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From NGEU to a Green Capital Markets Union[1]

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Now that the EU's post-pandemic recovery programme is on course, the priority should be to increase private sector investments. The two main pillars of the Recovery and Resilience Facility (RRF), a key component of the Next Generation EU (NGEU) programme, are green and digital. Although the EU is taking the global lead on the green transition and is putting a solid policy framework in place, it is lagging in the digital transformation, with significant gaps remaining across Member States. For the EU to deliver the twin transition to a green and digital economy, and mobilise the necessary resources to get there, market financing – which is much less developed compared to international peers – should be developed further. This will advance the green transition, cement Europe's Green lead, and advance digitalisation.

This policy brief starts by reviewing the implementation of the NGEU programme thus far, and the take-up and allocation of funds at Member State level. It then discusses the expected impact of the plan based on past experience under similar programmes, and how the European Commission (EC) will ensure good use of the money. It continues by examining NGEU's transition towards private sector financing, and what is required to achieve this. Finally, it concludes with some policy recommendations.

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[1] This paper is based upon a presentation for the Triangular Forum in Paris, 9 November 2021 and the Europe Committee of the Dutch Second Chamber, 26 January 2022. We also benefitted from discussions with Philip Hartmann and colleagues at the ECB on NGEU and private investments. Francesco Corti, Jorge Núñez Ferrer and Felice Simonelli of CEPS helped us with data and insights..

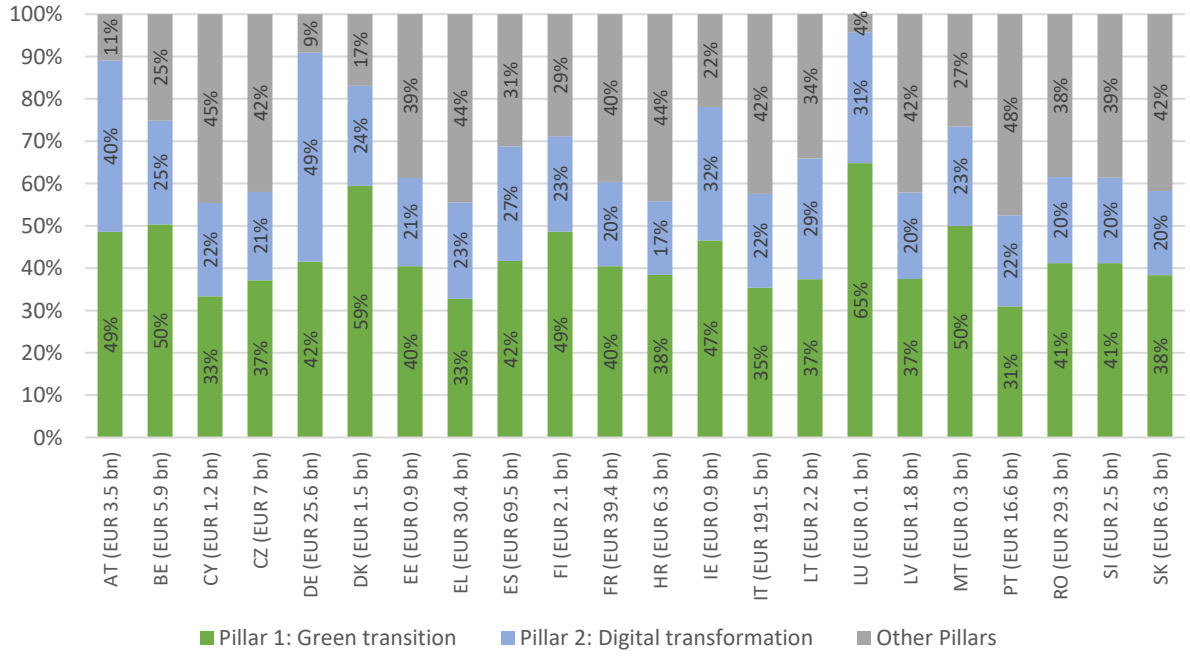
Disbursing the NGEU

The NGEU is a real game changer in EU policy-making. For the first time, the EU has a substantial economic policy budget at its disposal, borrowed on its own right on international capital markets. It now has the possibility to drive economic reform in a certain direction, and can assist the Member States in adjusting and improving the policy mix. Furthermore, it makes disbursements conditional on achieving certain milestones.

Public investments in the EU have been lagging since the 2008-09 financial crisis. From their peak of 3.8 % of GDP in 2009, they slowed to about 2.8 % of GDP in 2016, and may reach the earlier levels again with NGEU. Stimulating both public and private investments was at the heart of the 2014 Juncker Plan, the European Fund for Strategic Investments (EFSI). However, the focus was mainly on private resources (about 70 % of the mobilised investments), and much less on public money.

