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PART 12/13

COMMISSION STAFF WORKING DOCUMENT
Accompanying the document

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

My region, My Europe, Our future:
The seventh report on economic, social and territorial cohesion

{COM(2017) 583 final}

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Contents

KEY MESSAGES

- Cohesion policy is the EU's main investment policy, providing funding equivalent to 8½% of government capital investment in the EU and 41% in the EU-13.

- The impact of Cohesion Policy on the EU economies is significant. By the end of their implementation, investment for the 2007-13 period is estimated to have increased GDP in the EU-13 by nearly 3%, and by a similar amount for the (now EU-13) in the 2014-2020 period.

- Several measures to improve the effectiveness of programmes were introduced for the 2014-2020 period:
    - *ex ante* conditions, to stimulate structural reforms and to increase administrative capacity;
    - smart specialisation strategies, where major players (including research centres, businesses and civil society) identify local potential and prioritise investment in key sectors;
    - a stronger focus on results through programmes setting specific objectives, translated into clear result indicators with targets and benchmarks.

- Projects selected as at July 2017 (halfway through the 2014-2020 period) will invest just 39% of the total funding available for the period, similar to the 2007-2013 period when spending was concentrated in the last 2-3 years. This suggests that issues such as simplification and capacity building still need to be addressed.

- Targets for the 2014-2020 period include:
    - 14.5 million additional households with broadband access
    - 17 million additional people in the EU connected to wastewater facilities
    - 4 600 km of renovated TEN-T railway line
    - 6.8 million children with access to new or modernised schools
    - 42 million people with access to improved healthcare services
    - 7.4 million unemployed helped into work
    - 8.9 million people provided with new qualifications

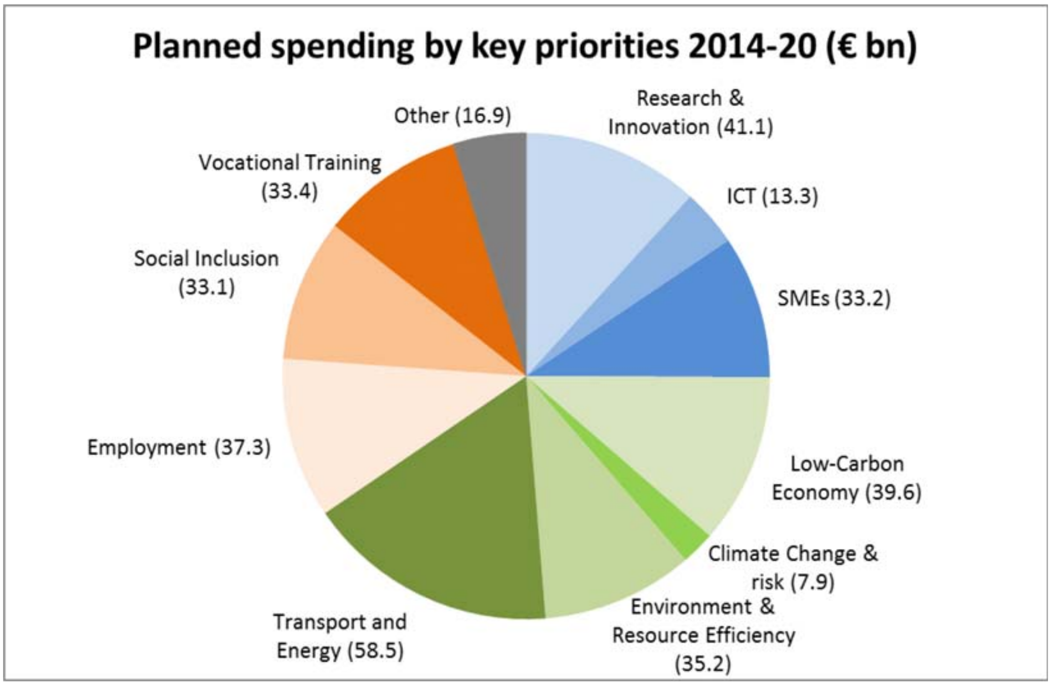
- Cohesion policy is also investing in the economy of the future, through:
    - support to 1.1 million SMEs
    - the creation of 420 000 new jobs as a result
    - the establishment of nearly 30 000 new research positions
    - help to some 28 000 SMEs to bring new products to the market

6.1. THE POLICY

Cohesion policy is the EU's main investment policy. Over the course of the 2014-2020 programming period, EUR 349 billion is being invested in a broad range of areas, from enterprise support to infrastructure, from urban regeneration to culture and social infrastructure (Figure 6-1).

Cohesion Policy is the EU's principal means of support for SMEs, the low carbon economy, transport infrastructure, the integration of people into the labour market, and fostering social inclusion of the disadvantaged. It is also plays a major role in supporting innovation.

Figure 6-1: Planned investment by key priority 2014-2020 (EUR bn)



Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/ (September 2017)

Cohesion policy consists of three main funds: the Cohesion Fund, the European Regional Development Fund (ERDF) and the European Social Fund (ESF, which is coupled with the Youth Employment Initiative (YEI)). These in total provide financing for nearly three quarters of the EUR 480 billion of investment carried out under the policy, the rest coming from national co-funding (Table 6-1).

Table 6-1: EU and national contributions to cohesion policy, 2014-2020

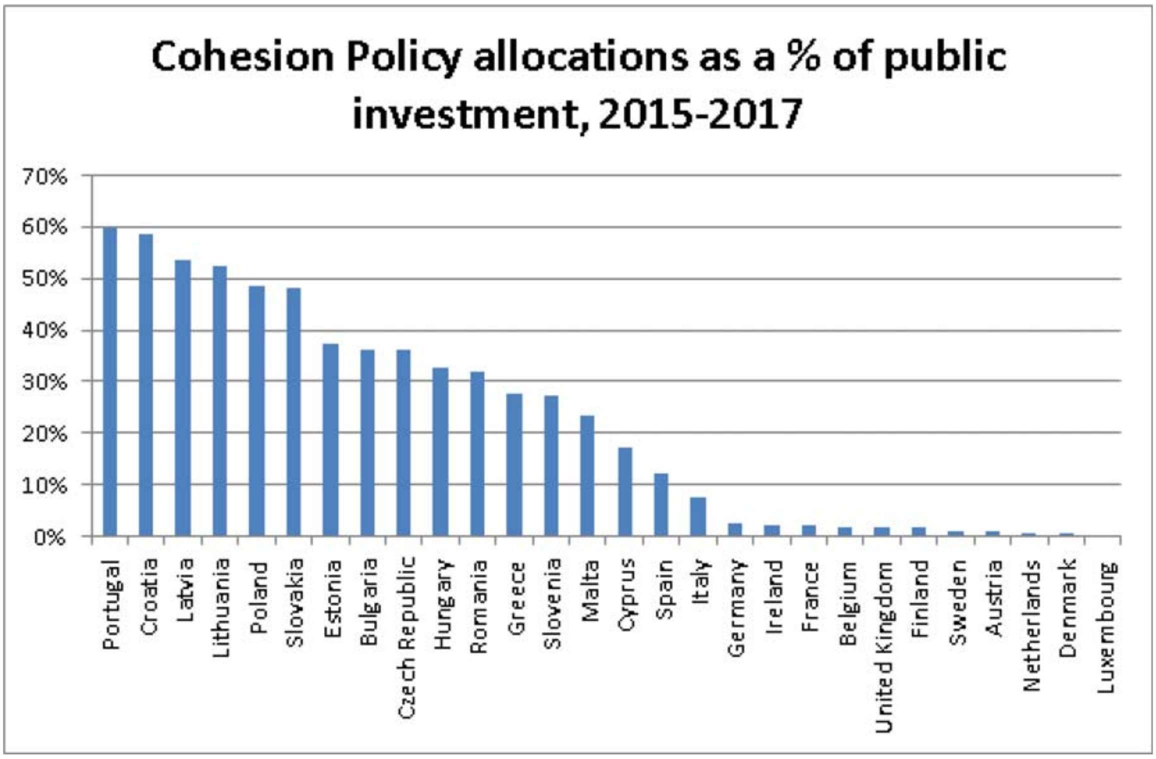
EUR billion	EU contribution	National contribution	Total investment
Cohesion Fund	63.4	12.2	75.6
ERDF	196.4	80.5	276.8
ESF	83.1	37.3	120.5
YEI	6.5	1.2	7.7
Total	**349.4**	**131.2**	**480.5**

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/ (September 2017).

In the wake of the crisis the EU funds played a stabilising role in ensuring a higher level of public investment than there otherwise would have been. In many countries, the funds became the major source of finance for investment. In addition, the reduction in national Government funding as a result of the crisis led the EU to increase co-financing rates – and so reduce the amount of national co-financing required for cohesion policy programmes in Member States where problems were most severe. The increase helped the countries concerned, to maintain programmes as far as possible, even if overall expenditure was reduced, but also to mitigate the effects of the crisis. For example, additional resources from the ESF were allocated to short-term work arrangements (e.g. in Italy and the Czech Republic) and instituting general placement services (as in Finland).

Support to investment continues into the current period and is especially important for Convergence regions. For the EU-13, EU funding under cohesion policy, or more specifically from the ERDF and Cohesion Fund, was equivalent to 41% of total government spending on investment over the three years 2015-2017 (and for 8.5% for the EU as a whole) and for Croatia, Latvia and Lithuania, as well as Portugal, for over half (Figure 6-2).

Figure 6-2: ERDF and Cohesion Fund allocations as a % of general government capital expenditure, 2015-2017



Note: Government capital expenditure is the sum of General Government gross fixed capital formation plus capital transfers, the latter being adjusted approximately for any abnormal transfers to banks and other companies to provide support.
Source: Open data platform, Eurostat - Government statistics

However, progress in implementation has been slow – with only some 7% of expenditure disbursed by July 2017, half way through the programming period. To some extent this represents underreporting (due to delays in designation of managing authorities and implementing bodies as well as the setting up of control systems), but it is also due to programmes being slow to get off the ground.

The amount of funding committed to projects selected to be undertaken gives a guide to likely progress in the near future, and this is more positive, representing at end June 2017 some 39% of total planned investment in the EU-28 (Table 6-2). However, for some countries, even this is worryingly small (notably Cyprus, Romania and Spain).

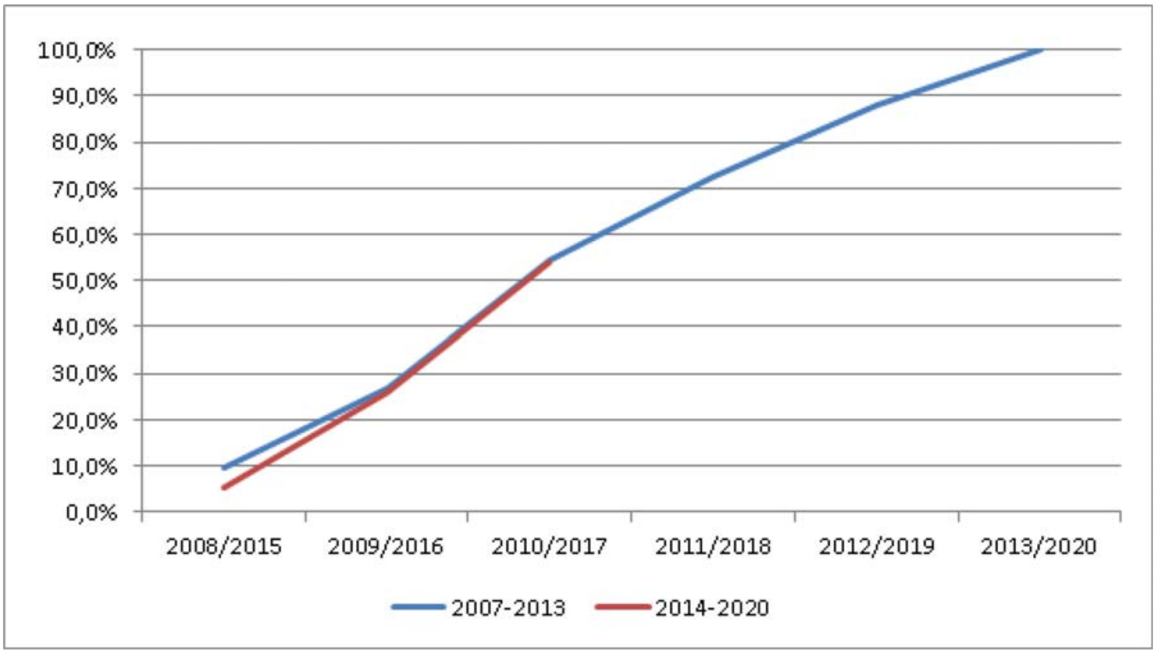
Table 6-2 Projects selected and expenditure by managing authorities as at end-June 2017 compared to total planned investment for the 2014-2020 period

	Total planned investment (EUR million)	Projects selected (EUR million)	Expenditure by managing authorities (EUR million)	Selection/ planned investment %
AT	2,941.3	829.3	32.0	28.2%
BE	4,646.2	3,288.1	214.1	70.8%
BG	8,702.6	4,010.2	874.5	46.1%
CY	824.1	150.6	41.1	18.3%
CZ	28,703.0	8,760.2	1,376.6	30.5%
DE	30,326.7	13,594.9	3,572.7	44.8%
DK	798.5	352.7	56.0	44.2%
EE	4,891.7	2,385.5	500.1	48.8%
ES	39,339.3	7,352.6	131.9	18.7%
FI	2,608.9	1,260.4	450.6	48.3%
FR	28,915.9	11,827.5	2,877.0	40.9%
GR	19,123.4	7,738.3	2,064.8	40.5%
HR	9,945.1	2,363.1	326.3	23.8%
HU	25,420.9	18,220.1	2,141.3	71.7%
IE	1,971.4	1,687.2	13.8	85.6%
IT	51,771.6	18,865.2	1,724.6	36.4%
LT	7,887.8	2,823.8	906.5	35.8%
LU	88.3	57.2	8.2	64.8%
LV	5,192.8	2,310.8	401.7	44.5%
MT	865.2	416.4	39.9	48.1%
NL	2,389.0	1,096.1	299.8	45.9%
PL	90,576.3	33,951.2	6,810.0	37.5%
PT	27,462.5	15,002.8	3,545.4	54.6%
RO	27,664.8	2,838.4	396.3	10.3%
SE	3,509.7	2,067.8	428.5	58.9%
SI	3,756.2	1,032.5	134.1	27.5%
SK	17,958.2	4,925.3	1,059.4	27.4%
UK	19,655.9	10,621.1	913.0	54.0%
Interreg	12,464.6	5,888.8	247.1	47.2%
Grand Total	**480,402.2**	**185,718.0**	**31,587.0**	**38.7%**

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/.

