Recovery and Resilience Reflection Project

Germany

Macroeconomic outlook and forecasts

Germany has been hit hard by the Covid-19 pandemic and the repeated lockdowns, but the depth of the crisis has been comparatively lower than other EU countries. GDP in 2020 has contracted by 2.3% with large swings in economic activities between the first and the second half of the year, with GDP contracting by 1.4% and 9.3% in the first and second quarter respectively, and then increasing by 7.2% and 1.1% in the third and fourth quarter. The soaring number of cases and the reintroduction of stringent measures between the end of 2020 and the beginning of 2021 caused a shrink in GDP of 0.3% in the first quarter of 2021. Yet a marked recovery is being observed already in the second quarter of 2021 (+1.8%), as vaccinations progress and the economy reopens. According to the 2021 autumn forecast by the European Commission, Germany has reached its pre-crisis level in the third quarter of 2021.

To cushion the effects of the pandemic, automatic stabilisers and fiscal measures were put in place by the German government. Overall, the Covid-19 fiscal stimulus amounted to 44.4% of GDP. A large part of the fiscal intervention was directed towards discretionary fiscal measures: income support measures (3.1% of GDP), healthcare expenses (2.7% of GDP) and employment support schemes (1% of GDP). Germany's well established short-term work subsidy, *Kurzarbeit*, has played a critical role in retaining jobs. The unemployment rate increased by only 0.7 pp. in 2020 compared to 2019, while the employment rate decreased by only 0.8 pp. That said, most of the job losses to date have been borne by marginally employed workers who are not eligible for *Kurzarbeit*. Most of these workers are employed in hard-hit contact-intensive services, and around two thirds of them are women. Moreover, young workers could suffer negative effects on their earnings and career prospects, while older workers may permanently exit the labour market early.

In addition to discretionary fiscal measures, Germany put in place guarantees for an amount equal to 25% of GDP and financial instruments (loans, equity) equal to 6.5% of GDP. Such measures were fundamental in supporting businesses and avoiding bankruptcies, but their budgetary impact was limited to around 3% of GDP in 2020 (IFI 2021).

All in all, the budgetary impact of the measures adopted was equal to 6% of GDP in 2020 and thus far 4% in 2021. The large size of the fiscal intervention had an immediate effect on government budgetary balance, which ran a deficit of around 4.3% of GDP in 2020 and is expected to be around 6.5% of GDP in 2021. As a consequence, the impact on the debt-to-GDP ratio has been significant, with an increase from 58.9% in 2019 to 68.7% in 2020 and 71.4% in 2021 thus far, with a forecast decline again in 2022.

Despite higher deficits and increasing debt, however, risks to fiscal sustainability are limited so far, thanks to the sound starting position of public finances. In addition, Germany is one of the few countries that expect the government budgetary balance to return to 0% of GDP by 2025.

Table 1. Macroeconomic development and forecast Germany

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This country sheet is part of the research programme on the preparation and implementation of the EU's Recovery and Resilience Facility.

CEPS is an independent think tank based in Brussels. Its mission is to produce sound policy research leading to constructive solutions to the challenges facing Europe today.

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	2019	2020	2021	2022	2023	2024	2025	2026
GDP Growth (y-y % change)	1.1	-4.6	2.7	4.6	1.7	1.2*	1.2*	n.a.
Employment (% change)	0.9	-0.8	0	0.9	0.4	-0.25*	-0.25*	n.a.
Unemployment rate (%)	3.1	3.8	3.6	3.4	3.2	3.75*	3.75*	n.a.
HICP inflation (% change)	1.4	0.4	3.1	2.2	1.7	n.a.	n.a.	n.a.
Gov balance (% GDP)	1.5	-4.3	-6.5	-2.5	-0.5	-0.5*	0*	n.a.
Debt to GDP (% GDP)	58.9	68.7	71.4	69.2	68.1	72*	69.25*	n.a.

