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	MS		R&I Investments for recovery and green & digital transition	Business/SME innovation & access to finance	Public-cooperat
1	AT	Focus investment on the green and digital transition, in particular on innovation (...)			
2	BE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
3	CY	Focus investment on the green and digital transition, in particular on (...) research and innovation			
4	CZ	Ensure access to finance for innovative firms and improve public-private cooperation in research and development			
5	DK	Focus investment on the green and digital transition, in particular on (...) research and innovation. Support an integrated innovation strategy with a broader investment base			
6	EE	Focus investment on the green and digital transition, in particular on (...) research and innovation. Support the innovation capacity of small and medium-sized enterprises, and ensure sufficient access to finance			
7	FI	Focus investment on the green and digital transition, in particular on (...) research and innovation.			
8	FR	Focus investment on the green and digital transition, in particular on (...) research and innovation			
9	DE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
10	HU	Focus investment on the green and digital transition, in particular on (...) research and innovation			
11	IE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
12	IT	Ensure effective implementation of measures to provide liquidity to the real economy, including to small and medium-sized enterprises, innovative firms (...). Focus investment on the green and digital transition, in particular on (...) research and innovation			
13	LV	Focus investment on the green and digital transition, in particular on research and innovation (...)			
14	LT	Promote technological innovation in small and medium-sized enterprises			
15	LU	Foster innovation and digitalisation in particular in the business sector			
16	MT	Focus investment on the green and digital transition, in particular on (...) research and innovation			
17	NL	Focus investment on the green and digital transition, in particular on (...) mission-oriented research and innovation			
18	PT	Focus investment on the green and digital transition, in particular on (...) innovation			
19	SL	Focus investment on the green and digital transition (...) in particular on research and innovation			
20	ES	Focus investment on the green and digital transition, in particular on fostering research and innovation			
21	SE	Foster innovation and support education and skills development. Focus investment on the green and digital transition, in particular on (...) high-tech and innovative sectors			
22	UK	Foster innovation and support human capital development			

1. CHAPEAU COMMUNICATION- R&I REFERENCES

p.1 In restarting the economy, Member States should concentrate in a recovery strategy that sets the path for the green and digital transition in line with the European green deal. **Moving towards a more sustainable economic model, enabled by digital and clean technologies, can make Europe a transformational frontrunner.**

p.13 **More use of digital technology can offer greener solutions to organize our economies and societies.** (...)

p.10 While it will not be possible to save all jobs, the recovery will also bring along new opportunities. (...) **Structural change should also be encouraged through actions to promote innovative forms of work and entrepreneurship, including social economy.**

p.11 Among the measures by the Commission to directly support national health systems are calls for tender for medical equipment and supplies under the Joint Procurement Agreement and rescEU capacity, under the Union Civil Protection Mechanism, which enables to create a strategic stockpile of essential medical supplies for Member States and **support to research on vaccines, diagnostics and treatment** (...).

p.14 Appropriate policies are crucial to step out of economic recession in the short-run and to ensure that human capital is not affected in the medium run. Productivity enhancing mechanisms include: (i) **Promoting innovation and technological diffusion, e.g. through investment in R&I;** (ii) Effective enforcement of competition rules to address issues of market power; (iii) Investing in people competencies through better education and training systems; (iv) Ensuring well-functioning labour markets that avoid segmentation of skills and opportunities and that allow for job progression; (v) Facilitating proper allocation of resources through a supportive business environment; (...)

Digital technology is essential and will contribute to a more robust recovery of our societies as well as our economies. (...) **Long-term investment in R&D advanced digital technologies** and advanced digital skills is indispensable to guarantee Europe's technological sovereignty while preserving its common values.

