// NO.24-067 | 10/2024

DISCUSSION PAPER

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The Role of Administrative Capacity for an Effective Implementation of EU Cohesion Policy

Leibniz Association

ZEW

The Role of Administrative Capacity for an Effective Implementation of EU Cohesion Policy

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Abstract

This reflection paper examines the influence of administrative capacity on the absorption and effective use of Cohesion Policy funds. First, it examines the current level of absorption of Cohesion Policy funds in the 2014-2020 programming period. Second, a literature review on the relationship between administrative capacity and the absorption of Cohesion Policy funds highlights the factors affecting the availability of administrative resources. Third, the role of administrative capacity for the effectiveness of funds usage in EU regions is discussed. The literature concludes that the effects of Cohesion Policy are heterogeneous across regions. Administrative capacity is an important element of a region's absorptive capacity, also due to the project selection process through managing authorities. Therefore, measures should be taken to attract motivated and well-qualified staff and to ensure communication and coordination with stakeholders and other relevant bodies. Finally, a recent study on regional development opportunities of green and digital technologies is presented, pointing to the knowledge of administrative staff about regional characteristics and capabilities as essential contribution to "good" policy implementation.

Keywords: EU budget, cohesion policy, administrative capacity, absorption, regional policy implementation.

JEL Classification: H83, H87, R58.

Acknowledgements: This research has been financially supported by the German Ministry of Finance. Valuable research assistance by Benedikt Sandrock (ZEW) and Elisabeth Arnold (WIFO) is acknowledged.

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1. Introduction

Cohesion Policy is and since the EU's foundation has been the EU's largest investment policy. In the 2014-2020 programming period, around 405 billion euro has been allocated to foster investment for growth and jobs (a synthesis of the former objectives convergence, and regional competitiveness and employment) in all EU regions and European territorial cooperation. For the 2021-2027 programming period, the Cohesion Policy budget amounts to around 367 billion Euro. In line with the key goal of reducing economic and social disparities across regions, the largest part is allocated to less developed regions.

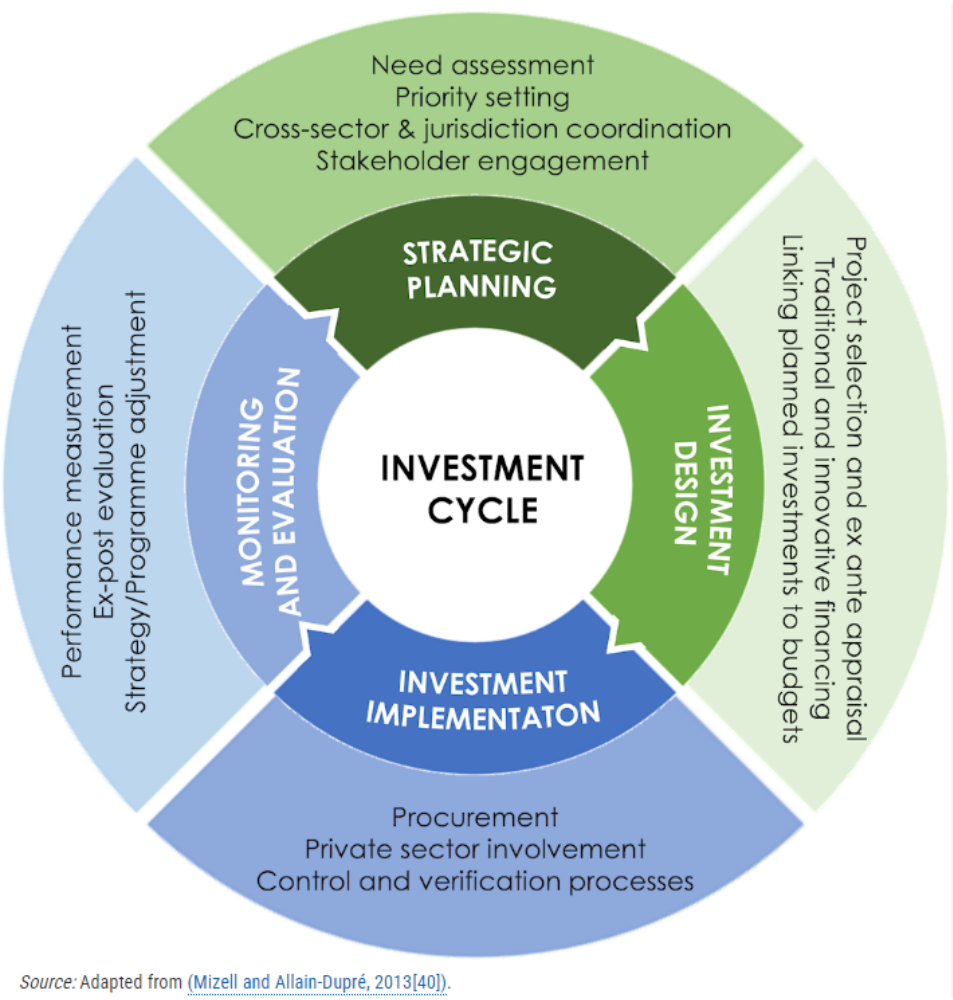
The European institutions' common provisions regulation (CPR) and further regulations govern the types of investment for which the European Regional Development Fund (ERDF), the European Social Fund (ESF, or ESF+ in the 2021-2027 period) and the Cohesion Fund (CF) are to be used quite comprehensively. This includes the determination of thematic objectives and, more specifically, intervention fields according to which the granted co-funding amounts must be classified. The funds are distributed in the framework of operational programmes (OPs) that are set up by respective managing authorities prior to or at the beginning of each programming period and need to be confirmed by the European Commission.

The implementation of Cohesion Policy follows a shared management approach. Therefore, an important part of responsibility for the implementation of the OPs remains with the respective managing authorities in EU regions and Member States, respectively.[1] This includes many activities across the investment cycle (Mizell and Allain-Dupré 2013) ranging from strategic planning of investments to investment design including the selection of projects and investment implementation, to monitoring and evaluation (OECD 2020; see Figure 1).

Next to shared management, the place-based implementation approach is a key principle of Cohesion Policy implementation. Project selection should be in line with local needs and strategies. To ensure that, managing authorities are required to run a comprehensive stakeholder process and consultation during the design of OPs and calls for projects as well as during planning and implementing measures to address and support (potential) beneficiaries. Also, tracking the progress of project implementation and paying out the final instalment at project finalization, as well as monitoring and reporting to the European Commission is under the responsibility of the managing authority.

[1] In most Member States, those OPs are designed for the regional level; mostly, NUTS-2 regions, NUTS-1 regions in Germany (following the Nomenclature of territorial units for statistics, NUTS). In others such as Bulgaria, Croatia, Denmark, Hungary, Lithuania, Romania, Slovakia, Slovenia – as well as Estonia, Latvia, or Malta, that consist of only one NUTS-2 region - they are set up for the national level, often with a thematic focus such as energy, innovation, or competitiveness. Finally, e.g., in the Czech Republic or Finland, national programmes and OPs specifically designed for key (mostly capital) regions coexist.

Figure 1: The investment cycle (OECD 2020)



Source: OECD 2020, Figure 1.7.

All activities along the investment cycle as well as regular stakeholder consultations, communication and coordination with EU and other relevant authorities require substantial (human) resources and administrative capacity. In many cases, promoting calls for projects or addressing the "right" (e.g., innovative) potential beneficiaries will need additional capacity, knowledge of the business environment and experience. In order to monitor the success of managing authorities in spending the EU funds available to them, the **absorption of funds** available to the region is one important indicator reflecting the administrative capacity of a managing authority.

Section 2 of this reflection paper shows that the absorption rate of Cohesion Policy funds in the 2014-2020 programming period, in terms of the share of the budgeted amounts already spent, is still far from being 100% in all EU regions.

Section 3 reviews the academic and policy evaluation literature on the absorption of Cohesion Policy funds and discusses potential factors for delayed absorption, including changes in the EU policy framework since the COVID-19 crisis.

However, the ability to access available funds reflects only one dimension of the role of administrative capacity for the effective implementation of Cohesion Policy. On the one hand, various studies show that more funding (absorbed) does not always mean more successful policy implementation (Becker et al. 2012, Di Caro and Fratesi 2022). On the other hand, administrative capacity also plays a crucial role in project selection. Recent studies apply a more differentiated approach to measuring administrative capacity and consider compliance with EU and national regulations such as state aid rules as well as the achievement of outcome targets in addition to the absorption rate (e.g., Mendez & Bachtler 2022).

Indeed, even more so in the context of place-based policies, the adequate selection of investment projects to be co-financed in the specific region is central to the policy's success. A large body of literature finds that the impact of the same euro dedicated to different thematic areas, and in different types of regions, is not uniform. Therefore, the administrative capacity is also crucial for setting the "right" priorities in OPs and selecting the "right" projects and beneficiaries, in line with national or sub-national strategies, considering regional capabilities and (economic) profitability for the region. The motivation, qualification, and experience of administrative staff as well as sufficient human resources for an effective stakeholder involvement, interaction with potential beneficiaries and coordination and communication with relevant bodies are also expected to be crucial in this context.

Section 4 reviews the literature on factors determining Cohesion Policy effects, with a focus on the role of administrative capacity. In order to access the ERDF budget under the Research, Innovation and Technological development thematic objective, managing authorities have to submit a "smart specialisation" strategy since the 2014-2020 programming period. The concept of "smart specialisation" (Foray et al. 2011) requires regions to identify a set of technological fields, policy areas, and industries, based on regional needs, characteristics and capabilities, to which research and innovation (R&I) funding should be targeted. This should lead to a critical mass of funding in areas where additional economic returns are expected. Good knowledge about the regional business environment, the capabilities of economic actors, etc. is therefore essential and requires the commitment of administrative staff. Moreover, information on regions with complementary capabilities could improve the support services of managing authorities to beneficiaries and increase the success of Cohesion Policy in fostering R&I and economic development. Thus, Section 5 elaborates on a recent study mapping the capability of EU regions to develop digital and green technologies, an important priority in the current and upcoming programming periods. It highlights why it could be interesting for managing authorities to provide information on potential partner regions in order to enhance technological development and Cohesion Policy outcomes through the design and selection of viable projects.

Section 6 summarises the findings, which indicate that administrative capacity is an important bottleneck for effective policy implementation and provides policy recommendations based on the analysis.

2. The absorption of Cohesion Policy funding in the 2014-2020 programming period

The progress of the implementation of the OPs, in terms of the share of planned funding amounts decided to be allocated to specific projects and the share actually spent (paid out), is required to be reported by the managing authorities and published on DG REGIO's website on a regular basis.[2] Although the absorption rate (i.e., the share of planned funding already spent) mirrors only one dimension of the ability of regions to use Cohesion Policy funds effectively, exploring the absorption progress in the most recent programming period over time and across groups of regions, countries or thematic objectives reveals interesting patterns. EU-wide evaluation results for the 2014-2020 programming period are not yet available and policy implementation is still ongoing, so it is not yet possible to fully examine the link between absorption and policy outcomes. The literature however points to long delays in policy (or project) implementation, arising from a lack of administrative capacity or complex public procurement and state aid procedures, hampering the success of cohesion policy (Darvas et al. 2019).