Source: Own elaboration, based on autumn 2021 AMECO Forecast (until 2023) and German NRRP (for 2024 and 2025)

Germany structural challenges before Covid-19

While the German economy has performed strongly in recent years and has cushioned the country relatively well from the economic fallout of the Covid-19 crisis, a number of challenges and structural obstacles have emerged and were amplified by the pandemic (see Table 2).

Among the main challenges faced by Germany is the low labour productivity growth, especially in information and communication services, professional, scientific, and technical activities, and in administrative and support services. While public investments in R&D is high and on an upward trajectory, low productivity is mainly related to low private investments in research and development, especially in Small and Medium Enterprises (SMEs).

The barriers to private and public investment and the lack of competition, especially in the service sector, are obstacles to growth. Public investment, especially at municipal level, is hampered by several bottlenecks, including personnel and financing constraints and high regulatory burden, which also affect private investment. In addition, a poorly digitalized Public Administration and a complex and decentralized legal system for public procurement further hamper private investments.

An additional obstacle to productivity is the shortage of skilled labour workforce. Already before the pandemic Germany experienced shortages of teacher in education system, and few students were enrolled in vocational education and training programmes. In addition, significant territorial gaps in the provision of childcare facilities negatively affect female employment in Germany, where the share of involuntary temporary workers among women is particularly high. In this respect, some features of the German tax-benefit system, which is already characterized by one of the highest labour taxations, result in disincentives to work for low-income earners and second-earners, thus further negatively affecting women participation in the labour market, as well as that of vulnerable groups.

While the German welfare state proved to be prepared to tackle the consequences of the pandemic, the German healthcare system presented some problems before the outbreak of the pandemic, including skilled staff shortages in the nursing profession, low levels of digitalization and inequalities in access to healthcare. In addition, Germany presents significant housing problems, whereby house affordability still represents a main concern. Finally, the German pension system appears to be in need of reform taking into consideration the adequacy of the pension level, especially among most vulnerable old-age population.

Table 2. Germany country specific challenges before Covid-19

Policy area	Challenges
Labour market	Shortages of skilled labour
	Low adult learning participation
	Low labour market participation for vulnerable groups (especially migrants)
	High share of involuntary temporary workers among women
Education and skills	Territorial gaps in access to childcare

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	Teacher shortages in education system
	Few students enrolled in Vocational Education and Training (VET) programmes
Justice	-
Research and innovation	Lack of private investments in R&D especially in SMEs
Public administration	Low digitalization of PA
	Public procurement in Germany is largely decentralised and subject to a complex legal system
Taxation	Some features of the German tax-benefit system result in disincentives to work in the low-income earners and second earners
	Complex tax system hampering business environment
Product market	Low competition in business services
Social Policies	Staff shortages in the nursing professions
	Inequalities in access to healthcare
	Lack of affordable housing
	Long-term pension system sustainability

Source: Own elaboration, based on the Country Report for Germany (2020)

In addition to structural challenges, Germany experienced some challenges related to the digital transition. In particular, the German PA suffered from a slow implementation of the digitalization of services and open data. Moreover, Germany performs below the EU average in with respect to DESI indicator (European Commission, 2020) on the integration of digital technology.

The German NRRP: key numbers and timeline

On 13 July 2021, the Economic and Financial Affairs (Ecofin) Council approved the implementing decision on the approval of the German plan, which will be financed by €27.9 billion (0.74 % of GDP 2021) in grants. The plan includes 25 investment projects and 15 reforms. As illustrated in Table 3, the largest share of both reforms and investments' projects is expected towards the end of the RRF period.

