7 Financing innovation in Germany

Germany has a well-functioning banking system that provides financing to innovating companies, including *Mittelstand* firms and start-ups. Much progress has also been made in providing funding for high-risk innovation. However, financial resources to scale those innovations, which may play a critical role in future competitiveness, are below what that available in the US market. This chapter introduces a recommendation on how Germany could raise more investment for innovation, including high-risk and breakthrough innovations, and assesses the prevailing conditions under which German firms access finance.

Introduction

Research, development and innovation (RD&I) begin with investment, whether in physical, human or intangible capital. The manner in which firms finance their investments – and the terms of financing – are therefore major enablers or hindrances to innovation. While a large share of innovation funding worldwide traditionally comes from firms' own resources, access to external finance plays an important role in supporting further innovation. This is particularly true of breakthrough innovations, which require very large investments and consequently would not be accessible to many industry players. As with the regulatory framework, financing constraints do not affect firms equally, and *Mittelstand* and start-up firms often face more difficult financing conditions than larger, more established firms. Increasing the availability of risk and growth capital for highly innovative firms is therefore essential if Germany is to both succeed in the sustainability and digital transitions, and retain its position as a global leader in the next generation of technologies.

Different sources are available for financing innovation, including private equity, bank financing, venture capital and stock markets. German firms – including *Mittelstand* companies – rely primarily on banks, which have been a solid and effective source of financing for investments. They use capital markets less than some other OECD countries, such as the United States. As in other OECD countries, however, German banks are less willing to finance intangible investments, owing to information asymmetries between banks and firms, or to difficulties in collateralising intangible assets; this may limit the ability of firms, particularly small and medium-sized enterprises (SMEs), to make the most of new technologies, including digital instruments, in their innovation activities (OECD, 2021[1]).

Funding opportunities for breakthrough and high-risk innovations – which are more challenging to obtain through banks – have been increasing. However, investments focus on the early stages of firm growth, with significant funding gaps at the middle and later growth stages. As a result, high-potential German innovators face a domestic financing gap that hinders opportunities to scale. The ability of *Mittelstand* and high-potential start-ups to scale and produce breakthrough innovations, and for the German private sector to transition towards knowledge-based activities, will depend on finding solutions to these financing challenges.

This chapter introduces a recommendation on how the Federal Government of Germany could improve the financial markets necessary for developing and scaling firms with high levels of innovative potential. The chapter proceeds with a brief assessment of the current access-to-finance conditions for German firms and concludes with an overview of venture capital (VC) markets in the country.

Recommendation 6: Promote financial markets that are conducive to scaling up breakthrough innovations

Overview and detailed recommendations:

Although German firms generally have good access to finance, providing young and small firms with the capital needed to scale remains challenging. This reflects in part the comparative underdevelopment of the venture and growth capital markets in Germany and the European Union as a whole.

R6.1 **Revisit the legal framework for German capital-collecting institutions to encourage investment in risky innovation**. The Federal Government should consider requiring institutional funds to allocate a percentage to VC or private equity funds for innovative firms. For example, German pension funds, insurance companies and public financing organisations provide very little risk capital, even though they are among the only sources that could provide the levels of funding (including investments in private companies through VC funds and investments in listed companies) that are necessary to scale the most promising innovations. Another approach might

be to facilitate employee stock-ownership plans. Overall, the German tax framework for equity ownership and awards has been largely unattractive compared to international benchmarks.

R6.2 **Expand tax incentives, especially those that allow private investors to offset capital losses against other income, or to exempt future profits when investing in the VC asset class**. Such incentives should apply to both the VC segment (pre-initial public offerings) and investment through the stock market (development and growth financing). The United Kingdom and France, for example, each have six different tax-incentives to improve the supply of private capital for VC markets.

R6.3 **The Federal Government should support the development of financial instruments at the EU level that would help scale and retain innovative firms**. The volume of finance necessary to scale some of the most promising firms is often available neither in Germany nor within the European Union, meaning that firms regularly move to countries where finance is more easily available, such as the United States or the United Kingdom. The German government should advocate the establishment of EU-level private equity development for investment in pre-public technology and digital innovators. The Federal Agency for Disruptive Innovation, SPRIND, could play a more prominent role in developing a domestic VC market for higher-risk investments.