Absorption of Cohesion Policy funds 2014-2020 not yet complete

Figure 2 shows that the total budget (total cost) for the ERDF, the ESF, the Cohesion Fund (CF) and the Youth Employment Initiative (YEI) in the 2014-2020 programming period has not been fully spent until the end of June 2023.[3] While the amount allocated to selected projects at this point in time covers 122% of the total budget (overprogramming typically occurs to avoid leaving funds unused but may also be due to reprogramming after the COVID-19 crisis[4]), only 84% of the budget has already been spent. According to the European Commission[5], the implementation of the OPs will continue until the end of 2023, following the n+3 rule which should dampen the time pressure to invest. This does not leave much time to fully absorb the budgeted costs for Cohesion Policy projects.

The cumulative progress of financial implementation in Figure 2 shows that programming and the selection process of specific projects take time. It was only in 2020 that the use of (more than) the total budget was decided. The implementation of projects until their closure, which

[2] See https://cohesiondata.ec.europa.eu/cohesion_overview/14-20 for the programming period 2014-2020, as well as https://ec.europa.eu/regional_policy/policy/evaluations/data-for-research_en for previous periods [accessed 17 October 2023].

[3] The allocations to the United Kingdom are included in the following analyses.

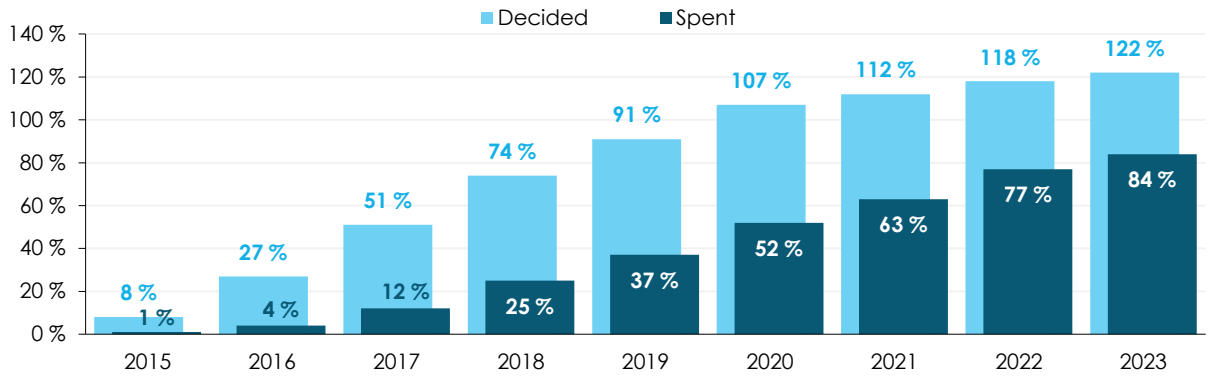
[4] Next to overprogramming to ensure the absorption of funds, reasons for significant deviations of the funding amounts decided to be used in projects from the budgeted amounts include an increase of the EU co-financing rate to 100% in the year 2020/2021 as a response to the COVID-19 crisis as well as the addition of REACT-EU resources. The latter also contributes to differences between decided and spent amounts: only 42% of REACT-EU has been absorbed by mid of 2023 (see https://cohesiondata.ec.europa.eu/stories/s/Cohesion-policy-2014-2020-investment-progress/4e3b-ddcr for more details).

[5] See https://commission.europa.eu/strategy-and-policy/eu-budget/performance-and-reporting/programme-performance-statements/regional-policy-performance_en [accessed 20 October 2023].

is associated with the payment of the full amount granted to beneficiaries, naturally comes with a further considerable time lag.

In 2020, when Europe was hit by the COVID-19 pandemic, progress in terms of the share of budgeted amounts paid out was not particularly low. However, from 2020 to 2021, the share increased by only 11 percentage points (after + 13 percentage points from 2017 to 2018, + 12 percentage points from 2018 to 2019, and +15 percentage points from 2019 to 2020). Between 2021 and 2022, progress was more dynamic again, but it remains questionable whether the total budget for the programming period 2014-2020 will be used.

Figure 2: **Cohesion Policy financial implementation timeseries (total cost, cumulative)**
Programming period 2014-2020



Source: Cohesion Open Data platform, own visualisation. Period covered: up to 30 June 2023. The bar "Decided" denotes the share of total cost planned at the beginning of the programming period that is already decided to be allocated to specific projects (project pipeline). The bar "Spent" shows the absorption rate, i.e., the share of total cost planned that has already been paid out (spent) to beneficiaries. Full project amounts are paid out only after closure of each project.

As a response to the COVID-19 crisis, the flexibility of the use of Cohesion Policy funds was increased to meet new challenges, including the possibility to shift resources between OPs. Moreover, REACT-EU, i.e., a boost of the ERDF and ESF budget for 2014-2020, was part of the NextGenerationEU (NGEU) package, which was introduced as a substantial complement to the EU multi-annual financial framework 2021-2027. One reason for the possible underutilisation of Cohesion Policy funds in the 2014-2020 programming period may therefore be the availability of new funding from NGEU, but also the administrative effort necessary to access the new instruments, which may have withdrawn administrative resources from implementing Cohesion Policy.

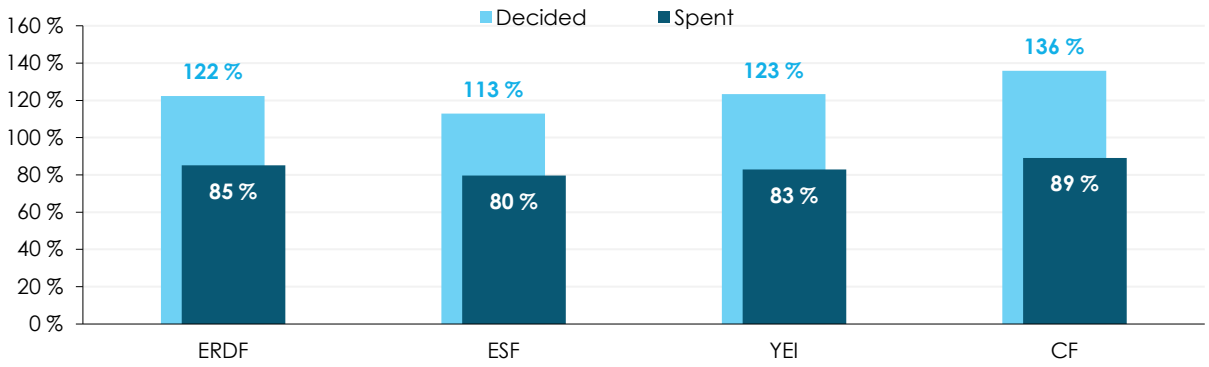
Most of NGEU, in total a maximum of 723 billion Euro, is allocated to the Recovery and Resilience Facility (RRF). The RRF works through reforms and investments to achieve more sustainable and resilient economies that contribute to and profit from the green and digital transition and implement country-specific recommendations made in the course of the European Se-

mester. The main objective of fostering the digital and green transition is also a key target of 2021-2027 Cohesion Policy, however, the design of the RRF does neither foresee a sub-national nor place-based perspective.[6] Given the need to call upon funding from the Recovery and Resilience Facility (RRF) until the end of 2026, this could be another reason for an under-absorption of Cohesion Policy budgets in the 2014-2020 programming period. Furthermore, the expected delays in the implementation of Cohesion Policy in 2021-2027 will need to be closely monitored by the European Commission and managing authorities.

Absorption rates vary by type of fund and thematic objective

The data provided by DG REGIO on the financial implementation of Cohesion Policy in the 2014-2020 programming period allow a differentiated analysis of absorption rates by type of fund, country, and group of regions, as well as by thematic objective.

Figure 3: **Financial implementation by type of fund: share of total cost (planned)**
Programming period 2014-2020



Source: Cohesion open data platform (see https://cohesiondata.ec.europa.eu/2014-2020-Finances/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52, own elaboration. Period covered: up to 30 June 2023.

The share of the planned total cost already spent is highest for the Cohesion Fund (89%), a bit lower for the ERDF (85%) and lowest for the ESF (80%) and the YEI (83%) (Figure 3).

However, absorption rates, in terms of the share of planned total cost already spent, vary considerably between the thematic objectives addressed (Figure 4). On the one hand, by mid-2023 (slightly more than) 100% of the total cost allocated to projects aimed to foster the competitiveness of small and medium-sized enterprises (SMEs) has already been spent until the mid of 2023. Also, absorption rates are relatively high for the more traditional Cohesion Policy priorities 'Network infrastructures in transport and energy' (91% spent) and 'Education and vocational training' (90%), but also for 'Research and innovation' (89%), 'Information and

[6] See, e.g., Bachtler and Dozhdeva (2021) as one of the first studies exploring possible contradictions between the RRF and cohesion policy, or Nuñez Ferrer et al. (2022).

communication technologies (ICT)' (88%), 'Social inclusion' (87%) and 'Sustainable and quality employment' (86%).

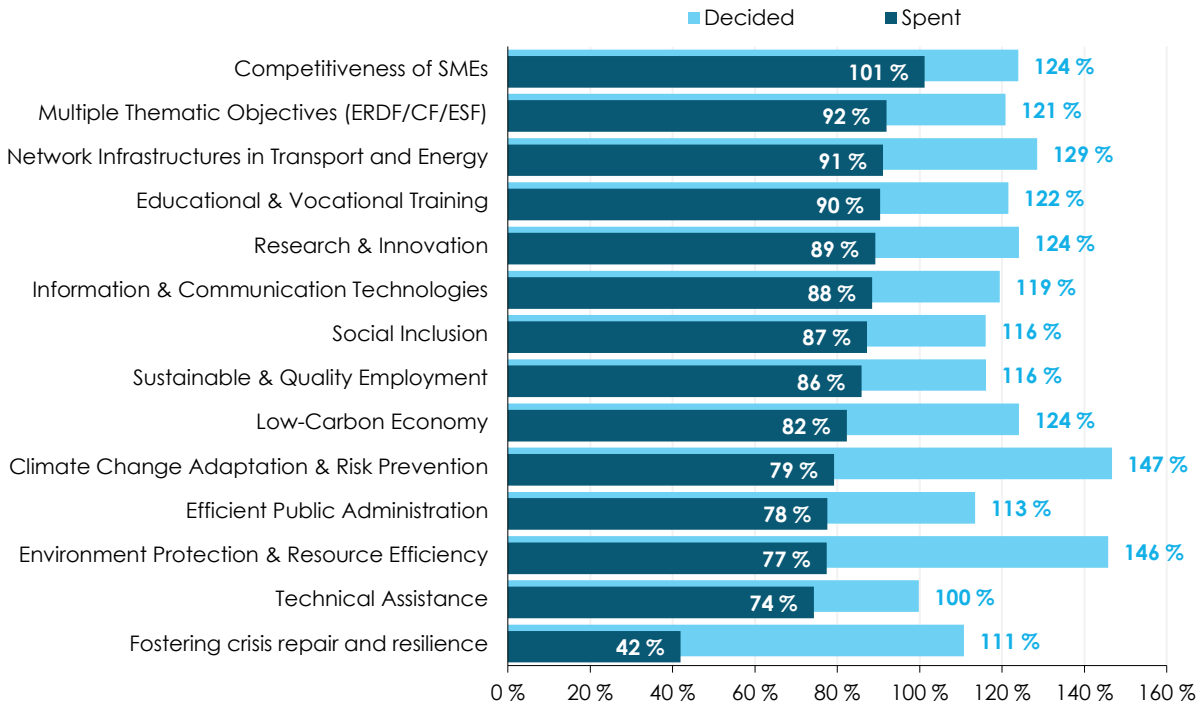
On the other hand, only 82% of the total costs planned for the low-carbon economy, and less than 80% of the total costs planned for 'Climate change adaptation and risk prevention' (79%) as well as 'Environment protection and resource efficiency' (77%) each has been spent by the mid of 2023. Interestingly, in the latter two thematic objectives, the highest project amount was selected (*decided*) as part of the project pipeline relative to the planned cost. This means that actual implementation and closure of corresponding projects may be delayed, or there may have been less investment co-funded by Cohesion Policy than planned.[7]

Furthermore, the share of planned total cost spent is relatively low for the thematic objective 'Efficient public administration' and lowest for technical assistance projects (with the exception of the TO 'Fostering crisis repair and resilience' introduced with REACT-EU). These two thematic areas directly address the quality and efficiency of (regional) public administration and the implementation of Cohesion Policy. Low absorption rates may therefore potentially reflect low interest or few possibilities/offers to enhance administrative capacity but are much more likely to mirror limited resources to absorb the funds - given that projects corresponding to 100% and more of planned total cost were decided. This could be due to insufficient staff and/or working hours, leaving no time to improve on internal procedures, inefficiencies in the administration of operational programmes, or substantial additional effort to administer the response to the COVID-19 crisis and the absorption of the RRF, in case the same authority is in charge or at least involved in the decision-making process.