Table 3 Timeline for completion of reforms and investments under German NRRP, by year (% total)

	2021	2022	2023	2024	2025	2026	TOT
RRF Investments' projects [number]	1	4	1	2	5	12	25
RRF Investments' projects (% total)	4%	16%	4%	8%	20%	48%	100%
RRF Reforms [number]	1	2	0	3	2	7	15
RRF Reforms (% total)	7%	13%	0%	20%	13%	47%	100%

Source: Own elaboration, based on German NRRP

As it is in the case of other countries, the timeline for completion of investments' projects does not imply that Germany will start spending the RRF funding only at the end of the programming period. By contrast, as showed in Figure 1, Germany has already started spending its funding in 2020 and plans to spend already by 2022 the 69% of its RRF grants. This is explained by the fact that - in contrast to other countries, such as Italy - Germany allocates large part of its investments' funding to already planned projects. Overall, in Germany 40% of the investments proposed are new and not previously planned neither they are an extension or continuation of pre-existing programmes. Yet this percentage decreases if we consider the amounts allocated for new public investments which is around 20%.

Figure 1. Planned German expenditure financed under RRF grants and expected completion of investments' projects (% total); Additional investments (% total)

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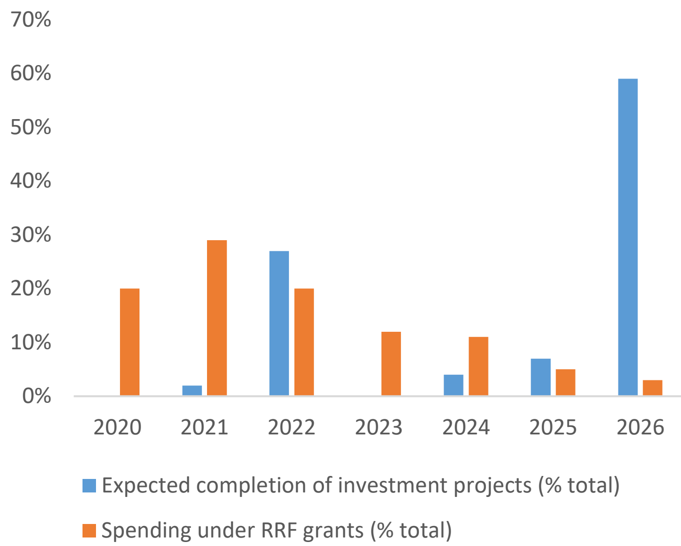
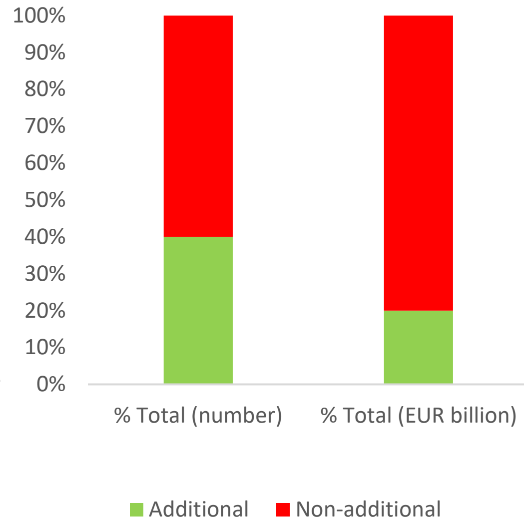