The rate of project selection in the current programming period, while starting more slowly than in the 2007-13 period, has now caught up (Figure 6-3), and it can reasonably be expected that implementation rates from now on will be broadly similar to those in the previous period.

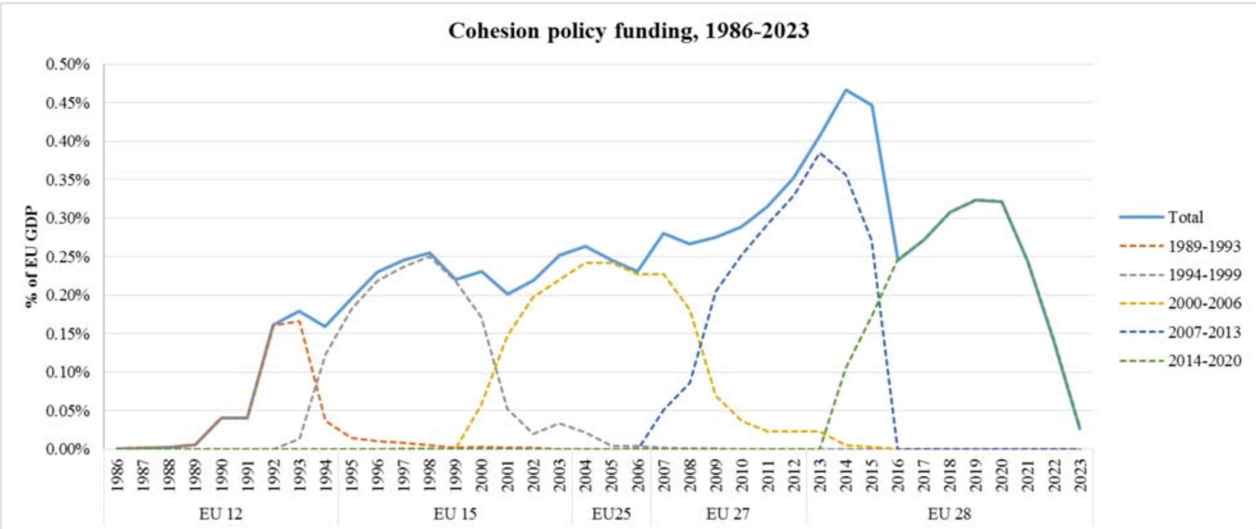
Figure 6-3 Funding committed to projects selected as % of total available, 2007-2013 and 2014-2020



Note: *2017 figure is a projection based on observations to July 2017*
Source: *DG Regional and Urban Policy, based on monitoring data provided by MS.*

Moreover, programme periods cannot be seen in isolation. Periods overlap, with the closure and finalising of one period stretching into the next, exerting a smoothing effect on expenditure flows (Figure 6-4). The delay in starting spending under the new programme period does not mean an interruption in Cohesion Policy – actual investment on the ground continues in a relatively seamless way.

Figure 6-4 Cohesion policy funding over successive periods, 1986-2023



Note: Time profile for 2014-20 based on up to July 2017 and is then projected to be the same as for the 2007-13 period.
Source: DG Regional and Urban Policy, historic data.

6.2. IMPROVING THE EFFECTIVENESS OF THE POLICY

A number of measures have been taken to improve the delivery of results in the 2014-2020 period.

6.2.1. Ex ante conditionalities

The effectiveness of public investments and the durability of results depend on having in place suitable conditions. Unsound policy frameworks and regulatory, administrative and institutional weaknesses are major systemic obstacles hindering effective and efficient public spending. It is therefore of the utmost importance that such weaknesses are identified and addressed at the beginning of the programming period[1].

This is why a key reform of the ESI Funds for the 2014-2020 programming period was the introduction of *ex ante* conditionalities (ExAC). These are sector-specific or general preconditions that needed to be met at an early stage of programme implementation and by the end of 2016 at the latest.

They fall into five broad categories (see Table 6-3)[2]:

Table 6-3 The ex ante conditionalities for the 2014-2020 programming period

Category	**Examples**
1. Improving the investment environment in the EU Many ExACs address horizontal and sector-specific barriers that hinder investment in the EU. Through their contribution to the creation of an investment-friendly environment, they help to strengthen the Single Market and to deliver the Investment Plan for Europe, so fostering growth and jobs.	Malta, Portugal and Slovenia introduced the SME Test, to ensure assessment and monitoring of the impact of national legislation on SMEs. In Slovenia, the Transport Development Strategy set out in the framework of the Transport ExAC is the first comprehensive national transport strategy covering all modes of transport. It identifies the main bottlenecks and sets out investment priorities for transport at the national, regional and EU level.
2. Supporting structural changes and implementation of country specific recommendations Depending on the Member State context, many ExACs can be catalysts for structural change and policy reform. Preliminary results of the study on Country Specific Recommendations (CSRs) found that in several Member	The 2014 & 2016 CSRs for Latvia recommended making the research system more integrated, strengthening links with the private sector and promoting internationally competitive research institutions. As required by the ExAC, a smart specialisation strategy was formulated, which contributed to structural change in the R&D sector through a reform of research institutions. It helped to

1 See for example OECD Recommendation on Effective Public Investment Across Levels of Government adopted on March 12, 2014.

2 Commission Staff Working Document (2017) 127 final of 31.3.2017 'The Value Added of Ex ante Conditionalities in the European Structural and Investment Funds'.

States, ExACs speeded up execution of reforms and provided the foundation for additional reforms and new policy design.	focus ESI Fund's support on priority areas and to incentivise private investment in innovation. In **Romania**, the ExAC *Access to employment and labour market institutions* supported structural reforms identified in the 2014-2016 CSRs. The National Employment Agency's (NEA) services are being strengthened by tailoring services to jobseeker profiles and better linking them with social assistance. 90% of NEA beneficiaries have already been profiled and a catalogue of services adopted. Case management is being introduced to improve cooperation between employment and social services.
3. Accelerating the transposition and implementation of the EU acquis Several ExAC are linked to the transposition and implementation of EU legislation and regulations. Such ExAC also benefit projects that are not financially supported by the ESI Funds. ExACs for public procurement, State aid, environmental legislation relating to Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA), non-discrimination, gender and disability led several Member States to improve the implementation of EU regulations in a systemic way.	In Italy, shortcomings in the transposition of the public procurement acquis led in the past to several suspensions of payments from the EU Funds. The public procurement ExAC sped up the process of correcting the relevant national legislation and of preparing regional and national authorities to implement revised public procurement rules. In several Member States, including the Czech Republic, Poland, Portugal, Slovenia, Spain and Italy, the need to satisfy the energy efficiency ExAC gave a significant push to the swift transposition of the Energy Performance of Buildings Directives.
4. Better targeting of support from ESI funds and other public funds Many ExACs required that support from the ESI Funds should form part of policy or strategic frameworks which meet certain quality criteria. A number of ExACs required a needs analysis. Some required strategic policy documents to ensure that funding is targeted to the people most in need of support and to tackle identified challenges, such as in the labour market. As a result, the selection criteria and calls for projects to be co-financed by ESI Funds are better tailored to the socio-economic context. This should lead to increased effectiveness and efficiency – not just of EU support, but	In Portugal, the adoption of a smart specialisation strategy under the research and innovation ExAC helped to focus public funding in R&D on a limited number of smart specialisation areas. In Spain, as a result of the same ExAC, regions previously lacking experience in this area developed expertise and produced smart specialisation strategies of high quality. In Poland, adoption of national and regional transport plans to meet the requirements of the Transport ExAC contributed both to the identification of a mature project pipeline and to better prioritisation of investments, from which

also of national funding.	the CEF has also benefited. As a result of the early school leaving ExAC, Hungary and Latvia implemented systemic improvements in the national early school-leaving data collection and analysis system.
5. Improving administrative capacity and coordination Insufficient capacity and efficiency of public administration in some Member States and regions have an adverse effect on the implementation of the ESI Funds as well as on their competitiveness. The institutional capacity and efficient public administration ExAC requires the development and implementation of a strategy to reinforce and reform administering authorities. Several other ExACs establish requirements which reinforce administrative capacity to implement EU regulations on public procurement, state aid, environmental legislation relating to EIA and SEA, or EU legislation and policy on anti-discrimination, gender equality and disability.	Estonia: Under the ExAC on Institutional capacity and efficient public administration, the OECD Public governance review action plan was revised and a quality management system introduced to increase the administrative capacity of staff and organisations (management systems, processes and structures). The OECD action plan serves as a basis for the on-going State Reform. Bulgaria: The action plan for the implementation, maintenance and development of modern Quality Management Systems (QMS), developed under the ExAC on Institutional capacity and efficient public administration, accelerated the establishment of a Common Assessment Framework (CAF) in 48 authorities by the end of 2018. CAF is envisaged to be implemented in at least 80 authorities by the end of 2020, while QMS will be implemented in 350 authorities by the end of 2020. The ExAC also gave a boost to the preparation of an analysis of the existing needs of civil servants for training and of a methodology for analysis of training needs in the public administration.

Around 75% of all applicable *ex ante* conditionalities were fulfilled at the time of adoption of ESI Fund programmes. For those which remained, action plans were included in the programme. By mid-September 2017, 93% of action plans for cohesion policy were confirmed by the Commission as fulfilled. Had it not been for *ex ante* conditionalities, reforms might not have happened or they might have happened at a much slower pace.

6.2.2. Closer link to EU economic governance

A close relationship between the Cohesion policy Funds and sound economic governance has been incorporated in the legislation and in setting the objectives of the programmes for 2014-2020. Cohesion Policy has in-built mechanisms to improve fiscal and macroeconomic governance and provides concrete support for fund-relevant structural reforms through its link to Country Specific Recommendations (CSRs) under the European Semester. Moreover, empirical evidence suggests that the *ex-ante* conditionalities introduced in the current programming period (see below) have so far played a significant role in improving the application of EU legislation in Member States, as well as in fostering structural reforms. Accordingly, they have improved the overall investment climate in Member States not only for investment funded under Cohesion policy but more generally.

6.2.3. A stronger 'result orientation'

Experience of programme implementation and evaluation evidence collected for the 2000-2006 programming period, which was confirmed by the evaluation of the 2007-2013 period, made it clear that Cohesion Policy needed a tighter focus on results.

The 2014-20 regulations therefore require the following:

- Programmes which set specific objectives at the regional or national level, translated into clear indicators of results with targets and benchmarks to make it clear whether the programmes are achieving their goals.
- Project selection criteria which take account of the objectives set at programme level to ensure that projects are properly focussed.
- Regular reporting of results and outputs and a performance framework linked to the release of a performance reserve.
- An impact evaluation for each of the specific objectives, to understand the contribution of the programme to changes at the national or regional level and to learn lessons for the future[3].

6.2.4. Smart specialisation

Smart Specialisation aims to boost national and regional innovation by enabling Member States and regions to focus on their strengths. It represents the most comprehensive industrial policy experiment being implemented in Europe today.

The approach brings together the key players – the research community, business, universities, public authorities and civil society – to identify strengths in their region and to direct support to where local potential and market opportunities can best be realised. This enables critical mass to be achieved and accelerates the uptake of new ideas.