[7] In the 2007-2013 programming period, the absorption of funding allocated to the thematic priority 'Environment and natural resources' was also low compared to other priorities (see Figure A2 in the Appendix).

Figure 4: **Financial implementation by thematic objective or area: share of total cost (planned)**

Programming period 2014-2020



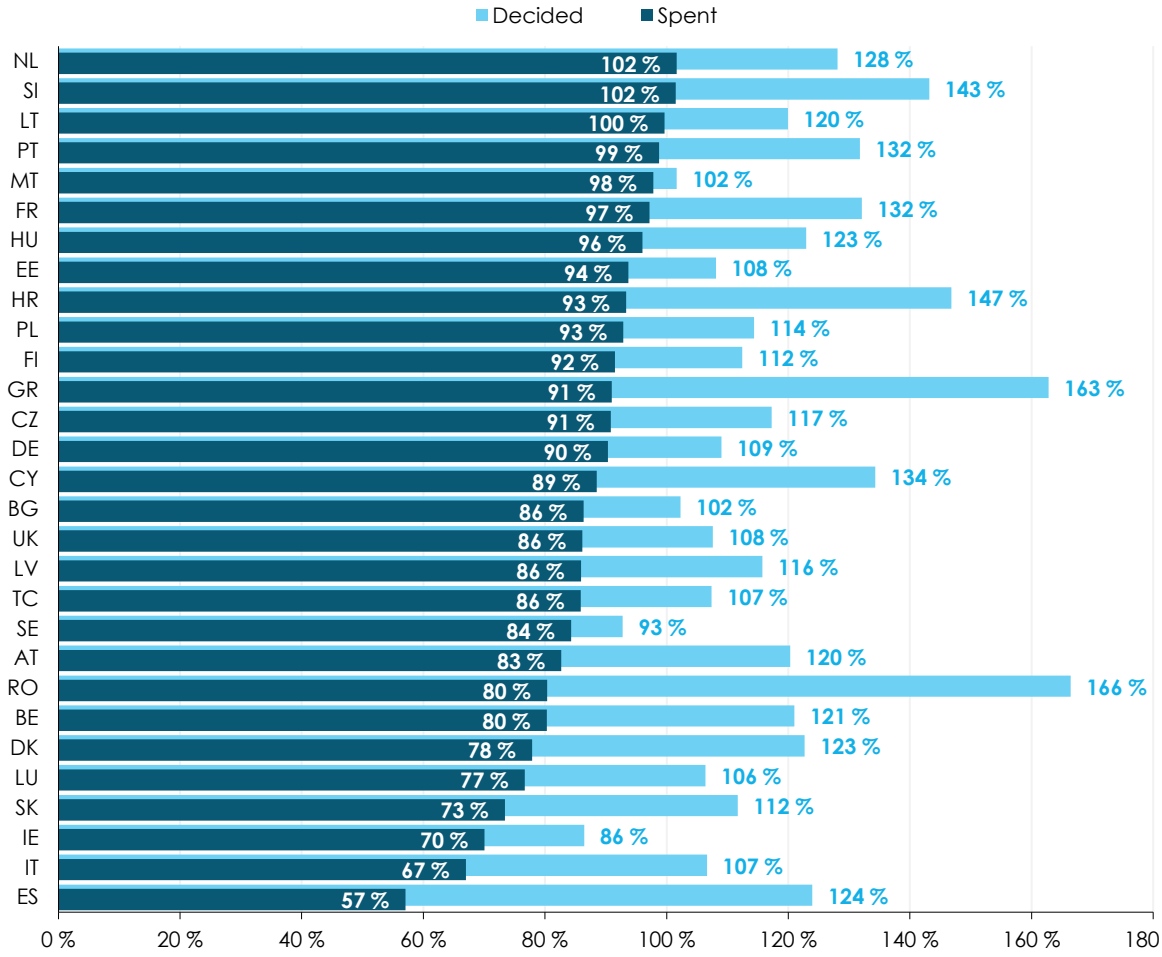
Source: Cohesion open data platform (see https://cohesiondata.ec.europa.eu/2014-2020-Finances/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52) own elaboration. Period covered: up to 30 June 2023.

Finally, the actual implementation of projects in the thematic category 'Fostering crisis repair and resilience' will be of particular interest in combination with the absorption of funding available from NGEU and in particular the RRF. If not all the costs already decided to be used for projects can be absorbed, this may indicate an oversupply of EU and national public funds made available in response to the COVID-19 crisis.

Strong differences in absorption rates across countries

Investigating the absorption of Cohesion Policy funding in different EU Member States as well as groups of regions based on their level of economic development, further substantial heterogeneities emerge. Figure 5 shows that in the Netherlands, in Slovenia and Lithuania, all the planned cost has been already spent by 30 June 2023. Portugal, Malta, France, and Hungary are also approaching the 100% benchmark. Germany appears to be on a good track as well, with 90% of the planned total cost already spent.

Figure 5: **Financial implementation by Member State: share of total cost (planned)**
Programming period 2014-2020



Source: Cohesion open data platform (see https://cohesiondata.ec.europa.eu/2014-2020-Finances/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52, own elaboration. Period covered: up to 30 June 2023. TC means "Territorial cooperation" and denotes the absorption of cross-border, transnational and inter-regional programmes. Shares over 100% might arise from shifts of funding between funding priorities that is not adequately corrected for in financial implementation data, or other adaptations of commitments as a response to the COVID-19 crisis (see https://cohesiondata.ec.europa.eu/stories/s/Cohesion-policy-2014-2020-investment-progress/4e3b-ddcr).

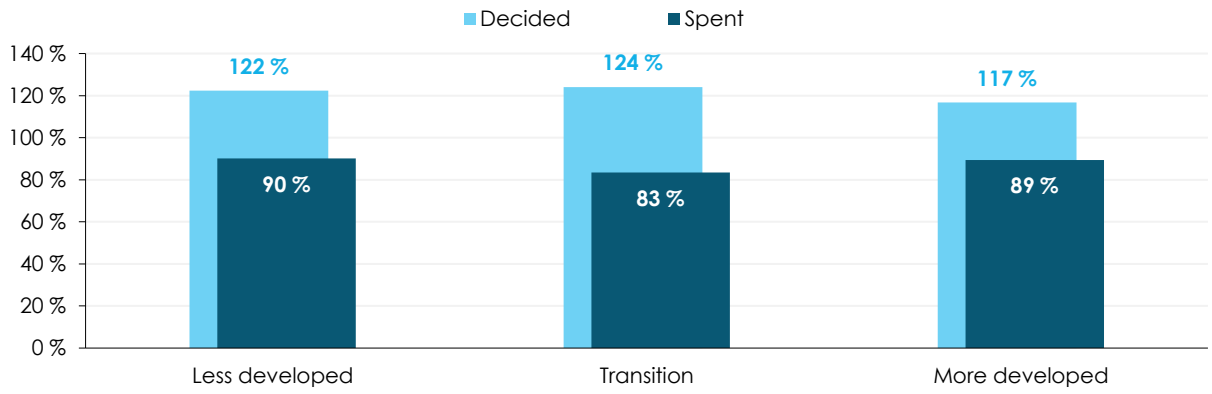
It appears intriguing that Spain and Italy, the two largest recipients of the RRF (in absolute terms), report the lowest absorption of Cohesion Policy funding until mid-2023.[8] Spain has

[8] The value of the Spanish recovery and resilience plan is 163 billion Euro (80 billion Euro RRF grants, 83 billion Euro RRF loans, both including parts of the plan financed by national resources), while the cohesion policy budget of Spain for the 2014-2020 programming period amounts to around 57.3 billion Euro including national co-funding. Italy is the

spent only 57% and Italy 67% of the planned total cost. Whether this is due to limited administrative resources to administer the different funding opportunities (including promotion and selection of appropriate projects) in an efficient way of course needs to be evaluated in detail.

Comparing the absorption rates (shares of planned cost *spent*) in Figure 5 with the absorption of Cohesion Policy funds in the 2007-2013 programming period, measured by the amount of actual expenditure (spent) as a share of allocations of the ERDF and the Cohesion Fund (European Commission, 2015[9], see Annex A), Italy was also among the countries with the lowest absorption rate in the previous programming period (Figure A4).[10] Spain, however, ranked 16th out of 28 EU Member States (including the United Kingdom) in terms of its absorption rate.

Figure 6: **Financial implementation by category of region: share of total cost (planned)**
Programming period 2014-2020



Source: Cohesion open data platform (see https://cohesiondata.ec.europa.eu/2014-2020-Finances/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52), own elaboration. Period covered: up to 30 June 2023.

Looking at different groups of regions in terms of their GDP per capita levels relative to the EU average (Figure 6), less developed regions (with an average GDP per capita below 75% of the EU average in selected years) and more developed regions (with an average GDP per capita above the EU average) have absorbed almost the same share of the total planned

second largest recipient of cohesion policy in the 2014-2020 period (64.7 billion Euro including national resources). The value of its recovery and resilience plan consists of 68.9 billion Euro RRF grants and 122.6 billion Euro RRF loans (including national resources). See https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/country-pages_en and DG REGIO's Open Data Platform [accessed 3 November 2023].

[9] Data available at https://ec.europa.eu/regional_policy/policy/evaluations/data-for-research_en - Historic data on structural funds by Member State [accessed on 17 October 2023].

[10] Given the different indicators available for the two programming periods, absorption rates (in %) should not be directly compared, which is why only, e.g., the ranking of countries in relative terms is considered. See Appendix A for more information on the measurement of absorption in the 2007-2013 programming period.

costs up to June 2023 (90% and 89%, respectively). The group of transition (middle-income) regions records a lower absorption rate of only 83%.