Green and digital investments are the biggest pillars of the RRF. Member States must allocate at least 37 % of their investments to green and a minimum of 20 % to digital investments. So far, these targets have been exceeded: almost 40 % of spending has been towards climate-related objectives and about 26 % on digital objectives. The total amount that has been currently allocated – based on the 22 Recovery and Resilience Plans (RRPs) – stands at EUR 445 billion, of which EUR 190 billion will be spent on Pillar 1 (i.e. the green transformation), EUR 111 billion on Pillar 2 (i.e. the digital transition), and EUR 144 billion will be channelled to the remaining four Pillars (see Figure 1). However, this is well below the target of EUR 724 billion, which is composed of 53 % (EUR 386 billion) of loans and 43 % (EUR 338 billion) of grants. Only a few Member States, such as Greece and Italy, have taken the full amount in loans under the plan, whereas the vast majority of them (including France, Germany and Spain) have only taken up grants.

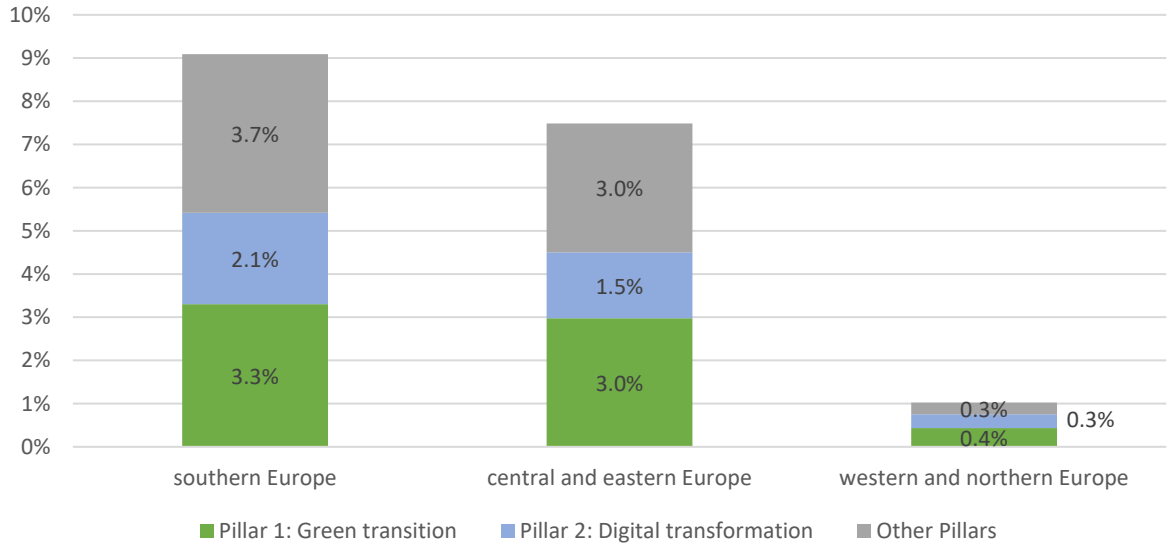
Figure 1. Share of RRF funds allocated in each pillar, by Member States (% of total expenditure)



Notes: Data is based on the 22 recovery and resilience plans approved as of 15 December 2021. The Recovery and Resilience Facility is structured around six pillars: i) green transition; ii) digital transformation; iii) smart, sustainable and inclusive growth; iv) social and territorial cohesion; v) health, and economic, social and institutional resilience; vi) policies for next generation. The category 'Other' includes all pillars except the green transition and digital transformation. The figures within the brackets next to the country names refer to the amount allocated to each Member State.
Source: Authors' calculations based on the EC Recovery and Resilience Scoreboard.

Geographically, and in absolute terms, the largest share of funds from the RRF goes to southern European countries (EUR 315 billion or 71 % of the total EUR 445 billion), followed by those located in western and northern Europe (EUR 79 billion or 18 %), and central and eastern Europe (EUR 56.3 billion or 13 %). Looking at it in relative terms, the southern European region will receive grants and loans representing about 9.1 % of the region's 2019 GDP, compared to central and eastern Europe where grants allocated under the facility represent 7.5 % of the region's 2019 GDP (see Figure 2), a very sizeable mount.