Since smart specialisation became one of the *ex-ante* conditionalities for the ESI Funds, over 120 smart specialisation strategies have been formulated through partnership, multi-level governance and a bottom-up approach. EUR 65.8 billion are available to support these strategies from the ERDF and EAFRD, in addition to national and regional funding.

Since 2011, the European Commission has provided advice to regional and national authorities on how to develop, implement and review their smart specialisation strategies; via a mechanism called "S3Platform"[4]. The objective has been to provide information, methodologies, expertise and advice as well as to promote mutual learning and trans-national cooperation. It has around 200 members in total including 18 EU Member States and two non-EU countries, as well as 170 EU and 9 non-EU regions.

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[3] For further details and explanation, see the guidance document on the monitoring and evaluation of the Cohesion Fund and ERDF.

[4] http://s3platform.jrc.ec.europa.eu/ .

In addition, in 2015-2016 the European Commission responded to the increasing interest by establishing three Thematic Smart Specialisation Platforms (TSSP)[5] on energy, agri-food and industrial modernisation. These platforms were created under the S3 Platform in order to facilitate interregional cooperation and boost private-public investment pipelines. More than 80 EU regions are currently involved in 18 different partnerships covering different areas such as advanced manufacturing for energy application, efficient and sustainable manufacturing, the bio-economy, high performance production through 3D printing, medical technology, innovative textiles, production monitoring systems, industry 4.0, new nano-enabled products, bio-energy, marine renewable energy, smart grids, solar energy, sustainable buildings, high-tech farming, traceability and big data and smart electronic systems[6].

Placing investment in human capital and skills at the heart of smart specialisation strategies is key, as skilled human capital is a pre-condition for the success of any innovation policy. This is why the ESF will contribute EUR 1.8 billion over the present programming period to strengthening human capital in research, technological development and innovation.

6.2.5. Financial instruments (FIs)

The use of financial instruments in cohesion policy has increased significantly in recent years. In 2007-2013 around EUR 12 billion of Structural Funds was invested in this way, while plans for 2014-2020 suggest a figure of the order of EUR 21 billion[7].

The FI landscape at EU level is complicated, with various players, instruments and areas of intervention. ESI funds play a major role at the EU level (Figure 6-5). SMEs account for just over half of planned spending from the ESI funds supported by FIs and, together with innovation and the low carbon economy, they represent the bulk of planned investment so supported. ESI funds in the form of FIs are the largest EU source of financing for SMEs and the low carbon economy without considering the substantial amount of ERDF support provided to these areas through grants.

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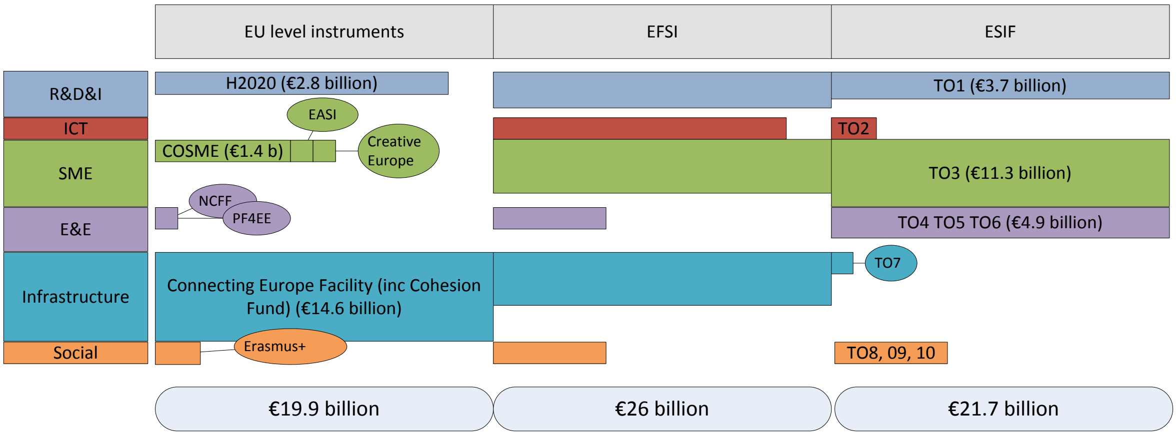
5 http://s3platform.jrc.ec.europa.eu/s3-thematic-platforms .

6 For further information see the European Commission's smart specialisation platform: http://s3platform.jrc.ec.europa.eu/ .

7 Figure approximate: the delivery tool for each priority axis is not fully pre-determined and may change.

Figure 6-5 Division of EU sources of funding for the 2014-2020 period



Notes: ESI funds ("ESI") are the "European Structural and Investment Funds", i.e. cohesion policy funds plus EAFRD and EMFF
EFSI ("European Fund for Strategic Investments") is an initiative launched jointly by the EIB Group and the European Commission to help overcome the current investment gap in the EU by mobilising private financing for strategic investments.
The boxes representing budget commitments are broadly to scale. In the case of EFSI, the breakdown of commitments as at November 2016 has been used as a proxy to disaggregate the commitment by objective.
Source: European Policies Research Centre (2017) "Improving the take-up and effectiveness of Financial Instruments"

There are various changes in the extent of the use of FIs and the arrangements for implementing and reporting on them in the 2014-2020 period as compared with the preceding one (Table 6-4).

Table 6-4 Changes in Financial Instruments supported by cohesion policy between the 2007-2013 and 2014-2020 periods

	2007-2013	2014-2020
Scope	Support for enterprises, urban development, energy efficiency and renewable energies in building sector	Support for all thematic objectives covered under a programme
Set-up	Voluntary gap analysis for enterprises and at the level of Holding fund	Compulsory ex-ante assessment
Implementation options	Financial instruments at national or regional level – tailor made only	Financial instruments at national, regional level, transnational or cross-border level: Tailor-made OR off-the-shelf OR MA loans/guarantees Contribution to EU level instruments
Payments	Possibility of declaring to the Commission 100% of the amount paid to fund – not linked to disbursements to final recipients	Phased payments linked to disbursements to final recipients. National co-financing which is expected to be paid can be included in the request for the interim payment
Management costs and fees, interest, resources returned, legacy	Legal basis set out in successive amendments of the regulations and recommendations/interpretations set out in three follow up notes.	Full provisions set out from the outset in basic, delegated and implementing acts

Reporting	Compulsory reporting only from 2011 onwards, on a limited range of indicators	Compulsory reporting from the outset, on a range of indicators linked to the financial regulation.

***The EIB Group: a key partner in promoting cohesion*[8]**

Through a mixture of services, the EIB plays a key role in addressing regional economic imbalances and raising living standards across the EU.

EIB Cohesion Priority Regions cover all "less developed" and "transition" regions eligible under Cohesion Policy 2014-2020. In the last 10 years (2007 – 2016) more than EUR 200bn of lending has been provided to such regions (Table I and Figure 1). EIB operations support a broad range of areas such as: key infrastructure, including trans-European networks and sustainable energy, water, waste management, forestry and food security; small, medium-sized and innovative firms; education and training; information and communication technologies; and municipal lending for improved urban living environments.

Table 6-5 Cohesion lending in EIB figures (signatures)

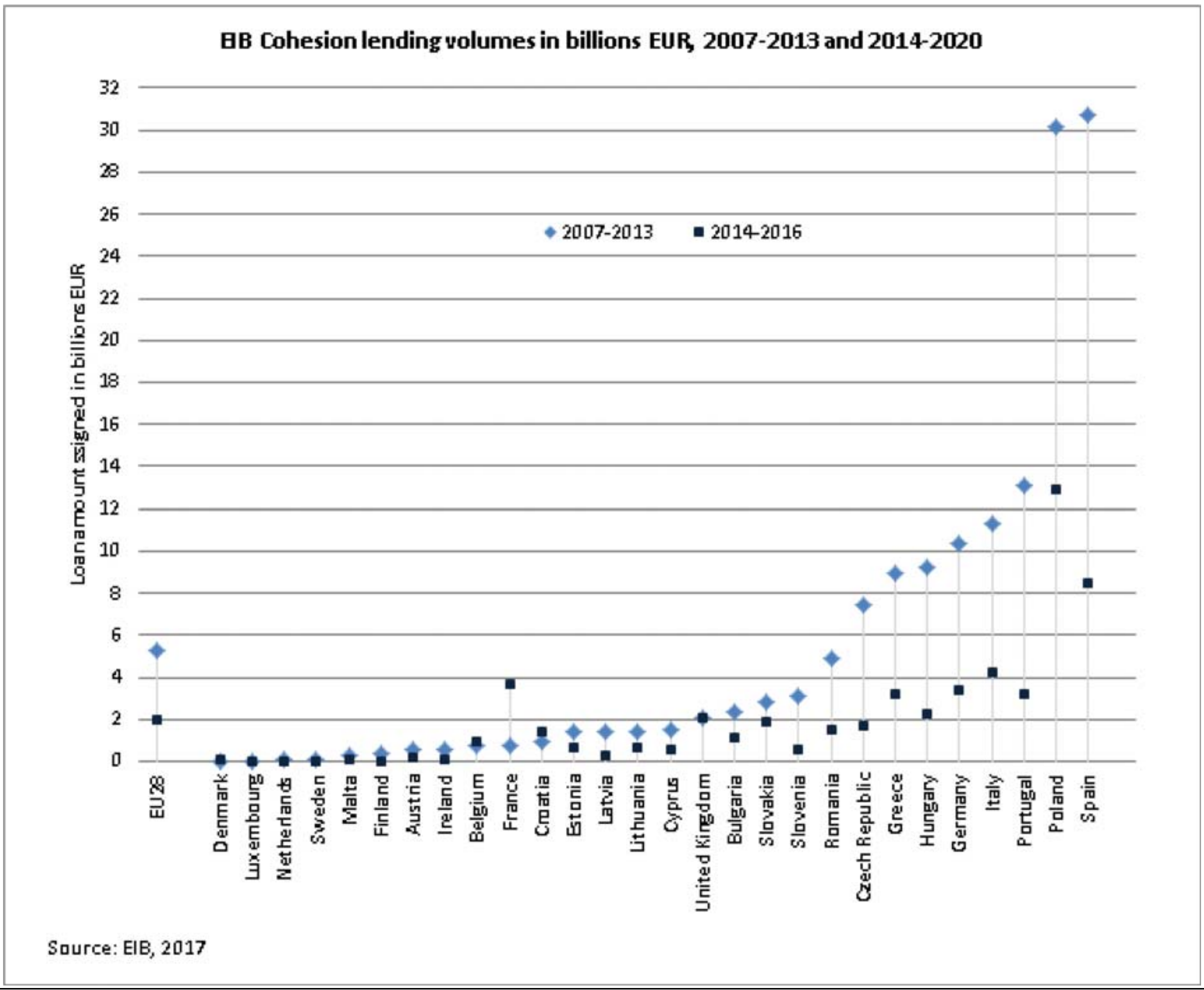
	2007-2013	**2014-2016**
Cohesion in EU Member States	EUR 147 bn	EUR 55 bn
of which Structural Programme	EUR 20 bn	EUR 14 bn

In the 2007-2013 programming period, the EIB lent nearly EUR 20bn through Structural Programme Loans, primarily in Member States in the East and South. This helped Member States and regions cofinance programmes worth over EUR 200bn. Such loans have become increasingly important since the beginning of the economic and financial crisis. Fiscal consolidation has hampered the ability to co-finance EU grants and the EIB Structural Programme Loans help bridge such gaps.

In terms of advice, in 2014, the EIB and DG REGIO set up “fi-compass” to improve the knowledge and quality of financial instruments under shared management throughout Europe. This complements the advisory services of JASPERS (created in 2005 and managed by the EIB in partnership with the European Commission and the European Bank for Reconstruction and Development (EBRD). JASPERS helps cities and regions in most EU countries to prepare major projects, as well as some smaller projects in smaller countries and strategic sectors like innovation and energy efficiency. Moreover, the EIB provides dedicated project advisory services to some Member States, to help overcome specific implementation challenges.

[8] Cohesion has been at the heart of the EIB operations since its foundation in 1958. Cohesion is an integral part of the EIB core activity and enshrined in its Statute.