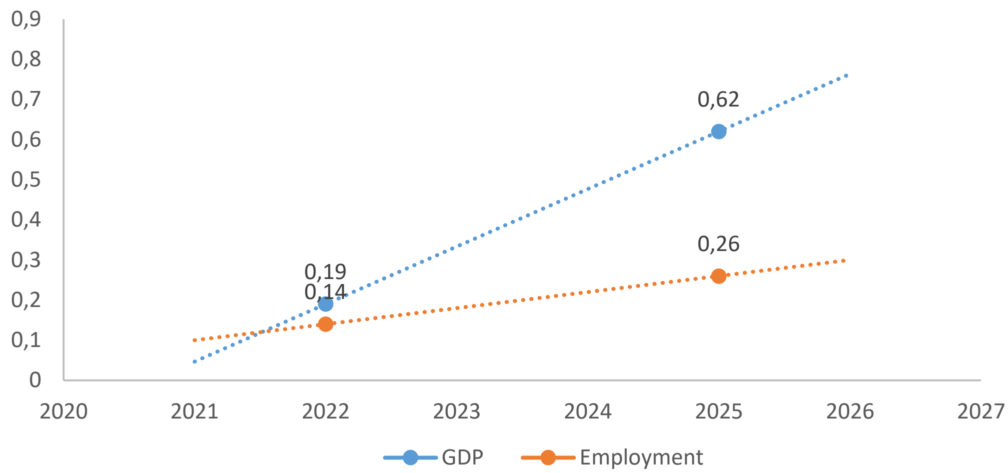


Source: Own elaboration, based on Germany Stability Programme (Federal Ministry of Finance, 2021) and German NRRP (European Commission, 2021)

With respect to the governance of the plan, the Federal Ministry of Finance and the line Ministries are in charge of the implementation, while control is performed independently by different bodies. Internal control units within each Ministry mainly follow current national auditing structures and processes. They are scrutinized by the German Court of Auditors (*Bundesrechnungshof*, *BRH*) and coordinated by a dedicated central unit within the Federal Ministry of Finance. The latter is composed by a team of economists and budgetary and audit experts. They are responsible for both the monitoring and the implementation of the plan. Finally, an IT system managed by the German Court of Auditors is used for the proper collection, storage and reporting of RRF measures-related data.

According to the stylised impact simulations run by the German government with the QUEST macroeconomic model, the NRRP is expected to have a positive impact both on employment and GDP, especially in the medium term (Figure 1). Specifically, the plan expects a slight increase in the average annual GDP growth rate of 0.19 percentage points (pp.) in 2022 and of 0.62 pp. in 2026 above what it would be without the NRRP. Regarding labour market, there is a moderate increase in the level of employment, starting with a plus 0.14 pp. in 2022 and a 0.26 pp. increase in the following years until 2026. Yet, such estimates should be treated with caution. Indeed, as observed above, only a minor share of the investments planned by Germany is additional, while the Commission assumes in its estimations an additionality of 100% for the RRF grants.