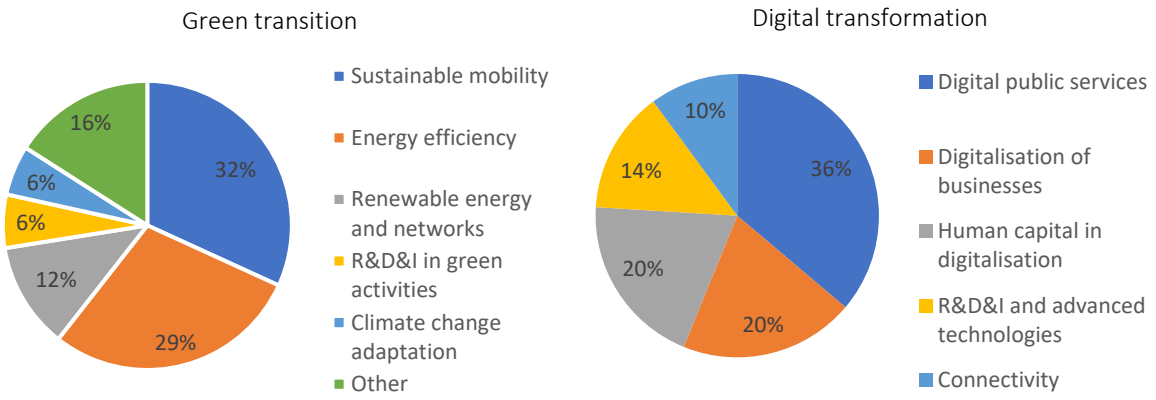
Figure 2. Share of RRF funds allocated in each Pillar, by region (% of each region's GDP)



Notes: Data is based on the 22 recovery and resilience plans approved as of 15 December 2021. The Recovery and Resilience Facility is structured around six pillars: i) green transition; ii) digital transformation; iii) smart, sustainable and inclusive growth; iv) social and territorial cohesion; v) health, and economic, social and institutional resilience; vi) policies for next generation. The category 'Other' includes all pillars except the green transition and digital transformation. 'Southern Europe' includes: CY, EL, ES, IT, MT and PT. 'Central and Eastern Europe' includes: CZ, EE, HR, LT, LV, RO, SI, and SK. 'Western and Northern Europe; includes: AT, BE, DE, DK, FI, FR, IE and LU.
Source: Authors' calculations based on the EC Recovery and Resilience Scoreboard.

Objective-wise, the largest part of the green allocation goes to sustainable mobility (32 %), followed by energy efficiency (29 %) and renewable energy and networks (12 %) (see lhs of Figure 3 below). In the digital allocation, the largest part goes to measures aiming at the digitalisation of public services (36 %), followed by business digitalisation (20 %) and human capital in digitalisation (20 %). Sector-wise, the largest part of the RRF funds (38 %) go to the public sector, followed by infrastructure (26 %), the labour market, education and social policies (20 %), the business environment (11 %) and financial policies (5 %).

Figure 3. Share of RRF funds supporting the green transition pillar (lhs) and the digital transformation pillar (rhs), by policy area (% of each policy pillar)

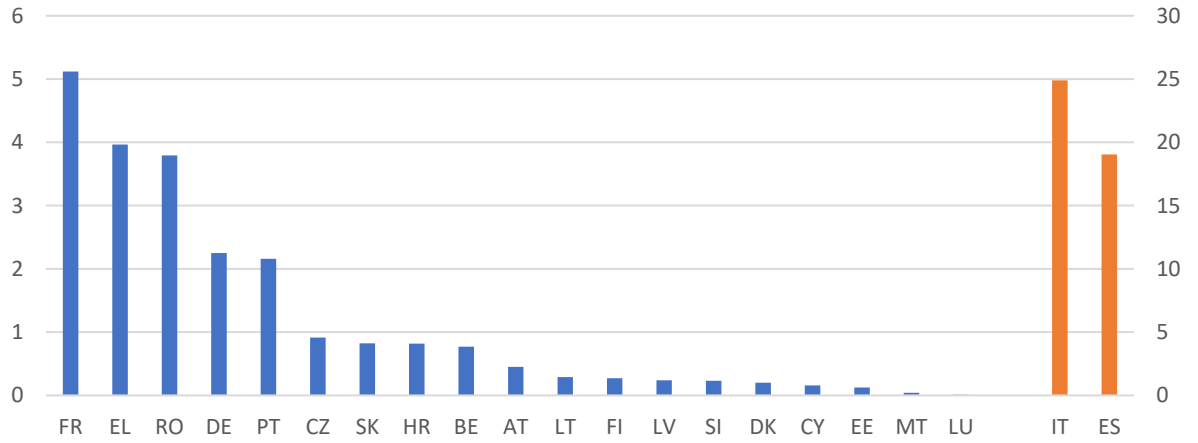


Notes: The charts show a breakdown of the estimated contribution to each policy pillar according to a list of policy areas established by the EC. The percentage relates to the overall share of the plan tagged under each policy pillar. The category 'other' on the left hand pie chart includes: other climate change mitigation; transition to a circular economy; sustainable use and protection of water and marine resources; the protection and restoration of biodiversity and ecosystems; green skills and jobs; and pollution prevention and control.
Source: Authors' calculations based on the EC Recovery and Resilience Scoreboard.