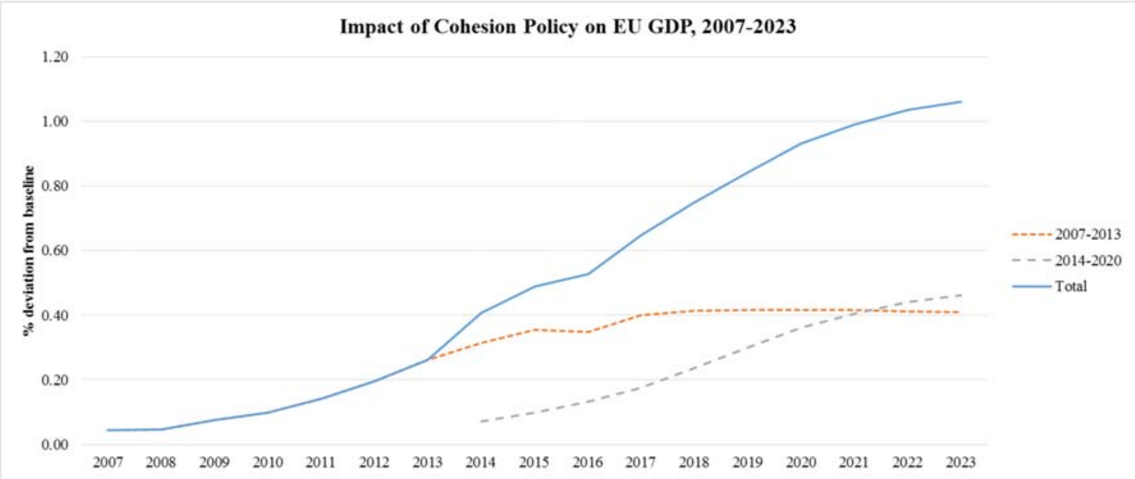
Figure 6-6 Operations signed under the Cohesion Objective in EU, (EUR bn) by country and programming period



6.3. MACROECONOMIC IMPACT OF THE POLICY

Macroeconomic models suggest that Cohesion Policy interventions are likely to have a positive and significant impact on the EU economy (see Figure 6-6). The impact of Cohesion Policy builds up over time and continues long after the programmes have come to an end. In the short run, a substantial part of the impact stems from the increase in demand generated by the additional expenditure, which is partly crowded-out through increases in wages and prices. In the medium and long run, productivity enhancing effects of Cohesion Policy investment – the so-called supply-side effects – materialise and increase potential output, reducing inflationary pressure at the same time. By 2023, EU GDP is expected to be more than 1% higher as a result of Cohesion Policy investments (after taking account of their financing).

Figure 6-7 Impact of Cohesion Policy on EU GDP, 2007-2023[9]



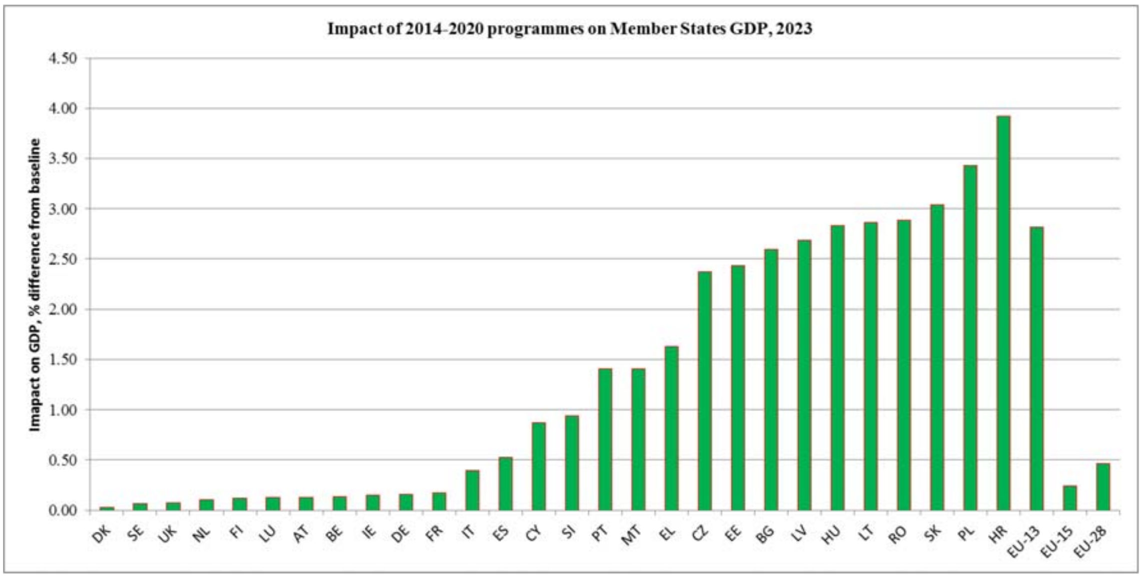
Unsurprisingly, the impact is greatest in the main beneficiary countries. For example, at the end of the implementation period of the 2007-2013 programmes (i.e. in 2015), GDP in Latvia is estimated to have been 3.9% higher thanks to the investments supported by cohesion policy while in Hungary, it was around 3.6% higher. On average, GDP in the EU-12 in 2015 is an estimated 2.8% higher than it would have been without cohesion policy investments.

In the EU-15, the effects of the policy are smaller during the implementation period but they strengthen over time. The overall impact was positive, though marginal in some cases, even in Member States which are net contributors to the policy. This is because the effect of higher taxes to finance the investment concerned is more than compensated by the boost in income and expenditure in net recipient countries from the investment, which leads to increased imports from net contributor countries, so boosting the GDP of the latter (see Box on Spatial spill-overs).

The same types of result are expected for the 2014-2020 period (Figure 6-7). The largest impact is estimated to be in Croatia where GDP is forecast to increase by around 4% by the end of the implementation period (2023) over and above what it would have been in the absence of Cohesion policy investment. The impact is also large in Poland (+3.4%), Slovakia (+3%) and Romania (+2.9%). In the long run (in 2030), the increase in GDP is largest in Croatia and Poland (more than 4% in each case).

9 Input data for the 2007-13 period is based on actual expenditure, not just allocations. Expenditure for the 2014-2020 programmes has been estimated based on the time profile of the 2007-2013 expenditure and the information available on current implementation of these programmes.

Figure 6-8 Impact of 2014-2020 programmes on Member States GDP, 2023



As for 2007-2013, the expected impact in the EU-15 is smaller. However, in the long run the net impact of the policy per euro spent is only slightly lower in the EU-15. Indeed, as compared to the EU-13, investments in the EU-15 tend to be relatively more concentrated in R&D and human capital which produce most of their effects long after the spending involved has come to an end. Ten years after the end of the programming period, in 2030, the impact is estimated to be around 2.7 times the money spent in the EU-13 and 2.4 times in the EU-15. Over the 17-year period 2014-2030, these figures correspond to an annual average return of around 6% in the EU-13 and 5% in the EU-15, good value for money from a policy which generates social returns, in the form of non-quantified environmental and other benefits which improve the quality of life and the sustainability of development, as well as purely financial ones[10].

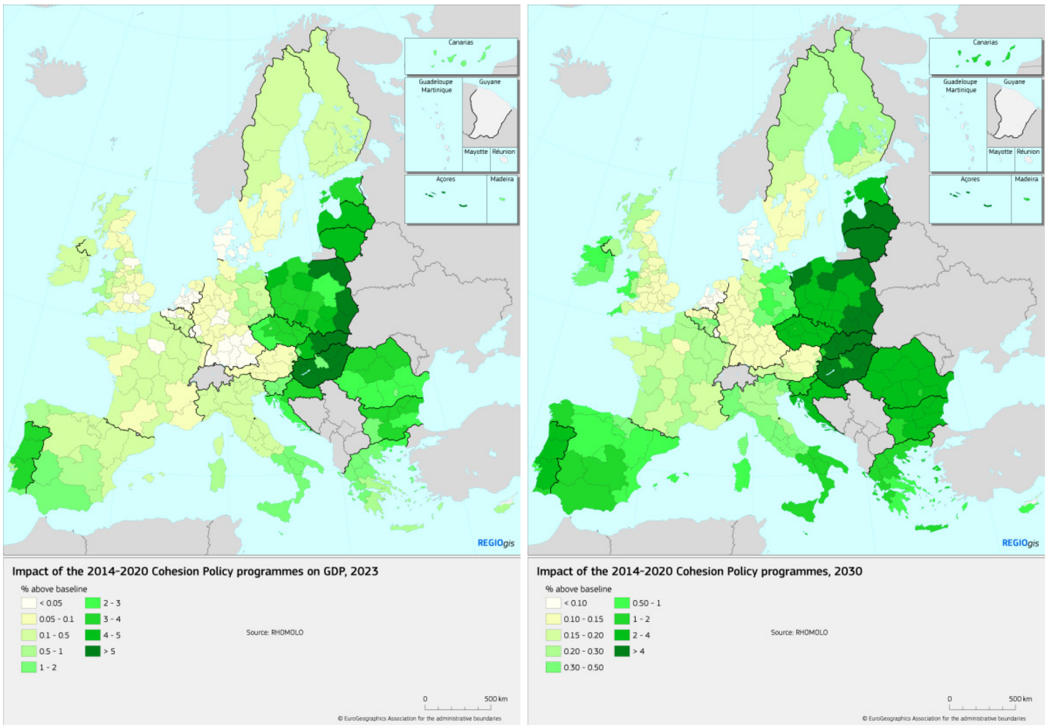
Impact at regional level

The analysis conducted at the national level can be complemented by simulations at the regional level. This is important as the intensity of aid and the policy mix, i.e. the investment priorities supported, vary markedly from one region to another, even within the same Member State. The impact of the policy also depends on the economic and social environment in which it is applied. The same policy mix can potentially have quite different consequences if implemented in a mostly rural region where agriculture accounts for a substantial share of GDP or in an urban region specialised in services. In addition, some mechanisms which need to be taken into account when assessing the impact of Cohesion policy are more likely to operate at a regional than a national level. This is the case, for example, with spatial spill-overs through which the programmes implemented in one also have an impact in other regions, especially those that are geographical neighbours.

The impact at NUTS 2 regional level shows wide variations across the EU-27 and even within the same country (Map 6-1).

[10] For instance, between 1995 and 2015 the compound annual growth rate of the SP 500 was 11.3%.

Map 6-1 Cohesion policy, impact on NUTS 2 regions GDP, 2015



Source: RHOMOLO.

Table 6-6 Cohesion policy impact on GDP, 2023 and 2030, % deviation from baseline

2023		2030	
Top 10		Top 10	
HU31	8.7	HU31	6.3
HU32	8.4	HU32	6.1
HU33	7.3	SK04	5.9
HU23	7.0	HU33	5.5
HU22	6.3	SK03	5.3
HU21	6.2	PT20	5.3
SK04	5.7	HU23	5.3
PT20	5.7	PL31	5.1
PL31	5.5	PL62	5.0
PL34	5.3	PL34	5.0

Source: RHOMOLO.

By the end of the programming period, GDP in Észak-Magyarország (HU31) and Észak-Alföld (HU32) in Hungary is estimated to be more than 8% higher than it would be without Cohesion policy (Table 6-5), while in the capital city region of Közép-Magyarország (HU 10), it is only 1.4% higher.

In regions in more developed Member States, the impact is smaller but remains positive in spite of the fact that these regions are net contributors to the policy. This is particularly true in the long-run because of the focus of investment as indicated above. In 2030, the smallest impact is estimated to be in Nordjylland (DK05), though it is still positive at 0.1% of GDP.

In most Member States, it is the least developed regions where investment relative to GDP is largest and where the impact is greatest. This is in line with the mandate enshrined in the Treaty which is to reduce disparities in regional GDP per head across the EU.

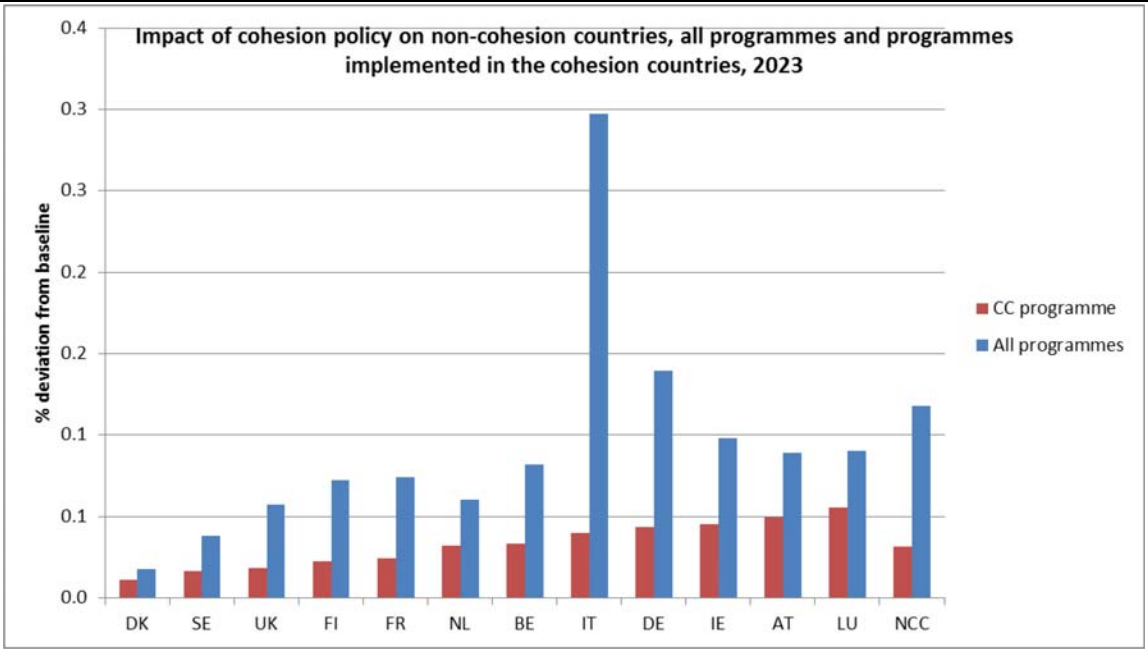
Spatial spill-overs

Cohesion policy interventions not only positively affect the performance of the Member States and regions in which they are implemented, but they also generate spill-overs elsewhere in the EU. These effects can be modelled. Figure 6-9 shows the impact of all cohesion policy programmes in 2007-13 on the non-cohesion countries. This is the sum of their contribution to the EU budget (negative), the impact of the programmes implemented in the non-cohesion countries (positive) and the spill-over benefits from increased exports to the cohesion countries (positive). It also shows the impact on this group of countries of the programmes implemented in the cohesion countries only.