Relevant global experience

Many countries throughout the OECD region have taken steps to expand the availability of financing for innovation, including by developing VC markets for high-potential, high-risk innovative start-ups.

Government-backed VC to de-risk investment in early-stage but potentially impactful start-ups has proven successful in a number of countries, such as Israel. When Israel created the Yozma initiative in 1993, around 50% of VC in the country came from public funds; within seven years, the share of public finance had fallen to almost zero. While government VC could crowd out private investment, the Israeli case demonstrated that a properly targeted programme can have the reverse impact, rapidly accelerating a private VC marketplace and supporting a domestic start-up ecosystem. In the Yozma initiative, the government provided a maximum of 40% of the necessary capital, with the private investors having the right to buy the government stake in the five years following investment at a pre-determined price (Apolitical, 2017[2]; Yozma, 2022[3]). The Israeli model of using a government-backed VC institution to develop private capital markets for investment in start-ups is one that could be extended to SPRIND, allowing it to play a bigger role in the development of German VC markets and international co-ordination to support the development of such markets at the EU level.

German firms face major challenges in later rounds of VC financing, where funding volumes tend to be much higher than in earlier investment rounds. More generally, equity financing faces similar challenges, because financing volumes are also high. In the United States, institutional investors such as pension funds increasingly invest in private equity because of the returns such investments have brought them compared to traditional instruments. In 2021, for example, US public pensions funds' private-equity investments reached USD 480 billion (United States dollars) (Gillers, Heather, 2022[4]). It is the sheer scale of the liquidity available to the US VC market that allows the high number of late-stage investment rounds, pointing to the need for greater institutional investment in Germany – and across Europe – if Germany's start-ups are to secure the needed growth finance within the European Union.

In Austria, the government has also taken a combined approach to VC. In May 2019, the Government of Austria and the federal promotional bank, the Austria Wirtschaftsservice (AWS), announced a new start-up package featuring a series of measures aiming to position Austria as a more attractive location for start-ups. At the same time, the AWS Mid-Cap Fund is a complementary instrument managed by the AWS which provides growth financing to medium-sized companies. The combination of the two funds is indicative of the ability of federal governments to provide additional public financing to innovative start-ups

and SMEs throughout their development. AWS also runs a seed and early-stage "Founder Fund", which co-invests with private investors on a long-term basis in high-potential firms, with the possibility of multiple funding rounds. The fund targets firms that struggle to raise capital through traditional financing avenues (such as bank loans), focusing on those with significant growth potential (Austria Wirtschaftsservice, 2022[5]).

Mobilising private finance for start-up VC often requires a creative approach to the regulatory environment, beyond merely the financial and banking system. One way to promote greater levels of investment in start-ups is to increase their fiscal attractiveness. In the United Kingdom, the government has implemented a number of tax relief and incentive programmes aimed at encouraging individuals to invest in firms. The Seed Enterprise Investment Scheme (SEIS), for example, offers tax benefits to investors in return for investment in small and early-stage businesses in the United Kingdom (UK Government, 2021[6]). In return for investing in a firm that has been pre-approved by the tax service, the investor is eligible for income tax relief (up to 45% of the initial investment, applicable to the current and previous year's income tax bill); capital gains tax exemption on the shares in the SEIS business for three years after the investment; capital loss relief; and inheritance tax relief. The Enterprise Investment Scheme for later-stage start-ups follows a similar model. Both programmes provide incentives to the investor, while the start-up is able to access VC in exchange for equity where financing might may not have been possible through a traditional bank loan.