Over the long run, the European Investment Bank (EIB) estimates that the facility would drive GDP at about 2 % higher in 2030, and 1.3 % higher in 2040, relative to the baseline scenario (EIB, 2022). Countries in Southern Europe will feel the highest impact in terms of GDP, with structural improvements estimated to raise GDP levels by as much as 5 % by 2030. Public investment should give rise to multipliers, and the effects of the extra investment will spill over among countries. However, the success of the facility depends on whether all the money will be effectively absorbed and well spent. This is a well-known problem with EU funds and large public investment programmes in general. In short, the implementation challenge for the EU and national administrations is enormous.

The EU has set reform and investment 'milestones' running to 2026 to apportion its spending under the NGEU. In the case that the milestones are not met, money will not be disbursed. So far, EUR 67 billion has been disbursed to 20 countries (EUR 47 billion in grants and EUR 20 billion in loans), with the highest amounts to Italy and Spain (see Figure 4). The amount was raised through several bond placements, issued under Luxembourgish law, while the bonds are listed on the Luxembourg stock exchange.

Figure 4. Amount disbursed so far under RRF per Member State (EUR billion)



Notes: The figure displays the disbursements made under the RRF per Member State until 21 January 2022. Data for IT and ES are presented on the right axis.
Source: Authors' calculations based on the EC Recovery and Resilience Scoreboard.

NGEU impact and control

Many questions can be raised about the impact of the NGEU programme and control over the allocation of the funds. Below we group the most important ones.

- *Will NGEU effectively lead to new investments, supplementing national spending, or does it substitute it, and thus provide an opportunity to consolidate public finances?*
  This is also called the 'additionality' principle of the EU's cohesion policy, the 'European value added', as enshrined in Article 5(1) of the NGEU Regulation (EU 2021/241). An analysis of six different RRPs found large discrepancies between Member States (Corti *et al*., 2022). In Austria, Germany and Spain the largest share of the grants received is allocated to projects that were either already planned or to extend/continue projects that were already existing (81 % for AT, 80 % for DE and 60 % for ES). On the other hand, in Belgium, Italy and Portugal, the largest share of the RRF funds is being channelled towards new projects (77 % for Belgium and 64 % for Italy and Portugal).
- *Does NGEU contribute to improving the EU's economic cohesion and reducing the divide between countries?*
  Compared to the EU's cohesion policy programmes (the EU's regional, social and cohesion funds), the NGEU is less redistributive, and goes mostly (>50 %) to the middle income countries, while 24 % goes to the poorest countries – whose GDP per capital is below 75 % of the EU27 average (Bisciari *et al*., 2021). This 'bias' is related to the varied impact of the Covid-19 crisis across countries, certainly during the first wave, but also due to differences in public sector governance and absorption capacity.
- *What about conditionality?*
  The NGEU programme is based on money raised by the EU as loans (and guaranteed by the EU's own resources), unlike most of the Multiannual Financial Framework (MMF) which is composed of Member States' commitments. This means that under NGEU the EC should be even more insistent that the money is well spent, taking broader macro-economic criteria and investment specific conditionality into account. The EU has set a series of objectives in the RRF regulation, alongside four principles, which among others include quantitative targets and qualitative milestones. The disbursement of the RRF funds every six months are contingent on the satisfactory fulfilment of the relevant milestones and targets by the Member States[2]. These criteria continue to apply throughout the facility ('non-reversibility', Article 24.3 of RRF regulation). But as the control on RRF expenditure is in national hands, the EC will assess Member States' internal control systems to prevent fraud and mismanagement (Corti and Núñez Ferrer, 2021; Rubio, 2022)[3]. Finally, there is the rule of law conditionality, which the Court of Justice of the European Union ruled on 16 February 2022 that it is legal to link disbursements to this principle.
- *What about fraud and the misallocation of funds?*
  Acting upon abuse and fraud will prove difficult to achieve due to the national implementation of the RRPs, and the differences in legal entity structures and data secrecy. Until very recently, the EC had no tools to track the ultimate beneficiaries of EU funds, because of the various legal statutes of the entities, the anonymity of beneficial owners, the non-existence of EU-wide registers and the wide variety of EU-funded programmes. In an in-depth study conducted for the European

[2] Currently four Member States (France, Greece, Italy and Spain) have submitted their first payment requests with two of them been approved (France and Spain). However, how the approval process and suspension of payments may evolve over time, it is difficult to assess at this stage.
[3] The EC can suspend all or part of the RRF funds, if there is a major deficiency in a Member States' control system (Article 22.5 of RRF regulation).