Focusing on the latter, the negative effect of raising taxes dominates during the implementation of the programmes, but once they are terminated, GDP in the non-cohesion countries is higher than what it would have been without cohesion countries programmes, due to the positive spill-over they generate on the economies of the non-cohesion countries.

In the long-run, these spill-over benefits represent a substantial share of the total impact of the policy on the non-cohesion counties economies. By 2023, the impact of the 2007-2013 programmes is estimated to be around 0.12% of GDP in non-cohesion countries, of which around a quarter (0.03%) is due to spillovers from spending in cohesion countries. This effect is particularly pronounced for Member States with strong trade links with cohesion countries (Austria and Germany) or strong openness to trade in general (Ireland and Luxembourg). In Austria and Luxembourg, more than half the impact of the policy is due to investment in the cohesion countries.

Figure 6-9 Impact of cohesion policy on non-cohesion countries, all programmes and programmes implemented in the cohesion countries, 2023



Note: CC programmes are programmes carried out in the cohesion countries.
Source: QUEST.

6.4. INNOVATION AND COMPETITIVENESS

The ERDF is the largest single EU source of financing for innovation and competitiveness (Figure 6-10). For innovation (on which Horizon 2020 is concentrated), the ERDF is the second largest source, but, as noted above, it is the predominant source of support for SMEs.

Figure 6-10 Main EU sources of funding for Research, innovation and ICT, 2014-2020

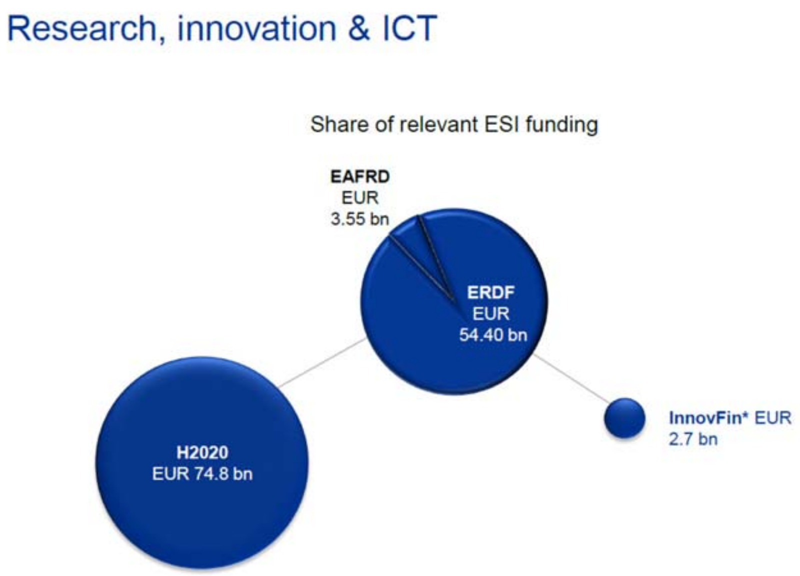
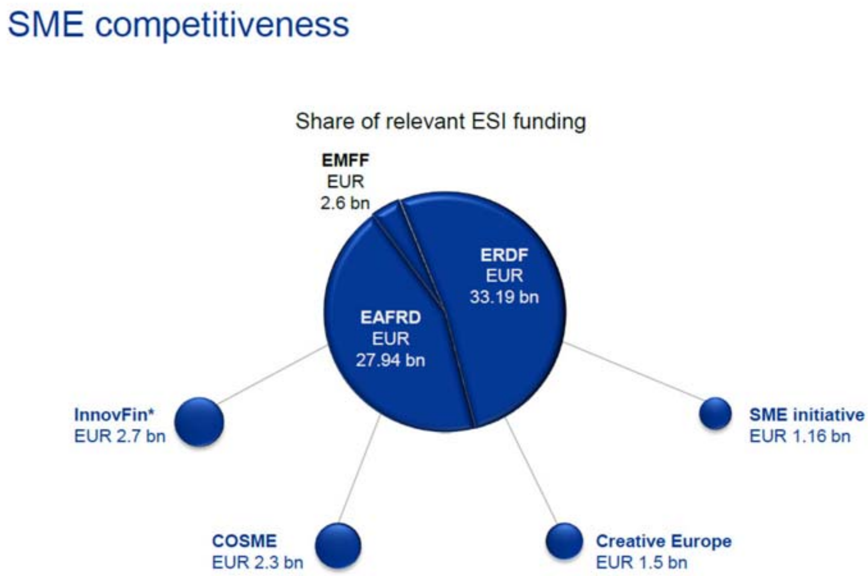


Figure 6-11 Main EU sources of funding for SMEs, 2014-2020



In line with the emphasis on smart specialisation, cohesion policy is increasingly concentrated on higher value-added support, with greater focus on productivity and less on employment (the target for gross jobs directly created being reduced from 1.2 million in the previous period to 420 000 – Table 6-6). In addition, support to large enterprises is now restricted to innovation.

6.4.1 Support to SMEs

Support to SMEs over the 2007-13 period was already focussed on RTD and innovation. Some 400 000 SMEs across the EU received direct support and 121 400 new businesses were helped to start up. The firms directly supported represented just under 2% of the 23 million or so SMEs in the EU. This, however, greatly understates the potential importance of the support since in many cases it was targeted at the more strategic firms in a region, such as those engaged in manufacturing or tradable services and, accordingly, the main sources of potential growth, rather than those in sectors such as retailing or other basic services in which most SMEs operate. Around 7% of manufacturing SMEs in the EU were supported, including an estimated 15% of small firms in the sector (those with 10-49 persons employed) and over a third of medium-sized enterprises.

The average amount of funding going to each SME is estimated at around EUR 115 000, though there were wide variations between different measures of support, from several million euro (up to EUR 5 million in Poland for co-financing the purchase of modern machinery, for example) to a few thousand euro (such as in respect of short-term credit for micro enterprises).

Table 6-7 Common indicators and targets for 2014-20 as regards innovation and competitiveness

Research, Innovation: Number of enterprises cooperating with research institutions	Enterprises	73,000
Research, Innovation: Number of new researchers in supported entities	Full time equivalents	29,500
Research, Innovation: Number of enterprises supported to introduce new to the firm products	Enterprises	63,000
Research, Innovation: Number of enterprises supported to introduce new to the market products	Enterprises	28,000
Research, Innovation: Private investment matching public support in innovation or R&D projects	EUR	10.4 billion
Research, Innovation: Number of researchers working in improved research infrastructure facilities	Full time equivalents	72,000
Firms receiving non-financial support (advice)	Enterprises	450,000
All firms receiving support	Enterprises	1,100,000
Firms receiving grants	Enterprises	370,000
Direct employment increase in supported enterprises	Full time equivalents	420,000
Firms receiving financial instrument support (non-grants)	Enterprises	200,000
Private investment matching public support to enterprises (grants)	EUR	23.7 billion
Private investment matching public support to enterprises (non-grants)	EUR	8.6 billion
Start-ups supported	Enterprises	154,982

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/

The evaluation found that a major result of support was the help given to SMEs to withstand the effects of the crisis by providing credit when other sources of finance had dried up (see Box). There was also support for innovation and the adoption of more technologically advanced methods of production as well as for the development of new products. The evidence from the surveys and case studies carried out as part of the evaluation shows that support led to investment being maintained, increased and/or accelerated, resulting in increased turnover, profitability and exports.

It also led, in a number of cases, to observable behavioural changes, such as SME owners and managers being more willing to take risks and to innovate. This was evident, for example, for R&D grants in Castilla y León (Spain), which resulted in SMEs being more capable of undertaking complex projects, often in collaboration with other firms or research centres. Overall, the ERDF provided support for 35 500 projects for cooperation between SMEs and research centres.

In some programmes, the ERDF was used to support experimental and innovative policy measures instead of replicating traditional national schemes. This was the case, for example, in Denmark, Sweden and Finland, where there was a focus on research and innovation, in Puglia in Italy with the 'Living Labs' experiment and In Lithuania with the Inno-voucher scheme.

The contribution of financial instruments (FIs)

Since FIs were particularly concentrated on supporting SMEs in the 2007-2013 period, the *ex post* evaluation was specifically focused on this. It found that FIs played a crucial role in providing funding to SMEs during the credit crunch in the crisis and helped many firms to stay in business. Indeed, the regulations were changed in response to the crisis, allowing FIs to be used to finance working capital as well as fixed capital, so giving them a distinct advantage over grants. In Lithuania, in particular, around 60% of loans went to support of working capital, so keeping many businesses afloat. FIs, however, also helped to maintain investment in new technology and in improving production processes more generally.

It is equally evident that FIs have assisted in the development of financial markets in a number of regions. In North-East England, they led to the creation of a revolving fund and helped to develop a private investment sector in the region as well as supporting investment in new technology and innovation. In Bayern in Germany, they helped to develop a business market and in Hungary and Malopolskie in Poland, regional financial intermediaries.

In addition, and perhaps unexpectedly, the evidence from case studies suggests that SMEs often prefer FIs to grants, since a loan covering 80% of an investment would mean them having to find less additional financing than a grant covering 20%[11]. This may prove to be a key source of the added value of FIs in the longer term.

6.4.2. Support to the social economy

Social enterprises create new jobs, facilitate labour market integration and are a source of social innovation. Moreover, the development of social enterprises and related social finance markets can mobilise significant private investment to address social issues, contributing to the sustainability of welfare systems.

The ESF is actively supporting the establishment of social enterprises as a source of jobs, in particular for groups of people who find it difficult to get work: young long-term unemployed, disabled people and people in rural communities. Overall Member States have earmarked more than EUR 1 billion to this priority in 2014-2020 and several Member States are using the ESF to boost the social investment market, such as in Portugal through the Social Innovation Fund and in Poland through the National Fund for Social Entrepreneurship.

[11] An 80% loan and a 20% grant are not atypical figures in an ERDF context.

6.4.3. *Support to large enterprises*[12]

Although SMEs are the main focus of enterprise support under cohesion policy, large enterprises are often key to regional development. An estimated EUR 6.1 billion from the ERDF was allocated to large enterprise support in the 2007-2013 period – roughly 20% of the total direct support to enterprises (Table 6-7).

Table 6-8 Incidence and volume of support to large enterprises 2007-2013

	Direct enterprise support[13] (EUR million)	**Large enterprise support** (EUR million)	**Large enterprise / total support**	**Number of projects**	**Number of firms supported**
Poland	6591	1153	17%	539	408
Portugal	4145	1134	27%	407	319
Germany	3200	704	22%	763	632
Czech Republic	1491	467	31%	520	339
Hungary	2581	453	18%	409	273
Spain	2543	311	12%	1269	398
Italy	2034	243	12%	416	270
Austria	283	133	47%	194	148
Total (EU-28)	**31 233**	***6100 (est.)***	***20% (est.)***	***6000 (est.)***	***3700 (est.)***

Source: Ex post evaluation of Cohesion Policy. The countries listed are the 7 investing most in large enterprise, plus Austria, in which the proportion of funding for enterprise support going to large enterprises was the largest in the EU.

This took the form of some 6 000 projects, with an average project size of EUR 1 million. In total, roughly 3 700 large firms were supported, with an average of 1.6 projects in each of them (although some firms received support for 4-5 projects). Poland, Portugal and Germany accounted for half of total ERDF support to large enterprises in 2007-2013.

Over 70% of the large enterprises concerned were in manufacturing, in the automotive and aerospace industries but also in packaging. For the most part, large firms were supported through non-refundable grants, but in Italy, Spain, Portugal and Austria, support was also provided in the form of loans (usually combined with grants).