3. Administrative capacity and the absorption of EU Cohesion Policy funds – A literature review

There is a growing body of literature on the relationship between administrative capacity and the absorption of Cohesion Policy funds, i.e., the ability of regions to access (or use) the funds available to them for implementing projects in the thematic areas prioritised by the European Commission. Many studies find a positive correlation between administrative capacity and the absorption of Cohesion Policy funds (e.g., Terracciano and Graziano 2016; Mendez and Bachtler 2022). Nevertheless, administrative capacity, which is often proxied by indicators on government effectiveness (Vyrostova and Nyikos 2023), regulatory quality (Incaltarau et al. 2020) or political management performance (Tiganasu et la. 2018), is only one element of the absorptive capacity of regions.

Cohen and Levinthal (1989, 1990) introduced the concept of absorptive capacity in the context of research, development and innovation, and learning. In the Cohesion Policy evaluation literature (e.g., Tosun 2014, Fattorini et al. 2020), absorptive capacity often denotes the ability of regions to not only call upon the funds available to them, but to use them in an effective way in order to achieve the policy objective of fostering growth and jobs in the region (previously convergence and regional competitiveness and employment). Becker et al. (2013) consider regional institutional quality (often used as a proxy for administrative capacity) and the share of the regions' labour force with tertiary education as two elements of the absorptive capacity of (less developed) regions.

The literature studies administrative capacity as a crucial factor for both the absorption of funds and the effective use of the funds. The stream of literature on the latter aspect, i.e., the influence of administrative capacity on Cohesion Policy effects, and in particular, as a prerequisite, the ability and success of (regional) managing authorities to select projects that take into account regional capabilities and objectives, is reviewed in the next section.

Operationalising the link between administrative capacity and absorption

In the literature on the link between administrative capacity and absorption, the multidimensional measurement of absorption is becoming increasingly important. Thereby, the absorption rate should not be considered as the only measure for absorption capacity (Mendez and Bachtler 2022, Cunico et al. 2022), as, on the one hand, it could be superficially increased by financing previously designed projects or reducing national co-financing (Aivazidou et al. 2020). On the other hand, the absorption of funds alone does not prove the effective use of funds in terms of contributing to the outcome targets of the policy. Furthermore, financial corrections may become relevant due to non-compliant operations.

An incomplete absorption of the funding available to a region may be related to a lack of national public financial resources available to co-finance the projects envisaged (Zaman and Georgescu 2009), which has been widely discussed as an issue in the context of the

Great Financial Recession (see, e.g., Camagni and Capello, 2015, Bachtrögler, 2016). In order to support the timely absorption of the funds, the European Commission introduced the rule that the amount of EU co-financing in the available Cohesion Policy budget is reduced through decommitments if the absorption of funds is delayed according to the EU expenditure schedule (Cunico et al. 2022, Bachtler & Ferry 2015). More prominently discussed in the literature, a low absorption rate is attributed to a lack of administrative capacity and (often used as a proxy for the latter) institutional quality.

Mendez and Bachtler (2022) explore the relationship between regional quality of government and the administrative performance of regional managing authorities in charge of Cohesion Policy implementation in 173 European regions in the 2007-2013 programming period. Next to the absorption of funds available to the region, they consider compliance with the EU and national regulations (e.g., state aid rules) as well as the achievement of outcome targets as dimensions of administrative performance. Compliance of funds use with EU and national legislation and, partly linked to this, corruption in the use of funds are also considered to explore absorptive capacity in other studies: Incaltarau et al. (2020) apply the public diversion of funds as a measure for corruption and political governance, Vyrostova and Nyikos (2023) explore the link between government effectiveness as a proxy for administrative capacity and financial corrections that are likely to result in the withdrawal of EU funds from projects or programmes.

Mendez and Bachtler (2022) find a positive relationship between regional quality of government (institutional quality) and different dimensions of absorption (absorption rates, compliance, achievement of outcome targets). However, they also identify a trade-off between a focus on absorption and outcome-orientation in regions with relatively low administrative capacity. Confirming a positive relationship between administrative capacity and absorption, Incaltarau et al. (2020) find from an analysis of the EU-27 regions (2007-2015) that administrative capacity (modeled by government effectiveness) and the public diversion of funds as a proxy for corruption and (poor) political governance have a significant positive and, respectively, negative impact on the absorption rate of Member States. This impact is found to be more important for the new EU Member States than for the old ones. For the Central and Eastern European Member States in the period 2007-2015, Tiganasu et al. (2018) find a positive influence of administrative capacity (modeled by institutional quality and political management performance) on absorption rates, as well as a positive impact of enhanced access to national loans for co-financing. Analysing Hungary and Slovakia in the programming periods 2000-2006 and 2007-2013, Vyrostova and Nyikos (2023) find a negative correlation between government effectiveness, as a proxy for administrative capacity, and financial corrections. Finally, various publications based on case study designs (e.g., Terracciano and Graziano 2016 for two Italian regions) also support the general finding.

Furthermore, political instability (Vyrostova and Nyikos 2023) and a fragmented political system (Aiello et al. 2019) have been found to deteriorate administrative capacity and the absorption of Cohesion Policy funds.

Factors influencing administrative capacity and the absorption of funds

According to Mendez and Bachtler (2022), slow progress in the absorption of funds and other difficulties in the implementation of Cohesion Policy are often, at least in part, due to a lack of human resources or expertise, weaknesses in management systems and coordination between different authorities, mistakes in the implementation of public procurement or environmental and state aid rules, or an insufficient implementation of performance management and anti-corruption measures. Furthermore, "politicisation, rent-seeking, clientelism, corruption and other irregular use of EU funding" (Mendez and Bachtler 2022, p. 3) play a role for a limited (and misdirected) absorption (Vyrostova and Nyikos 2023).

Surubaru et al. (2017) study the role of administrative capacity for Cohesion Policy implementation in the 2007-2013 programming period in Bulgaria and Romania. Administrative capacity is defined as a combination of institutional, bureaucratic, and human resources. The authors conclude that in these countries a centralised institutional coordination of Cohesion Policy implementation is more successful than a semi-centralised approach, and that standardised procedures and documents enhance policy implementation. They claim that strict requirements for extensive monitoring, reporting and auditing lead to a focus on administrative tasks rather than on projects and outcomes. The pay of administrative staff is also seen as crucial, as lower salaries make employees less willing to take responsibility and more prone to corruption. Finally, the authors highlight the crucial role of technical assistance provided by Cohesion Policy (a separate thematic objective) in developing expertise.

Bachtler et al. (2013) analyse the development of administrative capacity for programming and implementing Cohesion Policy in the Central and Eastern European Member States in the years 2004 to 2008 after their EU accession. Most of them adopted a centralised approach, with operational programmes and managing authorities at the national level. A common challenge was to find sufficient and well-qualified human resources and to reduce the fluctuation of staff, which hampered the implementation of projects. Higher salaries, better career options, training and international exchange were identified as ways to attract more and better staff. Furthermore, support services for beneficiaries to prepare project proposals and to meet monitoring requirements were identified as crucial. Large volume projects were prioritized to increase absorption. Regarding administrative structures, it turned out favourable to combine various authorities in one central institution and thereby reduce the number of entities involved in Cohesion Policy implementation. Better coordination was achieved by aligning national and EU administrative procedures. Furthermore, more guidance for the entities and staff involved, better (and faster) IT systems that also enhanced monitoring and reporting of data, better communication between beneficiaries and managing authorities, and fewer administrative requirements led to improvements in the absorption of Cohesion Policy funds.

Smeriglio et al. (2016) perform a case study analysis of two Polish and two Italian regions each in the 2007-2013 programming period. They compare Sicily, with an absorption rate of around 66%, with Puglia and the two Polish regions, with absorption rates of around 95%. In the case of Sicily, they conclude that the investments did not meet the main local needs and that the interventions were fragmented and not integrated. Stakeholders were not considered in the decision-making processes, which led to unrealistic selection requirements for beneficiaries

and a strong delay between the call for projects and actual project implementation. In addition, the monitoring system was found to be poorly functioning, resulting in an inability to certify and control expenditure. By contrast, in the other regions a continuous dialogue between managing authorities and local stakeholders. Four main factors have been identified to increase administrative capacity: i) quality of administrative management (expertise and experience in Cohesion Policy programming and implementation, transformational leadership), ii) qualified, experienced and motivated staff (low turnover allows for gaining knowledge and experience as well as best practices, good salaries and career options are important for motivation, technical assistance funding should be used for training internal staff), iii) effective intra-organisational communication within the managing authority (including flexibility in job rotation between units based on resource needs), iv) audit and monitoring systems and tools (useful to improve processes).

Vyrostova and Nyikos (2023) analyse the management of EU funds in Hungary and Slovakia in the programming periods 2000-2006 and 2007-2013 and conclude on similar supportive and hampering factors for Cohesion Policy funds absorption: i) complex, decentralised systems with overlapping competencies make a consistent implementation approach difficult, ii) lack of qualified and experienced staff, no continuous training possibilities, high fluctuation due to high workload and unattractive salaries, but also due to organizational transformations resulting from political changes, negatively affect the absorption of Cohesion Policy funds.

The improvement of administrative capacity should be seen as a continuous process where the existing system, e.g., staff skills, inter-organisational communication, monitoring systems, should be monitored and upgraded step by step (El-Taliawi and Van der Wal 2019). Aiello et al. (2019) find in a case study analysis that a fragmented political system with changing governments deteriorates administrative capacity and thus the efficient use of structural funds, partly due to a lack of trust between the actors involved. By contrast, less complex and bureaucratic processes and more flexibility in policy implementation could increase the administrative capacity to absorb Cohesion Policy funds (Aivazidou et al. 2020). Greater flexibility for (regional) managing authorities could thereby strengthen the accountability and thus staff motivation and commitment (Aiello et al. 2019).

Cunico et al. (2022) use Calabria and Emilia-Romagna until 2019 as cases to analyse why some regions improve in terms of administrative capacity and the absorption of Cohesion Policy funds while others do not. They state that short-term solutions, such as increasing the absorption rate by reducing national co-financing or financing already decided projects, seem to be preferred as compared to longer-term solutions. The reason for this is the fear of a reduction in the EU contribution (decommitments), which could be interpreted as a political failure and be perceived negatively by the public. In this context, they criticise an overemphasis on absorption rates to the detriment of policy outcomes.

Pointing in the same direction, Figure 4 above showed that progress in the use of the budget available for technical assistance as well as under the thematic objective 11, 'Enhancing the capability of public authorities and efficient public administration', which directly targets investments into the administrative capacity of public authorities, is delayed. This seems unfortunate according to a synthesis report of the European Commission, which summarises the

annual implementation reports of the 2014-2020 operational programmes and draws a positive conclusion on the impact of investments in thematic objective 11 and technical assistance on administrative capacity (European Commission 2023)[11]: Overall, it was found that investments under thematic objective 11 led to better governance, which was reflected in an improvement of skills of the staff in managing authorities. In the Czech Republic, for example, this increased the efficiency of the organisation; in Romania, better hard and soft skills enabled a better coordination of (national) programmes, better decision-making and institutional procedures, including a reduction of the administrative burden and coordination with other organisations. Furthermore, the investment improved collaboration and networks between the entities involved in Cohesion Policy implementation. In Poland, for example, it was found that a better understanding of 'good governance practices' led to a greater involvement of the local population in urban planning processes. Moreover, the transparency of decision procedures of the local administration was improved in many cases. However, a lack of resources in public administrations created bottlenecks for conducting evaluations or recommended communication strategies.