Parliament (EP), CEPS found a high degree of concentration of EU common agricultural policy (CAP) and regional funds among politically exposed persons (PEPs), wealthy businessmen and corporations in certain countries (De Groen *et al*., 2021)[4]. The question remains whether the EU will make use of such data, act upon the undue use of EU funds and adapt its policy accordingly?

Ensuring private markets take the relay from NGEU

To gain the full benefits of NGEU and ensure that these benefits last, it will be essential to foster additional private investments beyond 2026. The large amounts of post-recovery public investment under NGEU will only last until then and are unlikely to be enough to meet the needs of the green and digital transitions. The EC estimates that the green and digital transitions will require additional public and private investment of almost EUR 650 billion per year until 2030, of which EUR 520 billion per year will be needed for the green transition (EC, 2021). These estimates do not include investment needs related to climate adaptation, nor do they include the investment needs for necessary innovation in other strategic sectors, such as healthcare. Moreover, most NGEU investments are made at the national level on the basis of Member States' plans under the RRF, whereas many transition challenges require cross-border approaches.

Further measures to deepen EU capital markets play an important role to stimulate private finance. They are essential for facilitating both early stage innovation and the scale-up of promising firms and initiatives. However, capital markets do not only need to add debt to the finance mix, but also equity as this enables a faster transition. This will only be possible, however, if the EU strengthens the markets for risk capital and make them more attractive, notably for private equity, venture capital financing and initial public offerings (IPOs).

Equity driven financial systems have been found to allocate capital more rapidly to cleaner industries (De Haas and Popov, 2019). Examining the relationship between financial development and CO_2 emissions in 48 countries and 16 industries over the period 1990-2013, results indicate that more equity capital can bring a sizeable reduction in carbon emissions. Moreover, countries with deeper stock markets are associated with more green innovation in carbon-intensive sectors, and facilitate the adoption of cleaner technologies in polluting industries. This trend is expected to accelerate even further, as global standards for sustainability emerge and as investors are increasingly aware of the need to adjust to climate change.

In last May 2021, the ECB President Lagarde called for a 'green capital markets union (CMU). This will entail the interplay between private and public investments to achieve the green transition and spur innovation, also in the digital domain (e.g. smart urban mobility, precision agriculture, and sustainable supply chains). But for a green CMU to work, much remains to be done.

First, markets are too fragmented, which hampers risk sharing. Domestic bias remains too entrenched in European capital markets, although it is much lower for green bonds. Second, the EU needs to set standards for green investments, where it is leading internationally, but this is a work in progress. On pollution, the EU has set a cost for carbon emissions in the Emissions Trading System (ETS), but the system is imperfect[5]. It covers ~40 % of the EU's greenhouse gas emissions, compared to 80 % of global

[4] According to the Chair of the responsible EP Committee, it had been impossible to get this information from the EC, as she mentioned during the formal presentation of the study. The EU Court of Auditors (ECA) plays a crucial role here, but it only acts *ex post*.

[5] The EU ETS works on the 'cap and trade' principle. A cap is set on the total amount of certain greenhouse gases that can be emitted by the installations covered by the system. The cap is reduced over time so that total emissions

emissions that are not covered by carbon pricing schemes. However, the ETS is gradually expanding, particularly with the 'Fit for 55' package that the EC presented in July 2021[6]. But a very incomplete ETS require a carbon border adjustment mechanism (CBAM), as is now proposed for carbon intensive imports into the EU (currently very imperfect and open to challenge).

Third, there is a plethora of sustainability standards which need to be consolidated and harmonised. The EU has its sustainable finance framework, of which the Taxonomy Regulation forms a part, that will be used as a basis for the reporting standards in the corporate sustainability disclosure regulation. However, the EU Taxonomy is in the midst of a very contested debate and the very political nature of the current draft may undermine its credibility at the global stage. At the international level, different sustainability standards are being developed, with a variety of bodies in charge, and there is currently much confusion on how green disclosure will work in practice. Failing this, capital markets alone cannot resolve the market failure and market inefficiency associated with global warming, and climate risk is not consistently factored in prices so far (Rajan *et al*., 2021).