7.1. Banking finance for innovation in Germany

The banking sector in Germany is a major source of financing for the country's *Mittelstand*. Domestic credit to the private sector provided by banks amounted to 85.2% of the country's gross domestic product (GDP) in 2020 (World Bank, 2020[7]). While bank credit is slightly higher than the OECD average (84.7%), total domestic credit to the German private sector (85.7% of GDP) was significantly lower than the OECD average (161.9%), and lower still than the United States (216.3%), Japan (194.6%) and Korea (165.5%). Furthermore, although the German banking system is the largest in the European Union by absolute numbers of banks, it is characterised by a high level of fragmentation across private, state and co-operative credit institutions (Hufner, 2010[8]). This did confer privileged positions to the regional savings banks (*Sparkassen*), playing an important role in Germany's *Mittelstand* funding as lending is based on trusted relations with those institutions.

As evidenced by several survey results, access to finance by SMEs in Germany is generally good: the latest (2020) survey of 11 007 firms, including 1 337 German firms, identified access to finance as much less of a barrier in Germany than in other European countries (ECB, 2021[9]). The low interest rates that have characterised the German banking sector for several years (with the central bank rate at 0% since 2016) continue to provide favourable conditions for bank finance, which remains the most important source of private-sector financing for German SMEs. As in other countries, however, the use of private finance for research and product development is relatively low, at around 25% in Germany against 20% for the EU average (ECB, 2021[9]). Bank finance, which offers relatively sound conditions in Germany, is only one of several financial means of obtaining necessary financing for firms performing RD&I.

As in other OECD countries, German firms face challenges in accessing bank finance for investments in intangible capital. Intangible assets are ones that lack physical substance. They can allow the commercialisation of knowledge and are widely acknowledged as the main source of future growth, particularly as knowledge-based activities become more important than traditional activities, such as manufacturing. 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[1]). The resulting information asymmetries (meaning that the firm or innovator 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 the

necessary finance. As in other areas of access to finance, the effects are uneven across the private sector, affecting SMEs and start-ups more than larger firms. Consequently, firms rely increasingly on private equity and retained earnings to invest in intangible assets (Cecchetti and Schoenholtz, 2017[10]).

These financing issues have existed for a long time, but are increasingly important in a context where economies are transitioning towards knowledge-based growth models and complementary investments in intangible capital are necessary to fully exploit new (particularly digital) technologies. In Germany, financing constraints to investment in intangible capital may lower the ability of existing and new firms to contribute to innovation, limiting the innovation contribution of the German science, technology and innovation system.

