the analysis relies on the same Eurostat (2022) dataset used for incoming-student calculations, which provides the average per-night travel spending of young residents aged 15–24 and 25–34. As Eurostat does not publish equivalent data for Serbia, the average of the Croatian and Hungarian averages for these two age groups are taken, producing a Serbia-specific estimate of expected daily spending abroad. These adjusted daily amounts are then further modified

to reflect the price levels of each host country, ensuring that estimated spending aligns with the actual cost environment faced by Serbian students during their stay.

After applying these country-specific adjustments and aggregating across all short-term mobilities, the total actual spending of Serbian short-term outgoing students is estimated at **EUR 159.358** (Table 43).

Foregone domestic expenditure

To estimate the counterfactual for short-term outgoing mobility, the analysis assumes that—had these students not participated in Erasmus+—each would have undertaken one typical domestic trip of 1–3 nights. Because Serbia has no Eurostat data for domestic tourism expenditure by age group, the model uses the average of the Croatian and Hungarian average expenditure per domestic personal trip for young residents aged 15–24 and 25–34. The resulting average (EUR 113.5 per trip) is applied as the representative value for the counterfactual domestic stay.

Multiplying this by the 136 short-term outgoing students yields a total estimated foregone domestic expenditure of **EUR 15.434** (Table 43).This amount represents the level of tourism-related spending that would likely have occurred within Serbia in the absence of short-term Erasmus+ mobility.

Subtracting the counterfactual domestic expenditure from the actual spending abroad results in a net short-term outflow of **EUR 143.924**, representing the portion of expenditure that leaves the Serbian economy due to short-term Erasmus+ mobility (Table 43).

2. Long-term stays

Actual spending abroad

A total of **472 Serbian students** undertook long-term mobilities lasting between 60 and 360 days, amounting to 56.295 student days spent abroad. To estimate their total expenditure, the analysis applies EUROSTUDENT VIII data on the average monthly living and study costs of international students in each host country. These baseline values are further adjusted using GDP per capita in purchasing power standards (PPS) to reflect differences in spending capacity between Serbia and the respective destination countries.

After applying these adjustments and aggregating across all long-term stays, the total spending of long-term outgoing Serbian students is estimated at **EUR 892.808** (Table 43).

Foregone domestic expenditure

For long-term outgoing Serbian students, the counterfactual assumes that, had they remained in Serbia, they would have incurred regular living and study costs at domestic price levels. Because Serbia is not included in EUROSTUDENT VIII, the analysis approximates these domestic costs using the average of monthly expenditure reported for Croatia and Hungary. All non-housing components of expenditure (food, local transport, communication, leisure and study-related items) are included at full value, while the accommodation component is scaled by the estimated share of Serbian students who normally live away from their parents (58,5%). This results in an estimated average domestic cost of living of EUR 366,35 per month, equivalent to around EUR 12,21 per day. Applied to the long-term mobility days undertaken by Serbian students, the total foregone domestic expenditure in the counterfactual scenario is estimated at **EUR 687.455** (Table 43).

Subtracting the domestic living costs that long-term students would have incurred at home from their actual expenditure abroad results in a net long-term outflow of **EUR 205.353**, representing the share of spending that genuinely leaves the Serbian economy due to long-term Erasmus+ mobility (Table 43).

Total outgoing student spending

The total estimated spending leakage associated with Erasmus+ outgoing students—combining short-term and long-term mobility and accounting for the difference between actual expenditure abroad and the domestic spending that would have occurred in a no-mobility scenario—amounts to **EUR 349.277**.

Table 43. Personal spending of outgoing Erasmus+ students (Serbia)

Mobility duration	Actual spending abroad	Foregone domestic expenditure	Net of counterfactual
Short-term stays	+159.358	-15.434	+143.924
Long-term stays	+892.808	-687.455	+205.353
Total	**+1.052.166**	**-702.889**	**+349.277**

Total personal spending

After combining all inflows generated by incoming students and subtracting the net outflows associated with outgoing mobility, the net personal expenditure effect amounts to **EUR 839.675**, representing the overall gain to the Serbian economy from Erasmus+ student mobility in terms of student-driven consumption (Table 44).

As shown in Table 39Table 47, this net personal expenditure effect is then combined with the **EUR 1.492.731 in Erasmus+ grants** received by Serbian outgoing students to arrive at the final total for personal spending of **EUR 2.332.406**.

This step is necessary because the net personal expenditure effect reflects only the balance of private consumption, whereas Erasmus+ grants represent an additional external financial inflow from the European Union. Including these transfers ensures that all programme-related resources entering the Serbian economy—both student-driven and EU-funded—are fully captured in the total personal spending.

Table 44. Net personal impact (Serbia)

Component	Incoming (actual spending)	Outgoing (net of counterfactual)	Erasmus+ grants (outgoing students)	Net effect
Short-term spending	+318.922	-143.924	+99.485	+274.483
Long-term spending	+870.030	-205.353	+1.393.246	+2.057.923
Total	**+1.188.952**	**-349.277**	**+1.492.731**	**+2.332.406**

8.2.2. Relocation costs

A. Incoming students

Based on the estimated average round-trip cost of **EUR 276** per mobility, calculated based on the European distribution of Erasmus+ student mobilities across the 2022 distance bands (10–3,999 km), the resulting amount is multiplied by the domestically attributed share (50%) and the total number of incoming mobilities (783), leading to an overall estimate of **EUR 108.054**.