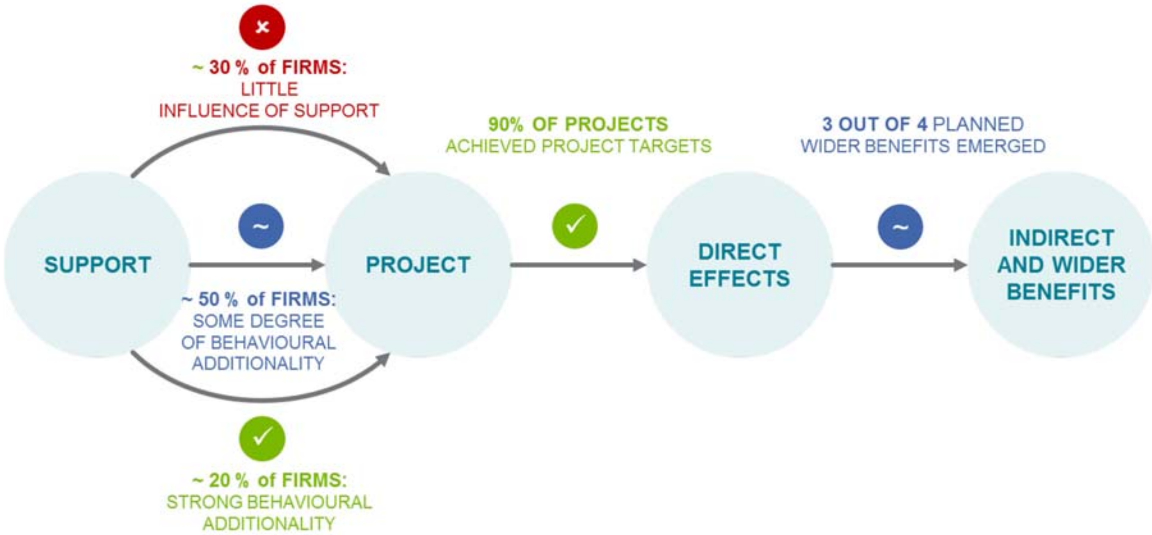
Support had a strong economic impact, with 90% of projects achieving or more than achieving the goals set (Figure 6-12). Both the production capacity and the productivity of the enterprises concerned was increased, often due to the adoption of cutting-edge technologies that went beyond simple replacement investment. Moreover, the projects directly created at least 60, 000 new jobs in the 8 regions selected for in-depth case studies.

According to the case studies, 3 out of 4 of the ’wider benefits ‘targeted were achieved, the most common being knowledge spill-overs and the building of local supply chains. Typically, however, while ERDF support influenced the decision to invest, it was only one factor among

12 Large enterprises as defined using the standard Commission definition: see glossary.
13 Enterprise spending encompasses the following 10 expenditure codes as defined in Council Regulation (EC) NO 1083/2006: 03–09, 14–15 and 68.

many. Since large enterprises tend to have long- term strategies, multiple grant options and easier access to finance than SMEs, they are less influenced by grant money.

Figure 6-12 Large Enterprise support 2007-2013 - Case study results

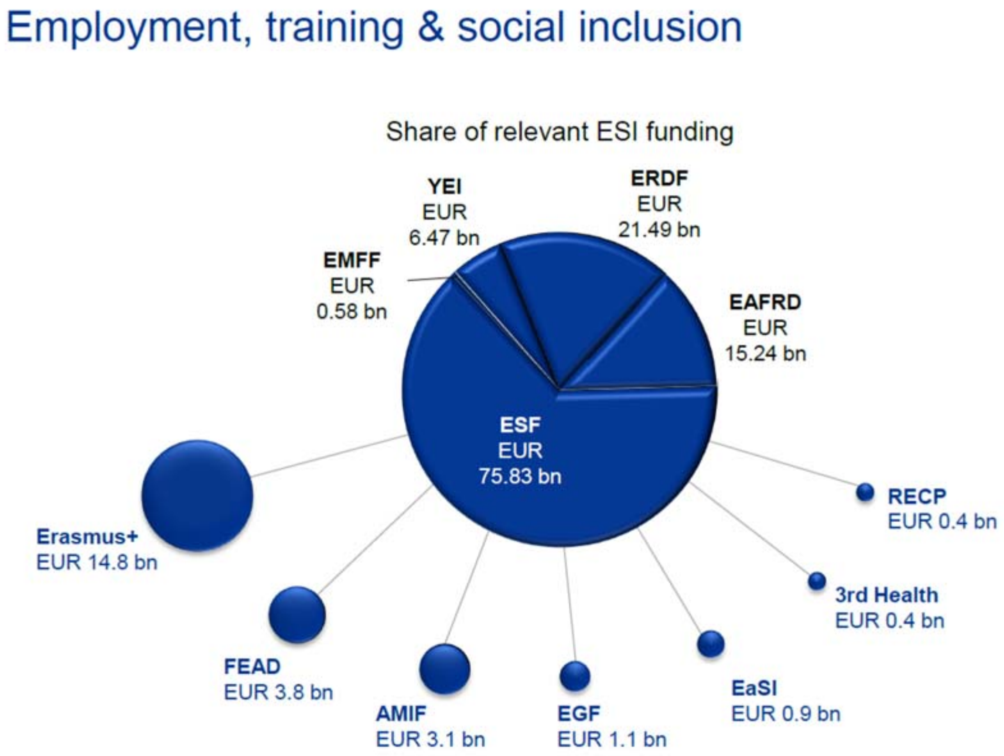


Source: ex post evaluation of cohesion policy

Wherever it was possible to judge, it was found that the presence of the large enterprises in the region concerned was more than temporary and in the case of the projects supported, the investment concerned would be maintained for the mandatory five-year period. Whether or not the enterprises would sustain production in the region over the longer-term, depended, in particular, on the lifecycle of the plant or process in which investment had been made and the technology involved as well as corporate strategy.

6.5. Employment, social inclusion and education

Figure 6-13 Main EU sources of funding for employment, training and social inclusion, 2014-2020



In the 2014-2020 period, the European Social Fund (ESF) is providing support to four thematic objectives: Employment, Social inclusion, Education and Skills, and Administrative capacity building. Of the total ESF budget of EUR 86 billion[14], over EUR 75 billion is going to support sustainable and quality employment, social inclusion and investment in education and training. The majority of funding is allocated to employment and education objectives, with 25% going to social inclusion. The funding is expected to:

- help more than 7.4 million of the unemployed into work, together with another 2.2 million people six months after they have completed an ESF project;
- help over 8.9 million people gain new qualifications.

The ESF is also expected to help at least:

- 9.9 million people with low education;
- 7.5 million people who are disadvantaged;
- 6.2 million young people;
- 7.2 million people in employment, including the self-employed and those working in schools, public employment services and other organisations.

6.5.1. Employment

Promoting high levels of employment and job quality is the cornerstone of the ESF. It helps both the unemployed and inactive to find a job, through training, counselling, job placement

[14] EU funding.

and other means. It also helps those in employment to upgrade their skills to remain competitive on the labour market and adapt to change. The ex-post evaluation of the 2007-2013 ESF programmes showed that by the end of 2014, at least 9.4 million people who found a job received support from the ESF[15].

As part of its employment objective, the ESF is helping tackle the major problem of youth unemployment. Indeed, young people are among the most important target groups for the ESF, representing around 30% of all participations in ESF programmes. Over the 2014-2020 period, the ESF will directly invest at least EUR 6.3 billion to support the integration of young people into employment across the EU. In addition, the Youth Employment Initiative (YEI) was launched in 2013, with a budget of EUR 4.2 billion[16], matched by an equal amount from the ESF, i.e. EUR 8.4 billion in total, for Member States to invest directly in improving the employability of young people.

The YEI helped to kick-start the implementation of the Youth Guarantee – a guarantee that each young person will be offered a job, further training or education within 4 months of becoming unemployed. By the end of 2016, over 1.6 million young people had already been directly supported by the Initiative. Alongside supporting investment, the ESF is also being used to change the policy approach to youth unemployment in Member States by encouraging a more individual focus.

The preliminary assessment of the implementation of the ESF and YEI up to 2016 shows positive achievements, with over 6, 8 million participations in measures supported, o 3, 4 million of which involved those unemployed, 1, 8 million those inactive, 2.6 million those below 25 and 2.6 million those with only basic schooling (ISCED level 0- 2)[17], confirming that the ESF is reaching its target groups. Results are still limited and will take time to materialise, since so far only 0.7 million participants are reported to have gained a qualification and only 0.6 million participants have found employment, including self-employment, on leaving programmes.

6.5.2. Social inclusion

One of the central purposes of the ESF is to support people who are disadvantaged and at risk of poverty to help them into employment and to find their place in society. For the 2007-2013 period, 10% of total ESF co-financed investment was allocated to social inclusion measures, which according to evaluations helped Member States to better support those most severely hit by the crisis. In the 2014-2020 period, at least 20% of the ESF will go to such measures which should increase the effects.

In addition, the ESF provides support to measures to help groups who face discrimination and prejudice in the labour market. These include, in particular, migrants, ethnic minorities, such as Roma, and those with a different lifestyle, such as itinerant travellers. As well as co-financing education and training for them, ESF-supported measures are aimed at combating all forms of discrimination and at breaking down the various barriers the people concerned face in finding employment and becoming integrated into society.

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[15] European Commission 'Ex post evaluation of the 2007-2013 ESF programmes' SWD(2016) 452 of 12.12.2016.

[16] The decision to increase the initial budget of EUR 3.2 billion for the Youth Employment Initiative by EUR 1.2 billion was agreed upon by the co-legislator in 2017.

[17] The figures sum to more than the total because the groups are not exclusive.

6.5.3. *Education*

The ESF is the main EU source of finance for investment in human capital and the development of skills which are crucial to achieving and maintaining high levels of employment, As such, the Fund helps Member States to improve the basic skills of the low qualified, as well as assisting workers to increase their skill levels and the unemployed to get back into work.

As highlighted by the New Skills Agenda for Europe[18], it is of paramount importance for people to have the right skills, both for their self- fulfilment and for the competitiveness of the EU economy. To this end, the ESF provides support across the entire education cycle from early childhood schooling to vocational training and life-long learning.

Social innovation

The ESF has played an important role in changing attitudes and systems of care and support for people with disabilities in encouraging a shift from care in institutions to care in the community, following a human rights approach. In the 2014-2020 period, there is a more focused use of the ESF on supporting a transition to such a shift, with Member States being obliged to address this transition in a more systemic way and to make structural reforms rather than intervening on an ad-hoc basis. Such reforms were encouraged by allocating resources to their implementation during the negotiation of programmes.

Bulgaria is an example of what has been achieved so far. Through an ambitious programme of reform, the Bulgarian Government, with support from the EU and civil society, has made significant progress in deinstitutionalisating the care of children with disabilities in a short space of time, the number in institutions being reduced by 82% and all specialised institutions for such children being closed down.

As part of ESF transnational cooperation, social innovation is encouraged in most areas of support, the objective being to stimulate new approaches and the exchange of good examples of innovative measures between Member States.

6.5.4. *Urban and social infrastructure*

Table 6-9 Common indicators and targets for 2014-2020 as regards urban and social infrastructure

Childcare and education: Capacity of supported childcare or education infrastructure	Persons	6.8 million
Urban: Population living in areas with integrated urban development strategies	Persons	41.2 million
Urban: Public or commercial buildings built or renovated in urban areas	Square metres	2.2 million
Urban: Rehabilitated housing in urban areas	Housing units	17,000
Urban: Open space created or rehabilitated in urban areas	Square metres	29.2 million

18 European Commission 'A New Skills Agenda for Europe', COM(2016) 381 of 10 June 2016.

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/

The *ex post* evaluation of the 2007-2013 period found that activities related to urban development ranged from 'investments in deprived areas' and 'support for economic growth to support of 'the cultural heritage' and 'strategy development'. The following kinds of project were undertaken with the support provided:

- The construction, repair and renovation of schools, housing, social and cultural centres and other buildings
- The creation of business space
- The renewal and revitalisation of town centres and historic areas and the construction of flood defences
- The construction of cycle paths
- The construction of public spaces and facilities
- The rehabilitation of wasteland/ and of brownfield sites
- The installation of clean drinking water supply and wastewater treatment facilities
- Improvements in the energy efficiency of buildings.

Achievements in the EU-12 ranged from improvements in infrastructure (water supply, sewerage systems, schools, housing and cultural centres) and the renovation of buildings to the execution of urban integrated development plans and strategies. In the Czech Republic, for example, Integrated Plans for Urban Development for cities with more than 50 000 inhabitants were formulated as the basis for the construction of sports facilities, public places and cultural and leisure facilities.

In the EU-15, the focus in the UK was on the creation of business centres and support of SMEs at local level, while in other countries, the ERDF was used to stimulate private investment in towns and cities, such as in Rotterdam.

In the case of social infrastructure, the main achievements included:

- Improvements in healthcare and social infrastructure facilities through modernisation of equipment and the increased efficiency of ambulance, care and other services (e.g. in Hungary and the Czech Republic), which helped to close the gap between more and less developed regions in the EU.
- Improvements of the education system in a number of Member States (notably in Portugal) where a significant budget was spent on schools, colleges and equipment.
- Improvements in training and employment services (in, for example Spain, Poland, the Czech Republic and Lithuania) to better adapt the work force to labour market needs.
- Improvements in the security of urban areas and investment in the cultural heritage.
- Investment in cultural, sports and training facilities, as part of urban development measures together with the establishment of support centres for different disadvantaged groups.

Monitoring data show that three quarters of the (small scale) projects examined in the evaluation made a concrete contribution to growth and jobs and a quarter of them a large contribution (Table 6-9). The most common outcomes were an improvement in skills and an expansion of local businesses, but there were also beneficial effects on a range of other factors from health to business creation and higher labour market participation.