Figure 1. NRRP impact on GDP and employment - deviations from baseline scenario

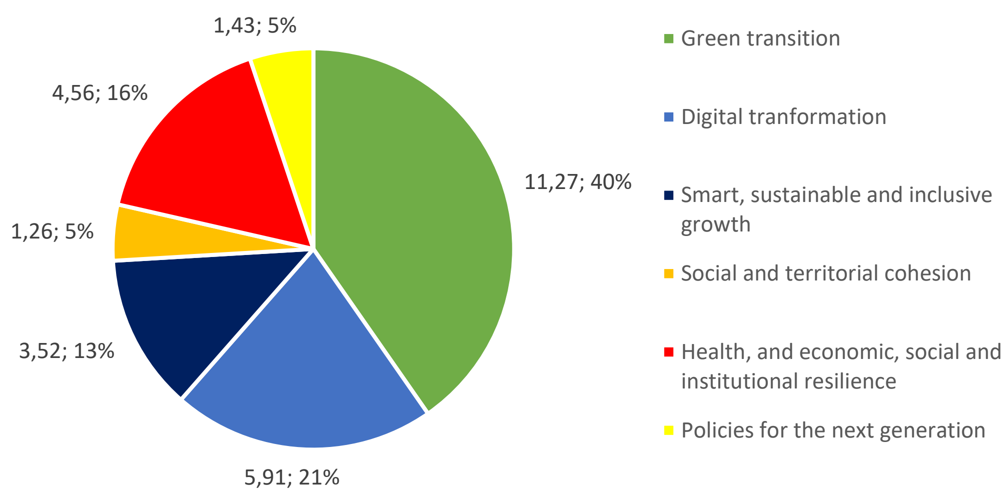


Source: Own elaboration, based on German NRRP

Investments in the German NRRP

In line with the Commission guideline, the German NRRP investments are meant to address the objectives included in the six pillars of the RRF. Notably, Germany focuses 61% of its investments on the *green transition* (40%) and *digital transformation* (21%) pillars of the RRF. The remaining 39% of investments are allocated respectively to *policies for the next generation* pillar (5%), *smart, sustainable and inclusive growth* pillar (5%), *health, and economic, social and institutional resilience* pillar (16%) and *social and territorial cohesion* pillar (13%). With respect to the distribution of the funding across economic activities, the plan distributes the resources relatively evenly, with the largest share allocated to the transport and storage sector (28%), healthcare (18.1%), public administration (14.9%) and information and communication (10%).

Figure 2. German investments by 6 RRF pillars (€ billion)



Source: Own elaboration, based on German NRRP

A closer look at the breakdown of the six German pillars gives a better understanding of the investment prioritization:

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Under the *green* pillar, Germany includes investments in decarbonisation and notably in hydrogen projects (€2.6 billion), tax incentives for building renovation and construction aimed at energy efficiency (€2.5 billion), tax incentives for the replacement of the private vehicle fleet (€2.5 billion) and investments in promoting the purchase of public busses with alternative fuels (€1 billion).

Under the *digitalization* pillar, Germany includes two main projects under the Important Projects of Common European Interest (IPCEI), namely Microelectronics and Communication Technologies (€1.5 billion) and Cloud Infrastructure and Services (€0.75 billion). It is also placing €1.9 billion investments in increasing the competitiveness of the vehicle industry by strengthening the innovative capacity and cooperation of companies in the vehicle industry.

Under the *smart and sustainable and inclusive growth* pillar, the main project consists in €3 billion investment in making public services digitally available, in line with implementing the German Online Access Act.

In the area of *social and territorial cohesion*, the main investments cover expansion of childcare facilities (€0.5 billion) and tax incentives for apprenticeship contracts (€0.72 billion).

Under the *health, economic, social, and institutional resilience*, Germany allocates all investments to strengthening of its healthcare system, with notably €3 billion invested in a scheme to digitalise hospitals, and €0.81 billion are dedicated to the digitalisation of public health authorities.

Finally, under the *policies for the Next Generation* pillar, Germany includes two main investments in digital support for teachers (€0.65 billion) and in creating a single digital platform that will give access to education materials for all levels of institutional and autonomous teaching and learning (€0.65 billion).

Table 4 summarizes the 10 largest investments indicated in the German recovery and resilience plan.

Table 4. Germany 10 strategic projects financed by RRF and timeline

Germany 10 strategic investments	€ bn	Description	Timeline
Programme to modernise hospitals, strengthening the digital and technical resources	3	Modernising hospitals to improve their digital infrastructure, emergency capacities, tele-medicine, robotics, and IT and cyber security.	Q32026
Digitisation of public services	3	Making more than 115 federal and 100 regional public services digitally available by 2022.	Q42022
Support for the replacement of the private vehicle fleet	2.5	Helping citizens shift to clean electric vehicles by giving financial support for more than 800,000 decarbonised vehicles.	Q42022
Building renovation: federal funding for energy-efficient buildings	2.5	Financing a large-scale renovation programme to increase the energy efficiency of residential buildings.	Q22026
Vehicle manufacturer/ supply industry investment programme	1.9	Strengthening the innovative capacity, cooperation, digitalization, and modernization of companies in the vehicle industry.	Q32026
Hydrogen projects within the framework of IPCEIs	1.5	Investing in green hydrogen at all stages of the value chain to help decarbonize the German economy.	Q32026
IPCEI Microelectronics and Communication Technologies	1.5	Contributing to a large-scale cross-border European initiative to improve the EU's capabilities in electronics design and to deploy the next generation of low-power processors.	Q32026
Support for the Purchase of Buses with alternative propulsion	1.09	Support scheme for the purchase of buses and coaches for passenger transport with alternative propulsion.	Q32026

