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Digital Transition in the Recovery and Resilience Plan: Challenges for Portugal

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Abstract

The Portuguese Recovery and Resilience Plan (RRP) is designed to address persistent bottlenecks of the Portuguese economy that impede lasting and sustainable growth, such as low productivity and low levels of education, and an inefficient public administration and justice system, in order to prepare Portugal for the challenges of the coming years. The specific aims of its digital pillar are to improve the digital skills and education of the workforce, enhance the efficiency of the public administration and improve the business environment, promoting research, innovation and the digitalization of firms.

In this paper, we present how the Portuguese RRP is embedded in the larger European strategic and financial framework and presents its governance structure. We describe the different initiatives contributing to the aim of Digital Transition, how their execution is monitored, and which information is available to the general public.

As a result, we identify a series of challenges at different levels. Difficulties of organization and complexities in the governance structure put into the question the timely and effective execution of the Plan. This extends to its coordination with other initiatives at European level, such as the Multiannual Financial Frameworks and the European Semesters.

Also, the measurement of implementation could be improved, not only with regards to the quality of many key performance indicators, but also and especially with regards to the effectiveness to achieving the RRP’s aims. Consistency and clarity of the public information provided could be improved.

These challenges that can still be addressed to improve the implementation of the RRP and realize its full potential to transform the Portuguese economy and society.

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1. Introduction[1]

The European Union will supply large funds over the next few years for Member States, mainly from three sources: the conclusion of the execution of the Multiannual Financial Framework MFF 2014-20, still available until 2023; the new MFF 2021-27; and also the package of programmes under the label "Next Generation EU" which will be more concentrated in the next few years.

MULTIANNUAL FINANCIAL FRAMEWORK 2021-2027 and NEXT GENERATION EU (in commitments) - *Current prices*

€ Million	2021	2022	2023	2024	2025	2026	2027
1. SINGLE MARKET, INNOVATION AND DIGITAL	**20,919**	**21,288**	**21,125**	**20,984**	**21,272**	**21,847**	**22,077**
From which:							
Connecting Europe Facility - Digital	277	283	289	295	301	306	314
Digital Europe Programme	1,104	1,248	1,269	963	982	1,001	1,021
InvestEU Fund	1,029	1,049	190	194	198	202	206
In addition, allocation under NGEU	*3,587*	*3,604*	*4,295*				
2. COHESION, RESILIENCE AND VALUES	**52,786**	**55,314**	**57,627**	**60,761**	**63,387**	**66,536**	**70,283**
*In addition grant allocation under NGEU**	*156,551*	*129,894*	*104,200*				
*In addition loan allocation under NGEU**	*191,017*	*194,838*					
3. NATURAL RESOURCES AND ENVIRONMENT	**58,624**	**56,519**	**56,849**	**57,003**	**57,112**	**57,332**	**57,557**
Additional grant allocation under NGEU	*4,510*	*10,013*	*4,416*				
4. MIGRATION AND BORDER MANAGEMENT	**2,467**	**3,043**	**3,494**	**3,697**	**4,218**	**4,315**	**4,465**
5. SECURITY AND DEFENCE	**1,805**	**1,868**	**1,918**	**1,976**	**2,215**	**2,435**	**2,705**
6. NEIGHBOURHOOD AND THE WORLD	**16,247**	**16,802**	**16,329**	**15,830**	**15,304**	**14,754**	**15,331**
7. EUROPEAN PUBLIC ADMINISTRATION	**10,635**	**11,058**	**11,419**	**11,773**	**12,124**	**12,506**	**12,959**

Table 1. Multiannual Financial Framework 2021-2027 and Next Generation EU (in commitments)

Source: European Commission

Table 1 shows the relative importance of funds from the last two sources. Next Generation EU (NGEU) concentrates the support in "Cohesion, Resilience and Values", since its main objective is to support European countries recovering from the pandemic crisis, and now also from the war in Ukraine. Although grants are established in an agreement, the request of loans is a discretionary policy of each Member State. The options chosen so far concerning loans by the four Southern EU Member States (Portugal, Greece, Italy, and Spain) are different, even though the former three have the highest ratio of debt to GDP among European Union Member States.[2]

In this paper we focus on the digital dimension of the Recovery and Resilience Plan (RRP) in Portugal. The aims, defined when it was designed and approved (before Russia's invasion of Ukraine),

[1] This policy paper is a revised, updated and enlarged version of the contribution by the Institute of Public Policy (Lisbon) to the PromethEUs report (2022) "Driving Digitalization in Southern Europe: the role of national Recovery and Resilience Plans and the current EU policy agenda." We would like to thank our colleagues from IOBE, I-Com, and Elcano who participated in this report, as well as support from Google for this IPP research.

[2] Italy is the country with the largest share of loans in RRP funds, at 64%. Greece is the second largest (42%), followed by Portugal (16%). Spain did not request any loans.

were to mitigate the economic and social impact of the pandemic and to make economies and societies more sustainable and better prepared for the green and digital transitions. In total, the funds potentially allocated to the RRP (including loans) amount to almost 90% of NGEU funds. According to the rules of RRP, each Member State should allocate a minimum of 20% of the Resilience and Recovery Facility (RRF) to the digital pillar.

An important issue which will be addressed in this paper is the much-needed coordination between the management of funds coming from two different sources, namely MFF 2021-27 and RRP. This issue is explicitly stated as an objective in Article 28 of the RRF Regulation (2021/241) which states that "The Commission and the Member States concerned shall (…) foster synergies and ensure effective coordination between the Facility and other Union programmes and instruments". This, however, is more easily stated than done and will much depend on the governance structure put in place in each Member State to manage EU funds and programmes.

As shown in Table 1, there are at least three important programmes – "Connecting Europe Facility-Digital", "Digital Europe Programme" and to a lesser extent the "InvestEU Fund" – that have also a focus on digital. In particular, CEF-Digital is meant to boost investments devoted to "safe, secure, and sustainable high-performance infrastructure" while the Digital Europe Programme is to leverage investments in "supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring a wide use of digital technologies across the economy and society".

Apart from the open issue of coordination among different financial instruments, another important topic is the effectiveness of these funds to reach their objectives. Contrary to the traditional funds from the EU Budget (both MFF 2014-17 and MFF 2021-27) which are earmarked but usually unconditional transfers to Member States, RRF funds are transferred with a more performance-based orientation. This is the reason why each Member State must provide information on key performance indicators (KPIs), and the Commission will monitor whether targets are being met or not. This means that information about these KPIs should be publicly available, comprehensive, and clear, and also that there should be a clear statement of each Member State's priorities in the digital pillar, in terms of the reforms and investments for structural changes of their economies and societies.

2. An overview of Portuguese governance structure of the RRP and European funds received in 2020-22

Before looking in detail at the digital pillar of the RRP, it is useful to have a perception of its governance model and also of the relative amounts of European funds coming from different sources.

The first important point to note is that the RRP is part of a larger economic and institutional framework created by the European Union to support and control the well-functioning of Member States' economies. As stated by the European Commission in March 2022,[3]

Taking account of the rapidly changing economic and geopolitical situation, the European Semester resumes its broad economic and employment policy coordination in 2022, while evolving in line with the implementation requirements of the Recovery and Resilience Facility, as outlined in the 2022 Annual Sustainable Growth Survey. The implementation of the adopted recovery and resilience plans is essential for the delivery of the policy priorities under the European Semester, as the plans address all or a significant subset of the relevant country-specific recommendations issued in the 2019 and 2020 Semester cycles.

This larger framework of policy and reform objectives is also reflected in the integration of the Portuguese RRP into the Portuguese National Reform Plan (*Plano Nacional de Reformas*)[4] of April 2022:

The recommendations for economic and social policies are intended to promote specific answers to the large challenges faced by the Union and the structural weaknesses of each Member State. Euro area countries will keep the focus on coordinated action through budgetary support for recovery, in particular the set of reforms and investments included in the respective Recovery and Resilience Plans. [our translation]

The digital pillar of the Portuguese RRP, which is the focus of this paper, in turn translates the Action Plan for the Digital Transition (*Plano de Ação para a Transição Digital*)[5] of March 2020, which includes measures for the digitalization of public services and the creation of digital capabilities of SMEs, and the Strategy for the Digital Transformation of the Public Administration (*Estratégia para a Transformação Digital da Administração Pública*)[6] of August 2021.