7.2. Venture capital funding and other funding for high-risk innovation

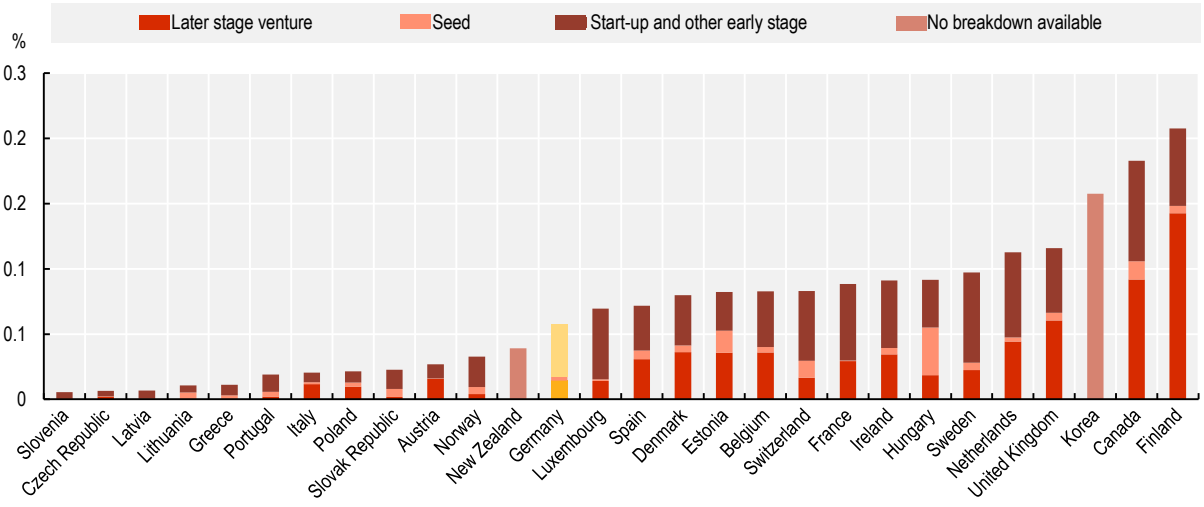
7.2.1. VC funding

Venture capital[1] (VC), which has funded high-risk innovation in countries such as the United Kingdom, the United States and Israel, is an important source of finance for high-risk and potentially breakthrough innovations in Germany. Traditional bank finance, which often requires asset collateralisation that is not easily secured with the intangible and knowledge-based assets of young firms, is less attractive than VC when it comes to investing in riskier innovation.

While VC is increasingly popular in Germany, having experienced 160% growth in 2019 over 2009. However, German VC levels of EUR 2.4 billion (euros) are only the sixth-highest in the OECD region (Figure 7.1). In 2019, VC in Germany amounted to Germany amounted to 0.056% of GDP, significantly less than in other economies such as Korea and the United Kingdom, although ahead of Japan. Although VC relative to GDP is low in most OECD countries, there exist some notable exceptions. In Israel, which is widely noted as a “start-up nation”, with one of the world’s most developed networks of VC funds, VC investments totalled 2.2% of GDP in 2020 (Figure 7.1).

Figure 7.1. Seed and later-stage VC investment is underdeveloped in Germany

VC as % GDP (2020)

