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Financing SME Growth in Germany

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High energy prices and major geopolitical shifts, paired with an accelerated global digitalisation of industries of economies worldwide and rising pressure to achieve sustainability goals, have created new uncertainties for German SMEs. Successfully navigating these changes, and in turn, seizing new growth opportunities, will require sustained and significant investments. Access to an appropriate and diverse set of financing sources will be critical. This paper examines current policy practices to help German SMEs access finance, with a particular focus on efforts to link growth to sustainability goals in the national policy mix. It provides a brief overview of the German SME landscape, including key strengths and challenges in the context of the twin transition, and discusses the financing instruments available to small businesses in the country, including those with growth ambitions. It then analyses federal government efforts to unleash finance for innovation, investment, and network expansion as drivers of SME growth, and how these efforts compare to other OECD countries.

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ABOUT THE SME AND ENTREPRENEURSHIP PAPERS

The series provides comparative evidence and analysis on SME and entrepreneurship performance and trends and on a broad range of policy areas, including SME financing, innovation, productivity, skills, internationalisation, and others.

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This paper was authorised for publication by Lamia Kamal-Chaoui, Director, Centre for Entrepreneurship, SMEs, Regions and Cities, OECD.

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Preface

Germany's overall economic success is highly dependent on the success of its small and medium-sized enterprises (SMEs), its *Mittelstand*. SMEs contribute substantially to domestic employment and value creation in the country, including through a small but important share of highly specialised exporting and upstream firms driving international competitiveness. While the digital and green transitions create new opportunities for SMEs to scale up, volatile energy prices, shifts in global supply chains, a lack of skilled workers, and rising regulatory requirements create challenges in navigating these transitions, not least given the growing pressure to decarbonise production processes and make business-models more resource-efficient, including through the adoption of advanced digital technologies – the latter being an area where German businesses are lagging in international comparison. Delivering on these demands will require significant investments by SMEs, which in turn, depend on the right support mechanisms and framework conditions.

SMEs need a range of financing instruments to grow, build resilience and navigate these transformations successfully. This present OECD study provides an international benchmarking of policy practices to foster SME access to finance for scaling up. The study reveals that a large share of scale-up finance policies in Germany are geared towards boosting innovation and supporting start-ups, but further efforts are needed to link growth with sustainability goals in the country's policy mix, not least given the untapped potential of sustainable financing instruments, which can help accelerate both SME growth and their green transition. In addition, with SMEs generating around 40% of business-sector greenhouse gas emissions in Germany, supporting them in their green transition also delivers on national objectives for net zero. Indeed. it is clear that there can be no net zero without SMEs.

The present study, which provides guidance that can unblock barriers to SME access to finance, including through fostering more diversified financing offers, has been conducted by the OECD with the support of, and in collaboration with, the Bertelsmann Stiftung. Both institutions recognise the critical role that SMEs and entrepreneurs play in driving inclusive, resilient, and sustainable growth and their important contribution to the social fabric and well-being of communities. The OECD work on SMEs and entrepreneurship supports governments in achieving these goals and in developing innovative approaches to SME and entrepreneurship policy. The Bertelsmann Stiftung's work is focused on German SMEs. Through studies and events, the foundation attempts to demonstrate how coherent economic and innovation policy can support them in their transformation towards a sustainable social market economy.

As we conclude work on this joint endeavor, we extend our gratitude to the diverse stakeholders who have contributed their insights and expertise. Through our collective effort, we hope to continue to pave pathways for a resilient and prosperous future, with SMEs at the forefront.

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This report was approved by the OECD Committee on SMEs and Entrepreneurship (CSMEE) on 1 December 2023.

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Executive summary

The shocks and increased volatility that have hit the global economy over the past years call for renewed efforts to maintain the competitiveness of the German business sector. While inflationary pressures have been abating, German businesses face mounting uncertainties in a context marked by high and volatile energy prices, major geopolitical shifts, the accelerated digitalisation of economies worldwide, along with the pressure for achieving sustainability goals. As highlighted in the 2022 OECD Innovation Policy Review for Germany, successfully navigating these changes will require sustained and significant investments, including among its small and medium-sized enterprises (SMEs). These investments will, in turn, depend on SMEs' ability to access a broad range of financing instruments as a means to grow and build resilience.

A range of factors influence the ability of German SMEs to successfully scale up and navigate the twin transition. Although financing conditions were broadly favourable in the immediate post-pandemic period, unprecedented increases in interest rates have impacted the availability of bank loans in recent years, and specific segments of the SME population continue to face barriers in financing their scale-up activities through alternative sources of finance. And while global economic integration and leadership in green investments represent key assets for supporting the competitiveness of German SMEs, skills shortages, limited investments in the digital transition and slowing business dynamism could weigh on future progress.

This paper examines existing policy practices to help German SMEs access appropriate sources of finance to scale up their businesses, and how these efforts compare to national policy mixes and institutional arrangements in place in other OECD countries. Scale-up finance policies are here defined as public interventions to unleash finance for SME growth-related activities, i.e. those related to innovation, investment, and network expansion. These policies can be directed at SMEs themselves to unleash internal resources, or at a number of institutional actors to unleash external finance. The consideration of a broad range of measures reflects the growth potential that exists across all types of SMEs, as well as the need for scale-up finance policies to be adapted to their diverse needs.

A particular focus is placed on efforts to link growth and sustainability objectives in the national policy mix. While SMEs in Germany have a significant environmental footprint, accounting for slightly over 40% of greenhouse gas emissions in the business sector, albeit with significant variation across individual sectors, they also make important contributions to sustainability objectives through their innovations and greening efforts. International fora for policy dialogue, including the OECD Platform for Financing SMEs for Sustainability, increasingly recognise that, while access to finance is essential for SME investments in net zero, small businesses continue to face considerable challenges in tapping into the growing pool of sustainable finance instruments. This includes notably the need to meet a potpourri of emerging environmental, social and governance (ESG) requirements by lenders, but also increasing demands by larger firms vis-à-vis SMEs who act as upstream providers across supply chains.

Policies to foster SME access to scale-up finance often fall outside the SME and entrepreneurship policy domain. Two thirds of German institutions overseeing scale-up policy implementation have innovation policy as their core mandate, while environmental policy plays a more marginal role in delivering scale-up support. This calls for greater attention to mainstreaming SME considerations across a broader set of policy areas.

In Germany, scale-up finance policy is highly targeted, with over 80% of policy measures aiming to reach either one (or several) firm populations (60.9%), or other targets (21.7%), such as specific supply chains, sectors, or regions. Compared to other OECD countries, Germany also places **a particularly strong focus on start-ups and high-growth firms**, with half of its population-targeted measures designed specifically for start-ups and SMEs with age criteria. This reflects an approach taken by many OECD countries, essentially in an effort to focus on the most promising firms, which are typically young, often the source of radical innovations, and two to three times more likely to scale up than an older firm of a comparable size. At the same time, the majority of scalars are in fact older firms operating in less knowledge-intensive sectors, suggesting that a significant share of businesses with growth potential may fall through cracks of current support measures.

Innovation is the main scaling up driver supported by the German government. Over 70% of the country’s initiatives aim to enable better SME access to finance for innovation purposes (i.e., digital adoption, business development, R&D), compared to only 18% for investment (i.e. physical capital, skills, intangible assets) and 9% for network expansion. Zooming into each of these three scale up drivers, most innovation financing schemes focus on supporting research and development (R&D) or disruptive innovation, while financing for investment targets in equal terms the acquisition of physical equipment and investment in intangibles, with the latter reflecting well the needs of an increasingly knowledge-based economy. At the same time, Germany dedicates only a quarter of its policies (25%) to investment in human capital (i.e. knowledge, skills, experience and talents that influence the ability of a firm to produce), which is significantly lower than the OECD average of 38.3% in this area.

Compared to other OECD countries, Germany relies more heavily on financial markets to support SME growth through innovation and investment, with relatively little support provided directly to SMEs in these two areas. When SMEs receive direct financial government support, it essentially takes the form of non-repayable funds, while the financial sector remains key to promoting access to alternative sources of finance. In this context, there may be a need to further facilitate access to support measures channeled through market mechanisms such as investment funds, which often only reach a limited population of SMEs that act as technology leaders, thus leaving out a significant share of other firms with growth potential.

Linking growth and sustainability goals in the German scale-up finance policy mix calls for further efforts, e.g. by adjusting eligibility criteria or by finetuning targeting efforts to specific firms at specific moments of their growth journey. While digitalisation is now considered an established driver of SME growth, it is critical that Germany sustains its efforts on this front. Sustainability-related efforts, on the other hand, are less often associated with scaling up, even though Germany has introduced a range of financial support measures to help SMEs navigate the sustainability dimension of the twin transition, suggesting that there is room to further link sustainability goals to the broader growth agenda and better reflect such an approach in Germany’s scale-up finance policy mix through appropriate measures.

Introduction

Germany's small and medium-sized companies (SMEs), also known as the *'Mittelstand'*, are a strong driver of the country's innovation, and renowned across the world for their international competitiveness. Against the backdrop of major geopolitical shifts and broader megatrends, including **digitalisation and the green transition – accelerated further by the fallout of Russia's war of aggression against Ukraine,** German SMEs face uncertainty, but also have an unprecedented opportunity to build on existing strengths and tackle the barriers that may currently slow their adaptation to this new environment.

High energy costs have come to represent a significant financial burden for German SMEs and make investment in both energy efficiency and renewables particularly timely. Firms increasingly implement sustainability-related initiatives; in particular SMEs are making efforts to reduce the use of natural resources and recycle waste. Two thirds of German SMEs claim to have reduced their greenhouse gas emissions in the last five years, and a quarter aim to be climate neutral by 2030 (Trier University, 2022[1]). German SMEs have been active in installing solar panels, insulate buildings, install heat pumps and develop new ideas for recycling (Federal Ministry for Economic Affairs and Climate Action, 2022[2]), making them key players in the energy transition.

At the same time, the energy transition may be hampered by the increase in interest rates, leading to the highest inflation rate in Germany's post-war history (7.9% over 2022) (Deutsche Welle, 2023[3]). The inflation rate averaged to 6% in 2023, as firms continued to pass on higher input costs to consumers and wage pressures remained high, but is projected to decline over the next two years (OECD, 2023[4]) (OECD, 2024[5]). The low interest rate environment enjoyed by German firms in recent years has thus vanished, making traditional bank financing more expensive for SMEs, and potentially pushing them to hold off on structural investments. Compared to large firms, SMEs are disproportionately affected by these developments given their inherently riskier profile as borrowers and the fact that they are generally charged higher interest rates (OECD, 2022[6]).

Finally, German businesses have been adapting with varying degrees of success to the digital transformation in the post-COVID era. While new business models are needed to meet an increased demand for teleworking, telehealth and remote learning services (OECD, 2021[7]), the adoption of e-commerce solutions in the business sector is low compared to other countries (The Lisbon Council, 2022[8]), and small firms remain the least digitalised company size class in the country. In turn, the level of digitalisation of medium-sized enterprises was lower in 2022 than in 2020, and well below that of large companies, which display a Digitalisation Index twice as high as that of small enterprises (German Economic Institute, 2022[9]).

For Germany to meet the challenges of the twin transition and maintain its position as a global economic leader, sustained investments will be required, including among its SMEs (OECD, 2023[4]). Their capacity to transform and seize new growth opportunities will therefore depend on having access to an appropriate and diverse set of financing sources. Compared to OECD peers, Germany has a well-functioning banking system that provides sufficient financing to the business sector, including *Mittelstand* firms and start-ups. Much progress has also been made in increasing the available funding for high-risk innovation. However, the OECD's latest Innovation Policy Review for Germany shows that financial resources to scale those innovations, including those related to sustainability, which will play a critical role in future competitiveness, remain underdeveloped (OECD, 2022[10]). This suggests that there is a need to further disentangle the prevailing conditions under which German SMEs access scale-up finance, as well as room for policy to unlock financial resources for a broader set of firms.

Policies for financing SME growth need to reflect the diversity in SME growth journeys and the fact that different types of scalers may have different financing needs and require different types of support, depending also on their scale up trajectory and the growth driver(s) at play. This paper examines current policy practices to help German SMEs access available sources of finance to scale up their businesses, with a particular focus on efforts to link the growth and the sustainability goal in the national policy mix.

The following section provides a brief overview of the German SME landscape, including key strengths and challenges in the context of the twin transition, followed by a discussion on financing instruments that are available to small businesses in the country, including those with growth ambitions. The remainder of the paper then **analyses the federal government efforts to unleash finance for innovation, investment, and network expansion as drivers of SME growth** and how these efforts compare to other OECD countries. The analysis is structured according to whether German policies pursue specific finance objective(s), as well as according to the types of transformation mechanisms they leverage. The paper also identifies the different types of institutions involved in policy implementation at national level, as well as their various policy instruments.

1 Structural features of the SME landscape in Germany

SMEs – particularly the *Mittelstand*[1], the term used in Germany for SMEs, which can include slightly larger firms with up to 500 employees – make a significant contribution to the German economy. In 2022, based on the European Union's definition of SMEs, which include firms with up to 250 employees, approximately 2.5 million entities were classified as small and medium-sized enterprises, accounting for 99.6% of all firms, and contributing to 47.4% of overall value added (European Commission, 2022[11]). They also shape the economic dynamism of regions by employing 58.2% of the country's workforce (Table 1.1.). At the same time, cross-country differences in value added by firm size remain significant, reflecting the concentration of some of the most productive economic activities in larger German firms. For example, while micro-SMEs accounted for 27% of business sector value added across the OECD region in 2018, this figure was only 15% for Germany (OECD, 2022[10]).

Table 1.1. Almost half of the German economy's value added is produced by SMEs

SMEs and large firms' difference in business, employment and value added (in volume and %)

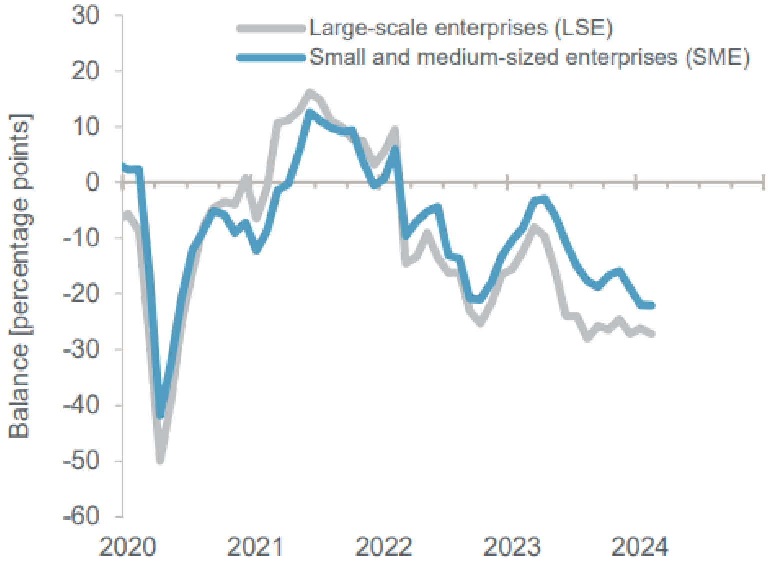
2021	Enterprises		Persons employed		Value added	
	Number	Share	Number	Share	EUR billion	Share
SMEs	2 520 981	99.6%	17 856 188	58.2%	924	47.4%
Large enterprises	11 303	0.4%	12 744 228	41.8%	1024.7	52.6%

Note: The data for 2021 are estimates produced by the Joint Research Centre (JRC), based on 2008-2019 figures from national and Eurostat databases.
Source: (European Commission, 2022[11]).

Despite rising inflation and the economic impacts of Russia's war of aggression against Ukraine, SME business sentiment improved in the last quarter of 2022. Risks such as a gas shortage and possible blackouts over the winter months did not materialise, and the relief provided by the energy price brake likely also improved the outlook for a number of firms (see Figure 1.1.). As a result, SMEs in almost all sectors reported a better assessment of their economic situation and future expectations at the end of 2022, with the exception of the construction and civil engineering sector, which are particularly sensitive to changes in interest rates. This positive outlook should nevertheless be contrasted with the fact that SME business sentiment stagnated on a low level in early 2024, which could lead to some of them holding off on critical investment, including to finance transformations related to the twin transition (KfW, 2024[12]).

Figure 1.1. SME business confidence rose at the end of 2022, but uncertainties remain

KfW ifo Business Climate Index in Germany, by firm size class (%)



Note: The data covers the period from January 2018 to December 2022.
Source: (KfW, 2024[12]).

To successfully scale up and navigate the twin transition, German SMEs can rely on a range of assets but also need to address a number of weaknesses. The following sections briefly discuss the range of key factors that characterize the German SME landscape and that are of relevance for their ability to drive business performance and future agility.