Further important general lessons for the implementation of Cohesion Policy across all thematic objectives were, first, that it is important to stay flexible in the development of interventions during the planning phase, as well as to involve stakeholders and thereby ensure consistency and complementarity of the intervention with other regional and national development schemes. Second, standardized models and electronic platforms for issuing calls for proposals and managing the submission and selection of projects have been found to decrease the administrative burden and increase the quality of applications (European Commission 2023).

Finally, there is no consensus in the literature on whether regional (subnational) programmes enhance the absorption of Cohesion Policy funds. While Aiello et al. (2019) report supportive evidence in their case study on two Italian regions, Surubaru et al. (2017) conclude from their analysis of Bulgaria and Romania that a centralised institutional set-up of policy implementation is favourable. Mendez and Bachtler (2022), who perform an EU-wide analysis, do not find any impact of regional autonomy on the absorption of Cohesion Policy funds, compliance, and outcome-orientation of policy implementation. They suggest that a possible reason for this finding is the limited room for manoeuvre for regional programmes due to the stricter rules imposed by EU regulations.

Potential influence of new challenges and EU priorities for absorption

Under current circumstances, the adjustments of the EU's multi-annual financial framework in response to the COVID-19 crisis as well as the strengthened focus on the green and digital

[11] According to European Commission (2023), by the end of 2022 there had been 139 evaluations of investments under thematic objective 11. A major finding is that the effectiveness of measures to increase administrative capacity depends both on the design of the measures and the motivation of the administrative staff addressed. Partly conflicting results were found in different regions and territorial contexts.

transition could potentially hamper the absorption of Cohesion Policy funding in the 2014-2020 and 2021-2027 programming periods. With the RRF, but also with other new instruments such as the Just Transition Fund which was implemented to address the asymmetric consequences of bringing forward the green transition (e.g., with traditional coal regions being particularly strongly affected), the number of instruments to be managed and used effectively has increased in recent years. Accordingly, the number and breadth of Cohesion Policy objectives have increased, with the digital and green transitions, as well as the need to meet the objectives of the EU Green Deal and the 'Fit for 55' package as horizontal overarching targets, alongside the objective of balanced economic growth across EU regions. In a recent report, Bachtler and Mendez (2023) reflect in detail on the progress of implementing cohesion policy 2021-2027 before this background.

While there are more and more studies on the interplay between RRF and Cohesion Policy, to the best of the author's knowledge there is not yet much (academic) literature on experiences of adapting the implementation of Cohesion Policy to the new objectives, or on measures to enhance administrative capacity to face the new challenges. Rodríguez-Pose and Bartalucci (2023) analyse the heterogeneous impacts of climate change and the green transition on EU regions with different levels of economic development. Barbero et al. (2022) explore ERDF activities in the 2014-2020 programming period dedicated to supporting the twin transition, which could reflect the capacity of regions to (re-)direct funding towards new priorities in the following period(s). Bachtrögler-Unger et al. (2023) map the EU regions' capabilities to develop green and digital technologies, as well as potential interregional linkages to be exploited to enhance the twin transition through technological development, which could serve as an important input for managing authorities to programme and plan research and innovation investments in the new programming period. The latter study will be referred to in more detail below.

4. The influence of administrative capacity on Cohesion Policy effects

The previous sections have highlighted that the ability to absorb the full amount of Cohesion Policy funding available to a region (or Member State) is only one dimension of the influence of administrative capacity on the success of Cohesion Policy implementation. Becker et al. (2012) analyse European NUTS-3 regions in 2000-2006 and 2007-2013 and find that there is an efficiency-maximising amount of funding for a region above which no further growth is generated by Cohesion Policy funding. The authors find that 36% of the recipient regions exhibited a transfer intensity above this threshold, and that in 18% of recipient regions a cut in Cohesion Policy funding would not have reduced their economic growth. Using a regression discontinuity design considering funding intensity, the ex-post evaluation of the European Commission also finds that cohesion policy's positive impact on regional GDP vanishes if funding exceeds a certain threshold (European Commission, 2016). Recently, Di Caro and Fratesi (2022) conclude that particularly high funding amounts allocated to a region are not necessarily associated with positive and significant growth effects of the policy.

On the one hand, this points to the question whether there is too much money allocated to EU regions and might motivate a discussion on the design of cohesion policy or the EU budg-

et. On the other hand, this means that another very important aspect is ensuring the administrative capacity to direct the funds to projects (and beneficiaries) that do not only meet the requirements of the EU regulation, but also fit regional needs, regional technological capabilities, the industrial structure and local business environment. In this context, administrative capacity - and institutional quality in a broader sense - is an important element of a region's absorptive capacity, which is also determined by the share of inhabitants with tertiary education, the presence of competitive and innovative firms, an ecosystem conducive to entrepreneurship and innovation, as well as the (current) macroeconomic environment and business cycle (Canova and Pappa 2021). A high regional absorptive capacity is expected to increase the probability of designing and implementing projects that foster growth and employment or promote smart, sustainable and inclusive growth in the region, thus contributing to a successful Cohesion Policy implementation (e.g., Becker et al. 2013).

The administrative capacity of managing authorities and other bodies involved in Cohesion Policy implementation is crucial for the effective use of funds, as it is important for selecting "good" projects. Managing authorities are responsible for involving stakeholders, interacting with potential beneficiaries, coordinating, and communicating with relevant bodies to learn from best practices and possibly also from other (national) funding instruments. Managing authorities are also responsible for promoting funding possibilities, publishing calls for projects, and selecting appropriate projects. It seems intuitive that the success of these tasks is directly related to the qualification, experience, and motivation of the management authorities' staff, as well as to other factors discussed in Section 3.

Indeed, the literature finds a positive correlation between administrative capacity and Cohesion Policy (firm-level) effects (Bachtrögler-Unger et al. 2022) as well as the achievement of programme outcome targets (Mendez and Bachtler 2022). Moreover, there are various papers that report a positive relationship between institutional quality (broadly defined) and Cohesion Policy outcomes (see, for example, Rodríguez-Pose and Garcilazo 2015).

Different ways of using Cohesion Policy money have different effects. A large body of literature explores this heterogeneity of Cohesion Policy outcomes. A general finding – and governance principle - is that the same policy does not work everywhere (Cohesion Policy is not a "one size fits all" policy), but regional (or local) characteristics such as institutional quality, population density and demographics (Gagliardi & Percoco 2017), the sectoral structure of the regional economy (Percoco 2017), and human capital (Becker et al. 2013) should be taken into account (Bachtler et al. 2019), as they have been shown to shape policy outcomes. Bachtrögler et al. (2020) analyse a specific part of Cohesion Policy, namely grants to manufacturing firms, in different regions and find that its effects on employment in subsidised firms significantly differs across territorial contexts. According to their results, the firm-level effects are larger in less developed regions, suggesting a greater need for firm support in these regions (with presumably lower levels of private investment capital available).

Irrespective of the regional dimension, Cohesion Policy funding in different thematic areas also has different effects on economic development (Di Cataldo and Monastiriotis 2020, Rodríguez-Pose and Fratesi 2014). In a general equilibrium analysis, Blouri and Von Ehrlich (2020) have recently shown that the welfare effects in EU regions overall could be increased

by reallocating Cohesion Policy funds between thematic categories and types of regions. More specifically, e.g., investments in transportation infrastructure are found to be most efficient in central and/or highly productive regions. Finally, regional Cohesion Policy effects are found to vary across programming periods (Becker et al. 2018, Crescenzi and Giua 2020, Bachtrögler 2016).

Given the different circumstances that need to be taken into account when implementing Cohesion Policy, the importance of the stakeholder process becomes very clear. Also, the staff of the managing authorities should be aware of regional comparative advantages and capabilities in order to identify projects that are most likely to be successful and to generate indirect economic effects given the business environment.[12]

In the context of research and innovation activities (thematic objective 1 in the 2014-2020 programming period), the 'smart specialisiation' (or rather 'smart diversification') concept (Foray et al. 2011) puts into practice the principle of taking into account local capabilities and needs in order to increase the impact of Cohesion Policy. Balland et al. (2018) provide a methodological framework to operationalise the 'smart specialisation' priorities that a region should set. They apply the concepts of relatedness and complexity to examine which technologies (activities or industries) a region is already specialised in, and in which new technologies or activities the region should diversify into in order to make the best use of existing (technological) capabilities and to generate additional economic benefits. The alignment of Cohesion Policy funds available to a region to its actual regional strengths is not yet researched extensively, but initial explorations (European Commission 2021) however suggest a differential picture across regions.

As another example in the field of research and innovation, the European Commission encourages synergies between R&I funding under Cohesion Policy, in particular the ERDF, and the Horizon programme to create a critical mass of funding allocated to priority areas (Official Journal of the European Union 2022). To achieve this, it is essential that the managing authorities of operational programmes communicate and coordinate with the national Horizon contact points, as well as with firms or research institutions in the region that are active in Horizon 2020 (or Horizon Europe). Administrative capacity is therefore again a crucial factor for the effective creation of synergies.

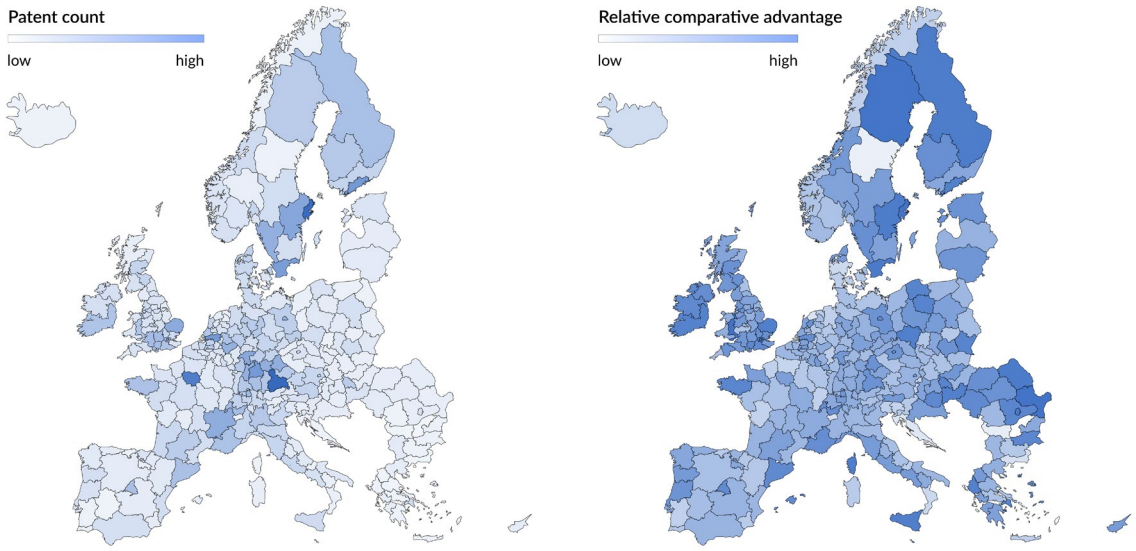
[12] Janssen et al. (2022) identify and thoroughly discuss governance capacities necessary to enhance transformative policy initiatives under different governance models, such as an administration-based one. According to this study, beside others, the alignment of new policy objectives with long-standing strategic targets by a dedicated team within the administrative unit as well as the coordination with relevant actors are central prerequisites.