Box 1. EU green capital markets legislation

- Taxonomy (regulation 2020/852) and draft delegated acts
- Disclosure: how is sustainability integrated in investment process
  - Non-financial reporting directive (directive 2014/95)
  - Sustainability-related disclosures in the financial services sector (SFRD, regulation 2019/2088)
  - Draft Corporate sustainability disclosure regulation (CSRD, April 2021)
- EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks (regulation 2019/2089)
- Fiduciary duties and sustainability preferences (six amending Delegated Acts covering asset managers and investment advisers)
- Rules for sustainability rating providers (expected)
- Green Bond Standards (draft regulation with voluntary standards)
- Adaptation of bank capital standards to carbon exposures

Source: Authors' elaboration.

On the digital side, European firms lag behind and are slower than their US counterparts in the adoption of digital technologies. This is because structural barriers that prevent investments in digitalisation still exist. Addressing these barriers will improve performance, allow for more efficient management, higher labour productivity and faster growth (EIB, 2020). EU firms lag particularly in the construction sector

fall. The EUETS is the oldest and now second-largest ETS in force. Introduced in 2005, it is now currently in its fourth trading phase.

[6] This package contains a set of policy proposals spanning all major sectors of the economy, aiming to achieve climate neutrality in the EU by 2050, including emission reductions of at least 55% below 1990 levels by 2030.

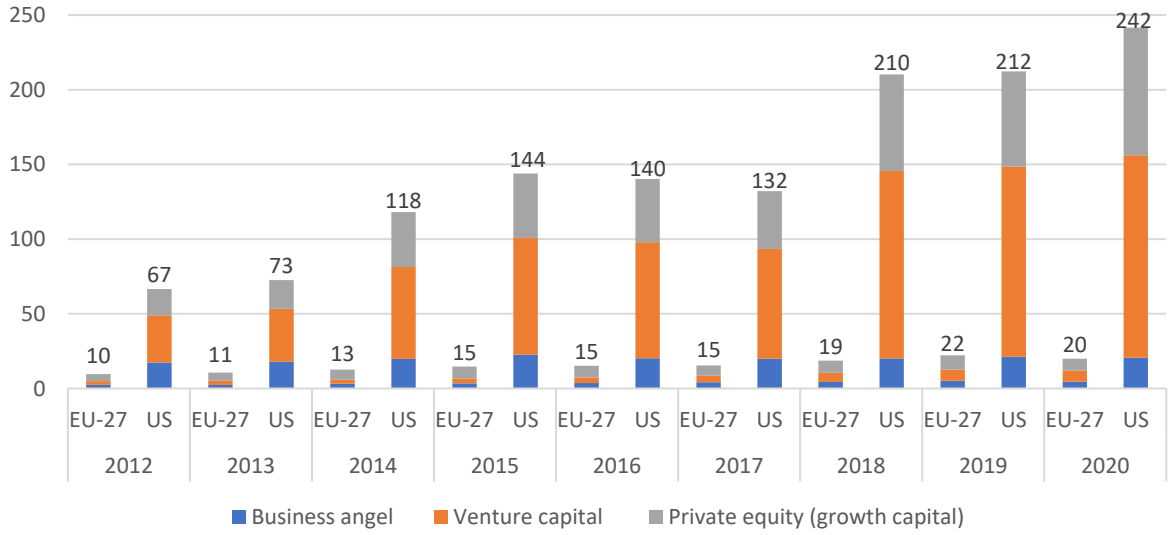
and for 'Internet of Things' (IoT) technologies, while they are almost absent amongst the largest hardware, software and cloud storage companies.

Most importantly, digital adoption is behind among smaller companies, the bulk of Europe's industrial fabric. The story still has to be written as to why Europe lost its lead in certain sectors during the 1980s and 1990s, such as in mobile communications or early digital technologies.

Where are risk capital markets in Europe?

EU risk capital has grown in recent years, although from a very low base. In particular, the amount of pre-IPO risk capital invested in European companies has doubled since 2012 and reached EUR 20 billion at the end of 2020 (see Figure 5). However, it represents only a tiny fraction of the amount invested in US companies. Relative to the size of their respective economies, US pre-IPO risk capital represents 1.3 % of GDP, while in Europe it amounts to 0.15 % of GDP. On top of this, the European market is highly fragmented, with two countries (France and Germany) accounting for more than half (on average 52 %) of the total amount invested.