Global economic integration and leadership in green investments are key assets for supporting the competitiveness of German SMEs…

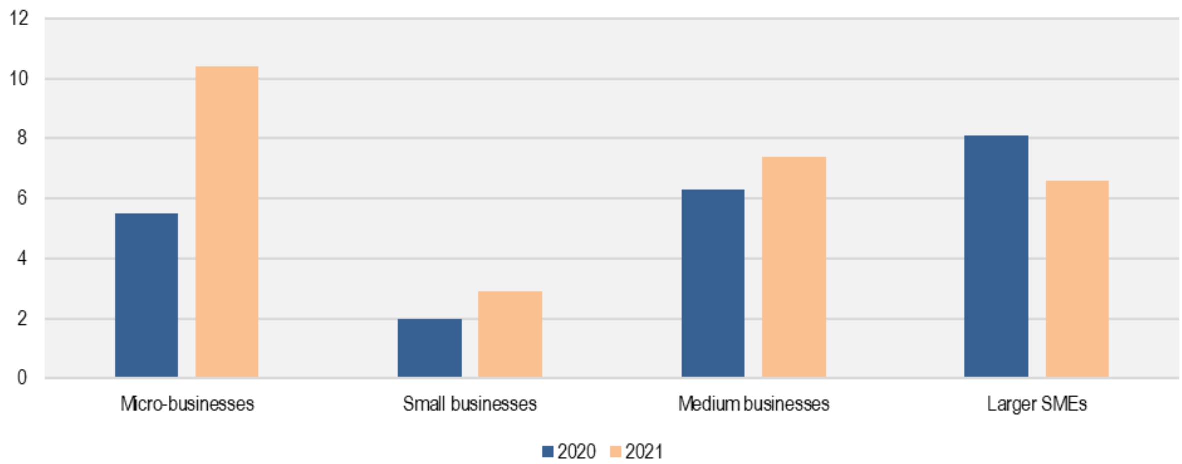
Germany's close integration into the global economy is reflected in the export activities of its SMEs. Many of the country's most innovative firms work in the export-oriented manufacturing sectors, producing internationally competitive and often highly specialised goods (KfW, 2017[13]). The ability of the German manufacturing base to sustain such high levels of internationally competitive production is a reflection of the highly innovative and specialised firms that make up its private sector (OECD, 2022[10]). International trade is an important driver of success of German SMEs, both in terms of direct exports to foreign markets, but also as suppliers to large German companies that sell a significant share of their products abroad. Taking these indirect exports into account results in an even higher proportion of German SMEs' turnover being dependent on foreign markets. Most German SMEs tend to focus on a few target markets in Europe, with the most important export countries being Austria and Switzerland, followed by the Benelux states and France.

In Germany, the public and private sector impetus towards green innovation has fostered the development of a vibrant green start-up ecosystem. These firms play a significant role in developing technology that can support the sustainable transition, with the German start-ups active in green hydrogen and energy storage featuring among the most competitive in the world (OECD, 2022[10]).

Germany's business sector has developed a leadership role in green investments, with the share of SMEs making green investments reaching 23% in 2021, compared to only 12% a year earlier. As shown in Figure 1.2., micro-businesses represent a significant part of new green investors, with their share of climate investments more than doubling in 2021, from 10% to 23% of their investments. These figures for 2021 are due to continued low interest rates for SME loans as well as attractive promotional terms in that year, particularly for energy-efficient building retrofit and the acquisition of electric vehicles (KfW, 2022[14]), albeit with some uncertainty as to whether these favorable conditions will persist in the context of an inflationary environment. In addition, the share of start-ups focusing on environmental, climate and resource protection remains high in Germany compared to OECD countries (European Commission, 2022[11]). According to the 2023 Green Start Up Monitor, 79% of German start-ups consider their environmental and social impact to be part of their business strategy (Borderstep Institute, 2023[15]).

Figure 1.2. Green investments by German micro-businesses have particularly increased in 2021

Climate investments in the SME sector, by firm size class (volume in EUR billion)



Note: Climate-positive investments are defined as investments aimed at avoiding or mitigating greenhouse gas emissions from the relevant business in which action on climate change is not necessarily the top priority. These include, for instance, investments to conserve energy or increase energy efficiency, measures involving the use of renewable energy, and investments in climate-friendly transport such as electric vehicles. KfW divides businesses into five different size classes. Micro-businesses have fewer than 5 employees. Small businesses have 5 to 9 employees. Medium businesses are defined as those that have 10 to 49 employees. Companies with 50 and more employees are referred to as larger SMEs – provided their annual turnover does not exceed EUR 500 million. This turnover threshold applies analogously to all smaller size classes.
Source: (KfW, 2022[14]).

As a result, the share of renewables in total energy supply has been increasing rapidly, rising from 2.8% in 2001 to 15.6% in 2021. Furthermore, government support for green investment will likely expand substantially in the next few years. For example, about 40% of the German Recovery and Resilience Plan (EUR 11.5 billion) is dedicated to climate policies and the energy transition (OECD, 2023[4]).

…but skills shortages, limited investments in the digital transition and slowing business dynamism could weigh down on future progress

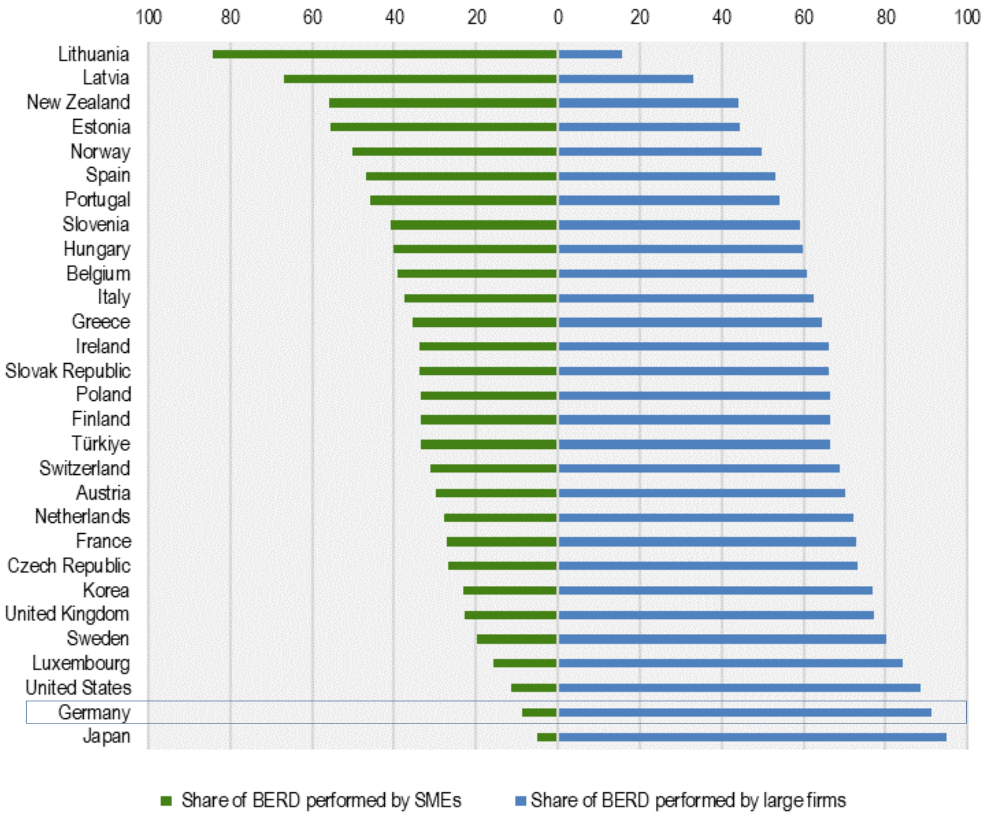
As in many other OECD countries, skill shortages have intensified, hampering innovation activities in German SMEs, which in turn holds back productivity growth. The average duration of vacancies increased from 61 days in 2009 to 119 in 2021, with shortages particularly severe in the areas of nursing, medical professions, construction, craft occupations as well as information technology (OECD, 2023[4]). In October 2022, 45.7% of German SMEs reported that their activities were hampered by a shortage of skilled workers (KfW, 2022[16]), with the manufacturing sector reporting more severe production constraints due to labour shortages, compared to the OECD average (OECD, 2023[17]). Moreover, while around 80% of German SMEs have a great need for basic digital skills (e.g., the ability to use standard software and digital devices), and 24% for advanced digital skills (e.g., programming and statistical data analysis skills), 34% of them are not able to meet their digital skill requirements (KfW, 2020[18]). Financial hurdles are also slightly higher for SMEs in the context of upskilling measures. Having fewer employees typically implies less flexibility to replace them, which is a barrier to employer-paid training as well as to giving employees leave to pursue self-funded training activities.

And while Germany is a major innovator and invests considerable resources in research and development (R&D), business R&D expenditure remains concentrated in a few, mostly large companies. Even though Germany ranks among the top ten OECD countries in terms of R&D intensity (OECD, 2023[19]), it is placed in the lower tier in terms of level of government support for business R&D as a percentage of GDP in 2019 2 (OECD, n.d.[20])

As a result, German SMEs accounted for only 8.9% of business expenditure on research and development (BERD) in 2019. As Figure 1.3. shows, this is the second lowest relative contribution in the OECD, behind Japan (5.1%). Overall, the SME share of BERD in Germany has declined since 2009, similarly to other major industrialised economies such as the United States. The increase of large firms' BERD has also contributed to the widening absolute investment gap between firm sizes. Still, the decline in SME contribution to BERD is not ubiquitous across the OECD, as in France where the share of SMEs in BERD has grown since 2002 (OECD, 2022[10]).

Figure 1.3. The share of SMEs in BERD is particularly low in Germany compared to OECD peers

Share of BERD performed by SMEs and large firms, 2019 or latest data available (%)

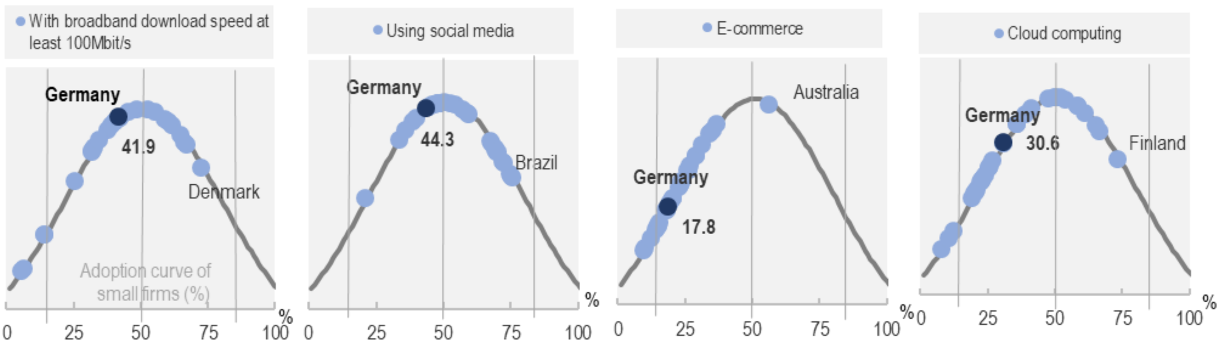


Note: Data for the United States is from 2018, for France from 2017.
Source: OECD (2023[21]), "Main Science and Technology Indicators", OECD Science, Technology and R&D Statistics (database), and OECD (OECD, 2020[22]), "Research and Development Statistics: Business Enterprise R-D Expenditure by Size Class and by Source of Funds - ISIC Rev 3 (Edition 2020)", OECD Science, Technology and R&D Statistics (database).

Moreover, innovation in general – and particularly incremental innovation – has largely been driven by established firms, with a relatively minimal role for start-ups. This reflects in part the strong focus of the German economy on manufacturing and industry, where businesses tend to be larger in size. The challenge for these sectors is that firms who have traditionally performed well in terms of incremental innovation, are likely to be increasingly less capable of internalising the development of many key technological inputs – many of them being disruptive in nature - for future innovation and competitiveness (OECD, 2022[10]). While basic ICT, which enable firms to digitise information and establish a presence online, are widely diffused in Germany, smaller firms lag in the adoption of advanced and most process-related ICT tools and activities, including high-speed broadband (100+ Mbps), cloud computing, use social media, and e-commerce intensity (see Figure 1.4.). A more comprehensive digital and data-driven transformation will require these firms to adopt newer and more advanced ICT tools and activities notably those that enable them to collect, store, exchange and process (big) data (OECD, 2020[23]).

Figure 1.4. German small firms lag in the adoption of advanced ICT tools and activities

Adoption curve of small firms across OECD countries and selected technology areas, in %



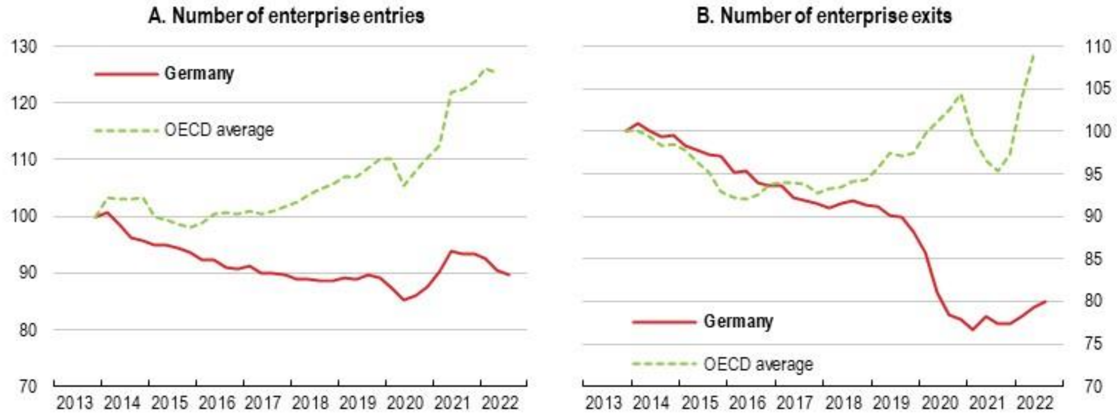
Note: High-speed broadband, e-commerce and cloud computing data refer to 2020; social media data refer to 2019. Indicators on digital adoption are retrieved from the OECD ICT Access and Usage by Businesses database and are presented on a stylised adoption curve that features increasing potential benefits in adoption for earlier adopters (16% of the total population) and an early majority of adopters (34%), and decreasing gains for the late majority (34%) and laggards in adoption (16%) (OECD, 2021[24]). This adoption curve illustrates Rogers' innovation diffusion theory that suggests a threshold beyond which there are decreasing returns on innovation adoption (in terms of market shares) (Rogers, 1962[25]).
Source: (OECD, 2021[26]), based on OECD ICT Usage by Businesses database 2021.

Compared to other advanced economies, Germany also exhibits a low rate of firm exit and entry (OECD, 2020[23]). Contrary to the average across several OECD countries, entry rates in Germany have been on a long-term decline, alongside decreasing exits and bankruptcies (see Figure 1.5.), with the share of start-ups in the business sector (as measured by firms that have been active for two years or less) being the fourth lowest in the OECD. Decreasing entry rates in all sectors of the German economy, including in knowledge-intensive industries and high-tech manufacturing, might partly reflect key sectors' market structure; integration in global value chains; relatively high wages, a tight labour market and demographic trends, such as a shrinking share of the age group most likely to start a business (30-50 years) (European Commission, 2018[27]). In 2019, more than 1.5 million owners in Germany were aged 55 or over, highlighting the urgency for both supporting business transfers to potential successors, as well as for reviving business dynamism (KfW, 2019[28]). It is also worth noting that high-growth firms (particularly start-ups) tend to be overwhelmingly concentrated in the service sectors, an area that has not traditionally been the focus of German policy makers (OECD, 2022[10]).

The lower share of younger firms in the business population has several implications for both innovation and its commercialisation, but also for SMEs' potential to scale up at large. One of the most striking consequences lies in the missed opportunities for scaling innovative ideas, including breakthrough innovations. While most scalers are indeed established firms, which tend to operate in less knowledge-intensive sectors, young firms (under six years old) are two to three times more likely to scale up than an older firm of a comparable size (OECD, 2022[29]). This has clear implications for the German SME sector and its likelihood to successfully navigate the digital and sustainability transitions, which are marked by a renewed urgency for new ideas and technologies to reach the market, and where young firms are often the source of radical innovations (OECD, 2015[30]) and can therefore act as critical agents of change and make important contributions to competitiveness and sustainability goals (OECD, 2022[10]).