3 European Commission, Recommendation for a Council Recommendation on the 2022 National Reform Programme of Portugal and delivering a Council opinion on the 2022 Stability Programme of Portugal {SWD(2022) 623 final}, March 23rd, 2022.
4 https://ec.europa.eu/info/sites/default/files/programa_nacional_de_reformas_2022_pt.pdf.
5 https://www.portugal.gov.pt/gc22/portugal-digital/plano-de-acao-para-a-transicao-digital-pdf.aspx.
6 https://tic.gov.pt/pt/web/tic/estrategia-para-a-transformacao-digital-da-administracao-publica-2021-2026.

The governance structure of RRP is defined in Portuguese law[7] and includes: i) an inter-ministerial commission (*Comissão Interministerial*, *CI*) at the strategic and political coordination level, including the Prime Minister (PM) and the ministers responsible for Economy, Digital Transition (now the PM), Environment and Climate Action, in coordination with the ministers for Finance, Planning, and Foreign Affairs; ii) a monitoring commission (*Comissão Nacional de Acompanhamento, CNA*), iii) an operational entity (*Estrutura de Missão Recuperar Portugal, EMRP*), and finally an auditing and control entity (*Comissão de Auditoria e Controlo, CAC)*. The principles of governance that are to be followed in the implementation of RRP are: centralization of management but decentralization of implementation; execution oriented toward outcomes; transparency and accountability; participation and segregation of functions. In brief, the *EMRP* has the tasks of coordination, implementation, evaluation and reporting (each semester and annually). Implementation includes signing contracts concerning investments and reforms with *direct beneficiaries* and *intermediate beneficiaries* of RRP funds (see Figure 1). The *CNA* monitors and produces review reports about the implementation and results of the RRP. The approval of the RRP, potential revisions of investments or reforms, and final approval of the reports elaborated by the *EMRP*, are competences of the *CI*. Finally, there is a so-called "Mechanism of Information and Transparency", to provide clear and accessible information about the investments promoted under the RRP. It is coordinated by the Agency for Development and Cohesion (*Agência para o Desenvolvimento e Coesão*) with the support of the *EMRP*, the Budget Directorate General at the Ministry of Finance, and the Agency for Administrative Modernization (*Agência para a Modernização Administrativa*). In this paper we will look to some dimensions of how this governance structure has been implemented so far.

To better understand these procedures, and the efficacy (or not) of the implementation of the RRP it is important to look at what have been defined as the "intermediate beneficiaries", "direct beneficiaries" and "final beneficiaries".[8]

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[7] See Decree-Law 29-B/2021 of May 4th.

[8] This taxonomy of institutions is a bit misleading. For instance, final beneficiaries that are firms are indeed final users of RRP funds. However, if they are public institutions, they must open a public procurement procedure to select a candidate with whom to sign a contract. Here, the real final beneficiary of funds is not the public but very likely a private institution.

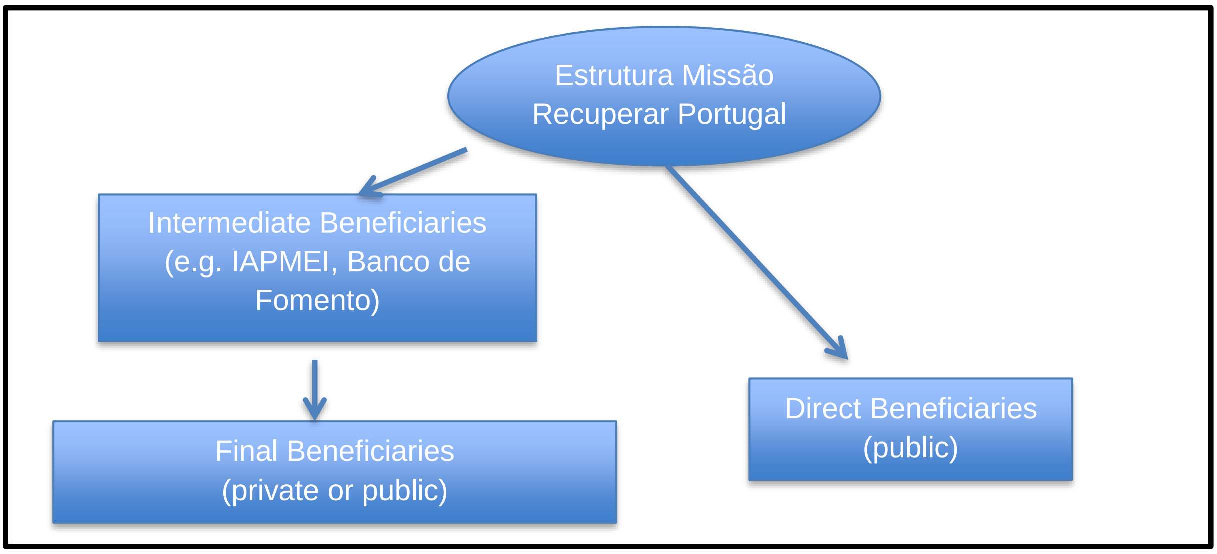

Figure 1: Institutions involved in the implementation of investments and reforms

Source: Institute of Public Policy

The *EMRP* signs contracts either with "intermediate beneficiaries" or "direct beneficiaries". Intermediate beneficiaries are public institutions that open calls for public and private entities as "final beneficiaries", select candidates, and sign contracts with the latter. Both direct beneficiaries and public final beneficiaries must open procedures of public procurement to use the funds allocated to them, thus the use of RRP funds by public entities is slower than by private entities. Within the public sector, a good use of RRP funds depends on the quality and speediness of the public intermediate beneficiaries. For example, among intermediate beneficiaries, there is a perception that IAPMEI (a well-established autonomous agency of the Economy Ministry), which has already a strong tradition of supporting firms, works well, but that the newly created *Banco Português de Fomento*, an institution that lacks experience, had a very difficult process of being established and is still in the process of stabilizing its internal organization.[9]

We may conclude that the good performance of the RRP will depend both on the well-functioning of the macro governance model (political, technical, advisory, monitoring, and auditing), but also on the micro level, i.e., the contracts between the institutions we just referred to. At both levels there are transactions costs that may slow down the implementation of RRP.

[9] The *Banco Português de Fomento SA* was established in November 2020 (Decree-Law 63/2020 of September 7th) after a process of restructuring of public financial institutions. In August 2022, a new CEO is in the process of being appointed, with approval from Bank of Portugal. *Banco de Fomento* was involved in a public and political debate concerning the RRP, because of the first €76.7m of loans approved for firms, €40m went to a single firm in the tourism area, whose owner is the president of an important Portuguese media group. As a result of this debate, the firm asked *Banco de Fomento* to cancel this loan, which in practice means that in June 2022, only €36.7m out of €1,550m of RRP funds were channelled through *Banco de Fomento*.

Table 2 shows the relative weight of Next Generation EU (grants) for Portugal in relation with the previous and the current Multiannual Financial Framework (respectively PT2020 and PT2030). As can be seen, Next Generation EU scaled up revenues for the Portuguese General Government by a considerable amount. Additionally, the relative weight of PT2020, which is more than twice as large as the funds coming from Next Generation EU, still underlines the importance of coordinating the two financial instruments.

Million €	2020	2021	(%)	2022	(%)
1. Transfers from Portugal to the EU	2173	2562		2585	
2. Transfers from EU to Portugal	**4856**	**7216**	**100%**	**9117**	**100%**
2.1 PT2020	4856	4202	58%	5911	65%
2.2 Next Generation EU – grants	0	2908	40%	2732	30%
2.3 PT2030	0	106	1%	474	5%
Balance (2-1)	**2683**	**4654**		**6533**	

Table 2: Breakdown of financial flows from EU to Portugal 2020-22.

Source: Portuguese State Budget Report (p.127) and IPP

Compared with traditional funds from the EU Budget (MFF 2014-20 and MFF 2021-27), Next Generation EU, in particular the RRP, has the merit of being much more ambitious in terms of both the budgeting procedures (not covering just financial execution but also some sort of performance-driven implementation through the key performance indicators) and also the information provided to the public and organizations of civil society that, apart from parliament, can also scrutinize the implementation of the RRP. Understanding how far this ambition has been realized is one of the aims of this paper.

It is also clear from this section that Portugal is receiving significant resources in 2022 that can boost investments and sustainable growth. The ability to implement all projected investments is, however, questionable, as will be discussed below.

Funds from the RRP are directed towards current expenditure (e.g., digital training of human resources in the public sector) or capital expenditure, especially gross fixed capital formation (e.g., more efficient new housing). The RRP will be used by both public and private entities. Even considering that not all RRP funds are earmarked for public capital spending, a significant amount is, so that it is useful to look at some data about the past.