5. Enhancing administrative capacity and successful Cohesion Policy implementation through information about regions' technological development opportunities

In order to obtain information on regional capabilities in terms of scientific or technological knowledge in firms and research institutes, analysing previous patenting activities of local actors is a promising vehicle (although the innovation output of the services sector is poorly covered by patent application data). As a relevant example concerning the major horizontal objective of EU policies to contribute to the green and digital transition, findings from a recent study by Bachtrögler-Unger et al. (2023) could help managing authorities to learn about previous patenting activity and opportunities for (new) technological development in the future. It is these opportunities where – following the smart specialisation concept – ERDF investment grants in the development of green and digital technologies should be directed to. Based on this information, managing authorities could adapt communication processes with potential beneficiaries and stakeholder involvement as well as calls for projects. In the following, the findings of Bachtrögler-Unger et al. (2023) are summarised.[13]

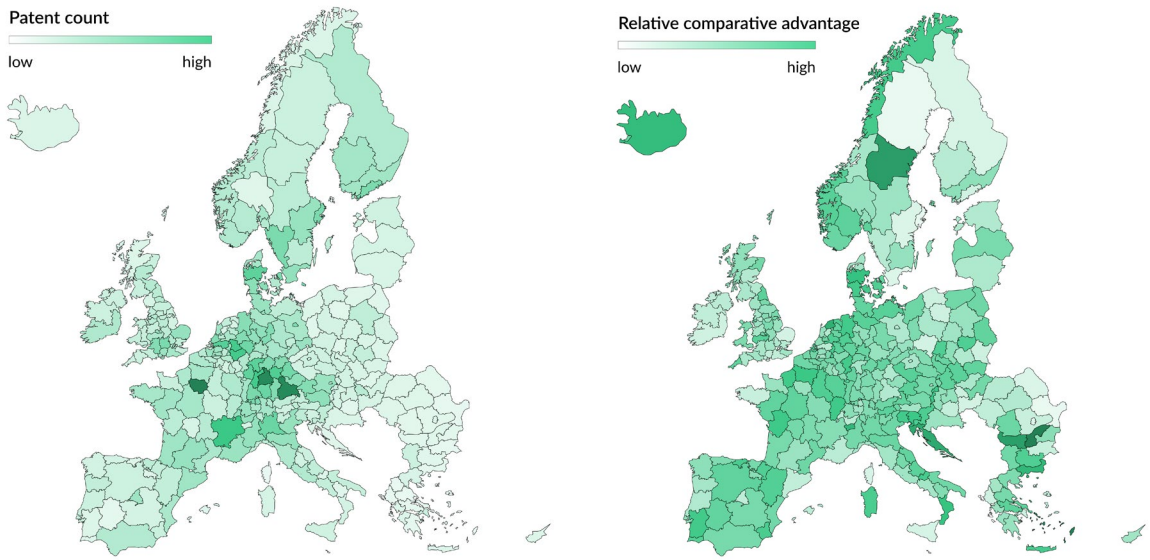
First, patents in green and digital technologies are asymmetrically distributed across European regions. This holds true for both digital (Figure 7a) and green technologies (Figure 7b), both in terms of absolute numbers of patents (left map each) and the revealed comparative advantage (RCA), measuring the regional concentration of patenting activities in digital, or green, technologies relative to the EU average. The absolute number of patent applications in the years 2017 to 2021 is highest in the high-income (or more developed) regions of Europe.

Figure 7a: **Patenting activity and specialisation of European regions in digital technologies**



[13] An interactive version (scrollary) of the study is available here: https://globaleurope.eu/technological-capabilities-and-the-twin-transition-in-europe.

Figure 7b: **Patenting activity and specialisation of European regions in green technologies**

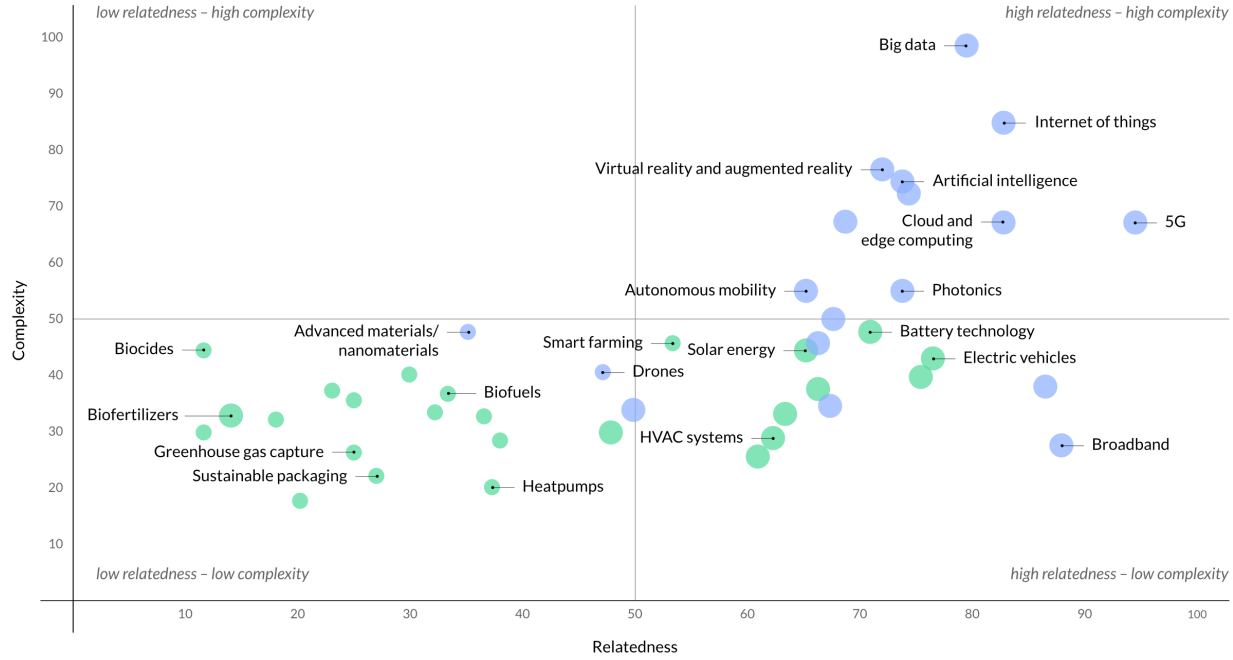


Notes: The left map depicts the absolute number of patents in digital (Figure 7a) and green technologies (Figure 7b) in European NUTS-2 regions. The right map depicts the RCA (share of digital/green patents in a region relative to the average share of these patents among all regions). The higher the RCA value, the higher the specialisation of a region in digital or green technologies. Data source: OECD REGPAT.

Source: Bachtrögler-Unger et al. (2023), pp. 7-8.

Less developed regions exhibit only limited past patenting activity in green and digital technologies. However, there are "hidden champions" among middle- (transition) and low-income regions with considerable capabilities in specific technologies that could potentially serve as interesting cooperation partners for more developed regions. Bringing them on board would contribute to economic cohesion and convergence, as envisaged by Cohesion Policy ever since.

Second, current capabilities, based on past patenting activity, determine opportunities for further development in digital and green technologies. To assess opportunities, patent applications in all technology fields are considered to measure a region's relatedness to specific digital and green technologies, i.e., how close existing technological capabilities are to those needed for new technological development. More developed EU regions have the highest potential to develop further in complex digital technologies such as 5G, artificial intelligence, the Internet of Things and big data (Figure 8), which are expected to generate substantial additional economic returns.

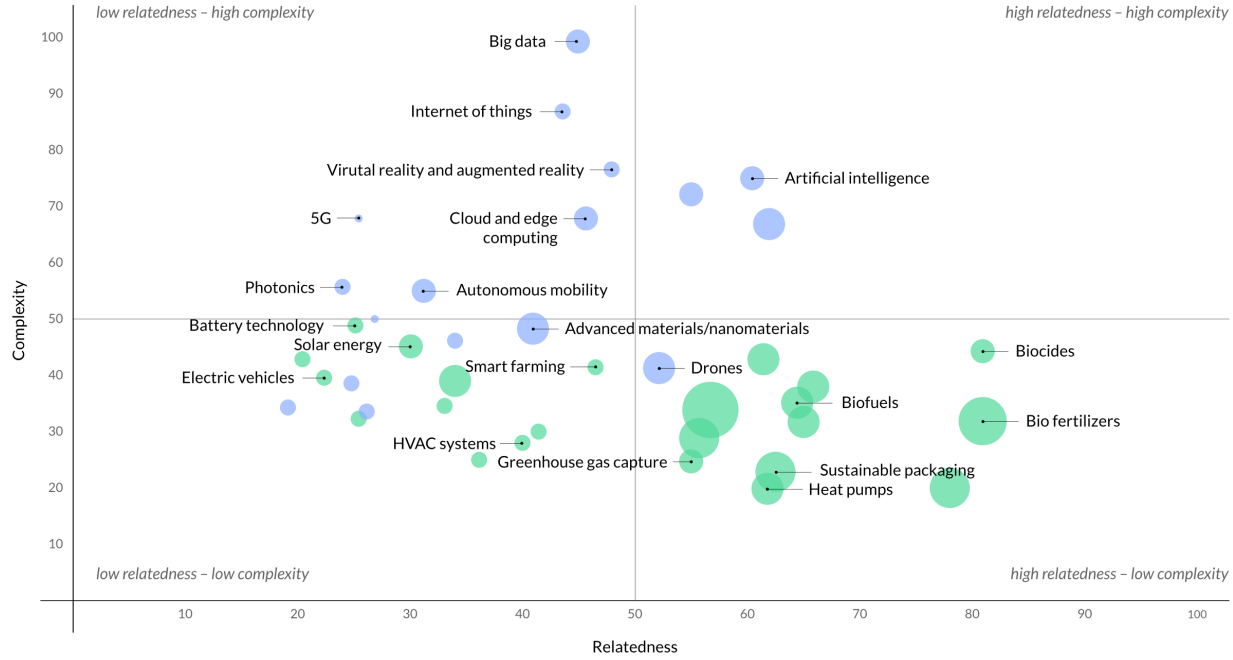


Notes: This figure shows the potential to develop twin transition technologies for the group of more developed regions in the EU. The horizontal axis plots the relatedness density score. The vertical axis plots the complexity scores of each technology. All values are averaged across the group of more developed regions. Data source: OECD REGPAT. Refer to Bachtrögler-Unger et al. (2023) for more information.

Source: Bachtrögler-Unger et al. (2023), p. 25.

Less developed regions, on average, also have favourable capabilities to develop on artificial intelligence and a few other relatively complex digital technologies. Overall, however, their capabilities are more related to green technologies, which are in general less complex than (most) digital technologies. Although they are therefore expected to generate lower economic returns, they will be crucial for the green transition and could therefore trigger a substantial number of jobs.

Figure 92: **Potential of less developed EU regions to develop twin transition technologies**



Notes: This figure shows the potential to develop twin transition technologies for the group of less developed regions in the EU. The horizontal axis plots the relatedness density score. The vertical axis plots the complexity scores of each technology. All values are averaged across the group of more developed regions. Data source: OECD REGPAT. Refer to Bachtrögler-Unger et al. (2023) for more information.

Source: Bachtrögler-Unger et al. (2023), p. 25.