Figure 5. Pre-IPO risk capital investment by asset class (EU27 and US, EUR billion)



Notes: Venture capital includes equity investments made for companies at their seed (launch), start-up (early development) or later stage (expansion) of business. Private equity only includes growth capital and not later investment stages (e.g. replacement capital, rescue/turnaround and buyouts).
Source: Authors' calculations based on data from the European Business Angel Network (EBAN), Invest Europe, National Venture Capital Association (NVCA), Center for Venture Research (University of New Hampshire).

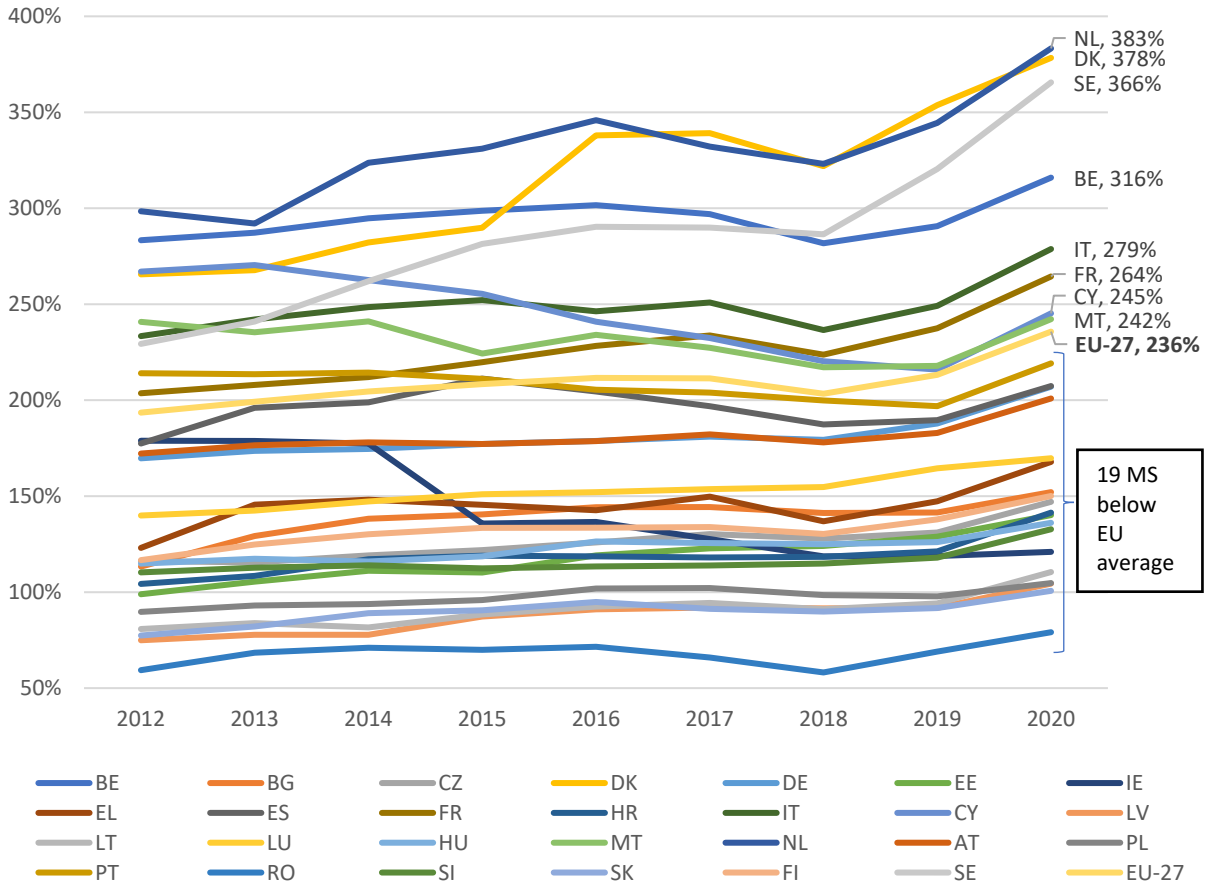
But also compared to the UK, there are significant gaps that might widen further as a result of Brexit. For example, despite the fact that Europe is producing unicorns at a faster pace than ever before[7], London's position as the leading European tech hub becomes even more consolidated year after year. Moreover, from the top 20 largest exits of VC-backed European tech companies, 11 of them were located in the UK, four in Germany and only one in France (State of European tech, 2021). Although in absolute numbers risk capital in the UK is about half (EUR 11 billion) of that in the EU, as a share of GDP it is three times higher (0.45 % of GDP) compared to the EU.