Figure 1.5. Business dynamism in Germany has slowed markedly

Enterprise entries and exits, 2013 Q4 = 100, 4-quarter moving average



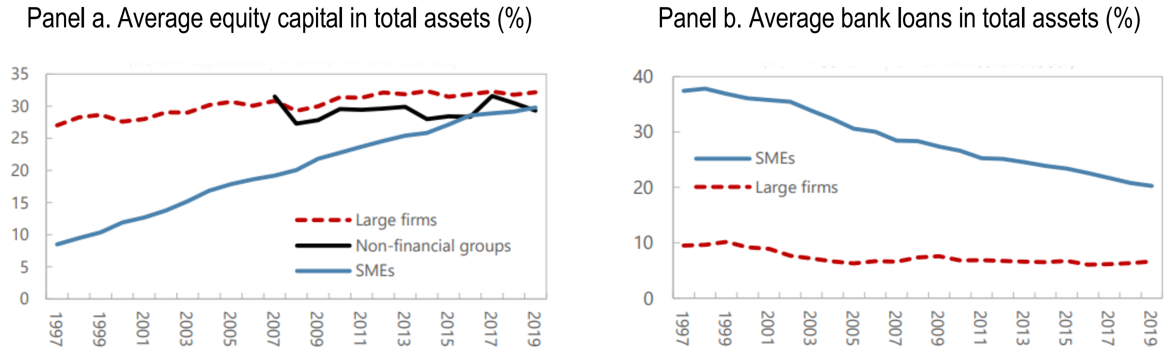
Source: (OECD, 2023[4]), based on Timely indicators of entrepreneurship database.

2 The funding mix of German SMEs

SMEs have shown good profitability and reinvest their profits as capital buffers, which are central in their funding mix

In Germany, SME capital buffers increased steadily before the pandemic, thanks to high profitability, which reduced their dependence on bank credit. While the equity ratio of large companies remained broadly stable between 1997 (26%) and 2019 (32%), the average equity ratio of SMEs increased significantly from 9% in 1997 to 29% in 2019 (see Figure 2.1. , panel a). As a result, German SMEs have gradually deleveraged and reduced the share of bank loans in their total liabilities (see Figure 2.1. , panel b), and made self-financing their primary funding source. In 2021, the overall share of SMEs' own funds in their total investment remained at a level comparable to the previous year (52%) (KfW, 2022[31]).

Figure 2.1. In Germany, equity capital and bank loans in total SME assets have moved in opposite directions



Source: (International Monetary Fund, 2022[32]).

At the same time, the capacity to self-fund and build capital buffers differs across SME size classes. Micro-enterprises with less than 5 employees had particularly few own resources available to finance their investments in 2021. The share of self-funding in their funding mix fell by 13% compared to the previous year, corresponding to a drop of EUR 1 billion in volume, which is explained by still easy access to bank loans and favourable borrowing conditions in 2021. However, this trend is expected to be reversed in the 2022-2023 period, as inflation and monetary policy tightening intensify. All other categories of SMEs managed to increase their capital buffers after the peak of the pandemic in 2020 with, respectively, a 9% increase for small SMEs (5-9 employees), a 6% increase for medium-sized SMEs (10-49 employees), and a 2% increase for large SMEs (50+ employees) - see Figure 2.2. , panels a-d. These results may indicate a better profitability among small, medium, and large SMEs after 2020, compared to the smallest micro-firms.

Figure 2.2. Self-funding among the smallest firms is particularly vulnerable to external shocks

The funding mix of German SMEs, by instrument and firm size class (%)

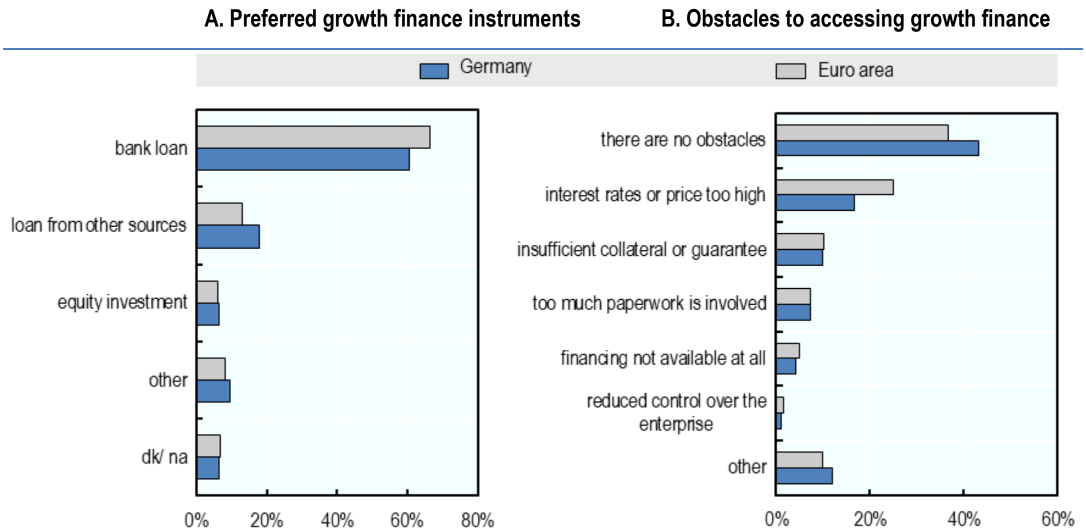
Note: Size classes by full-time equivalent employees. Panel a corresponds to the micro-firm category, panel b and c to small and medium-sized SMEs, respectively, and panel d includes large SMEs. The category 'Other" includes mezzanine finance and private equity.
Source: Own elaboration, based on (KfW, 2022[31]).

Financing conditions for German SMEs have been broadly favourable, although recent developments could affect the availability of bank loans in particular

According to the EU SAFE survey, bank loans are viewed as an important source of finance, including among German SMEs with growth ambitions. Bank loans (60%) together with loans from other sources (18%) are considered by far as the preferred instruments to finance growth operations, with equity playing only a marginal role (6%) (see Figure 2.3. , Panel A). In addition, 43% of German SMEs report having no difficulty in accessing growth financing, compared to an average of 37% among SMEs in the EU area, with only 4% of SMEs in Germany indicating that growth finance was unavailable (5% in the euro area). Among the most critical constraints limiting access to external funding for growth are high interest rates or prices (17%) and insufficient collateral or guarantee (10%), with only 1% of surveyed SMEs being concerned about the reduced control over the business (see Figure 2.3. , Panel B). These responses mirror broader recent trends in SME financing, with 2022 marked by a strong increase in the cost of lending, and increasingly restrictive positions in loan negotiations on the side of banks, including in Germany (OECD, 2024[33]). Moreover, the responses further underline the relatively minor role that alternative sources of financing, in particular equity, seem to play in the German financing landscape, including among growth-oriented firms.

Figure 2.3. Bank loans remain the instrument of choice for realising growth ambitions, with access being perceived as broadly positive

Preferred growth finance instruments and factors limiting access to growth finance among German and euro area SMEs, as a percentage of respondents



Note: Panel A: Euro area SMEs were asked "If you need external financing to realise your growth ambitions, what type of external financing would you prefer most? ";Panel B: Euro area SMEs were asked "What do you see as the most important limitation to get this financing?"
Source: Own elaboration, based on data published in the European Commission's survey on the access to finance of enterprises (SAFE) (April - September 2022).

At the same time, bank loans and self-funding are not the sole – and sometimes not the most appropriate – form of financing for all types of SMEs. In particular, firms that may have limited collateral and uncertain revenues in the short term (or no financial buffer at all) are likely to face difficulties in both obtaining traditional finance as well as in leveraging internal sources to fund growth operations. As a result, there is a need to broaden the range of available financing instruments to address diverse financing needs that scalers may face in varying circumstances. Debt finance typically offers moderate returns for lenders and is therefore appropriate for low to-moderate risk profiles, i.e. firms that are characterised by stable cash flow, modest growth, tested business models, and access to collateral or guarantees. Alternative financing instruments, on the other hand, alter this traditional risk sharing mechanism and may therefore be more suitable for firms with a high risk-return profile, such as young and innovative SMEs.

While an increasing number of alternative financing instruments offers opportunities to meet scalers' financing needs, their potential remains overall underdeveloped in most countries, including in Germany, due to a combination of demand- and supply-side barriers. On the demand side, many entrepreneurs and business owners lack financial knowledge, strategic vision, resources and sometimes even the willingness or awareness to successfully attract finance other than straight debt. The lack of appetite by SMEs for alternative financial instruments, in particular equity, can also be attributed to their less preferential tax treatment vis-à-vis straight debt. On the supply side, potential investors are held back by the overall opacity of SME finance markets, a lack of exit options and regulatory impediments. As a consequence, financial instruments for SMEs often operate in thin, illiquid markets, with a low number of participants, which in turn drives down demand from SMEs and discourages potential suppliers of finance (Boschmans and Pissareva, 2018[34]).

Finally, the deployment of renewables and energy efficiency support schemes has opened additional sources of finance for German SMEs (OECD, 2022[35]) (OECD, 2023[36]). In 2022, the overall financing by the European Investment Bank (EIB) Group in Germany reached EUR 6.61 billion – a 20% increase compared to the previous year – with 75% of this budget going to innovative and climate-friendly projects, including 15% to finance green start-ups to boost the green transition of the German economy (European Investment Bank, 2023[37]). In 2023, the Ministries of Development and Economic Affairs committed to enhancing climate action by scaling up the green hydrogen economy. In particular, the "PtX Growth Fund" is designed to support German firms and SMEs to make investments that accelerate the global green hydrogen market (Federal Ministry for Economic Affairs and Climate Action, 2022[38]). Crowdinvesting platforms such as *Rocket Green* have also become a promising area for the funding diversification of many green SMEs in Germany.

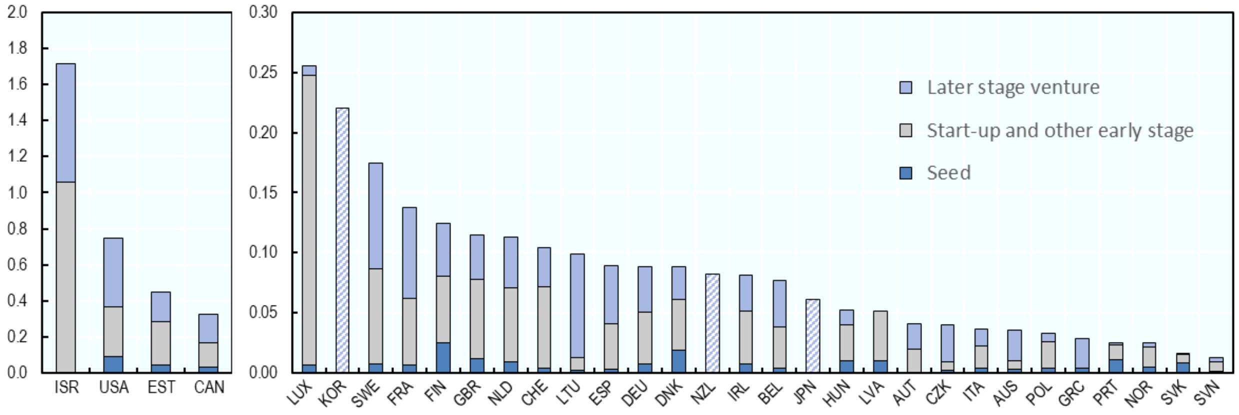
Still, specific segments of the German SME population continue to face barriers in financing their growth and investment activities

Venture capital (VC)[3] represents an important component of the diverse array of financial instruments that can be used to finance growth (OECD, 2015[39]). Yet, venture capital investments in Germany are significantly lower than those in the countries with the largest and most dynamic markets, particularly in terms of seed but also later stage funding. In 2022, VC investments in Germany amounted to only 0.09% of GDP, significantly less than in other economies such as Korea, France, the United Kingdom or the Netherlands, although ahead of Japan (see Figure 2.4). As a result, the German VC market remains small, both in international comparison and relative to the economy's size. A compounding factor may be the attachment of a large proportion of SMEs to keeping full control over their business operations and, consequently, their desire to protect them from private investors. This suggests that demand issues also play a role in this context, meaning that there is likely a larger number of German SMEs who may be potential candidates for VC investments, but that a significant share of these firms simply do not seek out this financing option, as it typically implies changes in ownership structure that they are not willing to accept (Pahnke, Welter and Audretsch, 2022[40]).

Providing young and small firms with the capital needed to scale remains therefore challenging, in particular when it comes to the financing of risky innovation projects, where external capital will not be available at all or only at a too high cost (OECD, 2015[30]). The volume of finance necessary to scale some of the most promising firms is difficult to access in both Germany and the European Union, reflecting in part the comparative underdevelopment of their venture and growth capital markets as a whole. As a result, firms regularly move to countries where such finance is more easily available, such as the United States or the United Kingdom (OECD, 2022[10]).

Figure 2.4. Germany lags in seed and later stage venture capital investments

Venture capital investments as a % of GDP, 2022 or latest year available



Note: For Japan, Korea and New Zealand, no breakdowns of venture capital by stage are available. Data for Israel and Japan refer to 2021, and for Australia to 2019.
Source: OECD Entrepreneurship Financing Database: http://dotstat.oecd.org/Index.aspx?DataSetCode=VC_INVEST

While funding opportunities for breakthrough and high-risk innovations – which are more difficult to obtain through banks – have been increasing in recent years, venture capital investments have remained strongly focused on the early stages of firm growth. One of the main challenges to financing growth-oriented activities in Germany is therefore the ability of firms to access growth and later-stage capital, where investment needs are generally higher. The **significant and persistent funding gaps at the middle and later growth stages** create risks that existing scalers may leave the country, while others miss out on potential growth opportunities. Start-ups and scale ups have already been turning to foreign capital markets to launch initial public offerings or obtain later-stage venture financing, as the lack of institutional investment hinders the development of this type of financing in Germany. German pension funds, insurance companies and public financing organisations, for instance, provide very little risk capital, yet are among the only sources of finance that could provide the levels of capital necessary to help scale the most promising firms (OECD, 2022[10]).

Moreover, even though access to bank finance has been relatively sound in Germany, SMEs continue to face challenges in accessing bank finance for investments in intangible capital (Brassel and Boschmans, 2019[41]). Yet, intangible assets are widely acknowledged as the main source of future growth, particularly as knowledge-based activities become more important than traditional activities, such as manufacturing, with related intellectual property rights (IPR) allowing for their commercialisation. Such investments can relate to R&D, patents, software, databases, managerial skills and a range of other assets that share characteristics such as uncertain returns, non-rivalry, large synergies and low re-deployability (OECD, 2021[26]) (Cecchetti and Schoenholtz, 2017[42]). One fifth of German SMEs, for instance, face difficulties in financing digitalisation projects, and financial hurdles usually increase when they start looking for higher amounts of finance to expand their digitalisation (KfW, 2022[43]).

The resulting information asymmetries (meaning that the firm has a much better understanding of the value of the investment than the bank) leads to difficulties in using such assets as collateral, and a lack of willingness from the banking sector to provide necessary finance (OECD, 2021[44]). As in other areas of access to finance, the effects are uneven across the private sector, affecting SMEs and start-ups as an overall riskier enterprise group which is less well collateralised more than larger firms. Consequently, firms rely increasingly on private equity and retained earnings to invest in intangible assets.

These financing issues have existed for a long time but are becoming increasingly important in a context where economies are **transitioning towards more knowledge-based growth models**, in which complementary investments in intangible capital are necessary to fully exploit new (particularly digital) technologies. In Germany, financing constraints to investment in intangible capital may therefore lower the ability of existing and new firms to fully exploit their potential for job creation and transition towards knowledge-based activities, including the deployment of more sustainable and resilient business models.

3 The federal institutional landscape and policy mix for improving SME access to growth finance in Germany

This section examines **existing policy practices to help German SMEs access appropriate sources of finance to scale up their businesses**, and how they compare with other OECD countries (see Box 3.1). The analysis builds on a broader body of OECD work in this area (see 4Annex B).

Box 3.1. Scale-up finance cutting across multiple policy domains

To account for the cross-cutting nature of scale-up finance, the mapping of relevant institutions and policies covers a number of policy domains that are relevant to financing innovation, investment and network expansion. Table 3.1. provides a schematic overview of what the exercise entailed.

Table 3.1. Schematic overview of what SME scale-up finance policies are and are not

What it is	What it is not

• **Traditional financing instruments** designed to explicitly support firm growth ;
• Bank loans, credit guarantees ;
• **Alternative financing instruments** designed to explicitly support firm growth ;
• Alternative debt (corporate bonds, securitised debt, private placements, (debt) crowdfunding, etc.);
• Hybrid instruments (subordinated loans/bonds, silent participations, convertible bonds, etc.);
• Equity instruments (private equity, venture capital, business angels, (equity) crowdfunding, etc.) ;
• Financing instruments designed to explicitly **support scale up drivers**:
  ▪ **Innovation**: R&D&I tax incentives, technology funds, regulatory sandboxes, etc. ;
  ▪ **Investment**: Funds to improve provisions of asset finance and leasing, public loans, grants, etc. ;
  ▪ **Network expansion** : Export guarantees, trade credit insurance, trade finance, etc.
• Finance for **long-term or structural corporate investments**;
• **Platforms**, networking infrastructures, facilities for crowdfunding or improving transparency on financial markets etc. ;
• Initiatives to **raise SME financial literacy and investment readiness**, e.g., training vouchers, mentoring programmes, business acceleration services etc.
	• Bank loans or credit guarantees that do not pursue growth objectives (to the extent it is made explicit) ;
	• Short-term loans and other financing instruments that cover cash flow or operating costs needs ;
	• COVID-19 emergency measures in support of liquidity shortages ;
	• Microloans, travel vouchers (e.g., to attend international fairs) ;
	• Business formalisation support, incubators, firm creation finance support ;
	• Support to SME public procurement.