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IPCEI Next Generation Cloud Infrastructure and Services (IPCEI-CIS)	0.75	Contributing to a large-scale cross-border European initiative to foster the industrial deployment of smart cloud and edge solutions that are highly innovative, highly secure, energy efficient and fully compliant with data protection.	Q32026
Apprenticeship support	0.72	Financial incentives to companies to hire and retain apprentices.	Q42022

Source: Own elaboration

Key structural reforms

Together with investments, Germany presented a list of 15 reforms aimed at tackling the structural challenges of the country and ensuring a sustainable and inclusive recovery. In the education and skills area, reforms are targeted at increasing adult learning participation, through the launch of the Continuing Education and Training (CET) networks, and at promoting digital skills through the creation of the Centre for Digitisation and Technology Research. In addition, an Education Platform is proposed for an encompassing education area that, with digital means, supports the development of competences by learners throughout their individual learning pathways. All actions are programmed to be launched between 2021 and 2022, while the full implementation is programmed in 2024 and 2025.

The public administration reforms include digitalisation of the public administration through implementation of the Online Access Act and modernisation of the public administration registers. The first reform aims to create a digital administration in Germany that is in line with European standards by 2022. The second reform includes modernisation of public registers and implementation of the European Identity EcoSystem, based on an open and licence-free identity infrastructure and on another measure aimed at the introduction of the once-only principle in public administration.

In addition, the German plan includes the digital pensions portal, which aims to support citizens in their pension planning by providing an overview of their individual pension provisions from all three pension pillars (statutory, company and private pensions) in order to facilitate access to social protection.

Digitalisation is also an essential aspect of the measures to modernise the German health system, reflected in upgrading and connecting all public health offices and linking them with other key institutions for public health surveillance, and in the programme for future-proof hospitals to substantially increase their digital maturity.

The joint programme for a high-performance, citizen- and business-friendly administration aims to promote cooperation between the federal government, the *Länder* and the municipalities. This reform, to be implemented by the end of 2022, has been widely welcomed as an important step to reduce administrative burden, especially at the municipality level, and thus increase both public and private investments.

Finally, the plan includes a Social Guarantee 2021 plan which aims at contributing to preventing a rise in non-wage labour costs, which have remained at a high level in Germany, by capping social security contributions at 40%. Notably, the German federal government provides fiscal transfers for the social security funds to fill their financing gap to avoid increases in social security contributions following Covid-19's financial impacts, which would disproportionately burden low and middle incomes.

Table *5* summarises the main measures indicated in the plan in the policy areas under consideration. Germany focuses its intervention on three areas: education and skills, public administration, and social policies, while other areas, such as labour market, research and innovation and product market, where intervention is equally needed, are left aside. Most of the reforms included in the German plan have, as the main objective, support for the digital transition.

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Table 5. Key structural reforms

Area	Measure	Description	Timeline
Labour market	-		
Education and skills	Federal programme ‘Building continuing education and training networks (CET networks)’	Promoting the participation of small and medium-sized enterprises in continuing and to strengthen regional economic and innovation networks. Contribute to establishing CET networks as a common concept of CET organisation in Germany.	Q42024
	Educational centres of excellence	Support by providing scientific content in the development and set-up of competence centres for digital education based on a system of collaboration between teacher	Q32026