The past record of the execution of public investment plans, by source of funding (either national or European) helps to predict what will happen, in the near future, in terms of execution of the RRP. On average in the period 2015-2020 only 85.1% of the gross fixed capital formation (GFCF) plans in the state budget was executed. If we look only at investments funded by European funds, that rate is even much lower, as Figure 2 illustrates.

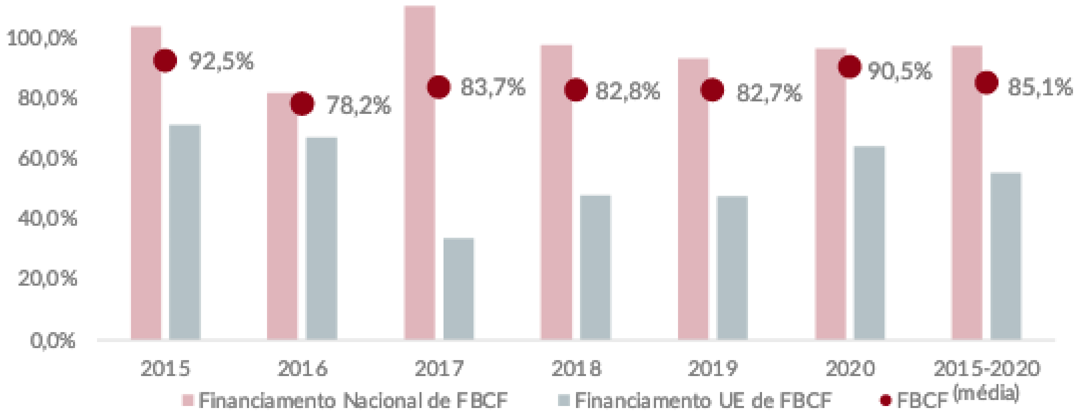

Figure 2: State Budget Execution (%) of Public Gross fixed capital formation (FBCF) Portugal 2015-20.

In red: National GFCF financing; In grey: EU's GFCF financing

Source: Institute of Public Policy, Citizens' Budget 2022, based on INE data.

This is highly problematic if we look at the record of public investments over the past fifteen years (Figure 3 below). Net public investment in Portugal has been negative every year since 2012. This is a result of a capital stock depreciation higher than GFCF, as public investment was an important variable used for fiscal adjustment in the years of the Portuguese bailout (2011-2014). Sustainable recovery of public investment only started in 2016.

The reasons why public and private investment, over the past years, has been small are twofold. On the one hand, there is the very high indebtedness of the public and private sectors and the need to reduce it. On the other hand, for the public sector there are several obstacles to smooth investments (lengthy contracting procedures, bureaucracy, weaknesses of public funding institutions, namely *Banco de Fomento*).

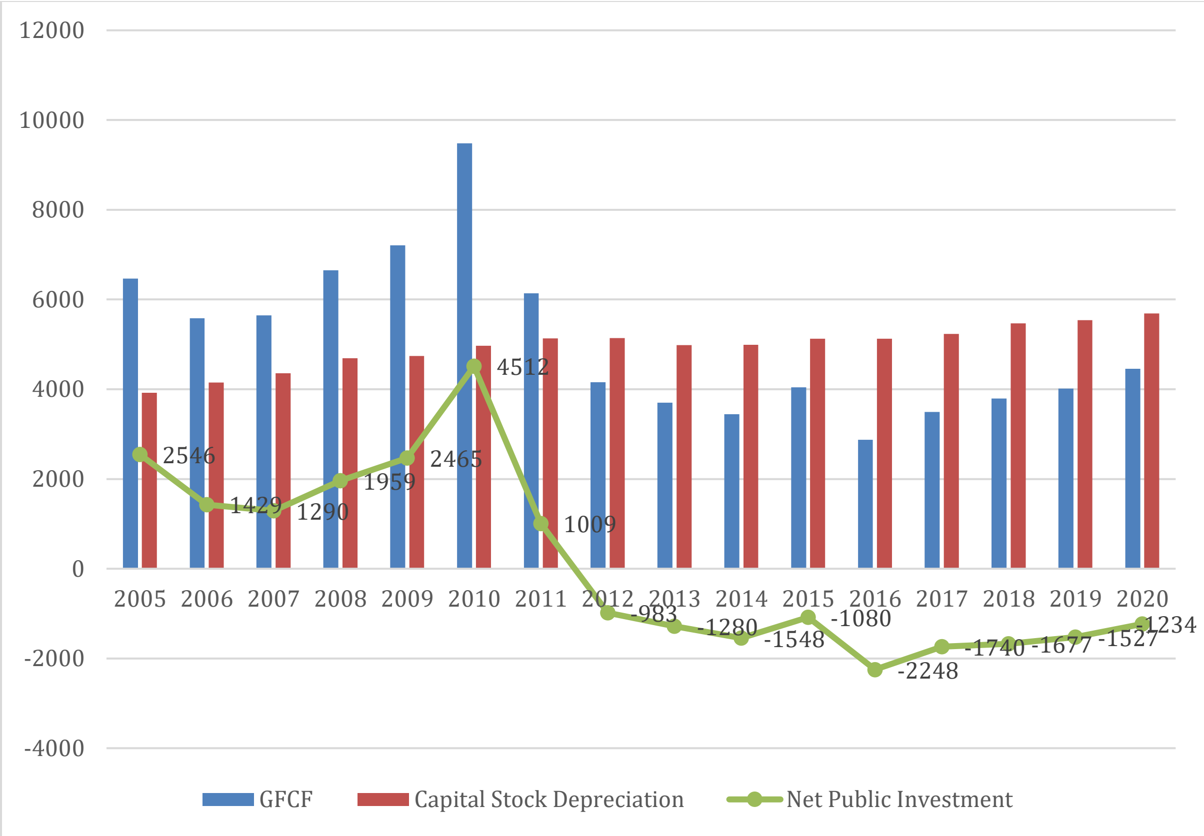

Figure 3: Gross fixed capital formation, capital stock depreciation and net public investment

Source: IMF (Million €)

Considering the above figures, it is safe to say that if the time span to execute RRP funds (end of 2026) is not extended, Portugal, and probably other countries, will be unable to use a significant amount of funds, which would be endanger the goal of economic recovery.[10]

[10] This problem is not specific to Portugal, but common with other countries. We will come back to this topic in the final recommendations.

3. Main Weaknesses Addressed in Portugal's RRP

Portugal's RRP consists of 83 investments and 37 reforms. From a total endowment of €16,644m (€13.9bn subsidies, €2.7bn loans), 40% of total investment value will go towards addressing economic and social resilience, 38% to climate transition, and 22% (€3,678m) to the digital transition. As the other EU countries, Portugal respects the requirement of dedicating at least 20% of total investment to digital objectives. Still, these are not central to the Portuguese RRP, as only seven out of 37 reforms are linked to the digital transition. These €3,678m meant for digital transition (22.1%) are divided into €2,460m (14.8%) for five digital components and €1,215m (7.3%) included in other (non-digital) components.

The European Commission (EC) provides a succinct summary of the specific challenges faced by Portugal and addressed by its RRP.[11]

> "The reforms [of the Portuguese RRP] address bottlenecks to lasting and sustainable growth, while investments are targeted to address barriers to productivity and potential growth, such as **those addressing restrictions of regulated professions** and gaps in human capital, **including in digital skills and education**, as well as, **enhancing public financial management** and the **efficiency of the public administration and of the judicial system**. Other important reforms and investments supporting income convergence and the catching-up of productivity and competitiveness of the Portuguese economy include those aimed at supporting the capitalisation of firms, business research, innovation, and **digitalisation**, as well as the green transition, including by supporting the renovation and improvement of energy efficiency in buildings. Finally, the Portuguese plan includes initiatives aimed at boosting the response capacity and the efficiency of health and long-term care services and initiatives addressing housing affordability." [our highlighting[12]]

[11] https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility/portugals-recovery-and-resilience-plan_pt
[12] We will come back to these barriers to productivity and potential growth in the conclusions.

In other words, the EC correctly identifies Portugal's lacklustre performance in terms of productivity and growth as its main challenge, followed by social concerns. Considering Economic and Social Resilience, the EC states:

> "Key macroeconomic challenges for the Portuguese economy include high public and private debt levels, and sluggish productivity growth which is held back by, inter alia, relatively low levels of investment (particularly in intangibles), low R&D intensity, overall low skill levels of the population and a business environment hampered by inefficiencies in the justice system and regulatory restrictions."