Note: Categories of financial support were aligned with the analytical framework developed as part of the G20 Study Group on Financing for Investment, and specifically on the "The Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development" report (OECD, 2013[45]).
Source: (OECD, 2022[29]).

Scale-up finance policies are defined as all policies that can unleash internal or external sources of finance to support the main drivers of growth, understood to be **SME innovation, investment and network expansion**, (OECD, 2022[29]). This definition and broader work on the drivers of SME scale-up builds on the multiannual EC/OECD project on *Unleashing SME potential to scale up*[4], which calls for broader measures and notions of scaling up, going beyond traditional economic performance indicators. In the area of finance, it therefore proposes the following scope for identifying relevant policy initiatives:

- Scale-up finance policies can be **targeted directly at SMEs** and either (1) aim to stimulate SME demand for external finance, i.e. by reducing SME financing costs, raising SME awareness on existing financing solutions or their ability to access new funding sources, or (2) aim to increase the supply of external finance to SMEs, e.g. through initiatives that aim to increase their self-funding capacity or incentivize reinvestment of profits.
- Scale-up finance policies can also be **directed towards institutional actors operating in the financing system or the business sector**. In this case, they are supply-oriented and aim to create new or a more diverse set of financing sources. Institutional actors can include banks or venture capital/private equity funds, as well as individuals such as business angels or investors (i.e., the financial sector), large enterprises, multinationals or leading actors in sectors, value chains, ecosystems (i.e., the private sector), and public/ development banks or other administrations (i.e., the public sector). Finally, the civil society can also be a source of finance for scalers (OECD, 2022[46]).

The analysis of financing instruments was developed taking into account the guidance on SME finance laid out in the 2022 Updated G20/OECD High-Level Principles on SME Financing (OECD, 2022[47]), the OECD Financing SMEs and Entrepreneurs Scoreboard as an international benchmark for monitoring developments and trends in SME and entrepreneurship finance (OECD, 2022[6]) (OECD, 2023[48]), the OECD Recommendation on SME Financing (OECD, 2023[49]), as well as a broader body of OECD work in the area of SME finance, including e.g. (OECD, 2015[39]), (Boschmans and Pissareva, 2017[50]), (Brassell and Boschmans, 2019[51]).

The following sections draw on a cross-country analysis of 709 policies and 210 institutions aimed at strengthening SME access to scale-up finance across the 38 OECD countries, with a total of 23 policy initiatives and 6 institutions identified for Germany (see Table 3.2) for an overview of the institutions and policies collected for Germany). The analysis of these measures and how they compare to other OECD countries is based on unweighted counts across a series of dimensions, including some limitations regarding the interpretation of results. This includes notably the fact that no systematic information on budget was collected, and with the mapping focusing on SME-targeted measures without a comprehensive review of business or SME components in the context of more generic programmes.

The analysis presented in this report is also inevitably based on a snapshot of the policy landscape at a given moment and does not take into account more recent policy developments that may have occurred since. In July 2022, for example, the German Federal Cabinet adopted its first comprehensive Startup Strategy, which aims to strengthen startup ecosystems in Germany and Europe. The Strategy includes a specific roadmap to achieve its goals, and groups the measures contained therein into ten fields of action, among them “Strengthen funding for startups”. In September 2023, a first progress report on the implementation of the strategy was published[5].

Table 3.2. Institutions and selected policies for strengthening scale-up finance in Germany

Institution	Policy	Description	Target population	Scale up driver(s)
Federal Ministry for Economic Affairs and Climate Action	Venture Tech Growth Financing	As part of the Federal Governments Tech Growth Fund initiative, the programme is designed to provide venture debt financing, particularly for technology-oriented start-ups in the growth phase. It offers equity to finance further growth for technologically innovative and fast-growing companies that have a resilient and promising business model.	SMEs with growth or performance criteria (growth companies)	Innovation
	Coparion	A venture capital fund providing funding for young and innovative companies at the same terms as the private sector	SMEs with age criteria (Young firms)	Innovation
	Default guarantees	Serves as a substitute in the growth phase for collateral in order to secure bank loans in the case of an absence or insufficiency of banking collateral	Generic	Investment
	Counter guarantees	The instrument supports the SME investment companies operating in the individual Länder, which provide equity capital to SMEs – mainly in the form of mezzanine capital (silent participation). In return, the SME investment companies receive guarantees from guarantee banks, which themselves are counter-guaranteed by a federal/Länder-level guarantee.	Generic	Investment
	High-tech Gründerfonds	An early-phase funding programme for highly innovative and technology-oriented companies whose operative business activities were started less than 3 years ago. In addition to providing capital, the fund ensures that the management of young start-ups receives the necessary help and support.	SMEs with age criteria (Start-ups)	Innovation
	German accelerator	Helps the most promising German start-ups break into international markets and expand their global activities. Participants take part in intensive workshops and engage with experienced experts, enabling them to enter a steep learning curve and to achieve their goals more quickly.	SMEs with age criteria (Start-ups)	Network expansion
	The German SME strategy	A comprehensive concept that enables Germany to enhance the value of SMEs, strengthen their opportunities and reduce the burden on them. It aims to further develop financing models and instruments, especially with regard to the growth phase of the company.	All SMEs	Innovation, Investment, Network expansion
	INVEST-Venture Capital Grant	The INVEST initiative connects start-ups with private investors who believe in bold ideas. The funding programme leverages more private venture capital from business angels, making it easier for young companies to find an investor.	SMEs with age criteria SMEs with size criteria	Innovation
	Central Innovation Programme for SMEs (ZIM)	A funding programme that aims to boost the innovative capacity of SMEs. It launches several new projects every year throughout Germany, making it the largest innovation programme for SMEs in the country. It finances innovative companies with commercial activities in Germany that want to develop new products, processes or technical services or improve existing ones.	All SMEs	Innovation
SPRIND	Early stage	Federal agency providing validation finance and funding for early-stage disruptive innovations tackling the social, economic and ecological challenges of our time	Applicants from industry, start-ups, research organisations and universities; individual applicants with no institutional affiliation	Innovation
Federal Government (ERP-EIF Facility)	ERP-EIF Growth Facility	Gives fast-growing companies access to growth capital. The ERP Special Fund and the EIF cooperate with other successful venture capital fund investors in the ERP/EIF portfolio in order to set up co-investment funds that take stakes in fast-growing innovative companies.	SMEs with growth or performance criteria (growth companies)	Innovation
	European Angels fund Germany	Fund to co-finance investment alongside selected, experienced business angels investing in innovative companies. In this way, the	Investors, Business angels	Innovation

Institution	Policy	Description	Target population	Scale up driver(s)
		fund increases the financial strength of investors, thereby supporting the financing of innovative companies in their start-up, early and growth phases.		
	ERP Co-Investment in GFF-EIF facility	Systematically co-funds investments of the GFF-EIF Growth Facility scheme, expanding the scope of the ERP-EIF Facility towards growth and later stages.		Innovation
	ERP-EIF-Länder Mezzanine Fund of Funds	Participates in private sector professional mezzanine funds (including venture-debt funds) which invest heavily in German SMEs and young fast-growing companies. The Mezzanine Fund of Funds was established with an initial volume of EUR 200 million.	SMEs with growth or performance criteria (fast-growing)	Not specified
	ERP-EIF VC Fund of Funds	It participates in venture capital funds that invest in young technology companies (mainly in Germany). The fund has a volume of EUR 3,4 billion and is financed by the EIF and ERP Special Fund). The investment always involves other private co-investors on the same economic terms.	SMEs with age criteria (Young firms)	Not specified
Federal Ministry of Education and Research	KMU-NetC	This initiative supports the research and development projects of SMEs within strong networks and clusters .Together with regional partners, small and medium-sized enterprises can more easily implement research projects and innovations.	All SMEs	Innovation
	KMU-innovativ: Production research	A funding measure aimed at strengthening the innovation potential of SMEs in the field of cutting-edge research under the "Innovations for Tomorrows Production, Services and Work" programme	All SMEs	Innovation
Federal Ministry of Finance	R&D tax credit (Forschungszulage)	Provides tax relief for research expenditure by taxable companies in Germany - irrespective of their size, legal form and sector - and is intended to provide an incentive to invest in research and development (R&D).	Generic	Innovation
Kreditanstalt für Wiederaufbau (KfW)	KfW Corporate loan	Provides external capital to established companies which have been active on the market for more than 5 years. The funding goes towards investments in Germany or abroad, and towards working capital.	SMEs with age criteria (Established companies)	Investment
	ERP Mezzanine financing for Innovation	Long-term financing of market-related research and development for new products, production processes and services, and of major further developments in these products, processes and services.	SMEs with size criteria	Innovation
	ERP Start-up loan	A loan available for start-ups and young firms that have been active for less than 5 years. It provides financing for investments and working capital for new companies, for takeovers or for active stakes, at attractive rates.	SMEs with age criteria (Start-ups and young firms (< 5 years)	Investment
	ERP digitalisation and innovation loan	Serves to finance digitalisation, innovation projects, investment, and working capital for innovative companies. Funding goes to established commercial companies and to professional service providers. The instrument is also available to business starters and young companies to finance their projects.	Generic	Innovation

Note: The mapping and analysis of policies and institutions for Germany is based on research work carried out between June 2021 and February 2022 across the 38 OECD member countries. The table therefore does not take into account policy measures that have been introduced after and that this paper may make reference to in other sections of this paper. For example, in December 2022, the German SME Strategy was replaced by the Action Plan for SMEs, Climate Action and Transformation (*Aktionsplan Mittelstand, Klimaschutz und Transformation*). Further information on how specific target populations have been defined can be found in 4Annex A.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

Policies to foster SME access to scale-up finance often fall beyond the SME and entrepreneurship policy domain

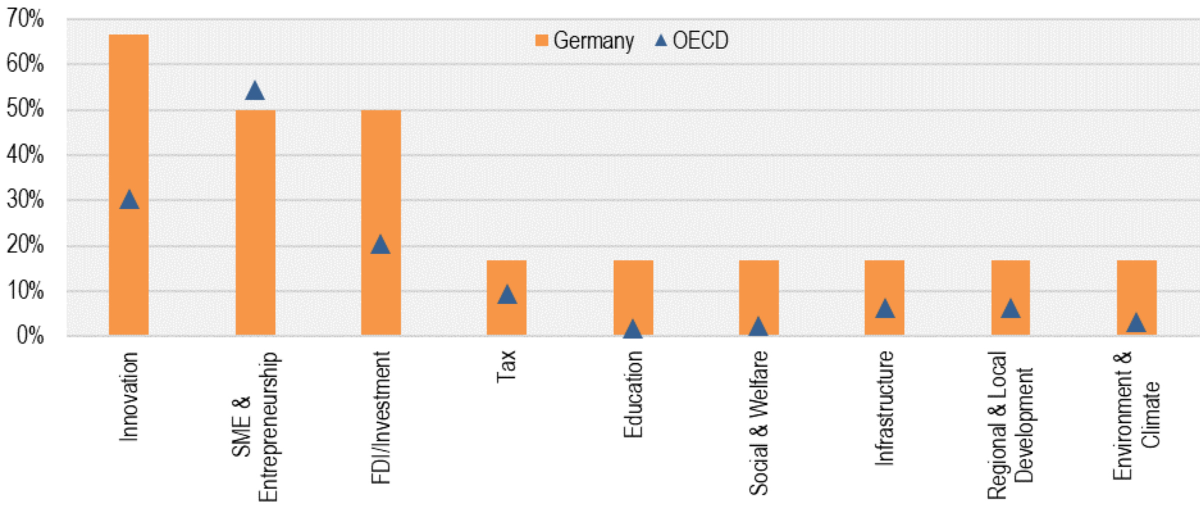
SME and Entrepreneurship is only the second most represented core mandate among institutions implementing scale-up finance policy initiatives, alongside FDI and Investment promotion, where relevant institutions in Germany seem to play a more prominent role compared to the OECD. However, the vast majority of institutions in charge of scale-up finance (67%) oversee innovation policy matters, as shown in Figure 3.1. , whereas the average figure for the OECD is only 30.5% in this area. Moreover, two German scale-up finance institutions have both core mandates within their field of competence, namely the Federal Ministry for Economic Affairs and Climate Action and the Credit Institute for Reconstruction.

The Credit Institute for Reconstruction (KfW) is the only institution to integrate the environmental dimension into its core mandates for the implementation of SME scale-up finance policies. Even though environment and climate issues feature more prominently in the core mandates of institutions implementing scale-up finance policies in Germany (16.7% of core mandates compared to an OECD average of 3.3%), their overall low share compared to other policy domains suggests that the green transition of SMEs is not yet fully integrated as a policy objective in the support for scaling up. This may be due to institutional arrangements that do not yet sufficiently integrate environmental issues into SME growth policies in Germany.

With SME access to finance now a well-established field of public action, SME policy considerations could be better mainstreamed in the German institutional landscape – along with considerations related to climate and sustainability matters - across the board, and closer attention to policy coordination across policy systems and levels to support SME growth.

Figure 3.1. Innovation is the main focus of institutions implementing 'scale up' finance policies, while climate lags behind

Core mandates distribution of institutions involved in 'scale up' finance policies, in total (%)



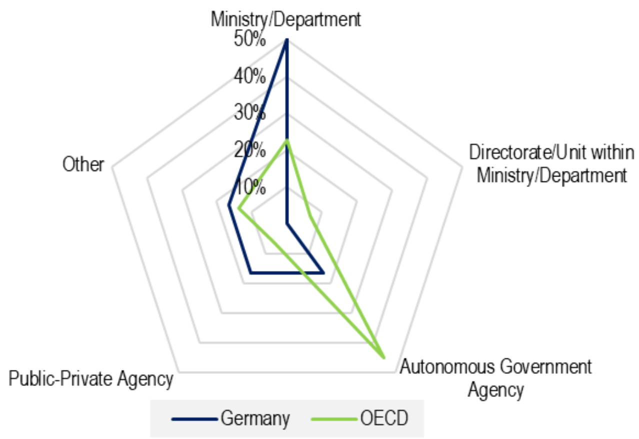
Note: Shares are computed as a percentage of total national institutions involved in promoting scale-up finance, based on unweighted count. Germany has a total of 6 institutions involved in 'scale up' finance policies, out of a total of 210 in OECD countries.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

Scale-up finance policies appear to be centralised at national level, but further analysis of sub-national support mechanisms is needed

At national level, implementation of scale-up finance policies takes mostly place at ministry level, reflecting more centralised governance arrangements than in other OECD countries. The status of institutions often provides an indication of the level of decentralisation[6] that characterises policy implementation. In this respect, half of German institutions included in the mapping have the status of Ministry/ Department (compared to an OECD average of 22.9% – see Figure 3.2.), indicating a fairly centralised system of scale-up finance policy making. However, it is important to note that this result may be biased by the fact that the database is currently limited to policies implemented at national level. The federal structure of the of the German State would require to also map policies implemented at regional level to gain a more complete picture of the scale-up finance policy landscape (see Box 3.2 for a few selected examples), so results concerning this dimension need to be interpreted with caution.

Figure 3.2. Ministries or departments are particularly involved in 'scale up' finance policies in Germany, which reflects more centralised governance arrangements than in the OECD

Share of institutions implementing scale-up finance policies, by status (%)



Note: In the mapping for Germany, the five categories "Ministry/Department", "Directorate/Unit within Ministry/Department", "Autonomous Government Agency", "Public-Private Agency" and "Other" correspond to institutions with a tier-1 level of public governance that operate at the national level.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

Box 3.2. Financial support for firms at sub-national level in Germany

A major effort has been made at the level of the federal states, the *Länder*, to provide financial support to German companies. Out of a total of 2 470 initiatives listed in the *Förderdatenbank*, 81.34% are implemented at the Länder level, some of them being generic (i.e. aimed at both large companies and SMEs) and others being specifically dedicated to micro, small or medium-sized firms.

In particular, the most important instrument used as part of the national regional policy is the *Joint Federal/Länder Task for the Improvement of Regional Economic Structures (GRW)*. It aims to boost investment in structurally weak regions, thereby creating attractive local jobs in the long run. GRW funds are used to support (1) investment in trade and industry, (2) investment in infrastructure related to local trade, (3) initiatives to encourage networking and cooperation between local players, and (4) projects to improve competitiveness, especially of SMEs. Examples include the following:

- The **IB Digitization Loan** helps SMEs in Saxony-Anhalt to finance digitalisation measures in the form of loans of between EUR 10 000 and a maximum EUR 1.5 million. The programme specifically supports expenses related to growth-strengthening activities, implementation of new projects, or entering new markets.