Investment must take supply chains into account. (...) Potential equity funding programmes provided by EU and national authorities for SMEs, particularly those actively involved in **innovative projects** and with growth potential, could prevent unnecessary bankruptcies of viable businesses and serve as policy tools for overcoming industrial fragmentation. **Innovation is critical to a productive Europe.**

p.15 Tackling the recovery needs to take into account the large links across industrial ecosystems and firms spreading along several Member States. Investment also represents a powerful tool for EU industrial policy. Restoring the EU's supply chains

will require an effort to seek efficiency. Uncertainties, lower demand and disruptions in value chains have increased firms costs. Restoring productivity and cost competitiveness is become a challenge for firms in the short term. **Cost reducing innovations will become more attractive but efficiency will be a challenge across the economy. (...)**

2. AUSTRIA

Recital 21

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. This investment will be most effective when focused on innovation, digitalisation and the green transition so as to increase productivity and ensure sustainable competitiveness. Austria's research and development (R&D) intensity has been one of the highest in the Union but the country has lagged behind innovation leaders in terms of innovation outcomes. With many businesses' research budgets now under pressure, it is even more important to translate Austria's R&D efforts into excellent science and cutting-edge innovation, maintain public investment in basic research, and ensure equity funding for innovative scale-ups. (...)

Recital 22

(...) Investments in eco-innovation would trigger productivity growth while reducing Austria's ecological footprint. (...)

Investment CSR

Ensure an effective implementation of liquidity and support measures, in particular for small and medium-sized enterprises, and reduce administrative and regulatory burden. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on **innovation**, sustainable transport, clean and efficient production and use of energy.

3. BELGIUM

Recital 23

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. (...) In contrast to the relatively high private research and development (R&D) intensity, the public R&D intensity remains slightly below that of most Member States with a similar level of economic development. (...)

Investment CSR

Ensure effective implementation of the measures to provide liquidity to assist small and medium-sized enterprises and the self-employed and improve the business environment. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on infrastructure for sustainable transport, clean and efficient production and use of energy, digital infrastructure, such as 5G and Gigabit Networks, and **research and innovation**.

4. BULGARIA

Recital 25

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. The crisis brought further up the importance of digitalisation and innovation, where Bulgaria, and in particular its small and medium-sized enterprises (SMEs), is performing well below the EU average. One significant instance of this issue is the spectrum planned to be allocated in the 5G pioneer bands, which falls short of what is required to enable timely and effective provision of 5G services. The known issues in the research and higher education system, such as fragmentation, low funding and limited knowledge and technology transfer, still need to be tackled. (...)

No CSR

5. CROATIA

No CSR & recital

6. CYPRUS

Recital 25

Cyprus can further improve its research and innovation system to support productivity growth and the required digital and environmental transition in a postpandemia scenario. Firms' low research and innovation absorption capacity hamper Cyprus's competitiveness. Improved academia-business cooperation and commercialisation of research results remain a key bottleneck and require urgent action. However, recent measures such as the creation of a new department for research and innovation, the appointment of a new Deputy Ministry for Research, Innovation and Digital Policy as well as the new National Strategy for Research and Innovation 2019-2023, which sets a higher research and innovation intensity target of 1,5% of GDP by 2023 (up from the current 0,56%) are promising steps.

Investment CSR

Secure adequate access to finance and liquidity, especially for small and medium sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, waste and water management, sustainable transport, digitalisation, **research and innovation**.

7. CZECHIA

Recital 19

Czechia is among the countries that could be particularly affected by technological change and that need significant investment in this area. Digital transformation will require support, including in industry and service sectors, through targeted investment in smart solutions and skills. (...) The authorities are committed to encourage solutions based on artificial intelligence but Czechia still lags behind frontier Member States in terms of research and patent activities in this area.