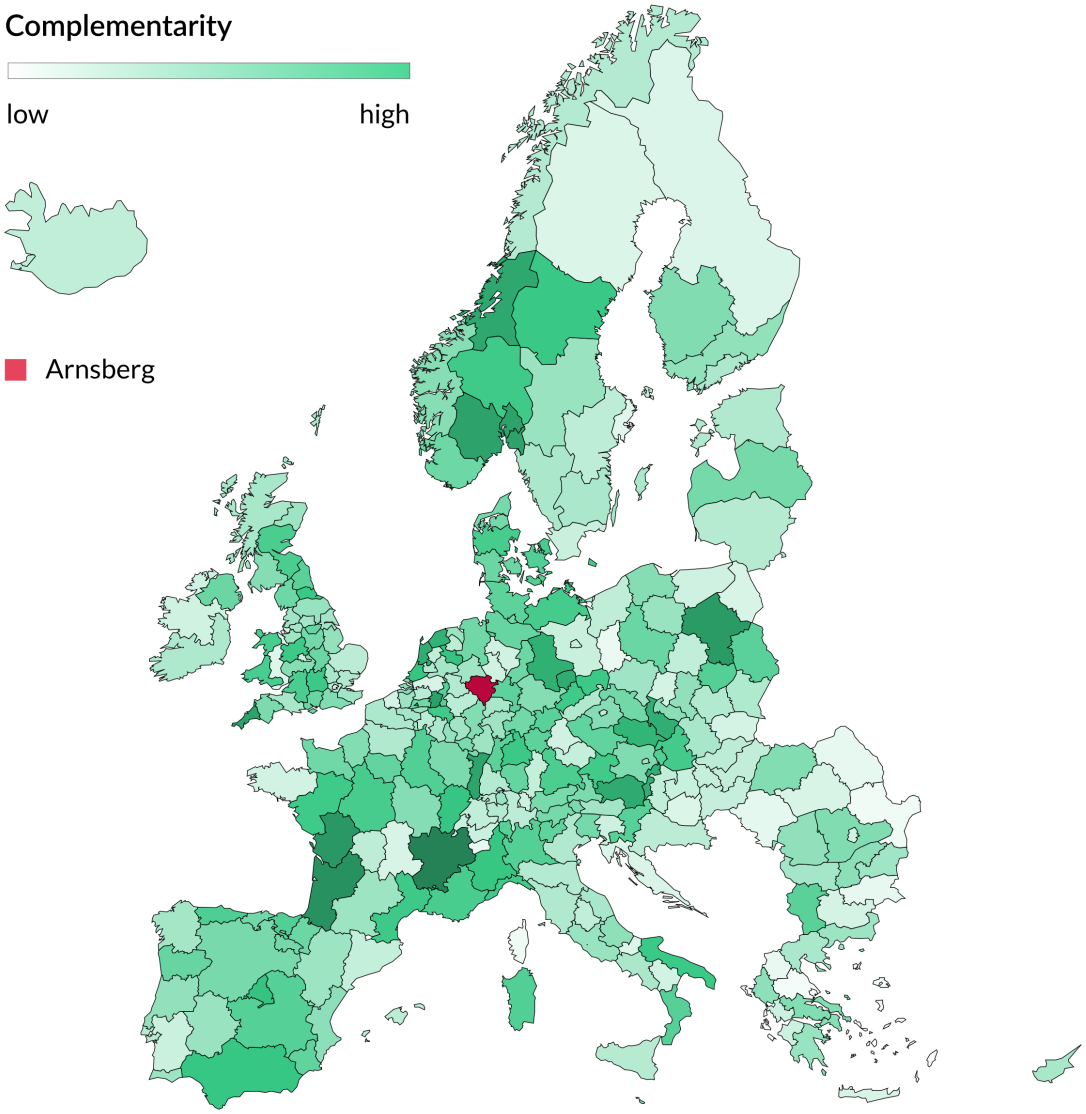
Similarly, middle-income (transition) regions have opportunities to develop further on green technologies, while the relatedness of their past technological developments to complex digital technologies, and therefore their opportunities to develop these, are lower than those of low-income regions.

In the 2021-2027 programming period, 'Partnerships for Innovation' (European Commission 2022) are introduced as a new feature of Cohesion Policy support for research and innovation. Based on the 'smart specialisation' principle, it aims to foster interregional and cross-border collaboration in research, innovation, and technological development across EU regions. It should encourage the identification of partners with complementary capabilities that are related to but not present in the home region, in order to develop new (prioritised) technologies through the combination of complementary capabilities.

Looking again at digital and green technologies, Bachtrögler-Unger et al. (2023) show that complementary capabilities that could be combined are widely spread across European regions. Figure 10 shows the example of Arnsberg, Germany, and hydrogen technology. In order to develop hydrogen patents, it could partner up with several German regions, but also with regions in France, Poland or the Netherlands. Comparing this 'complementarity map' with actual interregional linkages, i.e., realised collaborations on hydrogen patents, there re-

mains significant untapped potential for collaboration with, for example, Rhône-Alpes in France, Polish regions, but also the German region of Sachsen-Anhalt.

Figure 10: **Regions with complementary capabilities for Arnsberg (Germany) and the development of patents in the field of hydrogen**



Notes: This map shows European NUTS-2 regions with complimentary technological capabilities to Arnsberg (DEA5, in red) to develop hydrogen technology. High values denote a high complementarity (measured in "added" relatedness density) and, thus, a high potential for Arnsberg to develop the technology when collaborating with the respective region. Data source: OECD REGPAT.

Source: Bachtrögler-Unger et al. (2023), p. 32.

A general finding of this study is that most interregional collaborations take place within countries, most likely due to institutional factors, distance, but also to networks of local researchers and innovative firms built up in the past. Taking into account distance, patenting activity of both potential partner regions and other factors in a gravity model, there is still remarkable untapped potential for collaboration in the development of green and digital technologies, even for high-income regions (Bachtrögler-Unger et al. 2023).

What managing authorities, the European Commission or other bodies involved in Cohesion Policy implementation could do is to provide information on all regions (and actors) with complementary capabilities to develop specific technologies. While entering a cooperation depends on many factors, mapping potential partners could be a valuable information for beneficiaries, especially innovative firms, universities or research institutes. In particular, it would strengthen 'Partnerships for Innovation' and could also be a tool for the European Commission to encourage and incentivise, for example, high-income regions to collaborate with less developed regions in order to enhance regional cohesion and prevent regions from falling further behind.

6. Summary and policy recommendations

Summarising the literature review and data analysis on absorption rates in this reflection paper, the important role of administrative capacity for the implementation of Cohesion Policy is confirmed. The administrative capacity (of managing authorities) determines not only the absorption of Cohesion Policy funds, i.e., the ability to call upon the funds available, but also the success of the policy in terms of increasing economic growth and employment.

The analysis of the current state of Cohesion Policy funds absorption in the 2014-2020 programming period revealed a delay in policy implementation and a not unlikely failure to use all funds in several Member States.[14] Next to the influence of extra commitments as a response to the COVID-19 crisis on financial implementation data, this may be partly related to the administrative capacity of managing authorities and/or the limited availability of national public co-financing. It may furthermore indicate a lack of absorptive capacity in the region in general, which is not only shaped by administrative capacity, but also - among others such as the business cycle developments - by the capacity of potential beneficiary firms or institutions and/or the regional business environment to prepare appropriate project proposals and implement the projects. Another common issue discussed is the incentive to access funds made available through the RRF. This could withdraw administrative resources and promising projects that would otherwise have been co-financed by Cohesion Policy.

Recommendation #1: It should be evaluated in detail whether the RRF has diverted resources from the implementation of Cohesion Policy by financing similar priorities or additional efforts for managing authorities. The advantages and disadvantages of RRF

[14] See Bachtler and Mendez (2023) for a recent analysis on the state of play of 2021-2027 cohesion policy implementation.

implementation should be considered when designing future Cohesion Policy. Furthermore, the consequences of RRF implementation in terms of delays in the implementation of the 2021-2027 Cohesion Policy need to be taken into account for monitoring and evaluation and should be addressed soon.

The literature finds that up from a certain threshold additional funding in a region does not contribute to further economic growth anymore; there are decreasing marginal returns from cohesion policy funding. Given the apparent challenge for many regions to absorb all money available in the 2014-2020 programming period, this might motivate a discussion about the design of cohesion policy and whether full absorption (in a programming period) is a goal in itself. For example, there is evidence that budgets with roll-over options at the end of the year (budget period) lead to more efficient spending (Liebman and Mahoney 2017).

Recommendation #2: The European Commission should reflect on measures to increase flexibility in using cohesion policy funds in order to avoid an incentive to spend the money (at the end of a programming period) in a rush and therefore perhaps ineffectively. Granting the possibility of rolling over cohesion policy funding to the next programming period could be one option.

Concerning administrative capacity, an issue often mentioned in the literature and evaluation reports is the lack of (well-qualified) staff in managing authorities. The motivation, qualification and experience of employees are expected to increase administrative capacity through, e.g., involving local stakeholders in programming and throughout the implementation phase, in order to avoid mistakes such as calls for projects that do not match the capabilities and needs of the region. Furthermore, well-qualified and motivated personnel is a prerequisite for establishing regular communication and coordination processes with EU and national bodies involved in the implementation of Cohesion Policy or other funding instruments with similar objectives (such as Horizon Europe).

Recommendation #2: Given the importance of well-qualified and motivated staff in managing authorities for the absorption and effective implementation of Cohesion Policy, it should be ensured that sufficient financial resources are available to attract and retain staff. Better salaries and career options and an attractive working environment (e.g., cooperation with other regions in the country or across the border, room for manoeuvre concerning the design of calls for projects) are essential.

Other factors appear to be particularly important for fostering administrative capacity and hence the absorption of Cohesion Policy funds. They include the standardisation of administrative procedures and good IT systems that enhance, for example, the communication with beneficiaries, monitoring and auditing. For the Central and Eastern European Member States, the literature further emphasises that the centralisation of institutional coordination has increased administrative capacity and improved the implementation of Cohesion Policy. While the advantages of regional managing authorities for regional operational programmes seem intuitive for a place-based policy, in a recent study, Mendez and Bachtler (2022) find that it does not play a (statistically significant) role for absorption and outcomes whether the authorities manage national or regional operational programmes. Most likely, the optimal level of centralisation of Cohesion Policy implementation depends on the respective context and

regional as well as national specificities. The availability of administrative resources, in particular human resources, is likely to be very relevant in this context.

Recommendation #3: If managing authorities in certain regions are understaffed despite the availability of financial resources, the European Commission and national policymakers should consider the possibility of merging managing authorities for operational programmes in two (or more) regions that are close to each other and/or have similar characteristics and challenges. Synergies in tasks such as monitoring or stakeholder processes could possibly be identified and exploited without losing the place-based focus of the policy.

Administrative capacity is an important element of a region's absorptive capacity, i.e., the ability to use the funds available to the region in a way that increases economic growth or employment. This ability depends, among other things, on the presence of (innovative) economic actors, the education of the local labour force and the quality of institutions in a broader sense. For managing authorities, knowledge about capabilities (such as skills or previous patenting activity) in specific technological fields, or industries in which the region is specialised is crucial for designing appropriate calls for projects and selecting "good" projects. Experienced staff, the involvement of local stakeholders and coordination with relevant national and EU authorities are found to be particularly important.