- The **Schleswig-Holstein SME Fund** provides equity capital to SMEs based in or investing in Schleswig-Holstein. Shares can be issued to finance investment, sales growth, equity strengthening or management buy-out/buy-in.
- Baden-Württemberg has also launched **the Model Region Green Hydrogen 2021-2027** to stimulate the development of SMEs active in the energy sector and, in particular, R&D activities and investment to expand the production and/or use of hydrogen.

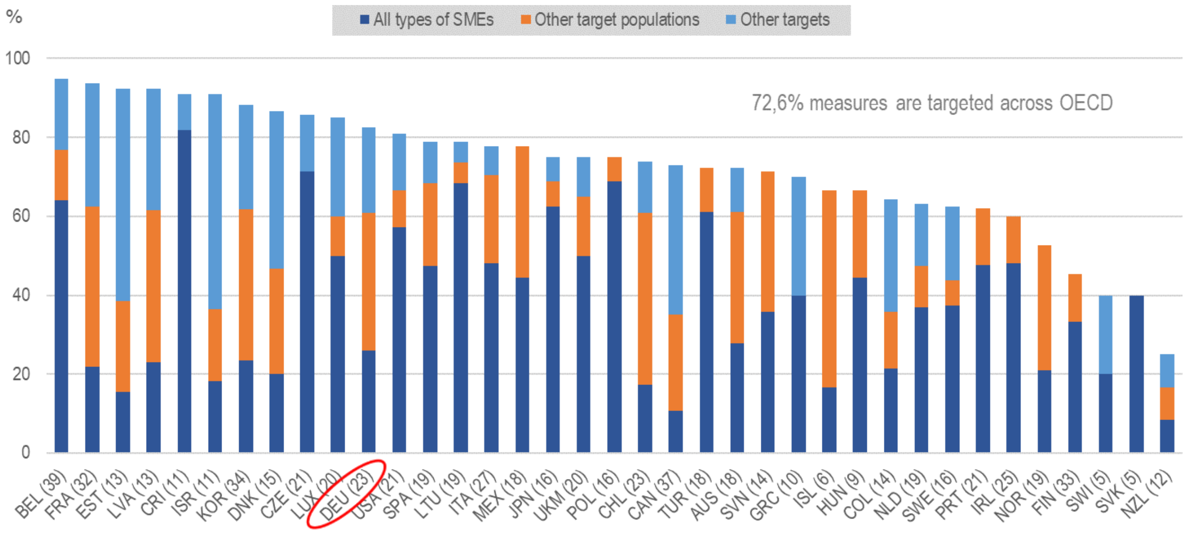
Source: (Federal Ministry for Economic Affairs and Climate Action, 2023[52]), (Federal Ministry for Economic Affairs and Climate Action, 2023[53]).

In Germany, scale-up finance policy is highly targeted…

In Germany, scale-up finance policy is highly targeted, with over 80% of policy measures aiming to reach either one (or several) firm populations (60.9%), or other targets (21.7%), such as specific supply chains, sectors, or regions (Figure 3.3.). This is in line with the approach taken in most other OECD countries in this area, where generic measures remain the exception more than the rule. On average 72.6% of measures in place across OECD countries are targeted, in most cases, at SMEs without differentiation (38.6%), but also at certain sub-populations of firms (18.8%) or certain sectors, technologies or places (15.2%).

Figure 3.3. Scale-up finance policies in Germany are highly targeted

Share of scale-up finance policies that are targeted, by broad type of targets



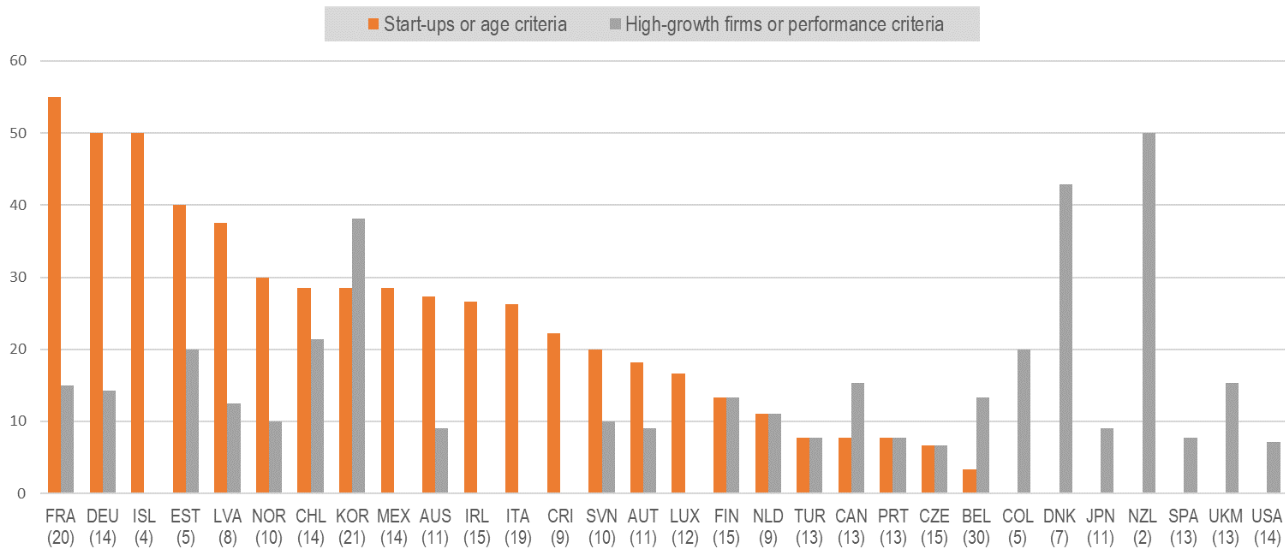
Note: Target populations include all SMEs, and subpopulations of SMEs with size or performance criteria, or individuals such as entrepreneurs and business owners. Other targets include sector(s) or supply chain(s), technology(ies) or region(s) and place(s).
Source: (OECD, 2022[29]), based on the cross-country policy mapping carried out as part of the OECD/EC SME Scale Up project.

At the same time, the degree of targeting in German scale-up finance policies is more intense with respect to technology, with 31.6% of targeted policies being directed at specific (often advanced) digital technologies such as artificial intelligence (AI), Internet of Things (IoT) or robotics, which is double the share compared to other OECD countries. This may explain the success of some German SMEs in niche technology markets, where they enjoy significant power. It should also be noted that the lack of targeted initiatives in certain sectors or regions is – partly at least – due to the focus on national policies in the present mapping exercise.

In addition, as part of its targeting efforts, Germany places a particularly strong focus on start-ups, with half of its population-targeted measures designed specifically for start-ups and SMEs with age criteria (see Figure 3.4.). To this end, Germany combines the use of VC funds – e.g. through the "European Recovery Program-European Investment Fund (ERP-EIF) Facility", a joint initiative between the Federal Government and the European Investment Fund that acts as an umbrella for mainly fund of funds instruments – and start-up loans. In addition, the KfW Corporate Loan has been established for companies that have been active on the market for more than 5 years. In France, the only country that places an even stronger focus than Germany on this area, several public VC Funds aim to address the financing needs of start-ups at seed, early or mid-stage of development, with a strong technological component and often an industrial approach. In Korea and Denmark, on the other hand, more initiatives use performance and growth potential criteria to allocate support. In fact, Korea stands as an exception in the OECD area, by combining more extensively both start-up and high-growth-firms programmes (see Box 3.3).

Figure 3.4. Germany places a stronger focus on start-ups than most other OECD countries

Share of population-targeted measures that are designed towards start-ups and high-growth firms



Note: SMEs with age criteria include young firms and start-ups but incumbents as well. SMEs with performance criteria include high-growth firms, scalers but also laggards.
Source: (OECD, 2022[29]), based on the cross-country policy mapping carried out as part of the OECD/EC SME Scale Up project.

Box 3.3. Korea's double focus on start-ups and high-growth firms

Korea has introduced a total of **34 policy initiatives** to strengthen SME access to scale-up finance, whose implementation is distributed across **7 institutions.** The country places a particular focus on supporting start-ups and high-growth firms, with 28.8% and 38.1% of policy initiatives catering to the specific financing needs of these firms, respectively. Relevant examples include:

- **The SME and Start-up Agency** has developed different policy funds (Start-up, Growth and Re-Growth stage) – the *Start-up fund* provides financial assistance at low interest rates for high-tech SMEs with growth potential by combining investment and loan instruments; the *Growth fund* is designed to enhance the competitiveness of SMEs with innovative technology and management capabilities; the *Re-growth fund* aims to create a virtuous business ecosystem by providing struggling SMEs with the funds necessary for restructuring or restarting their business;
- **The Ministry of SMEs and Start-ups** and its Tech Incubation programme for Start-ups (TIPS), which provides R&D support and commercialisation funds for innovative start-ups;
- **The Credit guarantee fund** and its *First Penguin Guarantee*, which aims to address the lack of tangible collateral among innovative start-up companies that are 5-year-old or younger and that challenge new fields with creative ideas and skills, as well as the *Innovative Icon Support Programme*, a scale-up program for innovative start-ups with high potential for growth into outstanding middle-market corporations or global innovators;

Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship

The focus on start-ups and other specific firm populations in Germany may leave some firms out of public support. While this is an approach taken by many OECD countries – essentially in an effort to focus on the most promising firms, the specific characteristics of the German SME population described further above (i.e. larger share of medium-sized firms, often family- or owner-managed) may suggest that a large share of businesses with significant potential to scale up fall through the cracks of existing support measures. Box 3.4 provides an overview of selected country examples of dedicated institutions or instruments that serve the needs of more established firms.

Box 3.4. Selected country examples of initiatives to improve access to scale-up finance among established firms

A number of OECD countries have put in place specific measures to serve more established companies, which often operate in less knowledge-intensive sectors and/or need financing for expansion activities at a later stage in their life cycle. Here are three examples from Denmark, Belgium and Spain:

- The **Danish Growth Fund** is the official investment fund of the Danish state. In addition to investing in start-ups that lack financial support, it also provides loans and guarantees to established SMEs that do not have the collateral or equity to receive bank loans. Its **Growth Guarantee Programme** is aimed particularly at established businesses that need to make larger investments or expand their operations. These guarantees cover the risk of insufficient collateral for the realisation of an advance payment guarantee or a lease;

- In Belgium, the **Flemish Participation Company** offers financing to a wider range of companies, from the youngest to the most mature. These include the self-employed and small businesses, medium and large companies as well as start-ups and scale-ups. **Its Innovation Mezzanine** – a mix of debt and equity financing – is suitable for innovative and established SMEs that want to grow their business. In addition, **PMV Corporate Loans** are tailor-made financing solutions for SMEs and large companies that have a strong market position and a track record of generating positive cash flow. The financing is intended for tangible and intangible investments;
- Since its launch, the Spanish fund **Fond-ICO Pyme** has been a major player in direct investment in Spanish SMEs. Its main investment target is established Spanish companies with expansion plans, financing and a long-term vision for their business. Companies can choose or even combine an equity stake with other venture capital or private equity funds. The resources invested are intended for the expansion of established companies, including through asset acquisition, innovation and internationalisation activities, and the purchase of other companies.

Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

At the same time, potential scalers may not always be able to identify the most appropriate solutions for their needs, among the various public support schemes provided through a large number of institutions, with a plethora of eligibility criteria. It is indeed widely acknowledged that smaller businesses tend to face disproportionate difficulties in navigating bureaucratic complexity and interacting with public administration, and therefore need to divert a relatively large share of resources to administrative functions (OECD, 2019[54]).

One-stop-shops can therefore represent a mechanism for joined-up government services as they aim for user-centricity rather than government centricity (Askim et al., 2011[55]). In fact, as back-office and services are increasingly integrated, users may not even notice that different institutions deliver different services. In other words, one-stop-shops do not require users to understand how the government is structured or operated, to access the services it offers.

In OECD countries, the most frequent service provided by one-stop-shops focuses on easing access to finance, as a forthcoming OECD study shows (OECD Forthcoming, 2023[56]). Moreover, the same study stresses that more recently established government-to-SME services have aimed to address SME difficulties in scaling up operations, through foreign trade assistance (e.g. import/ export assistance and e-customs), or assistance in dealing with legal requirements for product development (e.g. competition, product requirements, commercial and industrial norms, and environmentally-related permits), or in dealing with intellectual property rights (e.g. patents, trademarks, designs, etc.). Canada is one example of a country that has integrated its financing services in support of scalers and scaling up drivers into one single portal (see Box 3.5).

Box 3.5. Canada – One-stop shop of integrated public services for scale up financing

Canada provides an integrated offer for supporting scale up financing through a one-stop-shop digital portal that is developed in cooperation with banks, financial institutions and the business community.

Start-Up Financing: https://www.bdc.ca/en/financing/starting-business-loan

The government collaborates with the Business Development Bank of Canada to provide funds of up to CAD 250 000 to assist Canadian businesses that have been in operation for at least 12 months to jumpstart their business ideas into reality. Extremely flexible and tailored financing solutions are offered for investment, e.g. purchasing assets or buying a franchise, and business development, e.g. investing in marketing, a website or advisory services. Funding can complement the company's line of credit or replenish working capital.

Small Business Loans: https://www.bdc.ca/en/financing/small-business-loan

The Small Business Loan scheme is designed to help successful SMEs access funds of up to CAD 100 000 at any time after 24 months of existence. Canadian businesses that generate revenues and have a good credit history are eligible. The loans cover a range of different financing needs, including investment in physical capital (e.g. commercial real estate, equipment purchase or hardware), human capital (e.g. hiring a consultant) or intangible assets (e.g. software), as well as innovation (e.g. for tech companies, technology financing) or business development (online selling through upgrade in websites, marketing campaigns).

Business Education: https://smallbusinessbc.ca/education

Small Business BC provides practical seminars and online education to develop business skills and strategy to run a successful business. Training packages include financial literacy, financial management, the financial impact of growing a business, early-stage financing, in addition to market research, privacy law, cybersecurity and IP-related threats etc.

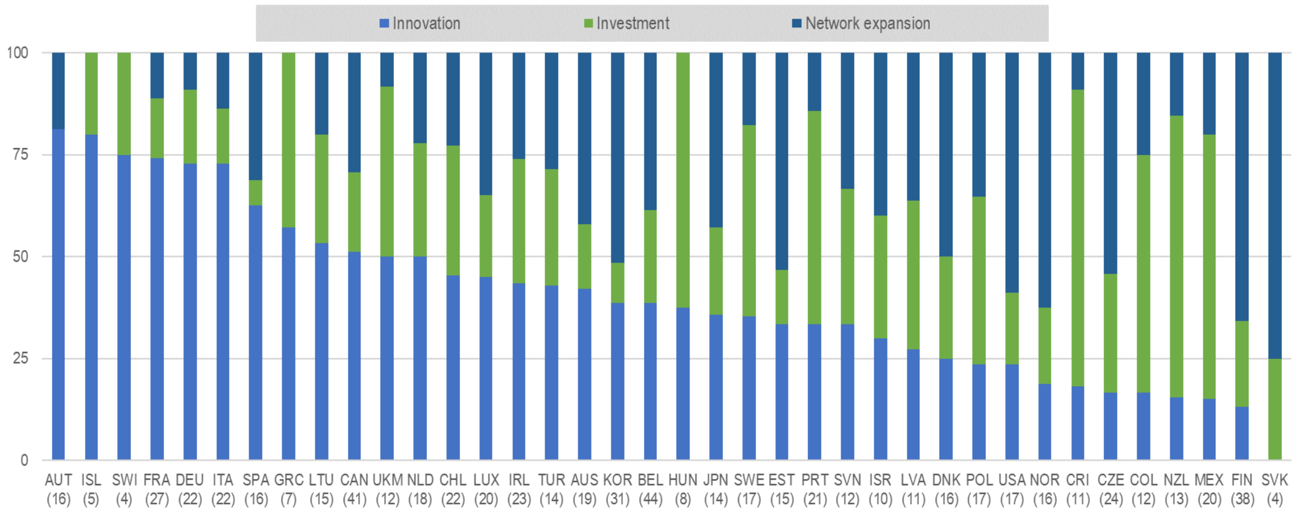
Source: (OECD, 2022[46]), based on (OECD Forthcoming, 2023[56]).

…with the largest share of growth finance policies leveraging innovation as a driver for SME scale up

Innovation is the main scaling up driver supported by the German government. Over 70% of the country's initiatives aim to enable better SME access to finance for innovation purposes (i.e., digital adoption, business development, R&D), compared to only 18% for investment and 9% for network expansion (see Figure 3.5.). While innovation is also the main scale up driver being leveraged across the OECD, Germany places a particularly strong focus on this area vis-à-vis most other countries, where, on average, over 38% of measures aim to improve innovation financing, compared to 30% for policy measures that are intended for investment purposes. Looking at policy initiatives aiming to promote SME network expansion this share is slightly lower (26%), although still an area that receives significantly more attention than in Germany.