Clearly, the main obstacles to growth and recovery in Portugal lie with factors that have held back the country over the last twenty years: a mix of low qualifications both of workers and business owners, and an economy based on low wages and low value-added.

One of main challenges of the 21st century, where the digital transition will have to play a significant role, is the climate transition. The EC adds:

> "In the area of climate and environmental policies, Portugal's challenges include the **need to make the building stock more energy-efficient**, **diversify energy sources** and improve **forest fire prevention**."

Portugal's building stock tends to be badly isolated and badly heated, while transport still depends strongly on fossil fuels although progress has been made in recent years towards decarbonization. According to APREN[13], in 2022 already 59.4% of electricity was generated from renewable sources. Concerning the digital transition, the EC states:

> **"Digital challenges** for Portugal include the need to invest in the digital transition, particularly in the **development of digital skills**, both basic and advanced, in the **use of digital technologies** to ensure equal access to quality **education and training**, and to **boost firms' competitiveness**. This is especially relevant in Portugal, where the economy is characterised by micro-enterprises concentrated in traditional sectors."

[13] Source: https://www.apren.pt/en/renewable-energies/production

From these descriptions of the three areas of the RRP it becomes clear that the focus of the Portuguese plan is to help a backward economy catch up with its faster-moving European peers. In this context, the digital transition has principally a supporting role, as follows.

1. Low levels of education hamper productivity: Parts of the plan address both the use of digital tools to improve education, and education in digital skills themselves.

2. Complicated legal rules and an inefficient public administration and justice system block innovation and growth: As we will see below, most of the investment in the digital area (three quarters, more precisely) are targeted to public institutions directly dependent on the State, including administrations, courts, and schools.

3. Portuguese firms tend to be small and concentrated in low-productivity sectors: The digital transition here relates to workforce training, digitisation of processes, and only marginally to innovative business models.

What seems to be absent, at least based on this summary, is a vision of how Portugal's economy itself might adopt a new digital paradigm. Overall, it remains relevant to question whether Portugal and the European Union's recovery spending will be enough to fill the digital investment gaps[14]. Recognizing these gaps, the European Commission launched the '2030 Digital Compass: the European way for the Digital Decade' strategy.

[14] Bruegel. Will European Union recovery spending be enough to fill digital investment gaps?

4. Digital Transition in the Portuguese RRP

Portugal's digital transition strategy is promoted and communicated at an international level by "Portugal Digital". The Portuguese action plan for Digital Transition is based on three main action pillars and catalysts. These include:

- Pillar I - Training and digital inclusion of people
- Pillar II - Digital transformation of the business fabric
- Pillar III - Digitization of the State

The RRP contains the following seven reforms in the digital transition area:

1. Digital transition of businesses
2. Modernization and Simplification of Public Financial Administration
3. Economic legal system and the business environment
4. Digital, simple, inclusive, and safe Public Services for citizens and businesses
5. Functional and organic reform of Public Administration
6. Public Administration empowered to create public value
7. Reform for a digital education

One reform is directly related to businesses, and six out of seven reforms concern the public administration plus the public school system. These reforms are formulated in rather vague terms and their connections to the concrete initiatives they imply are not always clearly and explicitly identified, nor is the path from policy objective to concrete action steps laid out in one single document. The five digital components consist of the following investments and objectives:

Component 16: Enterprises 4.0 (€650m, 26.42% of digital transition funds)

The Portuguese business sector, particularly SMEs (small and medium-sized enterprises) and their employees, is characterised by a low level of digitalization. Investing in the digital transition intends to increase the knowledge and usage of digital skills of both business leadership and workforce. There is one reform and three investments with the aim of digitising processes, production, commercialization, strategy, innovation, and value creation.

The reform "*Digital Transition of the business community*" refers to digital competences being included in the National Catalogue of Qualifications, including new training programs in cybersecurity, privacy, sustainability, and usability (until March 2022). This seems to fall quite short of what would be needed for a structural change on this matter.

The investments foreseen under this component are as follows. All are coordinated by IAPMEI, an existing public agency that supports businesses:

- *Digital Empowerment of Enterprises (€100m)*. Designed with a clear vision of two digital skills training programmes, planning and defined metrics.
- *Digital Transition of Enterprises (€450m)*. Four concrete programs to transform Portuguese SME business models, with a clear vision and combination of meaningful metrics. However, the bridge between the vision and how the action is planned is unclear.
- *Catalysing the Digital Transition of Enterprises (€100m)*. This investment includes concrete steps and three programs (Digital Innovation Hubs that support digital transition, digital invoicing, certifications).

Component 17: Quality and Sustainability of Public Finances (€406m, 16.5% of digital transition funds)

The increase in the public debt-to-GDP ratio, aggravated by the COVID-19 crisis, has constrained the available fiscal space. This component aims at better conditions for fiscal policy through improving public financial management and bridging gaps in fiscal-structural reforms with more transparent public resource management, promoting integrated public asset management and improving the performance of the social security and tax authorities. One reform and three investments address this objective.

The reform *"Modernisation and Simplification of Public Financial Administration"* covers four different areas related to the budget, procurement, public enterprises, and tax and social security.

The monetary investments allocated to this component are:

- *Public Finance Management Information Systems (€163m)*. Includes 12 initiatives, some concrete and others vague. A clear vision and planning are missing, however.
- *Modernisation of the Tax Authority's asset information system infrastructure (€43m)*. This investment includes 12 specific tasks, although vision and metrics are unclear.
- *Digital Transition of Social Security (€200m)*. Includes 4/5 concrete initiatives. While the vision is clear, concrete metrics do not exist.

Component 18: Economic Justice System and Business Environment (€267m, 10.85% of digital transition funds)

The aims are to simplify the interaction between citizens and businesses with the State, to reduce costs, complexity and eliminate barriers to economic activity; to target inefficiencies in the justice system by adopting a "digital by definition" paradigm, as well as remaining bottlenecks in business licensing. With the duration of judicial procedures among the highest in the EU, the business environment is also affected by ineffective collateral and bankruptcy laws as well as heavy licensing procedures in some sectors.

This component includes one reform (equal to its title) and one monetary investment which includes 5 concrete outcomes concerning various digital platforms: (1) new interfaces for attorneys and digital service platforms and information systems to streamline the judicial ecosystem; (2) Digital platforms for the Citizen and Business Life Cycles; (3) Digital Platforms for Criminal Investigation and Forensics; (4) Knowledge management platforms; and (5) Enhancement of Technological Infrastructure and Equipment.

Component 19: Digital Public Administration (€578.1m, 23.5% of digital transition funds)

This component includes three reforms and seven investments, and focuses on the need to provide better, simpler, and more digital public services, using technology and enhancing proximity, enhancing the contribution of State and public administration to economic growth and social development.

The three reforms included in this component are:

- *"Simple, inclusive and secure digital public services for citizens and businesses"*. While it is clear this reform aims at making public services more digital and less burdensome, it is not clear how it was planned to be executed until its deadline of September 30th, 2021, or how it will evolve thereafter.
- *"Functional and organic reform of Public Administration"*. This reform aims to restructure and simplify public services, exploiting synergies using a centralised joint platform, though it is not clear how this will be done. Expected to be concluded by 2023.
- *"Public Administration Empowered to Create Public Value"*. This reform aims to improve the competence of public employees, particularly digital, applying new working models such as teleworking. This reform is reflected in the Strategy for Innovation and Modernisation of the State and Public Administration of July 2020, with the aim of improving worker management and training. This reform is linked to the investment in skills training and was due on June 30th, 2021.

The monetary investments allocated to this component are:

- *Redesigning public and consular services (€188m).* Three initiatives are outlined in this investment. While specific entities and mechanisms are referred to, the tools being used and the tactical/practical vision to implement them is unclear.
- *Building Public Administration Skills – training workers and managing the future (€88m)*. This investment is dedicated and measured with respect to three specified targets: training public employees in management, data science and technology.

- *Sustainable e-services (€70m).* This investment has three main initiatives concerned with the organisation, communication, and safety of data in the Public Administration. The purpose is clear as well as some of the services used. The details are unclear but there is an intuitive vision.

- *Enhancing the overall cybersecurity framework (€47m)*. This investment has four initiatives, but their design is unclear.

- *Efficient, secure and shared critical digital infrastructures (€83m)*. Four initiatives concerning government digital infrastructure are presented. Specific entities are referred to but no clear structure is explained.

- *Digital Transition of the Public Administration of the Madeira Autonomous Region (€78m)*. Nine ambitious one-sentence bullet points are presented, without clear indication of the planned initiatives or their vision.