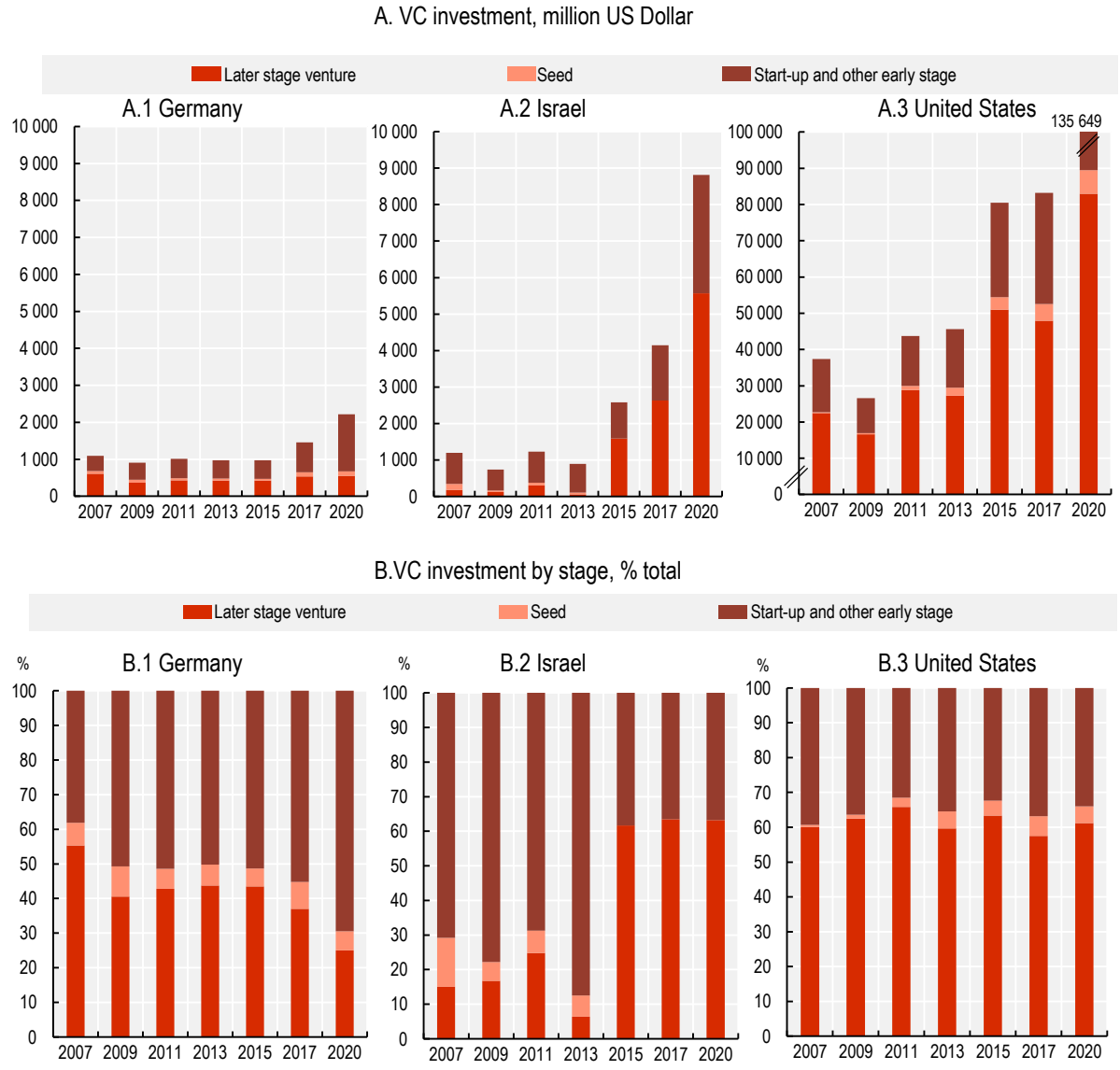


Note: For Korea and New Zealand, no breakdowns of VC by stage are available.
Source: OECD (2022[11]), "Venture capital investments", Structural and Demographic Business Statistics (database), https://doi.org/10.1787/60395228-en (accessed on 24 May 2022).

While the VC market in Germany has increased over the past decade, it remains underdeveloped in the second and third growth phases, where financing volumes amount to EUR 50-150 million. In 2021, Germany numbered over 150 VC firms, but 78% of the capital was raised by the first two funding rounds, Seed and Series A, which target start-ups at an early stage of their development. Yet 83% of fundraising is late-stage. This means that although there exists a well-developed VC market for early-stage start-ups – which receive extensive public support (through programmes such as EXIST and *Zukunftsfonds*, described in Chapter 3) in addition to private investment – it is the more advanced firms that are in greater need of financing. As noted by SPRIND, there are almost no mid- or late-phase VC funds in Germany that can provide the capital necessary for IPOs of mid-cap technology firms (those with EUR 10-100 million in revenue and less than EUR 1 billion in market capitalisation) (SPRIND, 2022[12]).

Trends in the development of VC markets in Germany possess several notable characteristics. As shown in Figure 7.2, the absolute levels of VC across all stages are significantly lower than in the leading economy (the United States), but also behind much smaller economies (e.g. Israel). As previously mentioned, the bulk of German VC investment tends to happen at the seed and earlier stages of investment, whereas in the United States and Israel, VC investment occurs in the later stages, often involving much higher levels of financing. In Germany, 40% of VC in 2019 targeted late-stage investment rounds, compared to 60% in the United States and 70% in Israel. Notably, Israel's VC market, including for later-stage investment, has only really developed over the last decade or so: in 2011, total late-stage VC investments in Israel totalled USD 80 million, compared to USD 432 million in Germany. By 2019, late-stage VC investment in Israel had grown by 6 000% (to USD 4.9 billion). Growth in Germany was significant, but a nevertheless more modest 127% (USD 981 million).

Figure 7.2. VC at different investment phases: Germany, United States, Israel



Source: OECD (2022[11]), "Venture capital investments", Structural and Demographic Business Statistics (database), https://doi.org/10.1787/60395228-en (accessed on 24 May 2022).