B. Outgoing students

Actual costs

Similar to incoming Erasmus+ students, outgoing students' expenses related to travel from Serbia to the host destination are conservatively estimated at the level of **EUR 276** per mobile student. The 50% rate is attributed to international spending and calculated as a cost leakage. This amount is multiplied by the total number of outgoing mobilities (608), leading to an overall estimate of **EUR 83.904** (Table 45).

Counterfactual domestic relocation costs

In line with the methodological framework, a counterfactual relocation cost is applied to long-term outgoing students to reflect the domestic travel they would have undertaken had they remained in Serbia. Since international relocation replaces a typical home-to-study travel pattern, the counterfactual assumes that each long-term student who normally studies away from their parental home would have made one domestic round trip during the period in question.

To operationalise this, a representative domestic travel cost is set at EUR 20, corresponding to the price of an average round-trip intercity bus journey in Serbia. This value captures a realistic, low-cost estimate of the type of domestic mobility most students rely on.

Applying this rate to the number of outgoing students who fall into this category (see section 3.3.2) yields a total counterfactual domestic relocation cost of **EUR 12.160** (Table 45).

Subtracting the domestic counterfactual (EUR 12.160) from the estimated international relocation outflow of outgoing Serbian students (EUR 83.904) results in a net relocation outflow of **EUR 71.744**, reflecting the portion of travel-related expenditure that genuinely leaves the Serbian economy (Table 45).

When combining the inflow generated by incoming students' relocation spending (EUR 108.054) with the net outflow from outgoing students (EUR 71.744), the overall balance results in a net negative relocation effect of **EUR 36.310** for the Serbian economy (Table 45).

Table 45. Net relocation impact (Serbia)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Relocation spending	+108.054	-83.904	+12.160	-71.744	+36.310
Total	**+108.054**			**-71.744**	**+36.310**

8.2.3. Visitor spending

A. Incoming students

A total of **395 Erasmus+ students** stayed in Serbia for long-term mobility (60-360 days). It was assumed that each long-term student in this group received at least **one visit from family or friends** during their stay.

To estimate the expenditure associated with these visits, the model uses Eurostat (2022) data on the average per-trip spending of EU residents on personal visits lasting one to three nights. Because these spending figures reflect price levels in travellers' home countries, they are first adjusted to Serbia's cost of living using CPL indices. This ensures that the expected visitor expenditure reflects Serbia's domestic price context, rather than the price levels of visitors' origin countries.

The CPL-adjusted average expenditure per trip is then multiplied by the number of long-term incoming students from each country. Based on this approach, the estimated total visitor spending in Serbia associated with Erasmus+ students' family members and friends amounts to **EUR 134.578** (Table 46).

B. Outgoing students

Actual visitor spending abroad

A total of 472 Serbian students spent more than 60 days abroad. Following the same assumption applied to incoming mobility, it is considered that each long-term outgoing student received at least one visit from family members or friends during their stay.

To estimate the expenditure associated with these visits, the model draws on Eurostat (2022) data on the average per-trip spending of EU residents on personal visits of one to three nights. Because no Eurostat expenditure data are available for Serbia, the average of the Croatian and Hungarian averages are calculated across all relevant age groups. This produces a Serbia-specific estimate that approximates what Serbian families and friends would likely spend when travelling abroad to visit mobile students.

The resulting adjusted per-trip expenditure (235 EUR) is then multiplied by the number of long-term outgoing students, yielding an estimated total visitor spending of **EUR 215.813** associated with Serbian students' families and friends travelling abroad (Table 46).

Counterfactual visitor spending

The opportunity cost of visitor spending represents the domestic tourism expenditure that would have occurred if Serbian students had not participated in Erasmus+ mobility. Among the 472 Serbian students who undertook long-term stays abroad (over 60 days), a share would, in a no-mobility scenario, have received at least one domestic visit from family members or friends—particularly those who normally study away from their parental home.

To reflect this, the model assumes that 49% of long-term outgoing students would have received a domestic visit in the counterfactual scenario. This value is derived from the estimated share of Serbian students living without their parents (59%), reduced by 10 percentage points to account for the proportion who are likely to live in the same city and therefore would not require intercity travel.

For these hypothetical domestic visits, the analysis applies Eurostat (2022) data on the average expenditure per domestic personal trip of 1–3 nights for individuals in the age groups 15–24, 25–34, 35–44 and 45–54, corresponding to Erasmus+ students and their parents. Because Serbia is not covered in Eurostat's domestic-tourism expenditure series, the Croatian and Hungarian average for these age groups is calculated. This yields an estimated average domestic trip expenditure of **EUR 115**.