Recital 21

Access to conventional finance is above the EU average, but risk financing is less developed. Funding for high-risk domestic enterprises, especially at seed and later development stage remains scarce. While some successful innovative initiatives have been brought to market, venture and equity capital financing remain very low. Research and innovation in Czechia are hampered by a need for systemic reform. Although the steady growth of private investment in research and development (R&D) continues, large, mostly foreign-owned firms, invest noticeably more into intangible assets like R&D, than small and medium domestic firms. The medium- and high-tech industry suffers from skills shortages due to low numbers of science, technology, engineering and mathematics (STEM) graduates and inadequate graduate training. At the same time, the promotion of and support for entrepreneurship remains low, hampering productivity growth. A high degree of fragmentation in the research sector results in R&D funding being spread too thinly. Public-private cooperation is hindered by the current researchers' career assessment practices. Closer cooperation between academia and business, in particular via spin-offs, could accelerate technology transfer and the diffusion of innovation.

Investment CSR

Support small and medium-sized enterprises by making greater use of financial instruments to ensure liquidity support, reducing the administrative burden and improving e-government. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on high-capacity digital infrastructure and technologies, clean and efficient production and use of energy, and sustainable transport infrastructure, including in the coal regions. Ensure **access to finance for innovative firms** and improve **public-private cooperation in research and development**.

8. DENMARK

Recital 16

The ongoing COVID-19 crisis underlines the need for Denmark to continuously work to strengthen the resilience of its health system. (...) Research is ongoing to find not only an antiviral treatment and a vaccine, but also better and faster testing.

Recital 18

Overall research and development (R&D) spending has not translated into higher productivity growth in Denmark. An integrated innovation strategy, which clearly spells out what Denmark wants to achieve within the global innovation landscape, is missing. Research and innovation activity remains concentrated in a small number of large firms and foundations and mostly in the pharmaceutical and biotechnology sectors. The eight largest companies account for almost 40% of total private R&D expenditure (vs. worldwide average of 19%). Overall R&D spending remains high, but the absolute number of companies active in R&D has declined since 2009, largely because smaller firms are not engaging in R&D. Only 33% of SMEs introduced product or process innovations. Therefore further policy efforts could be needed to broaden the innovation base with the objective to include more companies. Responding to changing skill needs after COVID-19, also in light of future technological changes, requires sustained investment in upskilling and reskilling schemes, including through adult learning.

Investment CSR

Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, sustainable transport as well as **research and innovation**. Support an **integrated innovation strategy** with a broader investment base.

9. ESTONIA

Recital 19

(...) The current crisis brought up the importance of digital and innovative solutions in keeping the economy going. (...) While Estonia's overall innovation performance improved in 2019, the levels of research-based innovation capacity and activity in the business sector remain low. Research-based innovation and the introduction of innovative solutions in companies could improve the country's competitive position and boost economic growth. To help companies recover from the crisis, it will be important to ensure good access to finance, including to equity financing for start-ups.

Investment CSR

Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on digitalisation of companies, **research and innovation**, clean and efficient production and use of energy, resource efficiency, and sustainable transport, contributing to a progressive decarbonisation of the economy. Support the **innovation capacity of small and medium-sized enterprises, and ensure sufficient access to finance.**

10. FINLAND

Recital 20

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. Investment in Finland remains below the EU average for categories that most support productivity growth, notably investment in equipment and in intellectual property. This can limit the country's long-term growth potential and weigh on its competitiveness and recovery. More investment in research and development is a key factor enabling structural change to favour knowledge-intensive sectors of the economy and strengthen long-term growth potential. (...)

Investment CSR

Take measures to provide liquidity to the real economy, in particular to small and medium-sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, sustainable and efficient infrastructure as well as **research and innovation**.

11. FRANCE

Recital 20

France's overall business environment has improved but France needs to continue its efforts to simplify its tax system and reduce the administrative burden for firms, particularly if it is to support an effective economic recovery in the medium-term. (...) Redesigning requirements for the access to and exercise of services activities would stimulate innovation, competition and professional mobility, having a positive overall economic impact. Regulatory flexibility could also boost a rebound of retail activity in the aftermath of COVID-19.