A lack of well-developed VC markets for start-ups at the middle and later stages of development may create challenges for the growth prospects of new and innovative German firms, such as those formed through academic spin-offs. Yet in a global financial market, German firms that cannot secure domestic VC can – and do – turn to markets in countries with some of the world's most developed VC markets, such as the United Kingdom and the United States. The example of artificial intelligence (AI), a technology that is crucial to applications such as autonomous driving and pharmaceutical research, is telling. In 2020, German AI start-ups received USD 1.5 billion in VC investment, including USD 331 million from German investors and USD 1.2 billion from international investors, the largest two being the United Kingdom and the United States. As a point of comparison, that same year, AI start-ups in the United States secured USD 45.2 billion in VC investment, USD 26.5 billion of which came from the domestic VC market – almost USD 8 billion more than secured abroad (Dealroom.co, 2020[13]).

The health of domestic VC markets therefore has both economic and strategic importance for German innovation. On the one hand, the undoubtedly lower levels of domestic VC available to German firms may make it harder for promising firms to obtain the financing they need to grow. On the other hand, although funding may be available externally, this has implications for the localisation of intellectual property attached to these firms. This is perhaps less of an issue for the start-up itself and a greater concern for governments, which may believe it in their strategic national interest to ensure that knowledge and technological competencies crucial to their key industries remain domiciled within their country. This is particularly true in the context of a more digitalised global economy, where the value added in key exports may shift increasingly towards such technological competencies. At present, late-stage financing mostly relies on foreign investors (mainly the United States and Asia), with foreign investment growing twice as fast as domestic investment (Dealroom.co, 2020[13]).

Attracting funding is particularly difficult for pre-commercial projects and firms that work on emerging technologies at an early stage of development. Such projects often lack the necessary infrastructure and business case, increasing the risk involved. This is often the case for so-called spin-offs – start-ups founded by academic researchers – despite their being potential drivers of radical innovation that are urgently needed to develop and diffuse new technologies among larger firms. The federal-level EXIST programmes are the most prominent public instrument for promoting such entrepreneurship among academics. They support up to 240 projects each year through monthly stipends and mentoring, as well as covering up to EUR 250 000 in personnel and material expenses in the early funding phases. A second policy initiative that focuses specifically on promising pre-seed, pre-market projects is the Federal Agency for Disruptive Innovation (SPRIND), established by the Federal Government in 2019 and funded with EUR 1 billion. Based in Leipzig, SPRIND funds pre-market projects selected through regular innovation challenges. Notably, the new coalition government intends to ease oversight mechanisms to allow the agency to support promising higher-risk projects that could result in disruptive and commercially successful innovations. Chapter 3 provides further information on policy programmes that support high-risk and potentially breakthrough innovation through investment and acceleration measures.

7.2.2. Financing green innovation

Germany has a broad array of public and private initiatives that can contribute to innovation for the green transition. Reflecting the importance of innovation in support of more sustainable industry, many such initiatives stem from the industrial sector. For example, BASF has operated a VC fund for green entrepreneurship since 2011 and Siemens since 2016, while Volkswagen announced in 2021 that it would establish a EUR 300 million VC fund to invest in de-carbonisation start-ups (OECD, 2022[14]). The policy and private-sector impetus towards green innovation has supported the development of a vibrant green start-up ecosystem: Germany is home to 276 climate-related technology start-ups, compared to 180 in the United Kingdom, 103 in France and 44 in Denmark. Such start-ups 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.

Green innovation is an area where public funding plays a vital role. The German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt DBU), for example, 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. Other projects include the Green Start-Up Investment Alliance, co-ordinated by the Borderstep Institute for Innovation and Sustainability, which aims to support business angels and other early-stage investors involved in green start-ups.

The Federal Government also finances the Future Fund, a major equity fund co-ordinated by KfW Capital that invests in VC for future technologies. While the fund does not explicitly focus on green technologies, it can nevertheless be a significant source of funding for related projects. In 2021, the Federal Government

promised an additional EUR 10 billion to the Future Fund, anticipating that it would provide over EUR 50 billion in public-private VC for start-ups. The fund has three important components:

- **DeepTech Future Fund (DTFF):** this new fund co-invests with private investors in high-tech German companies during their rapid-growth phase. DTFF has a budget of EUR 1 billion to be allocated over the next decade. It is managed by the High-Tech Growth Fund and focuses on industries related to green entrepreneurship, including e-mobility and energy.
- **European Recovery Programme/Future Fund Growth Facility:** around EUR 2.5 billion in EU funds have been made available for KfW to invest in German and European VC funds, with a view to enabling larger and more regular financing rounds for start-ups.
- **German Future Fund/European Investment Fund Growth Facility:** backed by the European Investment Fund, this facility has a budget of EUR 3.5 billion to be invested over the next decade in growth funds and growth financing rounds for start-ups.