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		education and in-service training institutions, universities, and research institutes.	
	Creation of an Education Platform	Making digital education possible for the people in the education system, with concrete benefits and innovations that will improve learning, teaching, and training of people in the German education system.	Q32024
Justice	-		
Research and innovation	-		
Public administration	Digitisation of administration - implementation of the Online Access Act (OZG)	Creating a digital administrative offering in Germany that is compatible with European standards until 2022. Comprehensive digital services through the "one for all" principle. Enforcement of User-friendly digital offerings. Increasing the efficiency of administrative execution and digital processes. Creation of a modern technical infrastructure as a portal network.	Q42022
	Administrative digitization - implementation of the Register Modernisation	Providing a higher degree of connectivity to the European once-only system.	Q42025
	Joint programme of the Federal Government and Länder for a high-performance, citizen- and business-friendly administration	Promoting the cooperation between the federal government, the Länder and the municipalities. Set up individual projects and work together to implement them.	Q12025
Taxation	-		
Product market	-		
Social Policies	Social guarantee 2021	The objective of the measure is to avoid that the financial impact of COVID-19 triggers extensive social security contribution rises. Federal Government shall provide fiscal transfers for the social security funds to fill their financing gap, and with this avoid that the contribution rate of social security contributions exceeds 40% in 2021.	Q42021
	Strengthening of the digital and technical resources of the public health service	Modernising the public health offices, in particular through increasing the level of their digitalization and interoperability of IT systems to connect public health offices with other actors in the public healthcare system.	Q32026

Source: Own elaboration

Overall assessment on the German plan

When Germany entered the Covid-19 crisis, its economy was performing strongly, and its resilient welfare states helped cushion the impact of the economic fallout of the crisis relatively well. Yet a few challenges and structural obstacles have emerged and were amplified by the pandemic, especially in terms of skills mismatch, low research and innovation investments, disincentives to work due to the benefit and taxation system, inequalities in access to healthcare services and low competition in business services (see Table 2).

The German plan partially addresses structural challenges. A positive aspect of the plan is the reform of the public administration, and especially the digitalisation programme – through the Online Access Act and the Register Modernisation –, as well as the joint programme of the federal government and *Länder* for a high-performance, citizen- and business-friendly administration. Particularly relevant is also the launch of the

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Continuing Education and Training (CET) networks, the creation of the Centre for Digitalisation and Technology Research and the Creation of an Education Platform, which aim to address the challenge of skills mismatch affecting the German labour market. An additional positive contribution of the plan is the alignment with the green and digital objectives of the RRF. For the green dimension, the German NRRP proposed relevant reforms on decarbonisation through renewable energies, e.g. hydrogen, as well as on mobility and building construction.

There are also cross-country reforms and investments (6 out of 40), e.g. IPCEI Cloud and Data Processing, development and promotion of a high-performance and broad-based European microelectronics industry, and strengthening established microelectronics areas in Europe.

Yet, many challenges remain. Indeed, the German plan does not address some important challenges identified in the 2019 CSRs, such as reducing disincentives to work, fostering affordable housing, reducing staff shortages in hospitals (especially nurses), removing barriers to entry in the regulated market, facilitating investments in R&I, reducing teacher shortages, closing territorial gaps in access to childcare and increasing the number of pupils enrolled in VET programmes. Concerns may also emerge in the pension system since the digitalisation of the system, e.g. through the creation of a digital portal, is an accessory reform that does not properly address the issue of sustainability and pension adequacy. At the same time, it is clear that Germany's economic strength reduces the pressure on the state to address those issues as part of the recovery programme.

The German plan provides a clear timeline for reform implementation and a detailed account of the actors responsible, which is expected to increase the effectiveness of the proposed measures. Coherence is also guaranteed between the proposed investments and reforms. This is in part explained by the fact that a large part of the envisaged interventions includes already planned or already completed projects and reforms. In contrast to other NRRPs, Germany has opted for a public finances consolidation strategy by allocating the recovery resources mostly to reduce its current account expenditure, with a modest acceleration in public investment. While this is in line with the past 20 years where public investment cumulative acceleration – measured as net fixed capital formation (NFCF) – has been particularly low, this is also understandable from the point of view that Germany is expected to be a net contributor in terms of servicing the EU recovery plan[1]. Thus, overall, expecting new and 'additional' expenditure is questionable, even if a stronger overall EU recovery is expected to benefit Germany too.

[1] It is important to note, however, that the extent to which Germany will contribute to the reimbursement of the NGEU will also depend on the type and size of any new resources not linked to member states' GNI levels and the economic development of other EU member states.