Recital 23

France has a strong research base and potential to engage in specific research and innovation-related measures to respond to the COVID-19 crisis, including the development of vaccines and medicines. The COVID-19 crisis and its aftermath require strengthened cooperation in research and innovation between the public and private sectors. In the medium-term, investment in research and innovation could unlock productivity gains, as pointed out by the French National Productivity Board. It is also needed in growth-enhancing sectors to allow firms to seize the opportunities offered by the transformation of the European economy.

Investment CSR

Ensure the effective implementation of measures supporting the liquidity of firms, in particular for small and medium-sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on sustainable transport, clean and efficient production and use of energy, energy and digital infrastructures as well as **research and innovation**.

12. GERMANY

Recital 19

(...) With a strong research base, Germany has the capacity to engage in specific research and innovation measures to respond to the COVID-19 crisis, including the development of vaccines and therapeutics and the development of a research network to bundle and strengthen the research activities of German university medicine and provide support to the Coalition for Epidemic Preparedness Innovations.

Recital 20

To foster the economic recovery, it will be important to frontload mature public investment projects and promote private investment. Public and private investment continued to increase robustly in 2019 but lagged behind investment needs. Public investment is below the replacement rate at municipal level, where the backlog of investments remains high at 4% of GDP and is still held back by capacity and planning constraints. (...) Additional investment in research and development (R&D) is essential to foster a recovery towards a more sustainable and competitive economy. Spending on education and research remained at 9,1% of GDP in 2018, falling short of the national target of 10%. Private R&D investment is increasingly concentrated in large firms. (...)

Investment CSR

Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on sustainable transport, clean, efficient and integrated energy systems, digital infrastructure and skills, housing, education and **research and innovation**. Improve digital public services across all levels and foster the digitalisation in small and medium-sized enterprises. Reduce the regulatory and administrative burden for businesses.

13. GREECE

No CSR & recital

14. HUNGARY

Recital 19

The government has announced several waves of measures since mid-March to mitigate the economic, social and economic impact of the COVID-19 crisis. (...) In order to preserve jobs, the government launched two types of short-time working arrangements. The general scheme covers up to 70% of lost wages for 3 months under certain conditions and a specific scheme targets research and development (R&D) personnel. (...)

Recital 25

Research and innovation is a critical driver for long-term growth and competitiveness. Hungary ranks as a moderate innovator. The shortage of highly skilled workers is a key obstacle to innovation. Spending on research and development (R&D) is increasing slow and was mainly fueled by the business sector, which benefits from the largest public support in the EU. However, R&D spending in the public sector decreased over the last decade. Investment in innovative small- and medium sized enterprises (SMEs), as well as strengthening cooperation between business, research, academia and the public sector, increase the country's research and innovation capacity called for by the COVID-19 crisis. Investments in public research and innovation, and a supportive research environment is necessary for recovery.

Investment CSR

Ensure liquidity support to small and medium-sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular clean and efficient production and use of energy, sustainable transport, water and waste management, **research and innovation**, and digital infrastructure for schools.

15. IRELAND

Recital 22

Ireland's efforts to reduce the productivity gap between its foreign and domestic sectors remain sluggish. Direct support through the Disruptive Technologies Innovation Fund for cooperation between firms and public research centres, for example through collaborative projects between industry - including SMEs - and research bodies is welcome. Although Ireland provides a relatively high amount of public support to companies, this support is implemented through a tax credit scheme for research and development, which tends to favour larger, foreign-owned firms and has a limited effect on improving the productivity of local Irish firms. The Future Jobs Ireland framework identifies key measures that could help address the weaknesses of the domestic economy, especially initiatives to strengthen the productivity of domestic firms, in particular SMEs. It is important that these measures are effectively implemented. (...)

Investment CSR

Continue to provide support to companies, notably small and medium-sized enterprises, especially through measures ensuring their liquidity. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, sustainable public transport, water supply and treatment, **research and innovation** and digital infrastructure.