7.2.3. Increasing the contribution of institutional investors to risk-related finance

Providing the financing necessary to high-potential German innovators necessarily entails increasing the amount of investment by institutional investors in start-ups and innovative firms through VC and private equity. Pension funds have a particular role to play in this regard as they are often the only institutions outside the banking sector with the capital necessary to invest in fast-growing or more established innovative firms, where funding volumes are generally higher than for early-stage VC. Yet these funds are often risk-averse and preferring investments with lower yields but also lower risks, such as government bonds. The result is that a vast reservoir of capital at both the national and EU levels remains untapped for investment in innovation.

The experience of Nordic pension funds, which have accounted for 16% of total VC raised in the region since 2013, is indicative of the important role institutional investors can play in the VC market (Atomico, 2018[15]). In the United States, pension funds are among the largest domestic VC investors, making up two-thirds of all capital in VC funds. In contrast, pension funds in Germany, Switzerland and Austria have only accounted for 2% of total VC funds raised since 2013 (Atomico, 2018[15]). Nordic countries have also introduced incentives for pension funds to invest in VC; in 2018, the Swedish government issued a directive that allowed private pension schemes to increase their share of alternative investments from 5% to 40%. The Danish fund-of-funds model also shows how insurance companies can make significant investments in VC. Thus, the Nordic system of loss-prevention guarantees for pension funds investing in VC contributed to the creation of a vibrant financing ecosystem, with very little cost to the government. In France, the government also succeeded in convincing institutional investors to extend growth finance to high-tech start-ups.

7.2.4. Regulatory and taxation considerations for financing innovative start-ups

Though not strictly a financing instrument, employee stock-ownership option plans (ESOPs) can play an important role in a start-up's growth phase. ESOPs are options – not obligations – given by the start-up to an employee to purchase the firm's stock at a set price for a limited period of time, essentially locking in a potentially below-market rate for a quantity of a firm's shares before it goes public. Issuing ESOPs allows start-ups to align the motivations and ambitions of employees or cofounders with the firm's vision.

The limited development of ESOP regulation to date in Germany not only reduces possibilities for start-up to attract talent, but also stifles the possibility for investment-cascade effects (e.g. when cashing in stock options). ESOPs are prohibitively difficult under German law and impose a major tax burden. As of 2020, fewer than 30% of German start-ups used ESOPs. A study by VC firm Index Venture ranked Germany second to last in an international comparison of 22 North American and European countries in terms of the regulatory and cultural environment for stock options (Richter, Maximilian, 2020[16]).

The implications for the talent pool are also significant. The regulatory difficulties in issuing ESOPs may negatively affect the ability of promising start-ups to attract and retain staff, since cash-flow constraints in the early stage of start-up development limit the ability to pay salaries. A future stake in the company's growth can therefore provide an attractive alternative. Generally speaking, the German tax framework for equity ownership and awards has been largely uncompetitive in international comparison. Furthermore, the workaround is twice as expensive as setting up such a scheme in other locations, such as the United Kingdom, Israel or the United States. Instead, start-ups issue virtual stock options, which can be very expensive for firms and are not equally attractive for employees.[2]

Five European countries (Latvia, Lithuania, Estonia, France and the United Kingdom), [1] in addition to Canada and Israel, have improved the terms of ESOP regulation and now offer more favourable stock option rules than the United States. In Germany, a 2021 draft law (*Fondsstandortgesetz*) aiming to tackle these issues has fallen short in terms of reforms and incentives. For example, tax relief is only available to employees of companies created less than ten years ago. In addition, despite its increase, the amount of the tax allowance is still modest compared to other European jurisdictions.