Multiplying this representative trip cost by the share of students expected to receive a domestic visit yields a total counterfactual domestic visitor expenditure of **EUR 26.605** (Table 46). This figure represents the domestic tourism spending that would have accrued within the Serbian economy had these students remained in the country.

Subtracting the counterfactual domestic visitor expenditure (EUR 26.605) from the actual visitor spending abroad associated with outgoing Serbian students (EUR 215.813) results in a net visitor-related outflow of **EUR 189.208**, representing the portion of visitor expenditure that genuinely leaves the Serbian economy (Table 46).

When incoming visitor inflows (EUR 134.578) are combined with the net outgoing visitor outflow (EUR 155.588), the result is a negative net visitor-related effect of **EUR -54.630**, indicating that Serbian experiences a net loss from visitor spending linked to Erasmus+ mobility (Table 46).

Table 46. Net visitor impact (Serbia)

Component	Incoming (actual spending)	Outgoing			Net effect
		Actual	Foregone	Net of counterfactual	
Visitor spending	+134.578	-215.813	+26.605	-189.208	-54.630
Total	**+134.578**			**-189.208**	**-54.630**

8.2.4. Programme transfers

Based on the data provided by the Serbian National Agency for Erasmus +, the total organisational support (OS) provided to Serbian higher education institutions to student mobility (intra-European) under the KA131 2022 call is **EUR 216.080**. In practice, these funds were used to provide support services to outgoing and incoming students.

The management fee is estimated at EUR **382.448**. This amount covers all education sectors, not only higher education, and therefore overstates the effects attributable specifically to Erasmus+ student mobility.

8.2.5. Net result

Table 47 presents **Domestic Final Demand**, identifying the portion of Erasmus+ related expenditure that translates into actual spending within the Serbian economy. It includes living and study costs of incoming students, relocation and visitor-related spending, and institutional inflows through Organisational Support and National Agency funding. The foregone domestic consumption of outgoing students is deducted to account for expenditure that would have occurred domestically in the absence of mobility. The resulting **net domestic final demand of EUR 2.789.913** represents the effective increase in internal expenditure attributable to Erasmus+ mobility in Serbia.

Table 47. Domestic final demand (Serbia)

Component	Incoming	Outgoing (net of counterfactual)	Erasmus+ grants to outgoing students	Programme transfers	Net effect
Personal spending	+1.188.952	-349.277	+1.492.731	n/a	+2.332.406
Relocation costs	+108.054	-71.744	n/a	n/a	+36.310
Visitor spending	+134.578	-189.208	n/a	n/a	-54.630
Total domestic demand (consumption)	+1.431.584	-610.229	+1.492.731	n/a	+2.314.086
Programme transfers (OS + NA management fee)	**n/a**	**n/a**	**n/a**	**+598.528**	**+598.528**
Total domestic demand (consumption + transfers)	**+1.431.584**	**-610.229**	**+1.492.731**	**+598.528**	**+2.912.614**

8.3. Short-term economic effects

To estimate the short-term economic effects of Erasmus+ mobility in Serbia, the model incorporates four key expenditure components:

a) Personal consumption related to student mobility, including living and study costs, relocation expenses, and tourism-related spending by visiting friends and family;
b) Net outflows resulting from outgoing student mobility, adjusted for counterfactual domestic spending and Erasmus+ grants;
c) Erasmus+ Organisational Support (OS) funds allocated to higher education institutions;
d) The management fee allocated to the Serbian National Agency for Erasmus+ for programme implementation across fields. As it was not possible to attribute the share to the field of higher education, this figure overstates the impact under related category.

As components (a) and (b) represent final consumption rather than domestic production, their impact on the Serbian economy are assessed through indirect and induced effects only. These reflect the supply chain and household income responses triggered by consumption. In contrast, components (c) and (d) are treated as partially productive expenditure, generating direct, indirect, and induced effects due to their direct impact on employment and institutional operations. The calculations therefore distinguish between **two sources of final domestic demand**:

- **Mobility-related consumption**, which includes the net impact of incoming and outgoing student spending, visitor expenditure, and relocation costs;
- **Programme-related transfers**, consisting of the direct funding flows to higher education institutions and the National Agency.

Together, these components form the basis for computing gross value added (GVA), employment, and fiscal effects using Type I and Type II multipliers.

Gross Value Added (GVA) for Serbia is calculated by translating all Erasmus+ related expenditures into economic value using the national GVA-to-output ratio and applying Type I (1,6) and Type II (2) multipliers to capture indirect and induced effects (Table 7).

The GVA-to-output ratio for Serbia is derived from Eurostat's Supply and Use Tables (2022), which report national accounts aggregates at basic prices. The ratio (0,402) is calculated by dividing gross value added (B1G) by total output (P1) across all industries in Serbia (Table 8). This means that, on average, 40% of the value of economic output

produced domestically reflects value added, while the remaining 60% corresponds to intermediate consumption, including domestically purchased inputs and imported goods and services.