16. ITALY

Recital 20

The crisis has reinforced the need to support the access to finance for firms. (...) Direct grants and incentives to market-based finance can also support the liquidity of SMEs and innovative firms. Innovative firms (often without collateral) have more difficulties to access credit, and the current crisis could worsen the situation. Deferral of tax and social contributions to the State has helped improve the cash flows of firms. However, delays in approved payments, whether by administrations-to-businesses or by business-to-business, should be prevented, as they are a drag on the liquidity of all firms, particularly of smaller ones.

Recital 23

A well-performing research and innovation system is the result of continuous, coherent and evidence-based policy support, together with investments and adequate human capital. The current crisis has clearly shown that the rapid exchange of data between researchers, including access to results and evidence at no charge to the user and Open Science, need further strengthening. The latter, together with science/business cooperation are clearly instrumental to bring research results, including those needed on vaccines and therapies, on the market, building on the strength of Italy in the medical industrial and research sector.

Investment CSR

Ensure effective implementation of measures to provide liquidity to the real economy, including to small and medium-sized enterprises, **innovative firms** and the self-employed, and avoid late payments. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, **research and innovation**, sustainable public transport, waste and water management as well as reinforced digital infrastructure to ensure the provision of essential services.

17. LATVIA

Recital 21

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. (...) In order to tackle the challenges posed by the transition to a climate neutral economy, investments are needed to diversify the economy and make it more modern and competitive, including by strengthening investment in research and innovation and human capital and to alleviate the socio-economic costs of the transition. (...)

Investment CSR

Ensure access to liquidity support by firms and in particular small and medium-sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on **research and innovation**, clean and efficient production and use of energy, sustainable transport and digital infrastructures.

18. LITHUANIA

Recital 20

(...) Newly-founded start-ups and scale-ups may need specific support, e.g. in the form of equity stakes by public institutions and incentives for venture capital funds to increase their investments in these firms.

Investment CSR

Support liquidity for businesses, especially for small- and medium-sized enterprises and export-oriented sectors. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on the coverage and take-up of very high capacity broadband, on clean and efficient production and use of energy, and sustainable transport. Promote **technological innovation** in small and medium-sized enterprises.

19. LUXEMBOURG

Recital 16

The health system is expected to face rising challenges in the future, in addition to the growing number of vacancies of health workers in recent years. (...) Skill mix innovations and the development of professional roles, task sharing and substitution will play an important role in keeping the health sector an attractive place to work. (...) Luxembourg has focused strongly on digital technologies, such as supercomputing, artificial intelligence, blockchain and big data, and has the potential to leverage on these capabilities and cooperate at Union level to make a major contribution to the research to neutralise the virus and reduce infections. Luxembourg has also set up a new support scheme for research and development investment projects on products fighting COVID-19, which are needed to efficiently address the current outbreak by developing effective treatment and vaccines.

Recital 19

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms, notably in digital and green sectors. Luxembourg has already launched initiatives to boost digitalisation and innovation, but technological integration in the business sector and private investment, as well as the digitalisation of public services, remain low, compared with the high-potential environment and the country's ambition to transition to a data-driven economy. Investments in digitalisation, advanced digital skills, and innovation – including developing an integrated research and innovation strategy – will be essential to support small and medium-sized enterprises, boost productivity and competitiveness. (...)

Investment CSR

Ensure effective implementation of measures supporting the liquidity of businesses, in particular small and medium-sized enterprises and the self-employed. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on sustainable transport and buildings, clean and efficient production and use of energy, contributing to a progressive decarbonisation of the economy. Foster **innovation** and digitalisation in particular in the business sector.

20. MALTA

Recital 17

The Maltese health system delivers good health outcomes. However, the outbreak of the COVID-19 pandemic put the Maltese public health system under unprecedented levels of pressure. (...) The following areas require particular monitoring: (i) the increasing reliance on migrant nurses in acute and long-term care, and an ageing private general practitioner workforce may pose challenges; (ii) the difficulties in making new and innovative medicines available; (iii) the high out of pocket expenditure on primary and outpatient care and on some medicines; (iv) waiting lists for outpatient care specialties are consistently long and have been increasing recently.