- *Modernisation and Digitisation of the Regional Public Administration (Autonomous Region of the Azores) (€25m)*. Five investments are indicated, but it is unclear what they mean.

Component 20: Digital School (€559m, 22.72% of purely digital transition funds)

This component aims at creating the conditions for educational, pedagogical, and managerial innovation of the Portuguese primary and secondary education system. Digital skills are to be developed for teachers, students, and school staff, integrating technologies in different curricular areas and providing appropriate support for an inclusive and sustainable growth of the economy. This component includes one reform and three investments.

The objective of the "*Reform for Digital Education"* is to redesign digital education, improving curricular autonomy and flexibility and the way how digital technologies will be used in the knowledge acquisition process. The vast majority of teachers are to be trained in the integration of digital tools in the curricular programs. This reform is due by the end of 2025.

The monetary investments allocated to this component are:

- *Digital Transition in Education (€500m)*. This investment is aimed at four clear objectives, with six numerical targets. However, the relation between some targets and the underlying objectives (why 600,000 computers, what is the follow-up?) is unclear.

- *Digital education (Azores Autonomous Region) (€38m)*.The goal of the investment is clear, contrary to the vision and the specific metrics to be applied.

- *Programme for accelerating the digitisation of education in the Madeira Autonomous Region (€21m).* The goal of this investment is clear, but some of the planned interventions and the respective metrics are unclear.

5. A brief overview of monitoring and assessing the RRP

As stated above in section 2 the RRP's governance model includes an inter-ministerial Commission chaired by the Prime Minister (PM), a monitoring Commission (*CNA*), an operational executive entity (*EMRP*), and finally an auditing and control entity *(CAC)*. In mid 2022, there were still a series of governance issues to be resolved.

A report from IGF[15], an auditing organism from the Ministry of Finance, revealed that the EMRP was late in establishing its internal control system, not yet having been fully implemented in January 2022 and still lacking procedures for mitigating the risks of fraud and corruption and for avoiding conflicts of interests and double financing. CAC did not define at the time specific deadlines for the EMRP to correct its internal control systems.

According to a report by the office of the Public Prosecutor,[16] the CAC, which is responsible for certifying the RRP control system, is financially dependent on the organism it is designed to audit, EMRP, which in turn is financially dependent on the ADC, which in turn has representatives in the CAC.

The *CNA* was created in 2021 specifically to evaluate the implementation of Portugal's RRP. In February 2022, it issued its first report, which is not yet publicly available.[17] Excerpts have been quoted in the press, though:

> "While [...] the vast majority [74%] of the RRF funds dedicated to Digital Transition [the 5 components] are destined to investments by public administration institutions in direct dependence of coordinating Ministries, the guidelines of these respective investments and

[15] Report nr. 4/2022 approved by IGF's inspector general at 07.01.2022
[16] Relatório do Acompanhamento do Ponto de Contato do Ministério Público na Comissão de Auditoria e Controlo do RRP | Departamento Central de Investigação e Ação Penal (ministeriopublico.pt).
[17] At the time of writing (August 2022). In May 2022, the first president of the *CNA*, António Costa Silva, was nominated Economy Minister, and a new President of *CNA* was appointed (Pedro Dominguinhos). The digital area was transferred from the Ministry of Economy and Digital Transition to a Secretary of State in the Prime Minister's office.

reforms [...] although extensive, are vague, imprecise, at times incomplete concerning the exact context of these initiatives".

This comes without surprise, as the European Commission's assessment of the Portuguese RRP of June 2021 already attributed its single lowest assessment rating to the fact that "some [information] gaps remain" associated with "cost estimates, supporting documents and cost justifications".[18] This assessment isn't unique to Portugal alone[19], there is an identical European Commission assessment with EU countries' recovery plan cost justifications as 'medium-quality', raising concerns on the "objectivity" and "trust" over those same assessments overall as "noticeable" differences can be observed across countries when looking into detail. According to Bruegel, "*no country was able to justify the costs of the recovery plan to a high extent according to the European Commission, questioning the objectivity of the Commission's assessments*".

The *CNA* also highlights the insufficient information published about programmes and funding opportunities. Simultaneously, it states that the digitalization of the Public Administration is "an enormous challenge" in both "planning and good execution". Going forward, "the survey of the existing situation in the Public Administration, the mapping of the processes and work models, which must be digitised, the change of culture and the focus on the objectives are important steps to carry out a profound reform".

There are also weaknesses at the design level. Some of the initiatives in the RRP appear designed with the proposal requirements themselves in mind and not for the specific needs of the different areas. Some of these areas have proposals containing buzzwords and technical terms but without a clear connection to how and why they are relevant to address the challenges at hand. Only a few cases have key specific terms associated with more detailed procedures.

As an example, consider Digital Public Administration (C19). One of Portugal's main weaknesses is its inability to implement program budgeting – foreseen in the Budget Framework Law for decades – with comprehensiveness, transparency, and clear objectives and indicators. This has been pointed out in successive reports and evaluations by the Institute of Public Policy – Lisbon, and the International

[18] https://ec.europa.eu/info/sites/default/files/pt_rrp_summary.pdf.
[19] Bruegel. *The puzzle of European Union recovery plan assessments*

Budget Partnership.[20] Therefore, Portugal needs to improve budget transparency and implement budgeting with consideration of public sector outputs and outcomes. Addressing this, among other weaknesses, should be a priority, in order to improve the efficient allocation of public sector funds and promote sustainable economic growth.

[20] The results, including recommendations of the Open Budget Survey 2021 for Portugal, implemented by Institute of Public Policy – Lisbon, may be found here: https://internationalbudget.org/open-budget-survey/country-results/2021/portugal

6. Does the RRP Address Portugal's Specific Digital Weaknesses?

When established in 2020, the Digital Transition action plan "Portugal Digital" was the result of consulting more than 200 indicators, including DESI, INCoDe.2030, Global Competitiveness Report and Networked Readiness Index.[21] The Digital Transition in the RRP is based on this.

DESI, the Digital Economic and Society Index, indicates the relative strengths and weaknesses of the 27 countries of the European Union.[22] An aggregate index is derived from indicators in four main dimensions: Connectivity, Human Capital, Integration of Digital Technology, and Digital Public Services.

In this aggregate index, Portugal is just below average and practically identical to France in the four dimensions. Portugal scores at or *better* than average in

- Broadband take-up, speeds, and coverage; 4G coverage
- Consumption of digital entertainment and news, social networks, health information
- Online presence of businesses and number of trained IT specialists

Portugal scores *below* average in

- Affordability of broadband, take-up of mobile broadband
- Internet usage: below-average number of households with internet and various measures of internet usage. High number of individuals who never used internet
- Slightly below average use of eGovernment services
- Low number of online purchases and sales by citizens, due to lack of trust and security concerns
- Usage of digital tools by firms
- Digital skills: while internet users have an average level of basic skills, in the workforce in general the share with even basic digital skills and those that use computers at work is low
- Low use of work-related internet services

21 https://dre.pt/dre/detalhe/resolucao-conselho-ministros/30-2020-132133788.
22 https://digital-strategy.ec.europa.eu/en/policies/desi

Among the above four dimensions, Portugal is weakest in Digital Integration and Human Capital. The DESI measures indicate that Portugal's main issue in the digital area is a relatively large share of the population and workforce (including owners of firms) with no or only basic digital skills. This shows up as distrust and low usage of digital tools in private life and at work, while businesses struggle to incorporate these tools in their internal processes and business plans.

On the other hand, DESI does not consider:

- Digitalization of the public administration and the justice system
- Digital tools in primary, secondary, and higher education
- Digital skills of the young generation

The initiatives laid out in the previous section are mostly aimed at improving different aspects of public administration, with the general objective of removing roadblocks to the functioning of the economy and society. Even though this dimension is mostly absent from the DESI, it is clearly consistent with the overall aim of the RRP. The same applies to digital tools and content in primary and secondary education, but higher education seems to have been completely left out.

The RRP's initiatives for acquisition of digital skills of the workforce in the private and public sectors, i.e., digital education for adults, address a clear need identified in DESI. The same applies to the organised support for digitisation of businesses, especially of SMEs, as there seems to be a lack of digital experience of decision makers that translates into the quick and effective adoption of digital tools, processes, and business models.

On the other hand, the RRP does not address the issue of digital skills, trust, and use of digital tools in the general population, though it must be said that these are also linked to social characteristics such as income level and general level of schooling (which is still very low particularly in the age group above 50) that other initiatives in the RRP attempt to address – but this will take time.