The employment impact of Erasmus+-related spending in Serbia is estimated by converting GVA effects into employment equivalents using the national employment-to-GVA ratio. According to Eurostat data for 2022, Serbia recorded total employment of 3.379.500 persons and a gross value added (B1G) of EUR 53.880,2 million. Dividing total employment by total GVA yields an employment intensity of 62,7 jobs per EUR 1 million of GVA (Table 8). This coefficient is applied uniformly across all GVA components to estimate the number of full-time equivalent jobs supported—directly and indirectly—by Erasmus+-related economic activity.

In the absence of Eurostat data on Serbia's general government revenue, the analysis relies on the International Monetary Fund's World Economic Outlook (IMF WEO) database. The IMF reports general government revenue as a share of GDP, rather than in absolute monetary terms, and for Serbia this ratio was 41,24% in 2022 (Table 8). This value is used as the fiscal coefficient in the model, allowing the estimation of fiscal effects by applying the proportion of national output captured through public revenues—taxes, social contributions and other receipts—to the GVA generated by Erasmus+-related spending.

The overall economic impact of Erasmus+ student mobility (KA131 2022 call) on Serbia is **positive across all measured dimensions** (Table 48).

Table 48. GVA, employment and fiscal effects of Erasmus+ student mobility (Serbia)

EUR	Direct	Indirect	Induced	Type I (Direct + Indirect)	Type II (Direct + Indirect + Induced)
Output (EUR)	598.528	1.747.568	1.284.751	2.346.096	3.630.847
GVA (EUR)	240.660	702.675	516.582	943.335	1.459.917
Jobs (FTE)	15	44	32	59	91
Fiscal (EUR)	99.248	289.783	213.038	389.031	602.069

Erasmus+ related spending in Serbia generated an estimated **EUR 1,46 million in total GVA**. This includes EUR 0,24 million in direct effects, primarily from organisational support funding to higher education institutions and National Agency operations; EUR 0,7 million in indirect effects generated through supply-chain linkages; and EUR 0,52 million in induced effects arising from increased household income and consumption.

The corresponding employment impact is estimated at approximately **91 full-time equivalent (FTE) jobs**, consisting of 15 direct, 44 indirect, and 32 induced positions.

The total **fiscal contribution is estimated at EUR 0,6 million**, comprising EUR 0,4 million in Type I effects (direct + indirect) and EUR 0,2 million from induced effects.

These results demonstrate that Erasmus+ activities in Serbia generate sizeable economic benefits across the national economy, reflecting the scale of incoming mobility and the breadth of economic linkages activated through student spending and institutional funding. The programme's impacts extend across a wide range of service sectors, with higher education institutions and related public bodies acting as the principal direct beneficiaries, and additional gains accruing through Serbia's extensive supply chains and household income effects.

8.4. Alignment with national long-term economic goals

Serbia's long-term economic development priorities are articulated across a number of national strategies, including the *Industrial Policy Strategy 2021–2030*[80], the *Smart Specialisation Strategy (RIS3)*[81], the *Strategy for the Development of Artificial Intelligence 2020–2025*[82], the *Science and Research Strategy*[83], and the *Energy Development Strategy*[84].

Together, these documents outline an ambition to accelerate digital transformation, strengthen advanced and export-oriented manufacturing, support the green transition and energy diversification, expand health and life-science sectors, modernise the agri-food system, and foster innovation-driven and creative industries. They place particular emphasis on the development of *Industry 4.0* capabilities, including automation, robotics, artificial intelligence, data-driven industrial ICT, and high-value production technologies, alongside major priorities in renewable energy, environmental technologies, medical innovation, creative industries and regional innovation ecosystems centred around Belgrade, Novi Sad, Niš and Kragujevac.

[80] Government of the Republic of Serbia. (2021). Industrial Policy Strategy of the Republic of Serbia 2021–2030. URL: https://privreda.gov.rs/sites/default/files/documents/2021-08/Industrial-Policy-Strategy-2021-2030.pdf
[81] Government of the Republic of Serbia. (2020). Smart Specialisation Strategy of the Republic of Serbia for the period 2020–2027 (RIS3). URL: https://pametnaspecijalizacija.mpn.gov.rs/wp-content/uploads/2020/09/Smart-Specialization-Strategy-of-the-RS-for-the-period-2020-to-2027.pdf
[82] Government of the Republic of Serbia. (2019). Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the period 2020–2025. URL: www.media.srbija.gov.rs/medsrp/dokumenti/strategy_artificial_intelligence.pdf
[83] Government of the Republic of Serbia. (2021). Strategy of Scientific and Technological Development of the Republic of Serbia for the period 2021–2025: "Power of Knowledge". URL: https://nitra.gov.rs/extfile/sr/281/Strategija-nauc-tehnol-razvoj-RS-Moc-znanja.pdf
[84] Government of the Republic of Serbia. (2023). Integrated National Energy and Climate Plan of the Republic of Serbia for the period up to 2030. URL: www.energy-community.org/dam/jcr%3A01992fc5-4981-4ee3-84f8-f1f96830b4ba/INECP_Serbia_ENG_13.06.23%20.pdf

A comparison with Erasmus+ mobility patterns reveals only **partial alignment** with these national strategic priorities. **Incoming mobility** to Serbia is heavily dominated by business, administration and law, which accounts for over one-third of all incoming students, followed by arts and humanities, health and welfare, and—at a lower level—engineering, natural sciences and ICT (Figure 36).