References

Apolitical (2017), *The government venture capital fund that boosted Israel's start-up economy*, Apolitical, https://apolitical.co/solution-articles/en/government-venture-capital-fund-boosted-israels-start-economy. [2]

Atomico (2018), *The State of European Tech 2018*, https://2018.stateofeuropeantech.com (accessed on 1 March 2022). [15]

Austria Wirtschaftsservice (2022), *AWS Growth Investment*, https://www.aws.at/en/aws-growth-investment/ (accessed on 1 April 2022). [5]

Cecchetti, S. and K. Schoenholtz (2017), *Treasury Round II: The Capital Markets Report*, Money, Banking and Financial Markets. [10]

Dealroom.co (2020), *Shortage of later stage venture capital in Germany: more acute due to Corona crisis*, dealroom.co, https://dealroom.co/uploaded/2020/06/Berlin-Capital-FINAL.pdf. [13]

ECB (2021), *Survey on the access to finance of enterprises (SAFE)*, European Central Bank, Frankfurt, https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/ecb.safe202106~3746205830.en.html. [9]

Gillers, Heather (2022), *Retirement Funds Bet Bigger on Private Equity*, Wall Street Journal, https://www.wsj.com/articles/retirement-funds-bet-bigger-on-private-equity-11641810604 (accessed on 1 March 2022). [4]

Hufner, F. (2010), *The German Banking System: Lessons from the Financial Crisis*, OECD Economics Department Working Papers, No. 788, OECD Publishing, Paris, https://doi.org/10.1787/5kmbm80pjkd6-en. [8]

OECD (2022), *Policies to Support Green Entrepreneurship: Building a Hub for Green Entrepreneurship in Denmark*, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris, https://doi.org/10.1787/e92b1946-en. [14]

OECD (2022), "Venture capital investments", *Structural and Demographic Business Statistics* (database), https://doi.org/10.1787/60395228-en (accessed on 28 June 2022). [11]

OECD (2021), *Bridging the gap in the financing of intangibles to support productivity: Background paper*, OECD Publishing, Paris, https://www.oecd.org/global-forum-productivity/events/Bridging-the-gap-in-the-financing-of-intangibles-to-support-productivity-background-paper.pdf. [1]

Richter, Maximilian (2020), *How German Can Revive its Start-up Sector*, Policy Corner, https://www.policycorner.org/en/2020/05/09/how-germany-can-revive-its-start-up-sector/ (accessed on 1 March 2022). [16]

SPRIND (2022), *Closing the Gap*, Federal Agency for Disruptive Innovation (SPRIND), https://www.sprind.org/en/articles/Closing-the-gap/. [12]

UK Government (2021), *Tax relief for investors using venture capital schemes*, HM Revenue & Customs, UK, https://www.gov.uk/guidance/venture-capital-schemes-tax-relief-for-investors#:~:text=You%20can%20get%20Capital%20Gains%20Tax%20relief%20on%2050%25%20of,Tax%20relief%20on%20the%20investment. [6]

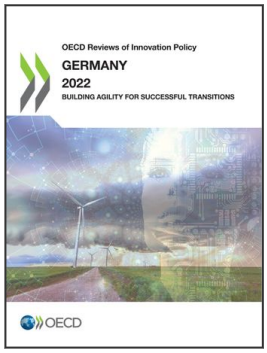
World Bank (2020), *Domestic credit to private sector by banks (% of GDP)*, World Bank Group, Washington D.C., https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS?locations=DE-OE-US-FR (accessed on 1 March 2022). [7]

Yozma (2022), *Yozma: Overview*, Yozma, https://www.yozma.com/overview (accessed on 1 May 2022). [3]

Endnotes

[1] 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.

[2] Under a virtual stock option plan, employees receive a cash equivalent when the business goes public or is taken over. Yet such schemes are often prohibitively expensive for the company. They also tend to be disadvantageous for employees because payments are taxed like income, not capital gains.



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