7. Measuring the Implementation of the RRP

(a) Milestones & Targets

The Operational Arrangements list the KPIs that formalise the milestones and targets to be met before payment requests can be made. Portugal shall report on the progress made each semester in the achievement of the RRP and the Operational Arrangements (by April 30th and October 15th) as well as on common indicators set out in Article 29(4) of the RRF Regulation (by February 28th and August 31st). Payment requests will be made on a semi-annual basis.

As mentioned above, the *EMRP* has the responsibility of regularly providing information about the implementation of reforms and investment projects and is coordinating and monitoring how the initiatives envisaged are implemented and achieve the objectives set out in the RRP. There will be exchanges with the Commission "to take stock of progress on the implementation of the RRP" and to inform the latter of any significant "risks to the timeline for the completion of any milestone or targets".

Below, we argue that in many aspects milestones and targets insufficiently capture the effectiveness of the respective investments and reforms. We also present how information is spread across different portals without being concentrated in a single source. The *EMRP* reports lack specific information about the chains of execution involving the interactions between intermediary and final beneficiaries, where the majority of the financial exchanges occur.

The *"Comissão Nacional de Acompanhamento"* (*CNA*) made a similar assessment in its first unpublished report of February 2022, describing the KPIs as "vague, imprecise, at times, incomplete". In addition, the *CNA* also identified that:[23]

- " (…) It is critical to improve and reinforce the strategic coordination between diverse institutions of the public administration to ensure the efficient execution of the RRP as well as better articulation between enterprises and socioeconomic partners. This is critical for having other national strategies such as PT2030 fully aligned in terms of technical and human resources (…) [our translation]" . The *CNA* states that this would support providing the most effective outcome, avoid

[23] Pages 2, 3 and 33 from the first *CNA* Report of Assessment and Execution of the RRP.

duplication and ensure all RRP measures are implemented, and that no important investment is lost. The *CNA* further commented that:

- The *EMRP* needs a more granular and periodic reporting with attention to the full process.

- Inefficiencies in the communication of announcements and activities hamper the preparation of answers by institutions, enterprises, and socioeconomic agents.

- There is a lack of an articulated and coherent strategy of communication with society, justifying the measures and advertising for which communities they are meant.

- Chronograms of activities and advertisements should be published sooner on the *EMRP* portal, so that enterprises and other socioeconomic agents can see these opportunities earlier and improve their planning efficiency.

- Application processes should have clearer, simpler and more flexible requirements.

- Information should be concentrated at a single source, the *EMRP* portal.

The *CNA* also states that it lacks the technical, human, and digital resources to support and monitor the RRP more closely.

There are 39 qualitative milestones and 47 quantitative targets in the digital area. Of these, 5 were to be achieved already in 2021, 15 in 2022, 13 in 2023, 8 in 2024, 34 in 2025, and 11 in 2026. The milestones refer to the completion of activities such as entry into force of laws, contracts signed, purchase and delivery of items. The quantitative targets present goals in terms of numbers of items to be achieved, in part starting from a specific base value. The achievement of all targets and milestones is subject to verification, usually through documentary proof such as reports or official documents. The targets, being numerical values, are precisely specified. On the other hand, it cannot be deduced from the Operational Arrangements on what basis these targets were chosen and which trade-offs (with other actions not taken) they involved.

With €133m pre-financed in 2021 for the Digital Transition, the first official payment request of April 2022 indicated all four agreed-on milestones and one target as completed by the end of 2021. These are:

- Reforms:
    - C17 (Milestone): New model of contract with a system of incentives and penalties for the management of public enterprises

- C19 (Milestone): Judicial framework for the digital transition of the public administration
- C19 (Milestone): Creation of the "National Institute of Public Administration"[24]

- Investments:
  - C16 (Target): Selection of 17 Digital Innovation Hubs [goal: 16]
  - C20 (Milestone): Contracts for acquisition of 600,000 computers for high school teachers and pupils

(b) A closer look at the KPIs

We analysed each KPI in the Operational Arrangements individually and investigated evidence for their completion across different public sources, including those of the "Responsible Entities", i.e., direct and intermediate beneficiaries.

In Table 3, we classified the KPIs by type. Across the 86 initiatives available in the Operational Arrangements, lists are the most common form of proof of completion, accounting for 37% of the total number of KPIs. Only 9% of all KPIs are identified as "specific", which is applied when a more exhaustive concrete set of requirements is defined. Proof of implementation, operability, completeness, or availability account for 36% of the total number of KPIs.

These KPIs also tend to include the requirement to justify how the target or milestone was met. In cases where the initiatives' main purpose is to elaborate laws, a publication in the *Diário da República* can be a concrete proof of achievement, which might allow for an *a posteriori* assessment of the law's impact. In other scenarios, however, such as training programs or software development, the mere proof of operability may not be a concrete enough metric in itself for assessing the effectiveness in achieving the policy objectives.

The lack of further output- or outcome-focused metrics linked to policy objectives calls into question the goal of putting Portugal at "the forefront of countries which are better prepared for facing the inherent changes and challenges of global transition", the original purpose behind the

[24] Portugal had a National Institute of Administration (INA) that had a good reputation, an important function in civil servants' training, and had an excellent location. INA was extinct in 2012, left its premises and downgraded to *Direção-Geral*. This project is in reality to re-create the INA.

Digital Transition Action Plan as published in the Resolution of the Council of Ministers No. 30/2020, of 21 April in the *Diário da República*.

Verification Mechanism	Number of Measures
Certification(s)	2
Decision from MoF	1
List	26
List and complement	3
Numeric	4
Numeric, list	1
Official Journal	9
Proof of availability	1
Proof of completeness implementation	1
Proof of completion	2
Proof of completion and operability	6
Proof of completion operability and availability	1
Proof of completion, list	3
Proof of implementation	3
Proof of operability	12
Proof of operability and availability	2
proof of purchase	1
Specific	6
specific numeric	1
Specific proof of completion	1
Grand Total	**86**

Table 3: Verification Criteria
Source: Institute of Public Policy

Table 4 shows how different types of KPI are used for each digital component. While in “Enterprises 4.0” *lists* account for the majority of the assessment criteria, in “Quality and Sustainability of Public Finances” and “Digital Public Administration” it is mainly proofs of completeness, implementation, operability, or availability.

Verification Mechanism	Number of Measures	Verification Mechanism	Number of Measures
⊟ **16 - Enterprises 4.0**	**15**	**19 - Digital Public Administration**	**24**
Certifications	1	List	5
List	9	Numeric	2
List and complement	3	Official Journal	3
Official Journal	1	Proof of availability	1
Specific	1	Proof of completion	1
⊟ **17 - Quality and Sustainability of Public Finances**	**20**	Proof of completion and Operability	4
Certificate	1	Proof of completion operability and availability	1
Decision from MoF	1	Proof of completion, list	2
List	3	Proof of Operability	3
Official Journal	2	Proof of Operability and availability	1
Proof of Completeness Implementation	1	Specific	1
Proof of completion	1	**20 - Digital School**	**18**
Proof of Implementation	3	List	9
Proof of Operability	3	Numeric	2
Proof of Operability and availability	1	Numeric, list	1
Specific	4	Proof of completion and Operability	2
⊟ **18 - Economic Justice System and Business Environment**	**9**	Proof of completion, list	1
Official Journal	3	proof of purchase	1
Proof of Operability	6	specific numeric	1
⊟		Specific proof of completion	1

Table 4: KPIs other than "Document justifying how targets were met"
Source: Institute of Public Policy

With the aim of assessing the sophistication of each individual KPI in the Operational Arrangements more accurately, while keeping in mind the main digital objectives, we rated each individual investment and reform based on a specific set of criteria. These criteria are:

1. How *concrete* are the verification criteria for ensuring that the best policy choices are being made? Do they include specific technical terms or procedures? (C - Concreteness)

2. Are the structure and *methodology* to achieve these targets clearly outlined? (M - Methodology)

3. How concrete are the publicly available accountability/*effectiveness* metrics to make sure that the targets achieved are the most adequate to address the weaknesses outlined in DESI and other sources? (E - Effectiveness)

4. How clear is the expected impact of the initiative, in alignment with the policy objectives? (V - Vision)

We assessed each of these four questions qualitatively for each individual initiative with ranks 1-2-3 (low-medium-high, respectively), based on the types of KPI outlined above, and then summarised the information by question, RRP component, and implementing institution.