Table 6-10 ERDF Urban and social projects in 2007-2013, % reporting a contribution to various goals

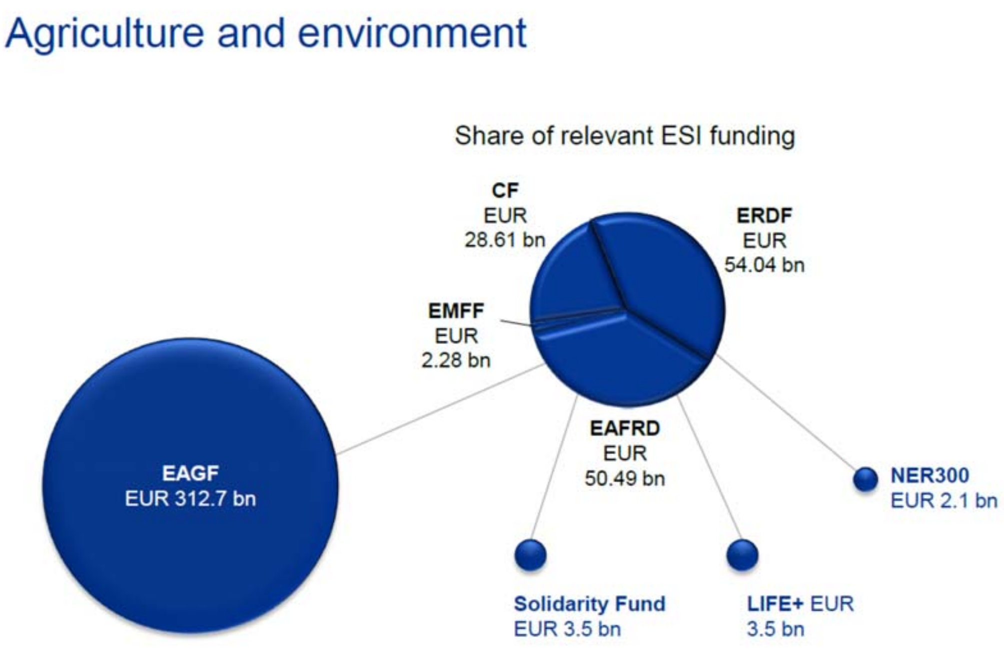
Improved skills/ educational attainment/ qualifications	39%
Improved performance/ expansion of local businesses	32%
Improved health outcomes	25%
Entrepreneurship/new business creation	24%
Higher rate of female and/or youth participation in the labour market	17%
Other	26%
Total reporting some contribution	**73% (and 24% a high contribution)**

Source: Ex post evaluation of cohesion policy

6.6. ENVIRONMENT, TRANSPORT AND ENERGY NETWORKS

6.6.1. The environment

Figure 6-14 Main EU sources of funding for the environment 2014-2020



The environment has been a focus of cohesion policy support since 1989. Along with transport, it is one of the policy areas eligible for financing from the Cohesion Fund, on the grounds that it is important to have common environmental standards across the EU for both the health of people and to protect the eco-system.

The *ex post* evaluation for the 2007-2013 period found a significant shift in EU-12 countries in the disposal of waste away from landfill to recycling. A substantial number of landfill sites which did not comply with EU standards were closed down while in the Czech Republic, Hungary, Lithuania, Poland and Slovenia, as well as Croatia, the proportion of waste which was recycled was increased by over 10 percentage points. Much of this shift was co-financed by the ERDF and Cohesion Fund.

EU cohesion policy is also key to making the circular economy a reality, by ensuring funding for waste management, innovation, SME competitiveness, resource efficiency and low-carbon investments, and promoting green public procurement.

The following achievements were identified in the case studies on waste management:

- In Bulgaria, the proportion of waste landfilled was reduced from 80% to 70% between 2007 and 2013. A mechanical biological treatment facility, co-financed by EU funding, was opened in Varna in 2011 and a similar facility, but including a composting plant, was opened in Sofia in 2015.

- In Estonia, 39 landfills and 11 industrial waste sites were closed down between 2007 and 2013, the share of municipal solid waste composted nearly doubled to 6% and the share of biodegradable waste sent to landfill was reduced significantly.

- In Poland, the share of municipal waste going to landfills was reduced from 90% to 53%, while the share of waste going to recycling increased from 6% to 16% and the share composted rose from 6% to 13%. A number of regional waste management centres were constructed to replace smaller local and less efficient ones. For example, a centre with a recovery facility to handle various types of waste and a composting facility was constructed in Gdansk, with EUR 48.2 million of the total cost of EUR 83.5 million coming from EU funds.

- In Slovenia, EU funds co-financed some 200 waste collection centres and the construction of a number of regional centres for waste management as well as an incinerator and the clean-up of old municipal waste landfills. Between 2007 and 2013, recycling nearly doubled to over 40% and composting was also increased, though it remained relatively small (only around 7% of the total in 2013).

Achievements as regards water supply and wastewater treatment included:

- an additional 5.9 million people connected to a new or improved supply of clean drinking water, 1.6 million of whom were in the EU-12 and 3.7 million in Convergence regions in the four southern EU-15 Member States, most of them in Spain and Greece;

- an additional 6.7 million people connected to new or upgraded wastewater treatment facilities, of whom 1.7 million were in the EU-12 and 4.6 million in the four southern Member States (Table 6-10).

Table 6-11: Additional people served by water and wastewater projects co-financed by the ERDF and CF for 2007-2013 by end-2014

	Additional population ('000) served by:	
	Water projects	**Wastewater projects**
CZ	371.3	490.3
EE	13.7	15.8
HU		478.1
LT		78.5
LV	672.2	90.1
PL	262.2	537.3
SI	291.6	194.2
SK	33.0	44.2
ES	1 929.0	2 172.3
GR	1 455.5	370.8
IT		825.0
PT	359.8	1 270.0
DE		213.0
FR	514.6	101.4
EU12	**1 644.0**	**1 928.5**
EU4	**3 744.3**	**4 638.1**
EU15 Other	**514.6**	**314.4**
EU	**5 902.9**	**6 880.9**

Note: EU4=GR, ES, IT and PT
Source: DG Regional and Urban Policy, derived from AIRs for 2014

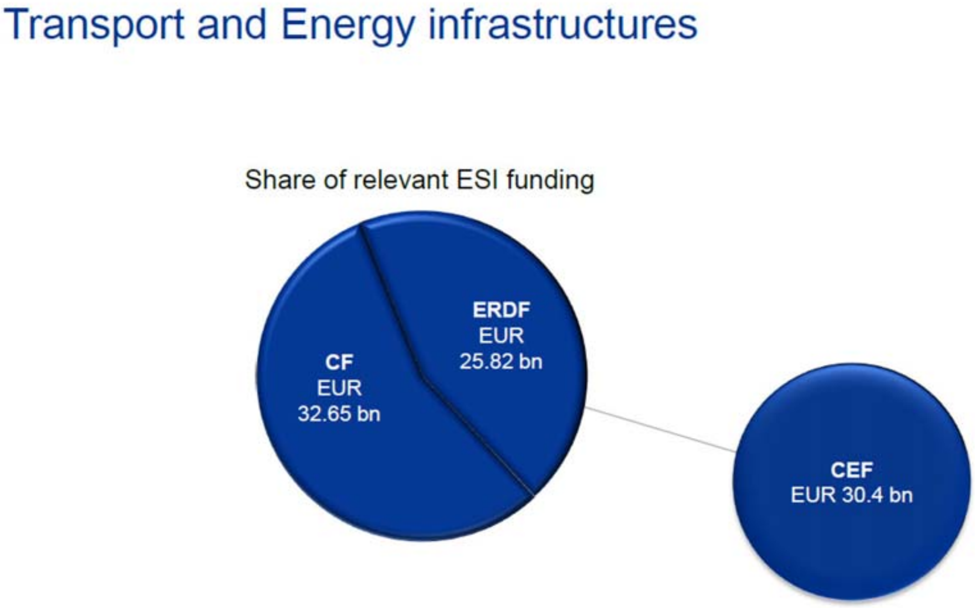
A striking example is the construction of a new sludge treatment facility at the Vilnius wastewater treatment plant in Lithuania. Before the construction, most of the sludge was landfilled while now it is composted and used as fertiliser. The aim was not only to comply with the EU Sludge Directive (86/278/EEB) but also to reduce the smell from untreated sludge, which affected half the population of Vilnius.

Table 6-12 Common indicators and targets for 2014-2020 as regards the environment

Risk prevention and management: Population benefiting from flood protection measures	Persons	13.2 million
Risk prevention and management: Population benefiting from forest fire protection measures	Persons	11.8 million
Nature and biodiversity: Surface area of habitats supported to attain a better conservation status	Hectares	6.4 million
Water supply: Additional population served by improved water supply	Persons	12.4 million
Land rehabilitation: Total surface area of rehabilitated land	Hectares	5,000
Solid waste: Additional waste recycling capacity	Tonnes/year	5.8 million
Wastewater treatment: Additional population served by improved wastewater treatment	Population equivalent	16.9 million

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/ .

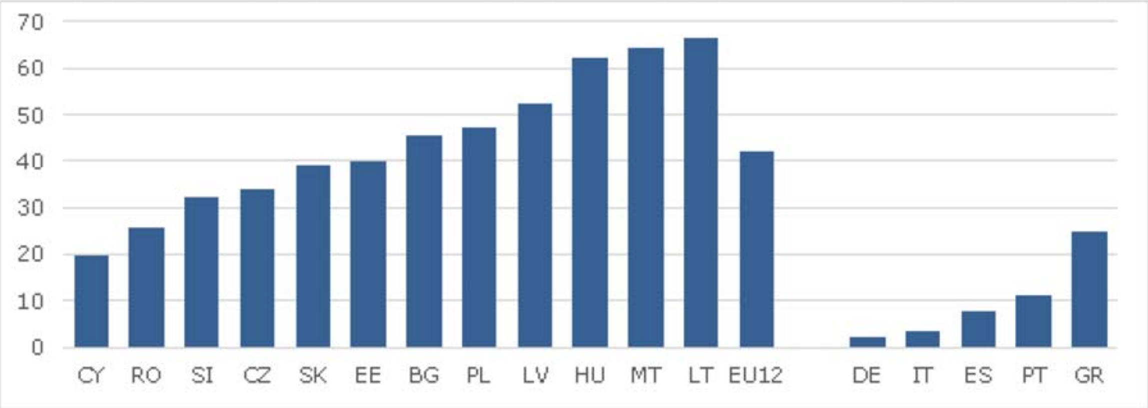
Figure 6-15 Main EU sources of funding for transport and energy infrastructure in 2014-2020



6.6.2. Transport investment

Investment in transport has always been a major focus of support from both the ERDF and Cohesion Fund, which represent substantial sources of funding for such investment, accounting for over 40% of total Government capital expenditure on transport over the 2007-13 period in the EU12. (Figure 6-16).

Figure 6-16 ERDF and Cohesion Fund allocation to transport relative to total government capital expenditure on transport, 2007-2013 (%)



Source: DG Regional and Urban Policy, Inforegio database and Eurostat, Government statistics.

Given the large number of projects, it is impossible to describe them all, but the following examples drawn from the ex post evaluation case studies[19] give a flavour of the types of investment concerned and the benefits they provide.

Cernavoda-Constanța motorway, Romania

The road is a 51 km long section of the A2 motorway linking Bucharest and Constanta on the Black Sea coast, the fifth largest city in Romania and the largest port on the Black Sea as well as being one of the largest in Europe. It also forms part of the TEN-T priority axis number 7, which runs from Patra in Greece, through Athens to Sofia and on to Budapest and which is part, in turn, of the Orient-East-Med Corridor which includes the Trakia motorway, described above. Accordingly, it shares the same characteristics of the latter in being strategically important for both the Romanian and the wider EU economy. The section which completed the A2 motorway opened to traffic towards the end of 2012.

Urban transport projects

A number of public transport projects were supported over the period which had the effect of reducing congestion in cities and improving the urban environment as well as reducing travel times. Examples include the development of metro systems in Budapest, Porto and Sofia (described below), tramlines in Le Havre in France, Szeged in the South of Hungary (also described below) and Warsaw in Poland and the upgrading of urban or suburban railways between Gdynia, Sopot and Gdansk in Poland and between Nantes and Châteaubriant in France (described below as well) together with the city rail tunnel in Leipzig.

Sofia metro extension

Cohesion policy funding co-financed the construction of metro line no.2 and the extension of line no.1 in Sofia which increased the network from 18 km in 2009 to 39 km in 2015 and the number of stations from 14 to 34. As a result, the Sofia metro now serves the major residential areas situated in the north and south of the city, as well as the Sofia Business Park, and the airport. This has led to changes in travel patterns, with an increased proportion of journeys being made by public transport and fewer by car, so resulting in significantly less congestion in the city and reduced toxic emissions.