Figure 3.5. Innovation is the predominant driver leveraged in the German scale-up finance policy mix

Share of SME scale-up finance policies, by scaling up drivers



Note: Shares are computed based on an unweighted count. “Innovation” includes R&D/disruptive innovation, Digital adoption and Business development. “Investment” includes investments in Skills, Physical capital and Intangible assets. “Network expansion” includes Domestic market/diversification, Direct trading (internationalisation), Cooperation/partnerships, and the use of digital platforms. The analysis of scale up through network expansion does not cover indirect engagement in international trade (e.g. through supply chains and other linkages between multinationals and domestic SMEs that are covered in the EC/OECD project on FDI-SME ecosystems (EC/OECD, 2022[57])), nor the use of digital platforms. For countries with few initiatives (observations), interpretation of indicators should be done with caution.
Source: (OECD, 2022[29]), based on the cross-country policy mapping carried out as part of the OECD/EC SME Scale Up project.

Zooming in on the different sub-drivers of SME scale up reveals additional insights on the characteristics of the German policy mix and the specific priority areas to which growth finance mechanisms are directed.

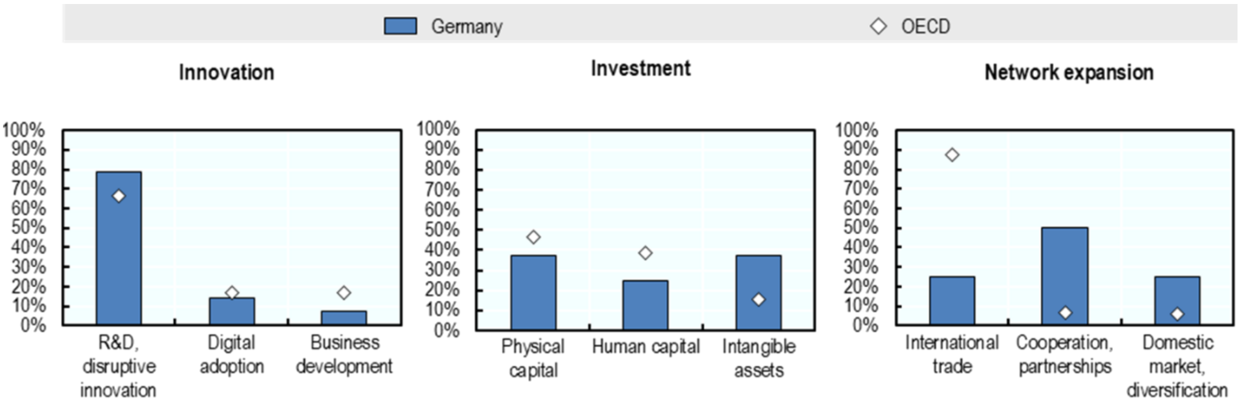
Most innovation financing schemes across the OECD focus on supporting research and development (R&D) or disruptive innovation, accounting for over three quarters of initiatives (78.6%) in Germany, compared to an OECD average of 66.4%. Policies for financing digital adoption and business development – i.e. marketing, branding, organisation, or other non-tech related innovation activities – are less common, especially in Germany (see Figure 3.6.).

Financing for investment in Germany targets in equal terms investment in intangibles and acquisitions of physical equipment, which account both for 37.5% of initiatives each, suggesting that there is a relative balance between efforts to finance the formation of physical capital (i.e. tangible man-made goods that support the production of goods and services) and intangible assets (e.g., goodwill, brand recognition or intellectual property, such as patents, trademarks, and copyrights). At the same time, Germany dedicates only a quarter of its policies (25%) to investment in human capital (i.e. knowledge, skills, experience and talents that influence the ability of a firm to produce), which is significantly lower than the OECD average of 38.3% in this area.

Based on current analysis, policies for financing network expansion are largely dominated by international trade support initiatives. These account on average for 87.1% across the OECD, but only for 25% in Germany. While the analysis does not currently cover indirect engagement in international trade, such as through supply chains or other linkages between multinationals and domestic SMEs[7], nor the use of digital platforms, public efforts in this area are likely to be underestimated. At the same time, the very low intensity of government intervention with regard to this particular scale up driver may also be a reflection of the well-documented and strong export performance of the German *Mittelstand*.

Figure 3.6. Policies mainly support traditional innovation channels, with a focus on the domestic market

Share of policy initiatives addressing each scaling up driver, by sub-driver



Note: The analysis of scale up through network expansion does not cover indirect engagement in international trade (e.g. through supply chains and other linkages between multinationals and domestic SMEs that are covered in the EC/OECD project on FDI-SME ecosystems (EC/OECD, 2022[5])), nor the use of digital platforms. For countries with few initiatives (observations), interpretation of indicators should be done with caution.
Source: (OECD, 2022[29]), based on the cross-country policy mapping carried out as part of the OECD/EC SME Scale Up project.

Germany's efforts to finance investment appear overall more balanced than across the OECD, notably regarding its stronger focus on supporting investment in intangible assets. At the same time, the lower emphasis on investment in human capital may create bottlenecks in the near future, with skill shortages having already become an acute and well-known challenge in the country. A rebalancing of efforts may therefore also be required in this area, with a view toward orienting and better aligning public efforts within the scale-up finance policy mix to the needs of an increasingly knowledge-based and globally integrated economy. This may also represent a necessary step toward supporting a more widespread twin transition among the German SME sector.

The finance market's plays a prominent role as an intermediary for public support in Germany

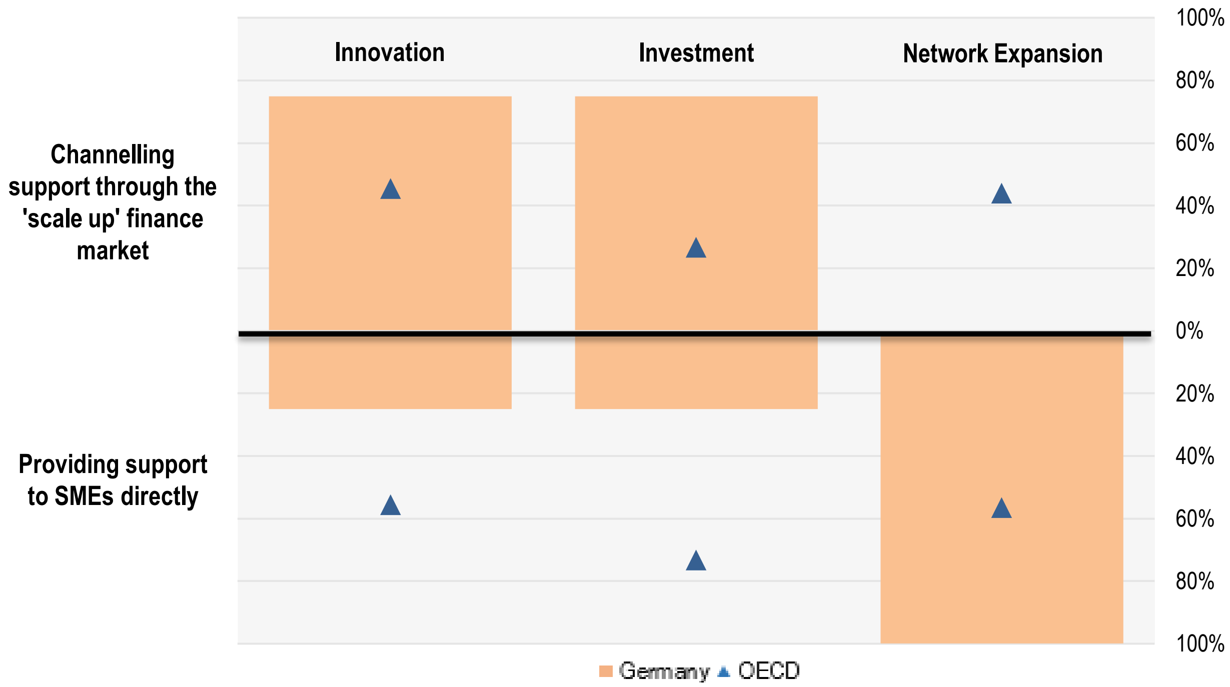
In Germany, public measures towards improving SME access to scale-up finance are more often channeled through the scale-up finance market and to a lesser extent geared towards supporting SMEs directly. Three quarters of the initiatives that support SME innovation, for instance, are aimed at improving the functioning of the scale-up finance market, leveraging market mechanisms such as credit guarantees or investment funds to channel the necessary resources to smaller firms, whereas this figure is on average only 45.6% across OECD countries. As part of the Federal Government's *Tech Growth Fund Initiative*, for example, the *Venture Tech Growth Financing* scheme is a key component of the government's equity fund for future technologies ("Zukunftsfonds"), which provides equity to finance fast-growing, technologically innovative companies in Germany that have a resilient and promising business model.

The majority of policies mobilising SME investment as a scaling up driver (i.e. 75%) also leverage the scale-up finance market, compared to an average of only 26.7% across the OECD. Conversely, all policies leveraging network expansion as a scaling up driver come in the form of direct support to SMEs, whereas the OECD average in this respect is 56% (see Figure 3.7.).

The relatively limited public support provided directly to SMEs, especially in areas related to innovation and investment, may raise questions related to the accessibility of support measures channeled through the scale-up finance market, which may ultimately reach a limited population of SMEs that act as technology leaders, leaving out a significant share of other firms with growth potential. While Germany introduced the R&D tax credit in 2020 with a view to supporting business R&D investments, in particular R&D by SMEs[8], its uptake among smaller firms has remained rather limited due to lack of awareness and high administration costs. As a result, the German Commission of Experts for Research and Innovation (EFI) recommends making the incentive more SME friendly in its latest report.[9]

Figure 3.7. Germany relies heavily on the 'scale up' finance market to support SME growth through innovation and investment

Distribution of SME 'scale up' finance policies, across scaling up drivers and support channels (%)



Note: "Innovation" includes R&D/disruptive innovation, Digital adoption and Business development. "Investment" includes investments in Skills, Physical capital and Intangible assets. "Network expansion" includes Domestic market/diversification, Direct trading (internationalisation), Cooperation/partnerships, and the use of digital platforms. The analysis of scale up through network expansion does not cover indirect engagement in international trade (e.g. through supply chains and other linkages between multinationals and domestic SMEs that are covered in the EC/OECD project on FDI-SME ecosystems (OECD, 2022[58])), nor the use of digital platforms.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

In addition, Germany is also actively involved in providing innovative start-ups with necessary growth capital through major initiatives at EU level, including for example the European Tech Champions Initiative (ETCI) - see Box 3.6.

Box 3.6. The European Tech Champions Initiative (ETCI)

The new European Tech Champions (ETCI) initiative was launched on 13 February 2023 as a Fund of Funds that will channel late-stage growth capital to promising European innovators. Resources are provided from the European Investment Bank Group (European Investment Bank, European

Investment Fund), alongside contributions from five EU member states: Germany, France, Spain, Italy, Belgium.

Key features of the initiative include:

- Fund-of-funds structure with EUR 3.75 billion of capital to tackle the European scale-up gap.
- Investing in large-scale venture capital funds, which will in turn provide growth financing to European tech champions in in their late-stage growth phase.
- Expecting to make 10-15 investments in large VC funds of approx. EUR 1 billion. In doing so, ETCI seeks to mobilise more than EUR 10 billion of investments in innovative companies in their growth stage.
- Boosting funding for promising high-tech companies that aim to raise amounts of over EUR 50 million to compete on a global scale, whilst staying in Europe.

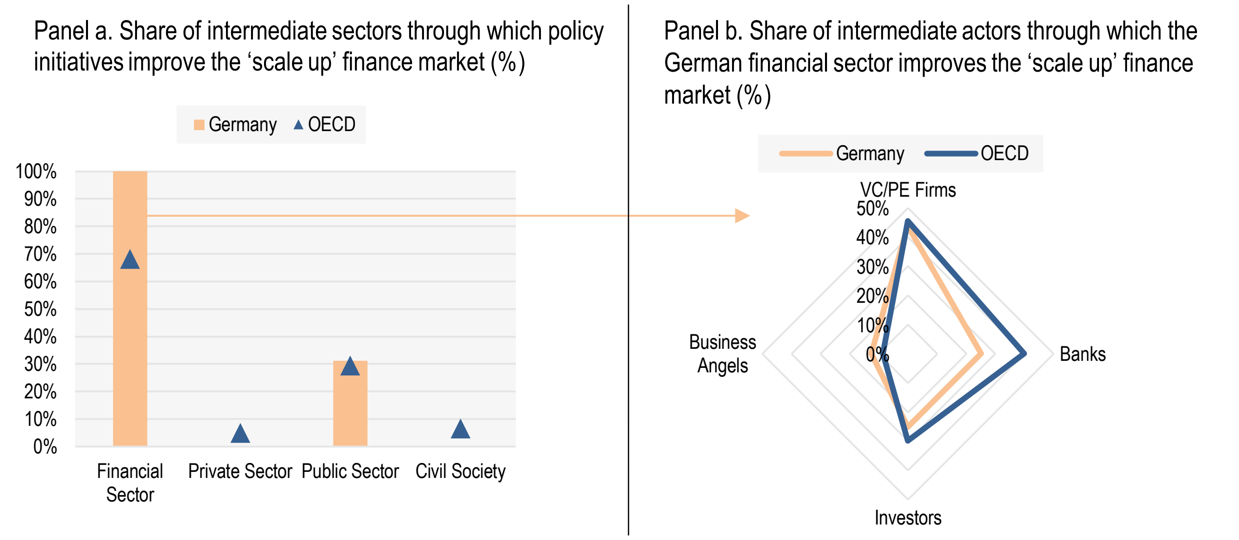
ETCI's objective is to deepen Europe's scale-up venture capital (VC) markets by bridging gaps in financing availability, especially for companies seeking to raise amounts of over EUR 50 million and help create an asset class for European institutional investors to diversify their portfolios by maintaining a continuous flow of funding to European scale-ups.

Source: https://www.eif.org/what_we_do/etci/index.htm and https://www.eib.org/en/press/all/2023-056-launch-of-new-fund-of-funds-to-support-european-tech-champions

When channeling relevant resources to SMEs via the scale-up finance market, Germany relies systematically on the financial sector compared to an OECD average of 68.1% (see Figure 3.8). An emblematic example is the *"INVEST – Grant for Venture Capital"* programme, which helps young, innovative German companies to find capital by giving business angels 25% of their investment back tax-free if they invest at least EUR 10 000 in start-ups. As such, the initiative improves the prospects for innovative firms to find investors, while taking into account the specific needs and requirements of the private venture capital market in Germany (Federal Ministry for Economic Affairs and Climate Action, 2020[59]). The public sector is second to be involved in this policy effort, with the share of scale up policies relying on this sector in Germany (31.3%) very similar to the OECD average (29.4%), and a more marginal role for the private sector and civil society.

Within the financial sector, venture capital (VC) and private equity (PE) firms are the most prevalent intermediary actors across the OECD. In Germany, 43.8% of financial sector actors are VC/PE firms (45.5% in the OECD), followed by banks (25% in Germany and 39.8% in the OECD), private investors (25% vs. 29.9%) and business angels (12.5% vs. 8.5%, see Figure 3.8). Leveraging these actors to improve the supply of equity finance for SMEs, and in particular for start-ups and innovative firms, can help new technologies reach the market more quickly. With a total volume of nearly EUR 1.4 billion, the venture capital fund *High-Tech Gründerfond* is the key player in the German venture capital market, providing finance highly innovative and technology-oriented start-ups on the same commercial terms as the private sector (i.e., the lead investor).