Averaging the 86 initiatives for each of the four criteria - as presented in Table 5 - we find that clarity of the expected impact (V) is scoring highest with an estimated average of 2.4. Methodological clarity (M) and effectiveness (E) were ranked the lowest with 1.3. Concreteness (C) had an expected impact of 1.8.

Values are also low when considering the average for each of the 5 digital components. The component scoring highest overall is C17 (Public enterprises, 1.9), followed by C16 (Enterprises 4.0, 1.8), while C18 (Justice & Business Environment, 1.6), C19 (Public Administration, 1.6) and C20 (Digital School, 1.6) scored the lowest.

While being one of the components with the highest expected impact, C16 is at the same time the component ranked with the lowest effectiveness measurement score. Similarly, while reaching the highest expected impact, C18 also received the lowest methodological clarity score with an average of 1 in this regard, the lowest possible value. Counterintuitively, C20 has the most concrete set of initiatives, however these provide the least clear expected impact. Finally, we rated C17 as having the highest methodological clarity and effectiveness measurement.

	C	M	E	V	Average
C16: Enterprises 4.0	2.1	1.2	1.1	2.7	1.8
C17: Public Finances	1.7	1.7	1.6	2.5	1.9
C18: Just. & Bus. Env.	1.6	1.0	1.1	2.7	1.6
C19: Public Adm.	1.5	1.1	1.5	2.5	1.6
C20: Digital School	2.2	1.2	1.3	1.7	1.6
Average	1.8	1.3	1.3	2.4	

Table 5: Average KPI sophistication per digital component and criteria.
Average Assessment of each of the 86 KPIs, grouped by Digital Component in terms of Concreteness (C), Methodology (M), Effectiveness (E) and vision-focused (V).
Source: Institute of Public Policy

When comparing different institutions, the Ministry of Finance, including ESPAP, UniLEO, DGO, and DGTF, were among the entities with the highest overall concreteness, methodology, effectiveness, and defined vision.

Entity	Concrete	Method	Effectiveness	Vision
Minstry of Economy and Digital Transition in collaboriation with the Minister of Labour, Solidarity and Social Security	2,00	3,00	1,00	2,00
EMPD - Portugal Digital Mission Structure	2,07	1,07	1,07	2,73
IEFP - Institute of Employment and Training	2,33	1,33	1,33	3,00
IAPMEI - Agency for Competitiveness and Innovation	2,07	1,07	1,07	2,79
DGAE - Directorate-General for Economic Activities	2,00	1,00	1,00	2,80
AICEP - Agency for Investment and Foreign Trade of Portugal	2,00	1,00	1,00	2,00
Startup Portugal	2,00	1,00	1,00	2,50
DIH Working Group	2,00	1,00	1,00	3,00
ANI - National Innovation Agency	2,00	1,00	1,00	3,00
INCM - National Mint Press	2,00	1,00	1,00	3,00
CNCS - National Cybersecurity Center	2,00	1,00	1,25	3,00
AMA - Agency for Administrative Modernization	1,33	1,00	1,00	2,83
CNPD - National Data Protection Commission	2,00	1,00	1,00	3,00
ESPAP - Public Administration Shared Services Entity	1,82	1,91	1,91	2,36
Ministry of Finance	1,69	1,77	1,69	2,31
UniLEO - Implementation Unit of the Budget Framework Law	1,86	2,00	2,00	2,14
DGO - Directorate-General for Budget	1,86	2,00	2,00	2,14
DGTF - Directorate-General for Treasury and Finance	2,00	2,00	2,00	3,00
UTAM - Technical Unit for Follow-up and Monitoring of the Public Business Sector	2,00	2,00	1,00	3,00
AT - Tributary and Customs Authority	1,00	1,00	1,00	2,33
IL, IP, ISS, IP	1,33	1,00	1,00	3,00
IGFS, IP - Social Security Financial Management Institute	1,00	1,00	1,00	3,00
IGFEJ - Institute of Financial Management and Justice Equipment	1,50	1,00	1,25	2,75
Ministry of Justice	2,00	1,00	1,00	3,00
DGPJ - Directorate-General for Justice Policy	2,00	1,00	1,00	3,00
MMEAP - Ministry of Modernization of the State and Public Administration	2,00	1,00	1,00	1,67
PJ - Judiciary Police	1,00	1,00	1,00	3,00
IRN - Institute of Registries and Notaries	1,00	1,00	1,00	2,00
DGACCP/SG (DGA/DSCI)	2,00	2,00	2,00	3,00
INE - National Institute of Statistics	2,00	1,00	2,00	3,00
GNS - National Security Office	2,00	1,00	1,00	2,67
CEGER - Government IT Network Management Center	1,50	1,50	2,00	2,00
Ministry of Internal Administration, General Secretariat of the MAI	2,00	1,00	3,00	3,00
SEF / Ministry of Home Affairs: General Secretariat of the MAI	1,00	1,00	2,00	3,00
VP_DRI	1,00	1,00	1,50	2,50
Regional Secretariat for Finance, Planning and Public Administration	2,00	1,00	1,00	2,00
DGAEP – Directorate-General for Administration and Public Employment	1,50	1,00	1,50	1,50
INA - National Institute of Administration	1,00	1,00	1,00	2,00
SGEC - General Secretary of Education and Science	2,22	1,00	1,44	1,44
Regional Secretariat for Education	2,11	1,44	1,11	1,89

Table 6: Assessment of KPIs by Responsible Entity.
Source: Institute of Public Policy

Portugal's RRP - particularly as related to the Digital Transition - is a historical opportunity for addressing some of the country's most relevant structural issues. Overall, these structural factors are well-identified, and the program initiatives are strongly aligned with the policy vision. But the measurement of its implementation still needs to be improved.

We propose the development of effectiveness metrics, focused on technological and socio-economic development. These should include concrete metrics demonstrating how much each action step is contributing to each digital transition objective. In addition, a “return on investment”-type metric would allow estimating why and how each specific investment will achieve the target at hand and could also be used to justify the choice between alternative projects. We also suggest that Responsible Entities clearly identify investments and outcomes as being part of the RRP, standardising as much as possible the presentation of the information that is publicly available at different entities.

8. Consistency and Dispersion of Information

Apart from the initial information available in the Operational Arrangements, up-to-date public information specific to each reform and investment is often presented in an aggregated manner or, when concrete, in a scattered form, dispersed over different websites and resources. This requires a special effort to discover how each policy objective comes to fruition from strategy to concrete implementation. Some institutions, especially IAPMEI, communicate explicitly that these actions are part of the RRP, though this is not the case for all Responsible Entities.

There is a range of sources that - although not always explicitly or directly referencing each other - allows us to trace and compare how some of the different digital strategies are implemented. They are not explicit, however, on how exactly each investment's monetary amounts are allocated apart from indicating the institutions or projects that receive them.

These sources include the following:

- 1. The European Commission's Recovery and Resilience Scoreboard provides the per country fulfilment ratio of the milestones and targets.[25]
- 2.The "*Recuperar Portugal*" monitoring overview includes updated information about the different stages of implementation of the RRP (last updated on 24/08/2022).[26]
- 3. Portugal's Operational Arrangements with the European Commission contain each individually defined milestone and target with deadlines (signed on 18/01/2022).[27]
- 4. The European Commission's Implementing Decision on the authorisation of the disbursement of the first instalment of the non-repayable support and the first instalment of the loan support for Portugal (signed on 02/05/2022) includes an assessment of the milestones and targets reached in 2021.[28] A more comprehensive description is found in the annex to the European Commission's analysis.[29]
- 5. The "*Mais Transparência*" portal includes the rate of fulfilment per component with detail down to the level of each action step, identified beneficiaries, and affected projects.[30] It

[25] https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/digital.html.
[26] https://recuperarportugal.gov.pt/wp-content/uploads/2022/08/Relatorio-Monitorizacao-PRR-Sumario-20220824.pdf
[27] https://ec.europa.eu/info/sites/default/files/countersigned-portugal-rrf-oa1.pdf.
[28] https://recuperarportugal.gov.pt/wp-content/uploads/2022/05/C_2022_2927_1_EN_ACT_part1_v6.pdf.
[29] https://ec.europa.eu/info/system/files/c_2022_1999_1_en_annexe_acte_autonome_nlw_part1_v2.pdf.
[30] https://transparencia.gov.pt/fundos-europeus/prr/dimensao/transicao-digital#dimension_by_type_prr_id.

is a government initiative for public transparency and not dedicated exclusively to the RRP (last updated on 13/07/2022).