[7] Unicorn companies are defined as start-ups worth at least USD 1 billion prior to a public listing. Leading unicorn cities are defined by 'unicorn density' (i.e. number of unicorns per capita). The total number of European unicorn companies has jumped from 223 at the end of 2020 to 321 as of 15 November 2021.

From an investor's perspective, fragmentation and home bias mean that the costs for households to participate in risk capital markets are prohibitive, limiting collective long-term savings pools. Annual fund costs (except the entry and exit costs) are stable at 1.4 % (0.4 % in the US) and retail investors pay 40 % more than institutional investors (ESMA, 2021). The fee war that is ongoing among institutional investors in the US does not exist in Europe, and limits any possible uptake on the buy side. To overcome these problems, initiatives should focus on consolidating EU-wide long-term savings regimes, stimulating consolidation in EU fund markets, reducing fees, increasing participation, and supporting open architecture.

The universal banking system seems to have prevented the emergence of more specialised financial market players in Europe, as is the case in the US. It is no coincidence that the countries with the highest financial assets are those with well-developed long-term savings/pension plans (see Figure 6). Furthermore, these countries have well-developed capital markets, well-functioning IPO markets (particularly Denmark and Sweden), as well as the lowest fees for funds (apart from being also the most developed on green financing).

Figure 6. Total financial assets of households in the EU27 (% of GDP, 2012-2020)



Source: Authors' calculations based on Eurostat data.

A role for PPPs as funding vehicles?

Using public money to leverage private investments is a technique that has been used in EU-funded programmes for a long time. It was brought to the forefront in 2014 with the EFSI programme, where the EU, with a very limited amount of public money (an EU budget guarantee of EUR 26.2 billion),

managed to mobilise EUR 514 billion in additional investments across Europe. Public private partnerships have also been used in healthcare and high-tech research (OECD, 2016; PwC, 2018).

PPPs do however raise some fundamental problems regarding governance and require close follow-up by authorities, even more at the international level. Using public money in private investments presumes a market failure (which must be clearly defined), and its use needs to respond to a strategic priority and public interest criteria. There needs to be a transparent and open competition process for funding, close monitoring by competition policy authorities of the PPP projects, and an ex-post evaluation as for the return on investment.

But a multitude of projects and PPP instruments creates administrative burdens, reduces transparency and creates huge coordination problems for authorities. Overly burdensome administrative procedures reduces willingness to participate and may create barriers to entry, especially for smaller players[8]. A complex EU funding landscape reduces synergies and opens the door for politicisation. Participation should be balanced and in line with the private sector ecosystem. In addition, the intellectual property rights of PPPs' outputs should be safeguarded, also for the SMEs participating in PPPs. Too often, PPP successes are privatised or appropriated by large players and losses are absorbed into national budgets.

Conclusion: A market finance strategy

The NGEU is a big step forward in EU economic policy-making. It provides the EU with fiscal tools to directly interact with the Member States on the basis of much larger own resources, borrowed on international capital markets. Furthermore, if offers the EU the advantage to be seen as a regional actor with plenty of money and ready to drive the recovery forward. Whether this will morph into effective federal-like expenditure remains an open question, as spending is fully in national hands with limited EU control and no coordination across Member States. So far, we found few really new investments, hence limited additionality to national spending. There will also likely to be unused funds in other EU programmes as a result, resulting in their possible termination or consolidation.

Much remains to be done before markets can effectively take the relay from public authorities in the NGEU. Previous EU programmes had some success in stimulating private investment, but Europe remains far behind on digitalisation. Regarding the green agenda, Europe is globally ahead in terms of policy but markets lack the depth to grow investments. On the supply side, a more integrated fund market and more EU-wide long term saving vehicles are needed, to transform abundant savings into profitable investments, while on the demand side, more risk taking is needed in the non-listed market segment.

Apart from the ongoing fragmentation of capital markets, which has increased with the UK's departure from the EU, the green metrics are still a moving target and the disclosure standards have only now started to emerge, with several entities in charge. The EU has made progress but much remains to be done. Markets' readiness to stimulate innovation is still very scattered in Europe, with only a few countries prepared but even then, they are starting from a very low base. The only way then, is up.

[8] Under the Horizon 2020 programme PPPs have to achieve a 20 % SME participation target, although this is not always met. There are significant variations across PPPs, with participation rates in some projects exceeding the target but not in others (EC, 2017). To some extent such differences can be attributed to the nature of the sector that the SMEs operate within (CEPS, 2021).

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