Serbia's **outgoing mobility** profile—assessed relative to the national distribution of higher education enrolment (Table 55)—shows strong participation in natural sciences, ICT, and health, fields that directly support national priorities under the *Smart Specialisation Strategy (RIS3)*, the *AI Strategy 2020–2025*, and the *Green Agenda for the Western Balkans*. Natural sciences mobilities contribute to environmental, climate, and sustainability-related domains, while ICT mobilities align closely with Serbia's ambitions in artificial intelligence, digital transformation, and advanced software development. At the same time, mobility remains lower than expected in engineering and social sciences, even though engineering is central to the *Industrial Policy Strategy 2021–2030*, *Industry 4.0 objectives*, and green-transition technologies, and social sciences play an important role in governance, public-sector innovation, and human-capital development. Increasing mobility in these underrepresented fields—particularly in advanced engineering, energy technologies, and interdisciplinary areas—would help align Erasmus+ more closely with Serbia's strategic transformation agenda and strengthen its long-term innovation and competitiveness.

Traineeships—particularly in higher education institutions and research organisations—constitute a large share of incoming mobility, which provides valuable applied learning opportunities but remains insufficiently connected to Serbia's priority industrial sectors. Outgoing mobility, while geographically broad, tends to gravitate toward nearby or culturally connected destinations such as Slovenia, Spain, Italy and Germany, and does not consistently target European institutions and ecosystems that specialise in the advanced technological, green and innovation domains that Serbia seeks to develop.

Erasmus+ mobility in Serbia strengthens several fields aligned with national priorities—particularly ICT, natural sciences, and health, which support digital transformation, AI development, and the Green Agenda. However, mobility remains lower than expected in engineering, social sciences, and other innovation-intensive disciplines central to future industrial and technological development. Regionally, incoming mobility continues to concentrate in Belgrade and Novi Sad, limiting the diffusion of international knowledge to other parts of the country. Broadening opportunities in advanced engineering, applied sciences, and energy technologies, alongside gradual strengthening of university–industry cooperation across all regions, could help reinforce the contribution of Erasmus+ to Serbia's long-term development aims.

9. Comparative outlook

This chapter analyses the results of the study from a comparative perspective, taking into account structural, demographic and mobility-related differences across the five participating countries.

Because the scale of mobility is one of the strongest determinants of economic impact, the **volume** of incoming and outgoing Erasmus+ student flows in each country plays a central role (Table 49). These vary substantially—from Germany's very large long-term mobility cohort to the considerably smaller flows in Croatia and Serbia—directly shaping the magnitude of the associated economic effects.

As the figures represent only one Erasmus+ KA131 call, the share of outgoing students in total tertiary enrolments is naturally very small in all countries (Table 49). Still, modest differences appear: Portugal shows comparatively higher participation, while Serbia records the lowest relative share.

Table 49. Incoming and outgoing student mobility – Croatia, Germany, Hungary, Portugal, and Serbia

Country	Incoming mobility (KA131 call 2022)			Outgoing mobility (KA131 call 2022)			Total enrolled students (Eurostat, 2022)[85]
	Short-term	Long-term	Total	Short-term	Long-term	Total	
Croatia	528	2.659	3.187	721	1.883	2.604	161.086
Germany	3.420	26.487	29.907	2.938	39.705	42.643	3.362.739
Hungary	1.062	5.579	6.641	637	4.858	5.495	293.566
Portugal	2.144	14.354	19.183	1.783	9.343	11.126	417.215
Serbia	388	395	783	136	472	608	243.952

Building on this statistical overview, Table 50 presents a comparative **synthesis** of the main economic outcomes generated by Erasmus+ student mobility under the KA131 call 2022. The indicators cover net domestic demand, output, GVA, employment, and fiscal returns (Type II: direct, indirect and induced effects). While the absolute values cannot be meaningfully interpreted as shares of national GDP, employment, or fiscal revenue—given the limited scale of effects stemming from a single KA131 call—they nonetheless show how mobility stimulates economies of different sizes and structures. The results capture both the scale effects associated with mobility volumes and the contextual factors that influence how economic benefits take shape across countries.

[85] Eurostat 2022 "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19336811/default/table

Table 50. Net effects – Croatia, Germany, Hungary, Portugal, and Serbia

Net effect	Croatia	Germany	Hungary	Portugal	Serbia
Total domestic demand (consumption) (EUR)	+11.493.302	+180.684.832	+23.353.210	+108.277.050	+2.314.086
Total domestic demand (consumption and transfers) (EUR)	+13.704.574	+195.604.807	+28.620.098	+115.267.188	+2.912.614
Type II Output (EUR)	+14.545.389	+132.282.859	+28.689.655	+99.902.902	+3.630.847
Type II GVA (EUR)	+6.858.617	+60.780.011	+11.426.598	+54.408.432	+1.459.917
Type II Jobs (FTE)	200	772	379	1085	92
Type II Fiscal (EUR)	+3.083.256	+29.544.638	+5.602.115	+23.871.224	+602.070

Across all five countries—Croatia, Germany, Hungary, Portugal and Serbia—the study finds consistently **positive short-term economic impacts** from Erasmus+ student mobility. Despite major differences in economic size, mobility volumes, and cost levels, each country records net gains across domestic demand, output, GVA, employment, and fiscal returns (Table 50). Erasmus+ mobility thus acts as a **positive economic stimulus** in every case.