Figure 3.8. In Germany, public efforts rely mainly on the financial sector and VC/PE firms to improve the functioning of the 'scale up' finance market

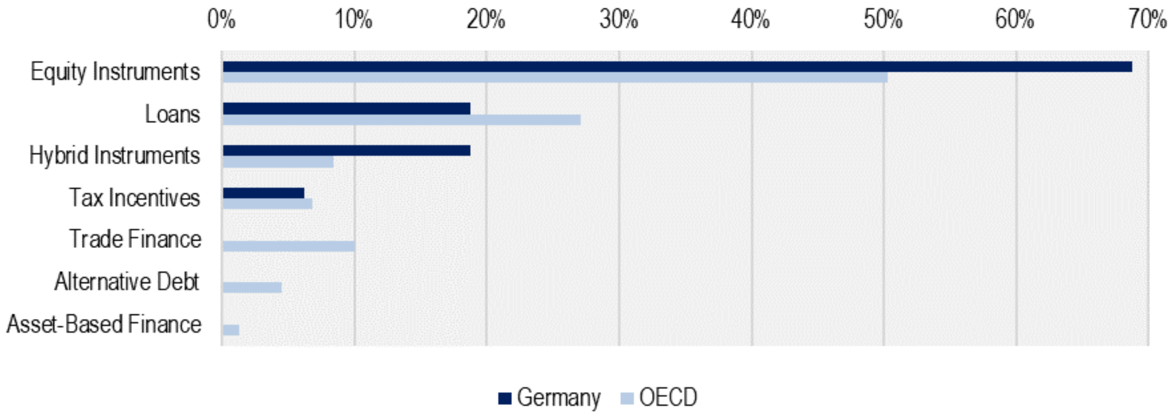


Note: In Panel a, the "Financial sector" comprises Banks, Business angels, Investors and VC/PE firms. The "Private sector" includes businesses other than SMEs and start-up. The "Public sector" includes Public/development banks.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

As a result, equity and hybrid instruments are particularly prevalent policy instruments used to improve the functioning of the scale-up finance market in Germany, which mobilises to a lesser extent loans and tax incentives to drive SME growth. Germany indeed stands out from other OECD countries in this respect with a differential of +18.4% in the use of private equity financing to support SME scale up, and +10.5% for hybrid instruments (see Figure 3.9.) such as subordinated loans, silent participations, profit participation rights, convertible bonds, bonds with warrants or mezzanine finance. While equity instruments may be more suitable for young firms, hybrid instruments are particularly suitable for more established SMEs that are keen to preserve their ownership structure from private investors. This phenomenon is specific to Germany, which is one of the OECD countries with the highest equity ratio and the most developed defensive strategies among national SMEs. The *"ERP Mezzanine Financing for Innovation"* initiative, for instance, is particularly relevant for SMEs wishing to finance innovation projects, as it gives them access to two tranches of financing in the form of (1) debt capital for which firms benefit from a fixed interest rate throughout the term, and (2) subordinated capital for which no collateral is required (KfW, 2022[60]).

Figure 3.9. The use of equity and hybrid instruments is much more developed in Germany than in other OECD countries to support SME access to 'scale up' finance

Share of instruments through which policy initiatives improve the functioning of the 'scale up' finance market (%)



Note: Information on the budget/ fiscal scope of individual measures have not been collected in a systematic manner in the pilot phase of this mapping exercise, which may distort the relative weight that specific policy instruments take in the overall policy mix. The figure displays the total number of initiatives mapped in Germany and in OECD countries (on average) that improve the 'scale up' finance market, by policy instrument.

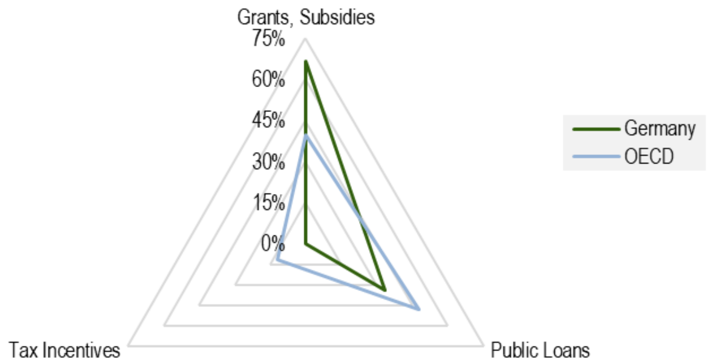
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

Direct financial support to SMEs takes essentially the form of non-repayable funds, while the financial sector is key to promote access to alternative sources of finance

Direct support to help SMEs scale up is mainly provided in the form of grants and subsidies. In Germany, only 30.4% of scale up policies are based on direct support to SMEs, of which 42.9% is in the form of financial support (71.1% for the OECD average). Of this total, 66.7% are grants or subsidies, compared to only 39.6% in OECD countries (see Figure 3.10.). The Federal Ministry of Education and Research, for example, has launched the *"KMU-Innovativ"* initiative, a grant which aims to strengthen cutting-edge research in SMEs across selected technology fields that are particularly important for Germany's future. This strong reliance on direct and non-repayable funding mechanisms, for which application procedures are often more complex, thus results an under-representation of other financial support measures, such as public loans and tax incentives that could represent promising mechanisms for accelerating the twin transition among a broader share of German SMEs.

Figure 3.10. Financial support provided directly to German SMEs often takes the form of-non-repayable funds

Share of policy instrument in case of financial support provides to SMEs directly (%)



Note: Information on the budget/ fiscal scope of individual measures have not been collected in a systematic manner in the pilot phase of this mapping exercise, which may distort the relative weight that specific policy instruments take in the overall policy mix. The figure displays the total number of initiatives mapped in Germany and in OECD countries (on average) that provide support to SMES directly, by policy instrument.
Source: (OECD, 2022[46]), based on the cross-country policy mapping carried out as part of the EC/OECD SME Scale Up Project, and forming a building block of the OECD Data Lake on SMEs and Entrepreneurship.

Table 3.3. below provides examples of policy initiatives designed to support SME access to scale-up finance, differentiating examples by scaling up driver and financing instruments, and whether they provide support to SMEs themselves or aim to act upon the finance market (or other institutional actors).

Table 3.3. Financing SME innovation, investment, and network expansion

Selected policy examples across OECD countries, by scaling up driver

To SMEs directly	Types of policy initiatives	Country examples		
		Innovation	*Investment*	*Network expansion*
Public loans	Direct loans, co-financing, direct guarantee, entrepreneurship fund, long-term buyer financing, growth line of credit	R&D/disruptive innovation **The Green Fund (EST)** supports green technologies that solve environmental problems and achieve a climate-neutral and circular economy. Investments focus on firms in the seed stage (to generate deal flow), early stage (to deploy new technologies) or growth stage (to finance expansion)	Physical Capital/ International Trade **Low Risk Loans (NOR)** are loans on competitive, market-based terms with a long repayment period and adapted terms. The low-risk loan financing covers firms' needs for long-term financing of fixed assets, but also capital strengthening, internationalisation and development activities	
Grants & Subsidies	Innovation vouchers, SME growth subsidies, investment funds, R&D&I grants, global acceleration programs	Digital Adoption **Strategic Innovation Fund (CAN)** allocates repayable and non-repayable contributions to firms of all sizes across all industrial and technology sectors	Human capital **Improving business (CHL)**, a subsidy to finance the hiring of technical consultants	Cooperation and partnerships **Cooperation Support programme (TUR)** to enhance a collaborative culture between SMES or between SMEs and large corporations
Tax incentives	R&D&I tax credit, corporate profit tax incentives, special tax regimes to support investment, training tax credit	Business development **Capital goods tax credit (ITA)** supports businesses in technological and digital transformation	Intangible Assets **Special tax regime to support Investment (PRT)**, a tax benefit allowing companies to deduct a share of the investment performed in non-current assets (tangible and intangible) from taxable corporate income	International Trade **SME listing tax credit (ITA)** supports SMEs that decide to be listed on a regulated market or multilateral trading facility in a member state of the EU or the EU economic area

Via the finance market	Types of policy initiatives	Country examples		
		Innovation	*Investment*	*Network expansion*
Loans	Bank loans, credit guarantees, free interest rate loans	R&D/ disruptive innovation **Loan guarantees (AUT)** facilitates access to finance for new ventures, innovation and growth projects	Physical assets **Multipurpose industrial guarantee (COL)** supports all credits requested by MSMEs for projects aiming to increase investment	International Trade **Export credit insurance (USA)** aims to support companies' entries in new markets and increase sales in existing ones thereby increasing their global competitiveness
Alternative debt	Corporate bonds, securitized debt, covered bonds, private placements, (debt) crowdfunding	**Basket Bonds (ITA)** is a mechanism to provide SMEs with medium and long-term financial resources to support their growth, innovation and internationalisation projects. It is based on the issuance of a security (ABS), guaranteed by a pool of bonds issued by Italian SMEs and mid-sized companies		
Hybrid instruments	Subordinated loans, silent participations, profit participation rights, convertible bonds, mezzanine finance	Business development **Mezzanine loans (LVA)** designed to cover expenses related to the extension of the capacity for a fundamental change in the overall production processes	Intangible assets **Co-Financing + (BEL)** are subordinated loans to SMES to finance tangible, intangible and financial investments	Domestic market / Diversification **Growth mezzanine (BEL) is** a mix of debt and equity to finance rapid growth of innovative companies demonstrating an ambition to grow further
Equity instruments	Private equity, venture capital, business angels, specialized platforms for public listing of SMEs, crowdfunding	Digital adoption **Italian Technology and Growth Fund (ITA)** is aimed at acquiring minority stakes with capital increase activities in Italian companies of a highly technological nature that intend to launch or consolidate expansion projects. It promotes their innovation processes and strengthens their competitive position	Physical capital **Risk capital programme (SVK)** provides equity or quasi-equity to start-ups and SMEs which to extend their business through development projects or acquisitions)	International trade **Direct equity investment (KOR)** the Export-Import bank of Korea takes equity stake in companies in order to implement projects abroad
Trade finance	Export credit insurance, letter of credit			International trade **Export bill purchase (KOR),** whereby Korea's Eximbank purchases invoices resulting from export transactions. Once the exporter has completed the shipment of goods, Eximbank pays the contract amount to the exporter and then collects the payment either from the importers bank or directly from the importer
Asset-based finance	Asset-based lending, purchase order finance, warehouse receipts, leasing		Physical capital **Enable funding (UKM)** is a programme to improve the provision of asset finance and leasing to UK small businesses **Leasing of Machinery and Equipment (POL)** is aimed at SMEs that need support for the purchase of specialised equipment for further development	

Note: Stylised overview. Many of the presented policy examples are larger in scope and frequently address several scale up drivers and sub-drivers at once, often leveraging multiple types of financial instruments.
Source: OECD Data Lake on SMEs and Entrepreneurship, based on policy mappings carried out as part of the OECD/EC SME Scale Up project and the EC/OECD FDI-SME project.

Linking the growth and the sustainability goals in the German scale-up finance policy mix calls for further efforts

While digitalisation is now considered an established driver of SME growth, the development of sustainability-related efforts is less often associated with scaling up. As in most OECD countries, German policy makers have clearly recognised the links between the adoption of digital technologies and firm performance and growth, and have started reflecting this in their policy mix, often by explicitly targeting specific measures to growth-oriented firms or those with ambitions to scale up. It is critical that these efforts are sustained. Sustainability-related efforts, on the other hand, are less often associated with scaling up, even though Germany has introduced a range of financial support measures to help SMEs navigate the sustainability dimension of the twin transition. An interesting example in this regard is Estonia's *Green Fund*, which aims to lend to companies that create green technologies to solve environmental problems and achieve a climate-neutral and circular economy. Investments focus on companies in the seed stage (to generate deal flow), early stage (to deploy new technologies) or growth stage (to finance expansion).

However, such policies have overall remained rare, and Germany is no exception here. A non-exhaustive screening of existing measures related to both SME digitalisation and SME greening in the country shows that roughly half of the SME digitalisation policies have links to the scale-up finance agenda as per the scope of the policy mapping presented in this paper. However, this is the case for only one of the identified SME greening policies (see Table 3.4.).

Table 3.4. SME twin transition supported by public action in Germany

Policy examples sorted by objectives, policy instruments and target population

Objectives	Policy instruments	Target population	Policy examples in Germany			
			SME digitalisation	Scale-up finance	SME greening	Scale-up finance
Provide support to SMEs	Subsidies	SMEs with (potential) R&D projects	Digital Bonus	×	Green Start-Up Programme	×
	Tax incentives		Law on Tax Incentives for R&D	✓	*Forthcoming*	×
	Public loans	Start-ups and young firms	ERP Digitalisation and Innovation Loan	✓	Climate Action Campaign for SMEs	×
Improve the scale-up finance market	Private loans		Platform for Founders	×		
	Equity finance		INVEST – Venture Capital Grant	✓	Future Fund	✓
	Leasing & hire-purchase	SMEs committed to preserving their ownership structure	Deutsche Leasing SME & Midcap Funding Line	×		×
	Mezzanine finance		ERP Mezzanine Financing for Innovation	✓	Micro-Mezzanine Fund Germany	×

Source: Own elaboration.

This is not withstanding many measures and instruments introduced by Germany that contribute to cutting CO_2 emissions, including private sector networks. Already in 2014, for example, and building on a Swiss initiative, Germany developed a network approach to promote systematic information-sharing and mutual learning on energy efficiency and climate action in a simple and nonbureaucratic way. A network (*Effizienznetzwerk*) typically brings together 8-15 businesses, which set joint energy and climate targets and work together towards achieving them, and which can also be formed among SMEs.

Participating firms can benefit this way also from an improved access to public support schemes, based on guidance and advisory services proved by energy consultants or electricity network providers (OECD, 2023[61]).

More recently, Germany has also deployed a range of financial support measures that can help its SMEs navigate the sustainability dimension of the twin transition, albeit with a varying focus on explicitly linking growth and greening objectives:

- **Non-repayable financial support:** The German Federal Environmental Foundation supports green start-ups through its dedicated "Green Start-up Programme" which provides up to EUR 125 000 in non-repayable grants to selected projects. In 2021, the programme had a 7% approval rate, with 14 start-ups selected for funding (German Federal Environmental Foundation, 2019[62]) ;
- **Low-interest loans:** In 2020, KfW and the Federal Ministry for Economic Affairs and Energy launched the "Climate Action Campaign for SMEs" to support their efforts to transition to greater climate change mitigation, environmental protection and resource conservation. In practice, the initiative offers low-interest loans to private and municipal small and medium-sized enterprises with an annual turnover of up to EUR 500 million, as well as attractive grants for investments in the manufacture and use of climate-friendly systems and products. Involving public and private banks, the policy also includes measures to reduce greenhouse gas emissions in industry, transport, electricity and heat generation, waste and wastewater management, and green IT (KfW, 2020[63]);
- **Private equity:** Initiatives to mobilise private equity for large-scale green investments in the business sector are increasing in Germany. In particular, the German Greentech sector is one of the most attractive in Europe for business angels and venture capitalists (European Investment Fund, 2022[64]). In 2021, the Federal Government also created the "Future Fund", an umbrella vehicle for a range of different instruments. . Although the Future Fund does not explicitly focus on green technologies, it can nevertheless be an important source of funding for such projects (Federal Government, 2021[65]). One instrument of the fund is the "Deep Tech and Climate Fund" (with a total investment volume of 1 billion Euro), which directly invests in deep tech companies on a *pari passu* basis, with a long-term investment perspective;
- **Green Fintech:** Germany attracts a significant share of business angel activity, targeting Fintech companies in particular, as evidenced by recent increases in both the number of Fintech deals as well as the volume of investment flowing into the German economy (see Box 3.7). Green Fintech can help to provide investment, asset and crowdfunding solutions though online platforms that increase the pool of funding available for sustainability-oriented SME projects. Sustainable crowdfunding platforms, such as *Bettervest* that finance environmentally and socially sustainable projects, are also growing rapidly (Bettervest, 2022[66]) ;
- **Mezzanine finance**: The Federal Ministry for Economic Affairs and Climate Action set up the "Micro-Mezzanine Fund Germany" with a total budget of EUR 228 million. Available until the end of 2023, the Fund targets firms that focus on environmentally friendly production processes, as well as companies founded by unemployed, or run by women or people with a migrant background (Federal Ministry for Economic Affairs and Climate Action, 2016[67]) ;
- **Green leasing and hire-purchase, on the other hand, is still not very common in Germany and makes little contribution to the greening effort of SMEs**. This is mainly due to the lack of mandatory requirement under German law to include green clauses in leasing agreements negotiated in the business sector (Baker & McKenzie, 2016[68]). Yet this instrument has the potential to be an important vehicle for the energy transition of German SMEs, especially those that use leased buildings or vehicles to conduct their business.