Development of Szeged electric public transport

Cohesion policy funding was used to upgrade and extend the tram system in Szeged in Hungary to expand the capacity of routes linking residential areas with the city centre and to give added incentive to people to use public transport rather than cars. Tramline 1 and sections of lines 3 and 4 were, therefore, modernised (18.3 km in total) and a new line 2 was constructed (of 4.8 km) along with an extension of the trolleybus network (of 3.7 km). Nine new low-floor trams and 10 new trolleybuses were also purchased and a new passenger information and traffic management system was installed together with 8 bike-and-ride stations next to tram and trolleybus stops. The result has been a reduction in travel time between the main residential areas and the city centre. Noise and air pollution has also been reduced by expanding electric public transport and favouring its use in the city.

Reopening of railway line Nantes - Châteaubriant

[19] See annex 3 for references, where further details can be found.

The railway line, covering a distance of 64 km, was re-opened in 2014 having been closed for passenger traffic since 1980. The project was co-funded by the ERDF and involved the replacement of existing track, the electrification of the line, the installation of safety systems at level crossings and of signalling and telecommunication equipment and the improvement of access to stations and services at Nantes and other places along the route. The line, which is now used by tram-trains, has made commuting and other journeys to Nantes, a centre of essential services in the area, much easier. It has increased the attractiveness of using public transport instead of cars and so has reduced both congestion and pollution levels.

Table 6-13 Common indicators and targets for 2014-2020 as regards transport

Railway: Total length of new railway line	km	1,150.84
Railway: Total length of reconstructed or upgraded railway line	km	8,679.76
Railway: Total length of new railway line, of which: TEN-T	km	570.95
Railway: Total length of reconstructed or upgraded railway line, of which: TEN-T	km	4,636.40
Roads: Total length of newly built roads	km	3,432.45
Roads: Total length of reconstructed or upgraded roads	km	10,392.88
Roads: Total length of newly built roads, of which: TEN-T	km	2,021.70
Roads: Total length of reconstructed or upgraded roads, of which: TEN-T	km	798.00
Urban transport: Total length of new or improved tram and metro lines	km	747.62

Source: ESIF Open Data Platform - **https://cohesiondata.ec.europa.eu/**

6.6.3. Energy efficiency in buildings[20]

As noted in Chapter 3, heating, cooling and lighting buildings account for a substantial proportion of the energy consumed across the EU. Accordingly, improving the efficiency of energy use in buildings can contribute considerably to reducing overall energy consumption, so saving on the depletion of fossil fuels, alleviating poverty, increasing energy security and contributing to climate change mitigation and adaptation.

Following the adaption of the regulations in June 2009 as part of the European Economic Recovery plan, improving energy efficiency in housing became eligible for support in all parts of the EU, the maximum funding for this being increased to 4% of the total ERDF allocation at the same time. The express intention was to boost economic activity as well as to further social cohesion by helping to reduce disparities in access to good quality housing and to relieve energy poverty.

The *ex post* evaluation found that almost all of the funding going to investment in increased energy efficiency in buildings, overall around 90% of the total, took the form of non-repayable grants. Only a small amount of funding – around 9%, less than EUR 1 billion – was in the form of loans, interest subsidies, guarantees and other types of financial instrument (FI), equities, in particular. Many of the FIs were organised through JESSICA funds managed

[20] Cohesion policy investments in energy are broader, but this section takes a closer look at energy efficiency in buildings, a significant area of investment and a specific focus of investigation in the ex post evaluation of the 2007-2013 period.

by financial intermediaries, the central purpose of which was to provide funding for urban regeneration[21].

The evaluation reviewed 27 OPs and found an overall reduction of 2 904 GWh[22] a year in electricity consumption up to the end of 2013 from energy efficiency measures, including 1 438 GWh from measures for residential and public buildings. To put this into perspective, the reduction in respect of buildings amounts to an estimated cut of some 0.2% in total yearly energy consumption in the countries and regions concerned, not large but significant given the relatively small amount of funding involved. Moreover, by the end of 2013, only around 55% of the total funding available for energy efficiency had been spent, so a much larger effect is expected when all projects had been completed.

In addition, for 20 OPs, data were also collected on the reduction in greenhouse gas emissions from the projects supported. Up to the end of 2013, this amounted to a cut of 826.4 kilo tonnes of CO2 equivalent emissions a year from the projects undertaken to increase energy efficiency in buildings (and one of 1 454 kilo tonnes a year from all the energy efficiency projects supported). This amounts to an estimated reduction of 0.1% a year in annual emissions in the OP areas concerned.

In Lithuania, the result of the projects carried out was much greater, in line with the larger share of funding going to increasing energy efficiency in buildings. By the end of 2014 (i.e. one year later than the figures quoted above), energy use in the 864 public buildings which had been renovated had been reduced by 236 GWh a year, which corresponds to 3% of annual electricity consumption in the country.

Other less quantifiable achievements came in the form of technological advances as a result of innovative projects undertaken, awareness raising of the benefits of investing in energy saving and policy learning, in the sense of acquiring a better understanding of the policy measures available and how they can best be implemented and assessed.

Table 6-14 Common indicators and targets for 2014-2020 as regards energy efficiency and renewables

Energy efficiency: Number of households with improved energy consumption classification	Households	870,000
Renewables: Additional capacity of renewable energy production	MW	7,700
Energy efficiency: Decrease of annual primary energy consumption of public buildings	MWh/year	5,300
Energy efficiency: Number of additional energy users connected to smart grids	Users	3.3 million

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/

6.7. Reinforced cooperation and addressing territorial challenges

The current round of interregional cooperation (Interreg) has a budget of EUR 10.1 billion for 2014-2020 invested in over 100 cooperation programmes between regions and territorial, social and economic partners (Figure 6-17). This amount also includes the ERDF allocation

[21] JESSICA stands for Joint European Support for Sustainable Investment in City Areas, which is an initiative of the European Commission in cooperation with the European Investment Bank (EIB) to support urban regeneration and development through financial instruments.

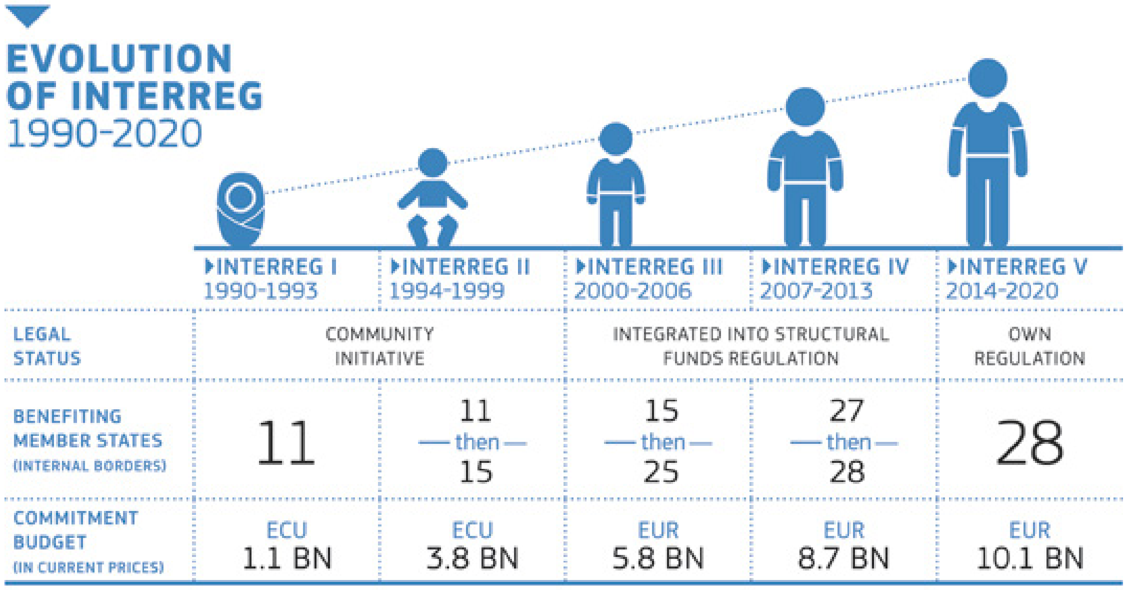
[22] Enough to light the city of Stuttgart for a year – or 1% of the UK's annual electricity consumption.

for Member States to participate in EU external border cooperation programmes supported by other instruments (Instrument for Pre-Accession and European Neighbourhood Instrument). The breakdown of programmes is as follows:

- 60 Cross-border programmes – Interreg V-A, along 38 internal EU borders. ERDF contribution: EUR 6.6 billion.
- 12 IPA Cross-border programmes: Instrument for Pre-Accession and European Neighbourhood Instrument
- 16 ENI Cross-border programmes: International Cooperation and Development
- 15 Transnational programmes – Interreg V-B, covering larger areas of co-operation such as the Baltic Sea, Alpine and Mediterranean regions. ERDF contribution: EUR 2.1 billion.

The Interreg Europe regional cooperation programme and three networking programmes (Urbact III, Interact III and ESPON) cover all 28 EU Member States and provide a means for exchanging information and experience between regional and local bodies in different countries. The ERDF contribution amounts to EUR 500 million.

Figure 6-17 Evolution of Interreg 1990-2020



In accordance with the new design of EU cohesion policy for the 2014-2020 period and the focus on concentration of funding, simplification of administration and results as well as on pursuit of the Europe 2020 targets, Interreg has been significantly reshaped to achieve greater impact and more effective use of funding.

A minimum of 80% of the budget for each cooperation programme is concentrated on a maximum of 4 thematic objectives of the 11 set out in the ERDF regulations.

Table 6-15 Key common indicators and targets for Interreg programmes, 2014-2020

Indicator	Unit	Target

Number of enterprises participating in cross-border, transnational or interregional research projects	Enterprises	6 900
Number of participants in projects promoting gender equality, equal opportunities and social inclusion across borders	Persons	9 900
Number of participants in joint local employment initiatives and joint training	Persons	53 000
Number of participants in cross-border mobility initiatives	Persons	240 000
Number of participants in joint education and training schemes to support youth employment, educational opportunities and higher and vocational education across borders	Persons	53 000
Number of research institutions participating in cross-border, transnational or interregional research projects	Organisations	1 400

Source: ESIF Open Data Platform - https://cohesiondata.ec.europa.eu/ .

The amounts allocated to Interreg are relatively small. The cross-border programmes, which account for the bulk of funding, amounted to only some EUR 20 per head of population in the regions covered in the 2007-2013 period. The programmes, therefore, have to be highly strategic and focussed.

By the end of 2013, these programmes had funded over 6 800 projects in policy areas at the core of the Lisbon, and later, Europe 2020 strategy. They included the creation and expansion of economic clusters, the establishment of centres of excellence, high education and training, cooperation networks between research centres and cross-border advisory services for enterprises and business start-ups. The 1 300 or so environmental projects involved the joint management of natural resources, including sea and river basins, cooperative action to combat natural risks, to respond to climate change and to preserve biodiversity and pilot initiatives to develop renewable energy.

Specific examples as regards RTD include the joint development of support for SMEs for image analysis and optical measurement process control in the mining industry and cross-border research and business cooperation for the development of new propulsion systems, liquefied natural gas technology and a new generation of wind-assisted motor boats.

Although the indicators available are limited and incomplete, they show that around 3,500 jobs were directly created as a result of the projects undertaken, 487 km of roads were improved and over 500000 people participated in joint education or training activities.

In the case of the transnational programmes, the indicators show that 2 207 jobs were created and 260 transnational projects in RTD and innovation, accessibility, risk prevention and water management were carried out. Most of the projects involved tackling common problems through collaboration, joint research or exchange of experience. The most frequent outcomes were the establishment of networks or partnerships between SMEs and research centres, the joint management of natural resources and joint action for environmental protection. A major aspect was the creation of critical mass, i.e. assembling funding on a sufficient scale to tackle territorial and environmental problems, to set up RTD networks and to create common services (such as in the case of transport in the North-West Region).

In the case of the interregional cooperation programme, the aim of which was to improve the effectiveness of regional policies through cooperation and exchanges between regions, the programme succeeded in setting up a framework in which local and regional authorities from across the EU could share experience and examples of good practice in relation to the problems they faced. However, the evaluation found little evidence of knowledge or experience being disseminated outside of the regions involved in the projects and outside of Interreg more generally.

Beyond the outputs and results described above, the programmes also had wider effects, notably in terms of alleviating barriers to cooperation (mainly cultural and physical barriers), and increasing social integration.

Transnational cooperation under the ESF has helped to make employment and social policies more effective and has contributed to the implementation of reforms, by facilitating the exchange of experience and good practice. For 2014-2020, Transnational Cooperation has been extended through the establishment of Thematic Networks[23] that bring together representatives from the bodies managing the ESF Operational Programmes, policy experts, academics, social partners and civil society organisations in order to share examples of good practice and innovations, as well as to coordinate the launch of calls for projects.

[23] Employment, Inclusion, Social Economy, Youth employment, Learning and skills, Migration, Governance, Partnership and Simplification.