1. Scale effects dominate: larger systems generate larger absolute impacts.

- **Germany** records the highest absolute effects due to its very large mobility flows and extensive supply-chain linkages.
- **Portugal** stands out as a **high-intensity mobility system**: it attracts and sends large numbers of students. Despite its smaller size, strong inflows and outflows translate into substantial economic effects—second in GVA and fiscal returns, and first in employment effects due to its labour-intensive service economy.
- **Hungary** and **Croatia** produce moderate but consistent gains aligned with their mobility volumes.
- **Serbia**, though smallest in scale, still generates meaningful indirect and induced effects, demonstrating the positive impact even in smaller systems.

2. Cost of living differences shape the size and composition of impacts.

- **Portugal** shows the highest long-term student expenditure due to elevated housing and study costs, amplifying inflows and multipliers.
- **Germany** follows, with high domestic price levels combined with large mobility flows.
- **Croatia** and **Hungary** reflect mid-range living costs, translating into moderate but steady inflows.

- **Serbia**, with the lowest cost of living, generates smaller absolute inflows but stronger proportional multiplier effects..

High-cost countries see larger spending inflows; lower-cost countries gain relatively more from indirect and induced effects.

3. Mobility balances influence outcomes: net receivers vs. net senders.

- **Germany** is the only clear **net sender**, yet still shows large net positive effects due to high incoming volumes and strong multipliers.
- **Portugal, Croatia** and **Hungary** are **net receivers**, generating strong domestic gains through incoming student spending.
- **Serbia a**lso shows a net-receiving profile, with small volumes but proportionally strong fiscal returns.

4. Programme-related transfers play a stabilising role.

Programme transfers (OS and NA management fees) reinforce positive results and are proportionally most significant in smaller and medium-sized systems. Because transfers are counted solely as inflows, they reinforce—rather than reverse—existing mobility-driven gains. They play a dual role: on the one hand, they help compensate for domestic costs not captured in the model, such as the institutional expenses of hosting and educating incoming students; on the other hand, they function as an additional investment stream, generating direct stimulus within the education sector and its supply chains.

- In **Croatia** and **Portugal**, they meaningfully raise total domestic demand (+11% and +6%).
- In **Germany**, their relative weight is smaller (8%) given the very large scale of mobility-driven effects.
- The apparent high shares in **Hungary** and **Serbia** reflect broader education-sector allocations; interpreted cautiously, the overall pattern still holds: transfers matter more where domestic spending levels and mobility volumes are modest.

5. Indirect and induced effects are major drivers of impact.

Across all countries, Type II effects—especially induced effects—account for the majority of GVA and fiscal contributions. This illustrates that Erasmus+ mobility activates wide-ranging economic linkages beyond student spending.

6. Sectoral structures influence employment outcomes.

- **Portugal** creates the highest number of jobs (1,085 FTE), surpassing Germany despite lower GVA, due to its labour-intensive services.
- **Germany** generates fewer jobs per euro spent because of its more capital-intensive economy.

7. Smaller systems can achieve disproportionately high fiscal returns.

- **Serbia**, with under 800 incoming students, still generates over EUR 600,000 in fiscal returns—highlighting the value of mobility inflows in economies with strong multipliers and smaller domestic bases.

8. Erasmus+ mobility patterns show partial yet meaningful alignment with national long-term economic strategies.

This alignment is largely driven by the disciplinary profile of mobile students: business, administration and law—supported by high enrolment and a strong mobility culture—remains the dominant field, followed by engineering, ICT, social sciences and health. These areas correspond closely to priorities in internationalised services, digital transformation, advanced manufacturing and health innovation. Business-related fields also support objectives such as export competitiveness, innovation capacity and EU market integration, positioning Erasmus+ mobility as a contributor to broader human-capital development.

- **Croatia**: mobility aligns with priorities in tourism, services, logistics, and green/digital transitions. Business-related and ICT mobilities support skills needed for an internationally oriented economy and emerging high-value sectors.

- **Germany**: mobility patterns align with advanced manufacturing, industrial digitalisation, AI, renewable energy and research-intensive sectors due to large absolute numbers in engineering, ICT, natural sciences, and business, administration and law supporting core strategic areas.

- **Hungary**: mobility supports FDI-driven manufacturing, digitalisation, and services. Participation in business-related and engineering fields reinforces skills needed for export-oriented industries and Industry 4.0 objectives.

- **Portugal**: strong alignment with priorities in digitalisation, green growth, international services, innovation and tourism. Business, administration and law, ICT and engineering mobilities contribute directly to these national objectives.