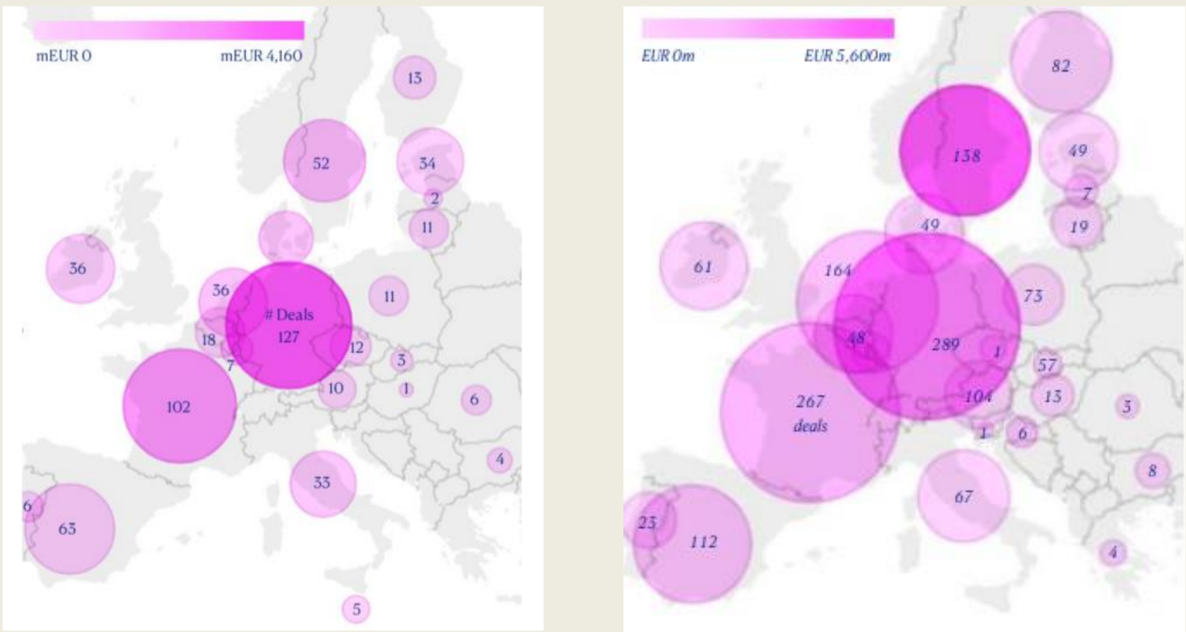
Box 3.7. Equity and growth financing are driving the success of Germany's Fintech sector, including its Greentech companies

The growing importance of Fintech is evidenced by the fact that in 2021 and the first half of 2022, Germany experienced the highest number of deals – 127 in total, see Figure 3.11. (panel a) – between fintech companies headquartered in the country and venture capital and/or growth financing investors. Compared to other EU countries, the German Fintech sector thus seems to be particularly attractive for equity investors, which is an important asset, both for German Fintechs themselves but also for German SMEs, who may increasingly be able to turn to this type of financing solution in the future. Moreover, the ability of German Greentech to attract private capital is also a crucial element that could help accelerate the green transition of SMEs in the country. Over 2021 and the middle of 2022, German Greentech managed to attract EUR 3.223 million – the second largest amount of investment in Europe after Sweden – with a total number of 289 deals concluded with private investors (see Figure 3.11. , panel b).

Figure 3.11. Germany's Fintech sector and Greentech companies are particularly attractive for equity investors

Panel a. Fintech deals funded by venture capital and growth financing, 2021 & HY1/2022 (in volume and number of deals)

Panel b. Greentech deals funded by venture capital and private equity, 2021 & HY1/2022 (in volume and number of deals)



Note: Preliminary data for HY1/2022. Bubble size refers to number of deals, colour intensity refers to investment volume.
Source: (European Investment Fund, 2022[64]).

4 Conclusions and considerations for future research

This paper examines current policy practices in Germany to help SMEs access finance for innovation, investment, and network expansion as drivers of SME growth, and how these efforts compare to other OECD countries. In this context, a particular focus is placed on the presence (or absence) of efforts to link growth and sustainability goals in the national policy mix.

Key findings for Germany include:

- Policies to foster SME access to scale-up finance often fall beyond the SME and entrepreneurship policy domain, which likely calls for mainstreaming SME considerations across a broader set of policy areas;
- Scale-up finance policy is highly targeted, with a particularly strong focus on supporting the growth of start-ups, possibly leaving blind spots with regard to older firms that may need structural adjustments, especially in the context of the green transition;
- The largest share of policies support innovation as a driver for SME scale up, with a particular focus on R&D. Further efforts may be required to better align the current policy mix with the needs of an increasingly knowledge-based and globally integrated economy, notably by focusing on investments in human capital and skills;
- The finance market plays a dominant role as an intermediary for public support in Germany, with relatively little support provided directly to SMEs in the areas of innovation and investment. There may be a need to further facilitate to access to market-based support measures such as investment funds, which often only reach a limited population of SMEs that act as technology leaders, leaving out a significant share of other firms with growth potential.

The analysis also suggests that there is further scope to link scale up policy to objectives related to the twin transition, and greening in particular, to the broader SME growth agenda and better reflect this approach in Germany's scale-up finance policy mix through appropriate measures, e.g. by adjusting eligibility criteria or by finetuning targeting efforts to specific firms in specific moments of their growth journey.

Ultimately, such efforts also imply a broader reorientation of scale-up finance policy (and ultimately SME support more broadly), which would be in line with more recent calls for a rethinking and broadening of scale up policy, going beyond traditional economic performance indicators (OECD, 2022[29]). The current focus on firms that scale up through turnover or employment may indeed not fully capture the social and/or environmental benefits generated by a larger set of firms. As governments prioritise sustainable growth, appropriate consideration needs to be given to the broader socio-economic gains that may be achieved if scale-ups can help tackle climate change and other societal challenges (OECD, 2021[69]) (OECD, 2022[29]).

The work also identifies knowledge gaps and issues that could warrant further analysis. Indeed, more information on a broader set of measures could help provide a better understanding of the relative balance of public efforts and their impact. For example, it would be relevant to explore financing in support of indirect engagement in international trade, such as through supply chains and other linkages between multinationals and domestic SMEs, along with the use of digital platforms. Likewise, the mapping of tax incentives could be broadened to include generic schemes (not SME targeted) that could be nonetheless beneficial for SMEs.

In addition, further work could account for the scope of national spending on initiatives, as well as the strategic importance of some policies vis-à-vis others. More information is therefore needed, e.g. on budgets earmarked to get a better perspective on the relative weight of government efforts across different areas, as well as on the effectiveness and efficiency of public interventions, notably through impact evaluations. Finally, it would be helpful to document the numerous efforts developed at subnational level in light of the federal structure of the German State. A comprehensive analysis examining these two dimensions in parallel would enable a more comprehensive picture of the German policy mix.

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Annex A. Template for mapping scale-up finance policies

Table A A.1. Template for mapping scale-up finance policies

NAME	Policy name	*Open-ended text*
BRIEF	Brief description	*Open-ended text*
TIME	Time frame	*Multiple choice* - Start year [YYYY] - End year [YYYY] - Open ended
OBJ1	SME&E strategic objective(s)	*Multiple choice* **- Improving SME&E internal capacity and access to strategic resources** Access to finance Access to skills Access to innovation assets **- Improving SME&E business environment** Institutional and regulatory framework Market conditions Infrastructure **- Improving SME&E policy governance**
OBJ2	SME&E strategic objective(s) - Description	*Open-ended text*
OBJ3	Which strategic objective(s) regarding access to 'scale-up' finance is (are) specifically pursued?	*Multiple choice* - Enhancing SME financial skills and strategic vision - Reducing the need/cost of external financing for SMEs - Adopting principles of risk-sharing for publicly-supported SME finance instruments - Broadening the diversification of SME financing channels/instruments - Improving transparency in finance markets for SMEs
OBJ4	'Scale up' finance strategic objective(s) – Description	*Open-ended text*
DRIVER	Which scaling up driver(s) does the policy initiative support?	*Multiple choice* **- Innovation** R&D, disruptive innovation Digital adoption Business development **- Investment** Human capital Physical capital Intangible assets **- Network expansion**[10] Domestic market, diversification International trade Cooperation, partnerships
VEHICLE	Is the policy initiative aimed at providing support to SMEs, or at improving the functioning of the 'scale up' finance market?	*Multiple choice* - It provides support to SMEs (IF TICKED, INSTR1) - It improves the functioning of the 'scale up' finance market (IF TICKED, ACTOR)
INSTR1	Through which policy instrument(s) does the policy initiative provide	*Multiple choice* **- Financial support**

	support to SMEs?	Public loans[11] Grants, subsidies[12] Tax incentives Other **- Non-financial support** **- Platforms & networking infrastructure** **- Regulation** **- Public policy governance**
INSTR2	Policy instrument(s) - Description	*Open-ended text*
ACTOR	Through which intermediate actor(s) does the policy initiative improve the functioning of the 'scale up' finance market?	**- Financial sector** Banks[13] Business angels[14] Investors VC/PE firms, investment funds Other **- Private sector** Large firms Leading actors in sectors, value chains, ecosystems Multinationals SMEs themselves Other **- Public sector** Public/development banks Other **- Civil society**
SCFIN1	Through which 'scale up' finance instrument(s) does the policy initiative improve the functioning of the 'scale up' finance market?	*Multiple choice* Loans[15] Alternative debt Hybrid instruments Equity instruments Trade finance[16] Asset-based finance Tax incentives Other
SCFIN2	'Scale up' finance instrument(s) - Description	*Open-ended text*
TARGET1	Is the policy initiative targeted? (level 1)	*Single choice* - No, it is generic - Yes, it is targeted (IF TICKED, TARGET 2)
TARGET2	If yes, the policy initiative is targeted towards (level 2)	*Multiple choice* - Population (IF TICKED, TARGET3) - Sector or supply chains (IF TICKED, TARGET4) - Technology (IF TICKED, TARGET4) - Region or place (IF TICKED, TARGET4) - Other (IF TICKED, TARGET4)
TARGET3	Target population	- All SMEs - Entrepreneurs, business owners/managers - SMEs with size criteria (turnover, employment, ...) - SMEs with growth or performance criteria (high-growth, scalers, laggards, ...) - SMEs with age criteria (start-up, young, incumbent, ...)
TARGET4	In case of sector or supply chain, technology, region or place, or 'other' target, please briefly specify (level 3)	*Open-ended text*
JOINT1	Is the policy initiative jointly administrated or implemented?	*Single choice* - No - Yes (IF TICKED, JOINT2)
JOINT2	Institution(s) involved in the joint administration or implementation	*Open-ended text* *Institution 1*

		Institution 2 *Institution 3* *Institution 4* *Institution 5*
JOINT3	Institution(s) in charge in brief	*Open-ended text to briefly explain what are the respective responsibilities in case of joint programming, coordinated implementation, or different functions in the policy cycle*
UMBR1	Is the policy initiative part of a broader strategic action plan?	*Single choice* - No - Yes (IF TICKED, UMBR2)
UMBR2	If yes, please specify and briefly explain the name of the umbrella initiative	*Open-ended text*
EVAL1	Has the policy initiative been evaluated?	*Single choice* - No - Yes (IF TICKED, EVAL2)
EVAL2	If yes, please describe briefly how the initiative is evaluated	*Open-ended text (and links if available)*
BUDG	Estimated budget	*Open-ended text*
LINKS	Additional information on the policy initiative	*Open-ended text* - Websites and links - Emails and contact person(s) - Final comment
NOTES	Internal notes for tracking and coordination	*Open-ended text*

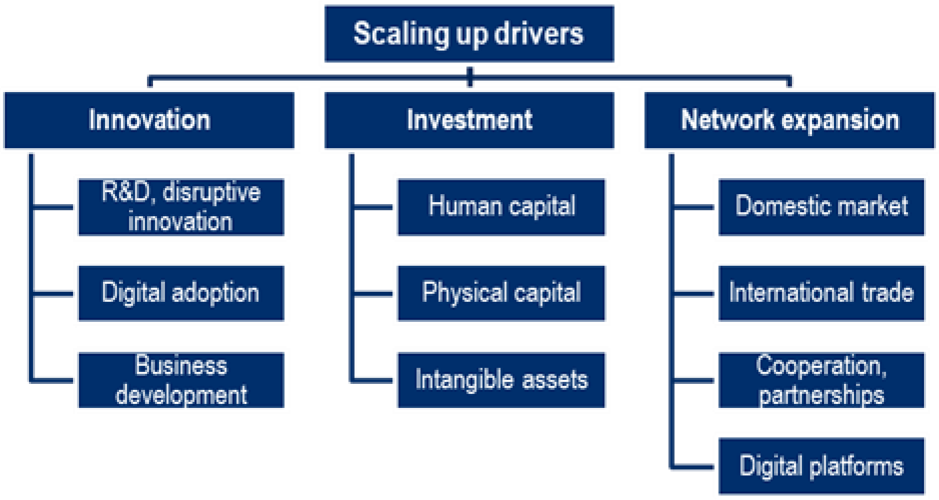
Annex B. Financing Growth – Key lessons from Phase I of a multi-year research project on Unleashing SME Potential to Scale Up

Small and medium-sized enterprises (SMEs) that scale up ("scalers") have long raised policy attention for their significant potential to create jobs, stimulate innovation and raise competitiveness in countries and regions. Scalers are however few and little is known about them and the types of transformation they go through. Public policies accordingly have tried to focus on those firms with the highest growth potential, often e.g., by targeting start-ups in very narrow (tech-related) sectors, but with no clear and comprehensive overview of what works in promoting scale ups.

The EC/OECD project on "*Unleashing SME potential to Scale Up*" seeks to better understand the profiles and trajectories of SMEs that grow fast (scalers) and how to design improved scale up policies (OECD, 2022[70]). An experimental mapping and cross-country analysis of 709 policies and 210 institutions was conducted across the OECD area for that purpose and provides an overview of the character and intensity of public efforts to improve SME access to scale-up finance, as well as on the institutional and governance arrangements underpinning the implementation of national policy mixes.

Results of the pilot phase suggests that scalers are much more diverse than commonly thought. The typical scaler is neither a knowledge-intensive nor a high-tech firm, nor a start-up. In fact, most of them are mature firms operating in low-tech sectors. In addition, they undergo a variety of productivity-grounded transformation(s) in transition to, during and after, scaling up (OECD, 2021[69]). These transformations are associated with a number of internal performance drivers, herein referred to as scale up drivers, which are mobilised by firms in different ways, and which can operate in isolation or in combination. They include i) innovation (including research and development, digital adoption, or business development), ii) investment (including in physical capital, skills or intangible assets), and iii) network expansion (e.g. in domestic or international markets, through cooperation and strategic partnerships, or by using digital platforms) (see Figure A B.1) (OECD, 2022[46]).

Figure A B.1. Synthetic overview of SME performance and scaling up drivers



Note: In this pilot phase, the analysis of network expansion and the policy mapping do not cover indirect engagement in GVCs (e.g. through supply chains and linkages with multinationals (EC/OECD, 2022[57]), nor the use of digital platforms.
Source: (OECD, 2022[46]).

To scale up, SMEs need, among other things, appropriate sources of finance that can differ over the course of their life cycle and across all stages of their transformation (OECD, 2015[39]) (OECD, 2022[46]). As a result, they combine different forms of funding, both internal and external, to support their activities and growth operations. Importantly, the type of finance that will be most appropriate for scale up will largely depend on the scale up driver(s) that a firm leverages and will likely include a range of both traditional and alternative financing instruments.

Firms that (plan to) grow therefore make different financing choices than companies with no growth ambition (OECD, 2021[69]):

- Scalers turn to bank loans before growing, thus suggesting that bank finance is a key aspect of an anticipatory scaling up strategy. In Italy, Spain and Portugal, the debt ratio - i.e. bank loans as a percentage of turnover - of future fast-growing enterprises is 10% to 70% higher compared to non-scaling peers, i.e. firms in the same sector, founded around the same time and of similar size. The following decrease in the debt ratio at the end of this transformation phase shows that funding needs then become progressively less important, or that the new firm size enables scalers to better self-finance operations.
- As they grow, scalers continue to widen the difference with peers, notably by building financial buffers. In this scale up phase, the share of current assets in total assets can increase by 2 to 3 percentage points, providing new opportunities for growth-oriented SMEs to sell assets and accumulate funds for future investments. At the same time, the increase in current assets among scalers may also reflect a choice stemming from a greater need for liquidity, potentially in anticipation of an expected volatility of future profits.

Overall, the current range of policies for financing SME scale up across the OECD is likely to not reflect sufficiently well the diverse financing needs that the heterogeneous population of scalers faces (OECD, 2022[46]). In particular, the specific policy attention that many countries have placed on start-ups and highly innovative (most often tech-oriented) firms, suggests that a rather limited image of scalers has prevailed, which is likely to leave a broad range of firms with growth potential behind.

Notes

[1] To avoid confusion or approximation in the analysis of firms' access to scale up finance in Germany, we refer exclusively to the SME category throughout this paper, as defined by the European Union, including across all charts and tables where (comparative) data is represented.

[2] Refers to direct funding only, as tax support was only introduced in 2020.

[3] VC refers to financing of a firm not listed on the stock market by private investors, often together with management or founders, with a view to commercialising a promising business idea or innovation. This financing is either secured at the pre-seed or seed phase, where the start-up is yet to commercialise, at an early or middle phase, where the start-up is entering a market, or at a later stage, where the start-up is looking to scale and expand.

[4] For more information, see: https://www.oecd.org/cfe/smes/sme-scale-up.htm

[5] For more information, see: https://www.bmwk.de/Redaktion/EN/Dossier/Digitalisierung-neu/start-up-strategie.html and startupstrategie.bmwk.de

[6] Decentralisation refers to the extent to which policy implementation and evaluation are transferred to local or institutional level, e.g. to independent agencies with functions along the scale up finance policy cycle (Meissner and Kergroach, 2019[71]) (OECD, 2012[72]).

[7] These dimensions are explored in a parallel EC/OECD project on FDI-SME ecosystems (EC/OECD, 2022[57]).

[8] For more information, see: https://www.bundesfinanzministerium.de/Web/DE/Themen/Steuern/Steuerliche_Themengebiete/Forschungszulage/forschungszulage.html

[9] For more information, see: https://www.e-fi.de/fileadmin/Assets/Gutachten/2024/EFI_Summary_2024_e.pdf

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