- 6. "*Portugal Digital*" presents the execution level per milestone of each initiative. As mentioned above, "*Recuperar Portugal*" picks up on the Action Plan for the Digital Transition which includes many of the structural proposals planned in 2020 for the "*Portugal Digital*" agenda (last updated on 29/03/2022).[31]

While the EU Scoreboard and *Recuperar Portugal* include a general overview of the digital transition strategy and implementation measurement, it is in the Operational Arrangements and EC Implementing Decisions that we can find the exact KPIs and metrics to be achieved and their expected date of conclusion. In *Mais Transparência* and *Portugal Digital* we can see how each of the investments and reforms have progressed individually and which are their specific outcomes and agents.

Together, these references provide a more comprehensive overview from strategic conception to execution and on how different components of the RRP are implemented. Still, some relevant information is missing and at times financial measures are not aligned between sources, so that it is not always possible to infer how funds from a given component have exactly been allocated.

On January 25th, 2022, Portugal submitted a payment request of €1.16bn (€553.44m in grants and €609m in loans) which the European Commission endorsed on March 25th and delivered on May 9th, based on the achievement of the 38 milestones and targets due in Q4 2021 - five of which specific to the digital transition - selected in the Council Implementing Decision for the first instalment.

From component to each specific program and reimbursement, this process is managed and fulfilled, as already explained in section 2, by intermediate, direct, and final beneficiaries. Once the "*Estrutura de Missão Recuperar Portugal*" subcontracts the Responsible Entities for fulfilling the RRP investments, defining its direct and intermediate beneficiaries, these investments are then moved to an approval stage, followed by payment to direct and final beneficiaries. According to the update of August 24th 2022, 38% of all digital transition investments are still pending approval.

The above six sources of information are not always consistent – this is also true within the same institution. While the European Commission's Recovery and Resilience Scoreboard presented no information at the time of the April 2022 assessment, the Implementing Decision document already indicated the successful fulfilment of these same components.

[31] http://portugaldigital.gov.pt/indicadores/os-resultados-ja-alcancados.

While for C17-r32 and C20-i01 some of the measures were presented as partially fulfilled, according to "*Mais Transparência*", there were measures related to C16-i03 showing a zero fulfilment level - this makes sense as "*Mais Transparência*" includes not only the successful integration of the relevant governance frameworks but as well the final beneficiaries' action steps and measures of progress. We were able to find public information presenting the outcome from each of these components in all of the sources of the Responsible Entities affected, with the exception of the Secretary General of Education and Science, responsible for acquiring 600,000 computers for high school teachers and pupils.

Code	**Description**	**Date**	**Achievement Status**					**Responsible Entity includes clear public information**
			EC Recovery and Resilience Scoreboard	**Recuperar Portugal**	**EC Implementing Decision**	**Mais Transparência**	**Portugal Digital Dashboard**	
C16-i03	*(Target): Selection of 17 Digital Innovation Hubs*	2021Q4	No information	Fulfilled	Fulfilled	Fulfilled targets for 2021	85 % completed	IAPMEI, clear reference of developments
C17-r32	*(Milestone): New management contract for public enterprises*	2021Q4	No information	Fulfilled	Fulfilled	Fulfilled targets for 2021	100% complete	Ministry of Finance, clear communication present
C19-r34	*(Milestone): Judicial framework for the digital transition of public administration*	2021Q3	No information	Fulfilled	Fulfilled	Fulfilled targets for 2021	Unclear information	Unclear in AMA, contracts available in DRE
C19-r36	*(Milestone): Creation of "National Institute of Public Admin."*	2021Q2	No information	Fulfilled	Fulfilled	Fulfilled targets for 2021	Unclear information	INA Website available
C20-i01	*(Milestone): Contracts for 600,000 computers for high schools*	2021Q4	No information	Fulfilled	Fulfilled	Fulfilled targets for 2021	90 % completed	SGEC, unclear action steps taken

Table 7: Achievement status in different sources, as of July 13th, 2022.
Source: Institute of Public Policy

Overall, while information concerning milestones, targets, and execution of the digital transition pillar is diverse and at times comprehensive, there are still many relevant questions left to answer concerning how exactly each share of the funds is being applied or by whom.

There is a need for a clear and centralized platform, resulting from a centralized management program, where the general public could consult in a concrete and simple manner: - which exact deliverables were achieved with the funds allocated; - who were the main beneficiaries; -which were the roles and resources allocated per beneficiary; - what is the expected measurable impact on the main structural issues.

Right now, *"Mais Transparência"* is the source that best describes the aspects above, but with some limitations that still do not allow for a rigorous cost-benefit analysis or impact assessment.

9. Conclusions and Recommendations

This paper addressed the challenges for Portugal in the implementation of the RRP, in particular in the digital area, before the background of the RRP's governance structure and Portugal's past record of public investments.

The first challenge is to be able to implement and execute the RRP within its given time span, i.e., until the end of 2026. We presented data that supports our opinion that it is an almost impossible task for Portugal to execute the RRP funds in the given timeframe. If that is the case also with other countries, the European Commission faces a clear choice. Either it maintains the deadline, which would mean sacrificing the execution of RRP funds and the economic, social, environmental, and digital impact of the recovery and resilience plans. Indeed, the Next Generation EU programme was approved by unanimity, so that any change is likely very difficult to implement. Or it is always possible to reinterpret the approved rules in order to extend the execution schedule. This would still imply that every Member State, including Portugal, should accelerate the implementation of the programme.

A second challenge is institutional at a macro level. If the RRP is to have a real and structural impact on the Portuguese economy and society, the macro governance structure of the RRP should be improved. This means that the overall political strategy, defined by the Inter-ministerial Commission headed by the Prime Minister and including the economy and other sectoral ministers, should be based on a clear vision of the aims to achieve. For example, in what concerns loans to the private sector, there should be some match between the attribution of funds and strategic priorities.[32] It is also important to stabilize the governance structure, recently changed with the reshuffling of the government and the new president of the *Comissão Nacional de Acompanhamento*, and also make the latter's reports publicly available to improve public scrutiny of RRP.

A third challenge is institutional at a medium level and is related to the institutional capacity of the *Estrutura de Missão Recuperar Portugal*, the *Comissão Nacional de Acompanhamento*, and the intermediate beneficiaries to fulfil their roles, given their present technical, human, and digital resources. In particular, *EMRP* lacks human resources, and *Banco de Fomento* had some difficulties during the less than two years of its existence in part as a consequence of leadership issues. Both

[32] As an example, the criteria for selecting projects by the intermediate beneficiaries should consider these political priorities. The first approved loans were concentrated in the tourism sector. There is no doubt that the tourism sector was particularly hit by the pandemic in 2020 and 2021 and should be supported. But loans were approved based on immediate demand for RRP funds. However, in terms of the structural transformation of the Portuguese economy - to achieve sustainable economic growth with higher productivity and a more knowledge-based society converging with the European average - will tourism be a critical sector? There should be some political vision on this topic to guide the intermediate beneficiaries' decisions in selecting projects.

problems seem to be in the process of being solved, which is crucial for a wise and swift application of RRP funds.

A fourth challenge is related to public financial management within the European Semester. As we have shown, for digital pillar and other areas, European funds are channelled through the RRP and the Multiannual Financial Frameworks (the old and new ones). In order to avoid duplication of funding, through different financial sources, and in order to promote complementarity between these sources, some sort of broad analysis that incorporates the different contributions to the major reforms and investments under the RRP should be developed. The Portuguese government is committed, under the Operational Arrangements, to present a Report on October 15th, 2022, showing the progresses made so far concerning the RRP. October 10th is the deadline for presenting the state budget in parliament, before which a draft budgetary plan must be presented to the European Commission. It is therefore a good occasion, and perhaps the best, to integrate the analysis of these different financial instruments.

A final challenge is more micro and relates to the quality of information associated with the execution of the RRP, both financial and on key performance indicators. The Operational Arrangements agreed between Portugal and the European Commission approved and signed in January 2022, establish the "arrangements and timetables for monitoring and implementation and the relevant indicators relating to the fulfilment of the envisaged milestones and targets". [33] Milestones and targets are, therefore, fixed. This does not mean that we should consider them to be adequate for all purposes and that they cannot be complemented and improved. In particular, we pointed out that they track execution, but not effectiveness of the RRP's initiatives. It also does not mean that the information system put in place cannot be made clearer for all the Portuguese stakeholders of the RRP, which in the end are all Portuguese citizens. The analysis done in this paper for the digital dimension had precisely the aim of improving the effectiveness and knowledge of the RRP.

[33] https://ec.europa.eu/info/sites/default/files/countersigned-portugal-rrf-oa1.pdf

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