Recital 21

Placing higher importance on research and innovation and better embedding it in the business environment will support the sustainability of Malta's knowledge based economic model. (...)

Investment CSR

Ensure effective implementation of liquidity support to affected businesses, including the self-employed. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, sustainable transport, waste management, **research and innovation**.

21. NETHERLANDS

Recital 21

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. Targeted policy action, including investment in sectors with the strongest prospects to raise potential growth for the wider economy, can help to tackle the challenges accelerated by the recent crisis. In particular, investments in R&D embedded in the ‘mission-driven top sectors and innovation policy¹² as well as human capital can help support long-term productivity growth and maintain a strong innovation capacity. This is notably the case for start-ups, scale-ups and innovative SMEs that are crucial to enhance competitiveness and job creation. (...)

Investment CSR

Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on digital skills development, sustainable infrastructure and clean and efficient production and use of energy as well as **mission-oriented research and innovation.**

22. POLAND

Recital 24

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. (...) Poland will increasingly rely on science and innovation to ensure long-term sustainable economic growth and competitiveness. General spending on research and development in relation to GDP remains below the EU average and, despite visible progress in many components of the policy mix of the country's innovation ecosystem, the science-business cooperation remains a key obstacle on Poland's way to strengthen innovation. (...)

No CSR

23. PORTUGAL

Recital 17

To mitigate the immediate impact of the COVID-19 pandemic on people's health, high expenditure for the health system is being incurred on a broad front. Investments are needed to improve the resilience of the health system, securing equipment, products and infrastructure necessary to bolster crisis response capacities, including intensive care, testing, technological and applied medical research, and universal access, including outside urban areas and in the outermost regions of Madeira and the Azores. (...)

Recital 22

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. Growth enhancing investments to support research and innovation, digitalisation, connectivity and green transition will contribute to the recovery of the Portuguese economy and redirect it towards long-term sustainable growth. (...)

Investment CSR

Implement the temporary measures aimed at securing access to liquidity for firms, in particular small and medium-sized enterprises. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, rail infrastructure and **innovation**.

24. ROMANIA

Recital 18

The pandemic has put the health system under unprecedented pressure. (...) Long-term investment will be needed to reinforce the Romanian health system by securing health workers and equipment, enhancing technological and applied research and improving the coverage and accessibility of health services to all citizens, also in non-urban areas, including through the use of ehealth services.

Recital 23

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. (...) Large regional disparities and the low productivity of some sectors are detrimental to long-term sustainable growth. Equally important are investments to promote the economy's competitiveness by supporting research and development (R&D) activities, innovative SMEs, and integration into the Union's strategic value chains. R&D investment by firms remains subdued and limited to a small number of sub-sectors which are highly dependent on foreign direct investments. Declining public R&D funding has resulted in poor scientific and technological quality and weak academia-business links. (...)

No CSR

25. SLOVAKIA

Recital 22

(...) To strengthen the economy's resilience, Slovakia would benefit from increasing the innovation capacity of businesses, particularly SMEs, by tackling the fragmented governance of the research and innovation ecosystem. Better cooperation between business, research, academia and the public sector can support the sharing of knowledge and skills and help companies innovate and develop new working and production abilities.

No CSR

26. SLOVENIA

Recital 19

With an increasing demand for health services at the beginning of the COVID-19 outbreak, Slovenia faced challenges to ensure a sufficient healthcare capacity. (...) Deployment of diagnostics, tests and e-health tools that enable follow-up and telemedicine is crucial. Targeted research and innovative solutions are also important to help the public health services collect and use anonymised data for making informed decisions. (...)