- **Serbia:** mobility supports priorities in industrial upgrading, digital innovation, and EU integration. Business, administration and law participation strengthens skills for trade, governance, SME development and convergence with EU regulatory and market structures.

9. Traineeships strengthen alignment with national strategies.

By placing students directly in workplaces across engineering, ICT, health, green technologies and services, traineeships reinforce labour-market relevance, employer engagement and applied skill development, while supporting regional innovation and workforce needs in all five countries.

10. Blended formats support digital transformation priorities and **broaden participation.**

Although uptake remained modest in the 2022 call, blended mobility and BIPs contribute to national digital agendas by fostering skills in online collaboration, remote teamwork and project-based innovation. They also expand access—particularly for students from smaller institutions or peripheral regions—thereby enhancing the inclusiveness and strategic reach of Erasmus+ mobility.

10. Conclusions

Student mobility generates **wide-ranging educational, intercultural, institutional and economic benefits**, and Erasmus+ students contribute to host communities in multiple ways. Their spending on accommodation, food, transport and leisure stimulates local demand, while regional travel and strong destination loyalty—many intend to return as tourists—create longer-term promotional and economic spillovers. These behavioural patterns mean that Erasmus+ participants function not only as learners but also as both **short- and long-term economic contributors**.

Against this backdrop, the results of this study show that—even though Erasmus+ is not designed as an economic policy instrument—its KA131 student mobility activities consistently generate **clear and measurable economic gains across all five countries** analysed: Croatia, Germany, Hungary, Portugal and Serbia. Incoming students, visitors, programme-related transfers and mobility-driven institutional activity together reinforce domestic demand, output, employment and fiscal revenues. These gains scale with system size and mobility volume but also reflect deeper structural dynamics: high-cost countries generate larger direct inflows, while lower-cost economies produce stronger proportional multiplier effects. Across all systems, indirect and induced effects far exceed direct effects, underscoring the breadth of supply-chain and household-income linkages activated by mobility.

The comparative analysis also shows that **smaller and mid-sized economies can achieve disproportionately high return ratios**. Countries such as Croatia, Portugal, Hungary and Serbia generate robust indirect, induced and fiscal effects relative to their mobility volumes, demonstrating that Erasmus+ functions as an efficient economic stimulus in environments characterised by strong multipliers and lower price levels. Programme-related transfers—Organisational Support and National Agency funding—reinforce these effects by providing predictable inflows that stabilise institutional activity and support educational supply chains, particularly in systems where institutional capacity varies widely.

Beyond short-term macroeconomic gains, Erasmus+ also contributes to **long-term competitiveness** by strengthening human capital. Mobility patterns show partial yet **meaningful alignment with national development strategies** across all five countries. The dominant presence of business, administration and law—closely tied to export competitiveness, international services, innovation ecosystems and EU market integration—supports strategic fields that rely on internationally competent graduates. Strong participation in engineering, ICT, natural sciences and health contributes to digital transformation, green transition, industrial upgrading and health innovation agendas. In this sense, Erasmus+ supports economic modernisation not through

targeted policy design but through the cumulative effect of mobility flows in disciplines that underpin long-term structural change.

Traineeships further enhance this alignment by embedding students in real workplace environments across engineering, ICT, health, green technologies, tourism, public services and research. They strengthen applied skills, employer engagement and regional innovation ecosystems, creating direct bridges between higher education and strategic labour-market needs. Meanwhile, blended mobility formats—though still modest in the 2022 call—show clear potential as participation equalisers. They reduce access barriers for students from smaller institutions and peripheral regions and reinforce digital-skills agendas through virtual collaboration and project-based learning.

Methodologically, this study demonstrates the **value of a harmonised, multi-country model** for analysing the economic effects of Erasmus+ mobility. By integrating mobility data, cost-of-living indicators, visitor expenditure, programme transfers and macroeconomic multipliers, the model provides a reproducible comparative framework applicable across diverse national contexts. It offers policymakers, National Agencies and higher education institutions a clearer understanding of the scale, distribution and mechanisms of mobility-driven economic effects.

Taken together, the short-term macroeconomic stimulus, the structural benefits for human-capital development, and the partial alignment with national development strategies underline the **broader strategic value of Erasmus+ for economies** increasingly integrated into European and global markets. While the programme's primary mission remains educational, intercultural and societal, its economic contributions are both significant and complementary—reinforcing the long-term relevance of investment in international mobility for Europe's competitiveness, resilience and innovation capacity.

Importantly, the findings presented here reflect the effects of only one Erasmus+ KA131 call (2022) encompassing the intra-European dimension of student mobility. Erasmus+ supports student and staff mobility across seven annual calls in the current programme period, and KA131 is just one of several mobility actions. The results therefore represent only a **fraction of the programme's full economic footprint**. Extrapolating across multiple calls—and across all 33 programme countries—would substantially increase the estimated scale of economic activity and provide a more complete picture of the programme's aggregate contribution to European economies.

The study also highlights several **areas where further research is needed**. Examining the employment status and remuneration of Erasmus+ students—especially during traineeships—would make it possible to estimate direct fiscal effects such as taxes and

social contributions. Similarly, the longer-term impacts of mobility on graduates' labour-market outcomes and career trajectories remain an essential but underexplored area of inquiry.