Recommendation #4: The use of Cohesion Policy funds for technical assistance and strengthening public administration should be prioritised in order to generate positive impacts on the policy's implementation overall. EU and national authorities in charge should analyse the relatively slow progress in the absorption of cohesion policy funding allocated to technical assistance and more efficient public administration. This is likely to be particularly relevant in the current context with an increased number of EU funding instruments and a variety of policy objectives.

The further development of green and digital technologies is prioritised in order to promote and benefit from the twin transition. An analysis of previous patenting activities reveals that capabilities to expand technological development and diversify into new green and digital technologies are quite heterogeneous, but widely spread across European regions. The fact that there are less developed and transition (middle-income) regions with considerable capabilities in green technologies and also specific digital technologies that are expected to generate high economic returns offers an opportunity to promote regional cohesion while advancing the twin transition. Knowing about regional capabilities and potential promising partner regions offering complementary capabilities not available in the own region thus seems important for managing authorities in order to adapt programming and policy implementation to improve the effectiveness of Cohesion Policy in terms of R&I and economic outcomes.

Recommendation #5: "Good" programming and project selection depends on administrative capacity. In addition to the four previous recommendations, information systems on regional capabilities, sectoral strengths, regional needs, and opportunities for inter-regional cooperation should therefore be improved and made accessible to administrative staff as well as potential beneficiaries.

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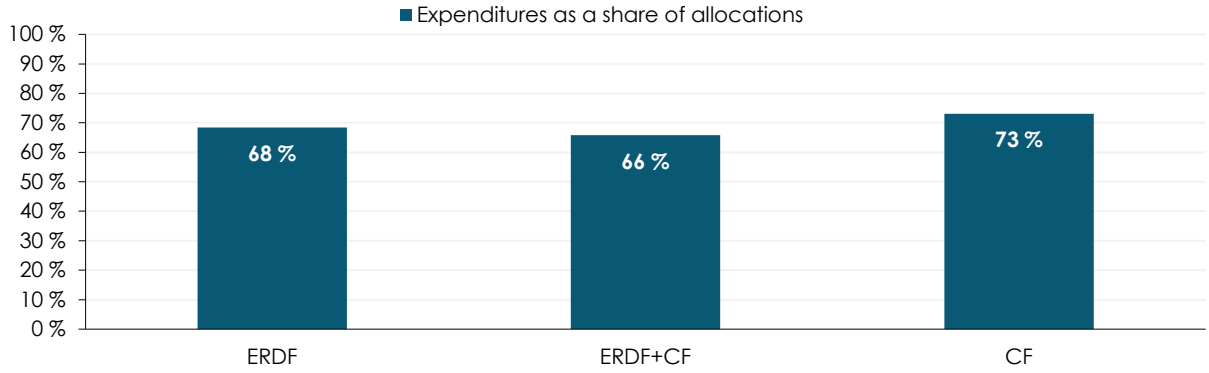
A. Absorption rates in the 2007-2013 programming period

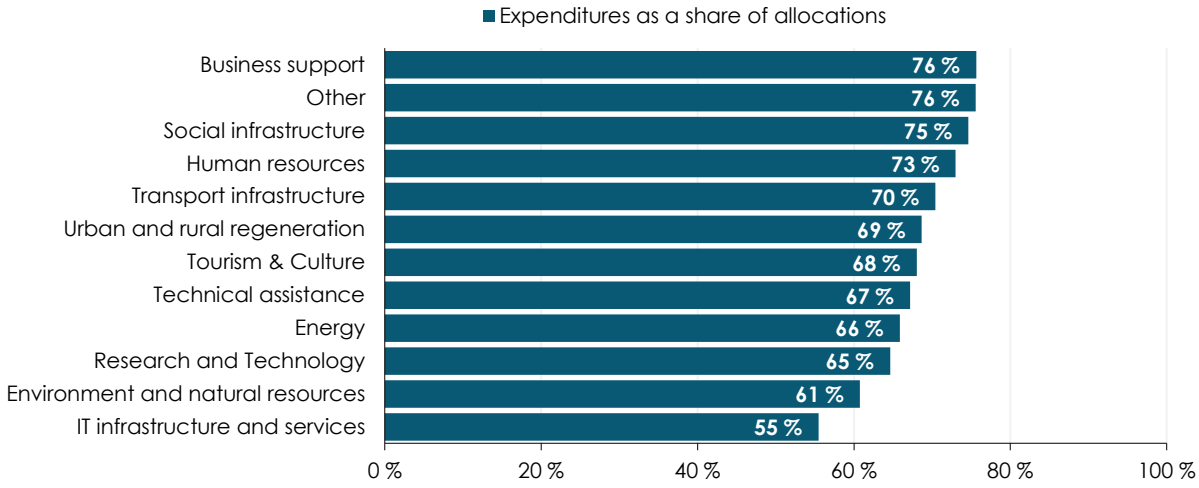
The following figures are based on the 'Geography of expenditure' report published by the European Commission in August 2015 (European Commission, 2015). The data can be downloaded from the 'Database of the cumulative allocations to selected projects and expenditure at NUTS2' and the 'Integrated database of allocations and expenditure for 2000-2006/2007–2013' on DG REGIO website (https://ec.europa.eu/regional_policy/policy/evaluations/data-for-research_en). As the report was part of the ex-post evaluation and had to be published in 2015, it is likely that not all expenditure recorded in the 2007-2013 programming period has been integrated into the database. As a result, absorption rates may be underestimated.

Figure A1: **Absorption rate per type of fund**
Programming period 2007-2013



Source: European Commission (2015), own elaboration.

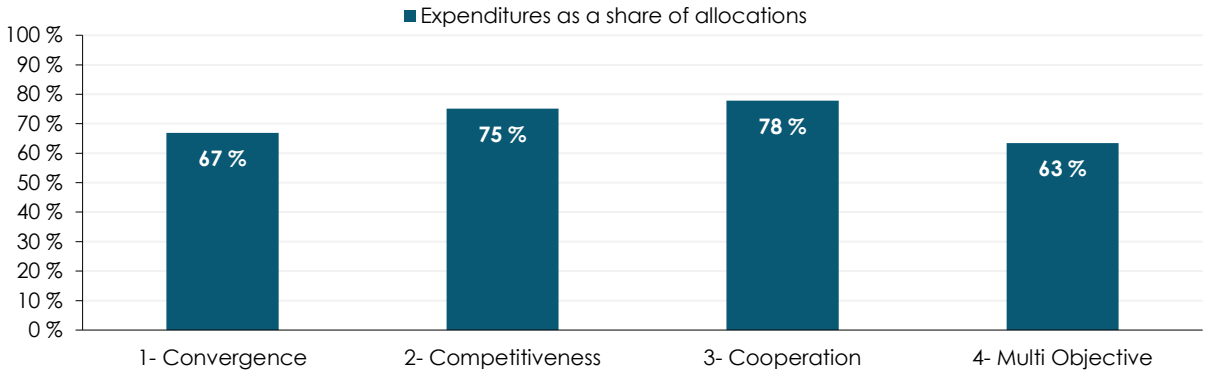
Figure A2: **Absorption rate per broad thematic category**
Programming period 2007-2013



Source: European Commission (2015), own elaboration.

Figure A3: **Absorption rate per objective**

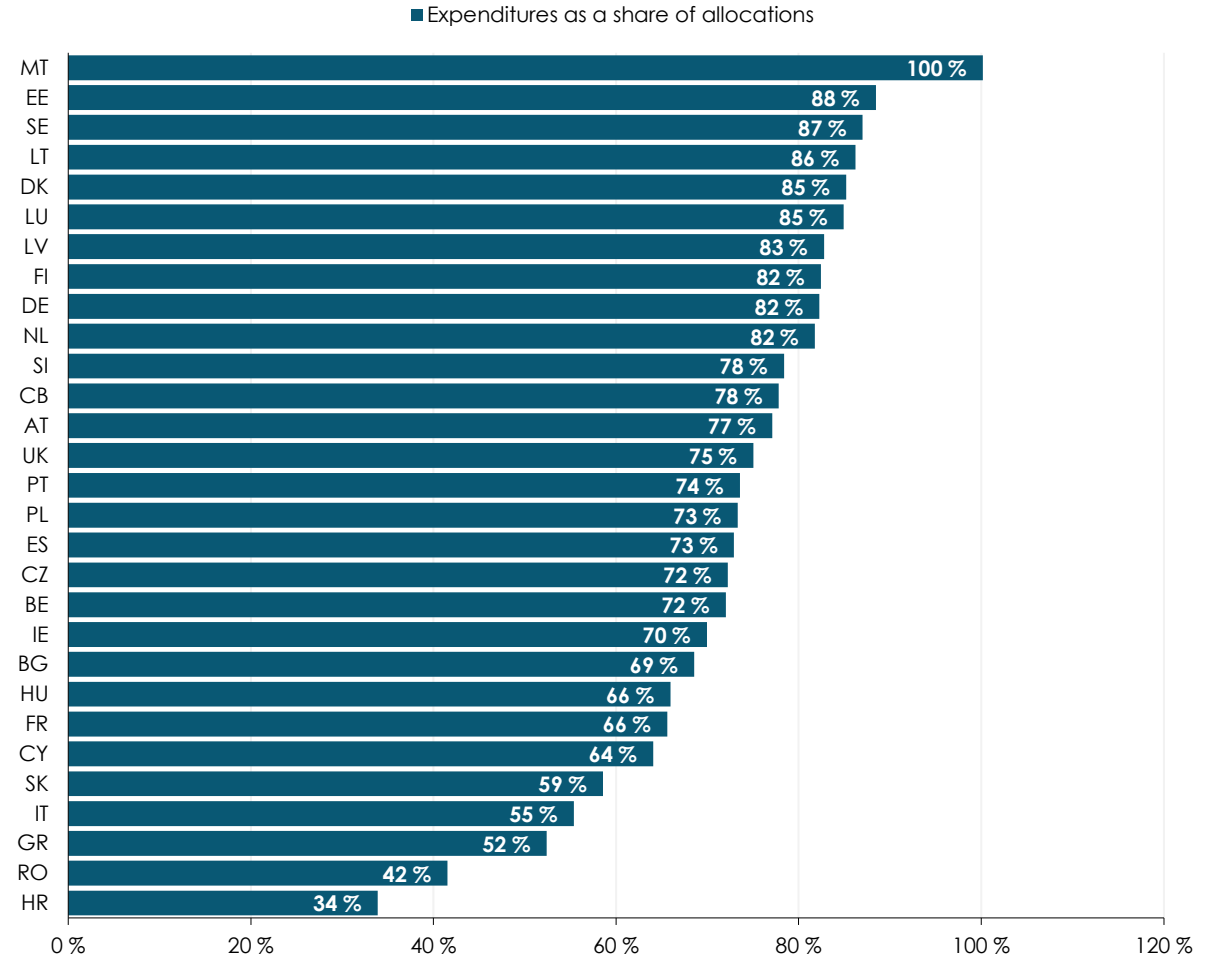
Programming period 2007-2013



Source: European Commission (2015), own elaboration.

Figure A4: **Absorption rate per Member State**

Programming period 2007-2013



Source: European Commission (2015), own elaboration. CB means "Cross-border cooperation" and denotes the absorption of cross-border, transnational and inter-regional programmes.

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