Recital 22

Liquidity measures were introduced for businesses in April 2020, but there are still viable businesses such as smaller innovative and high-growth firms whose bank credit ratings are not yet sufficiently well established to entitle them to the aforementioned loan guarantees via banks. Improved access to alternative finance, including equity financial instruments (e.g. venture capital) might be necessary, particularly in countries like Slovenia where equity markets are underdeveloped. Slovenia's existing equity capital tools could be a means to channel relief funds to those businesses that are successfully exiting from the crisis, such as innovative SMEs, start-ups and scaleups, as planned by other Member States. Applying the safeguards provided for in EU rules will ensure that these injections will not adversely affect companies' efficiency or economic competition.

Recital 24

Struggling firms, and notably smaller ones, require not only liquidity and financing, but also a supportive business environment. (...) Cutting red tape related for example to permits, reporting obligations and tax procedures is an effective way to provide immediate, noticeable relief to firms, without burdening the national budget and indirectly the taxpayer. Modernising the rules will allow professions to offer more cost-effective and innovative services that firms now need. (...)

Recital 27

As part of an exit and recovery strategy, it will be important to support investment in research and innovation, which is a critical driver of productivity and economic growth. Even before the crisis, Slovenia was rated only a 'moderate innovator', slowing its efforts to catch up with best performers. The business sector is responsible for 75% of spending on R&D. The economic downturn is once again putting business R&D and innovation at risk. Relatively low rates of innovation, especially by SMEs, slow down the development and diffusion of innovative business processes and solutions, which are called for by the COVID-19 crisis. Investment is needed to help innovative SMEs - including startups - whose activities involve emerging technologies and breakthrough innovations, to scale up their production. Cooperation between academia and business is mostly limited to the medium-and high-tech sectors. The effectiveness of knowledge

transfer offices set up by research organisations and higher education institutions varies considerably. Links between academia and business are essential for successfully translating knowledge into innovation, improving the country's research and innovation performance, and driving economic growth. Public spending on R&D was modest, and partly reliant on EU Structural Funds. Recovering from this crisis will require the prioritisation of public investment into research and innovation, including technological and applied research.

Recital 28

(...) Slovenia can build on existing knowledge and excellent capacities in robotics, artificial intelligence and block chain technology to support the expansion of digitalisation to less advanced, traditional industries. Reusing the broad range of public sector data currently available could support innovation and the big data economy. (...)

Investment CSR

Continue to swiftly implement measures to provide liquidity and financing to businesses and households and reduce administrative burden. Front-load mature public investment projects and promote private investment to support the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, environmental infrastructure, sustainable transport, **research and innovation** and on the rollout of the 5G network. Promote digital capacities of businesses, and strengthen digital skills, e-Commerce and e-Health.

27. SPAIN

Recital 24

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. Spain's recovery prospects will depend on its capacity to increase productivity and foster innovation, including through the digital and green transition. Spain's innovation performance is below the EU average in all regions. Spain underperforms on the ability of firms to innovate, invest in tangible and intangible assets and make best use of their population's skills, which could hamper their competitiveness in a knowledge-based economy. (...) The digital uptake, including of advanced digital technologies, and the reduction of the digital divide between urban and rural areas, would improve the Spanish economy's capacity to innovate. In addition, reinforcing research and innovation governance at all levels, increasing the quality of research through systematic evaluations and incentivising research organisations to cooperate with the private sector could make research and innovation policies more effective and accelerate the diffusion of innovation in order to help the recovery.

Investment CSR

Ensure the effective implementation of measures to provide liquidity to small and medium-sized enterprises and the self-employed, including by avoiding late payments. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, **in particular on fostering research and innovation**, clean and efficient production and use of energy, energy infrastructure, water and waste management and sustainable transport.

28. SWEDEN

Recital 17

Sweden's short-term policy response to COVID-19 outbreak relies on securing appropriate resources and capacity buffers and adapting the roles and responsibilities of health workers. (...) Making use of Sweden's strong Research & Innovation sector for science-driven actions can contribute to progress on vaccines development, treatments and diagnostics and on translating research findings into public health policy.