Several **methodological and data improvements** would strengthen future economic impact assessments of Erasmus+ credit mobility. Enhancing the completeness and consistency of Beneficiary Module data—particularly regarding distance bands, standardised city names, and more detailed host-organisation classifications—would improve the accuracy of relocation, regional, and sectoral modelling. More granular information on host organisations (sector, size, economic activity) would deepen insights into how mobility interacts with labour markets, academia, and industrial ecosystems. Better data on students' employment activity during mobility would help capture labour-market contributions currently unaccounted for, while more comprehensive and harmonised cost-of-living data across all Erasmus+ programme countries would improve counterfactual estimates and strengthen cross-country comparability.

Finally, **follow-up studies** covering subsequent Erasmus+ calls will be essential to validate the trends identified here—particularly developments in traineeships, blended mobility and mobility patterns under KA171 and staff mobility actions. Integrating these dimensions would provide a more comprehensive assessment of the programme's economic and human-capital contributions and support the continued evolution of evidence-based policy and programme design.

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Appendices

Table 51. Distribution of outgoing Erasmus+ students and total higher education enrolment across subject fields (Croatia)

Field of study (ISCED-F 2013)	Share of outgoing students (KA131, call 2022)	Share of students in total higher education enrolment (calculated based on Eurostat, 2018)[86]
Education	4%	6%
Arts and humanities	12%	9%
Social sciences, journalism and information	3%	7%
Business, administration and law	30%	26%
Natural sciences, mathematics and statistics	7%	4%
Information and communication technologies (ICT)	10%	4%
Engineering, manufacturing, and construction	11%	19%
Agriculture, forestry, fisheries and veterinary	3%	4%
Health and welfare	13%	12%
Services	6%	10%

Table 52. Distribution of outgoing Erasmus+ students and total higher education enrolment across subject fields (Germany)

Field of study (ISCED-F 2013)	Share of outgoing students (KA131, call 2022)	Share of students in total higher education enrolment (calculated based on Eurostat, 2018)[87]
Education	5%	8%
Arts and humanities	15%	13%
Social sciences, journalism and information	14%	8%
Business, administration and law	30%	22%
Natural sciences, mathematics and statistics	7%	10%
Information and communication technologies (ICT)	2%	7%
Engineering, manufacturing, and construction	13%	20%
Agriculture, forestry, fisheries and veterinary	1%	2%
Health and welfare	11%	8%
Services	2%	2%

[86] Eurostat, 2018. Croatia: "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table
[87] Eurostat 2018. Germany: "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table

Table 53. Distribution of outgoing Erasmus+ students and total higher education enrolment across subject fields (Hungary)

Field of study (ISCED-F 2013)	Share of outgoing students (KA131, call 2022)	Share of students in total higher education enrolment (calculated based on Eurostat, 2018)[88]
Education	5%	12%
Arts and humanities	18%	9%
Social sciences, journalism and information	5%	9%
Business, administration and law	32%	24%
Natural sciences, mathematics and statistics	10%	4%
Information and communication technologies (ICT)	7%	7%
Engineering, manufacturing, and construction	10%	15%
Agriculture, forestry, fisheries and veterinary	1%	4%
Health and welfare	10%	11%
Services	2%	5%

Table 54. Distribution of outgoing Erasmus+ students and total higher education enrolment across subject fields (Portugal)

Field of study (ISCED-F 2013)	Share of outgoing students (KA131, call 2022)	Share of students in total higher education enrolment (Eurostat, 2018)[89]
Education	2%	4%
Arts and humanities	11%	10%
Social sciences, journalism and information	2%	11%
Business, administration and law	27%	22%
Natural sciences, mathematics and statistics	10%	6%
Information and communication technologies (ICT)	7%	3%
Engineering, manufacturing, and construction	15%	21%
Agriculture, forestry, fisheries and veterinary	2%	2%
Health and welfare	18%	15%
Services	6%	6%

[88] Eurostat 2018. Hungary: "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table
[89] Eurostat 2018, Portugal: "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table

Table 55. Distribution of outgoing Erasmus+ students and total higher education enrolment across subject fields (Serbia)

Field of study (ISCED-F 2013)	Share of outgoing students (KA131, call 2022)	Share of students in total higher education enrolment (Eurostat, 2018)[90]
Education	3%	6%
Arts and humanities	26%	11%
Social sciences, journalism and information	3%	12%
Business, administration and law	18%	17%
Natural sciences, mathematics and statistics	8%	7%
Information and communication technologies (ICT)	9%	8%
Engineering, manufacturing, and construction	15%	18%
Agriculture, forestry, fisheries and veterinary	3%	3%
Health and welfare	13%	11%
Services	3%	7%

[90] Eurostat 2018, Serbia: "Students enrolled in tertiary education by education level, programme orientation, sex and field of education". URL: https://ec.europa.eu/eurostat/databrowser/view/EDUC_UOE_ENRT03__custom_19314554/default/table

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