Recital 18

Supporting the availability of skills, and digital skills in particular, can sustain higher productivity growth through research and innovation in high-tech sectors, and help achieve Sweden's ambitious climate and energy objectives contained in its National Energy and Climate Plan. (...)

Recital 19

To foster the economic recovery, it will be important to front-load mature public investment projects and promote private investment, including through relevant reforms. In the digital and microelectronics sectors, more than 50% of employers report skills shortages affecting growth. Sustaining the high share of public spending in research is a necessary condition to improve the productivity performance. Capital deepening and higher investments in high-tech and innovative sectors are also needed to restore labour productivity growth. The diffusion of new digital technologies among small and medium-sized enterprises will help boost productivity. (...) The objective of achieving a climate neutral society in 2045 will also require investments in research and innovation enabling the development and implementation of novel, competitive solutions for decarbonisation and coordinated social and policy actions. (...)

Investment CSR

Foster innovation and support education and skills development. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on clean and efficient production and use of energy, high-tech **and innovative sectors**, 5G networks and sustainable transport.

29. UK

Recital 20

Improving labour productivity performance remains a major challenge for the United Kingdom. (...) there is scope to increase productivity by addressing broad-based problems such as low investment in equipment, infrastructure and research and development, and skills gaps, especially in basic and technical skills. The United Kingdom aims to invest more in research and innovation and improve the use of existing technologies across the economy. (...)

Investment CSR

Foster innovation and support human capital development. Front-load mature public investment projects and promote private investment to foster the economic recovery. Focus investment on the green and digital transition, in particular on housing, clean and efficient production and use of energy, sustainable transport infrastructures and high speed broadband networks.

30. R&I CSRS OVERVIEW TABLE

	MS		R&I Investments for recovery and green & digital transition	Business/SME innovation & access to finance	Public-private cooperation
1	AT	Focus investment on the green and digital transition, in particular on innovation (...)			
2	BE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
3	CY	Focus investment on the green and digital transition, in particular on (...) research and innovation			
4	CZ	Ensure access to finance for innovative firms and improve public-private cooperation in research and development			
5	DK	Focus investment on the green and digital transition, in particular on (...) research and innovation. Support an integrated innovation strategy with a broader investment base			
6	EE	Focus investment on the green and digital transition, in particular on (...) research and innovation. Support the innovation capacity of small and medium-sized enterprises, and ensure sufficient access to finance			
7	FI	Focus investment on the green and digital transition, in particular on (...) research and innovation.			
8	FR	Focus investment on the green and digital transition, in particular on (...) research and innovation			
9	DE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
10	HU	Focus investment on the green and digital transition, in particular on (...) research and innovation			
11	IE	Focus investment on the green and digital transition, in particular on (...) research and innovation			
12	IT	Ensure effective implementation of measures to provide liquidity to the real economy, including to small and medium-sized enterprises, innovative firms (...). Focus investment on the green and digital transition, in particular on (...) research and innovation			
13	LV	Focus investment on the green and digital transition, in particular on research and innovation (...)			
14	LT	Promote technological innovation in small and medium-sized enterprises			
15	LU	Foster innovation and digitalisation in particular in the business sector			
16	MT	Focus investment on the green and digital transition, in particular on (...) research and innovation			
17	NL	Focus investment on the green and digital transition, in particular on (...) mission-oriented research and innovation			
18	PT	Focus investment on the green and digital transition, in particular on (...) innovation			
19	SL	Focus investment on the green and digital transition (...) in particular on research and innovation			
20	ES	Focus investment on the green and digital transition, in particular on fostering research and innovation			
21	SE	Foster innovation and support education and skills development. Focus investment on the green and digital transition, in particular on (...) high-tech and innovative sectors			
22	UK	Foster innovation and support human capital development			