Crystallizing the research dividend, *mobilizing* growth capital

How Germany Can Turn Its Innovative Strength into Value Creation

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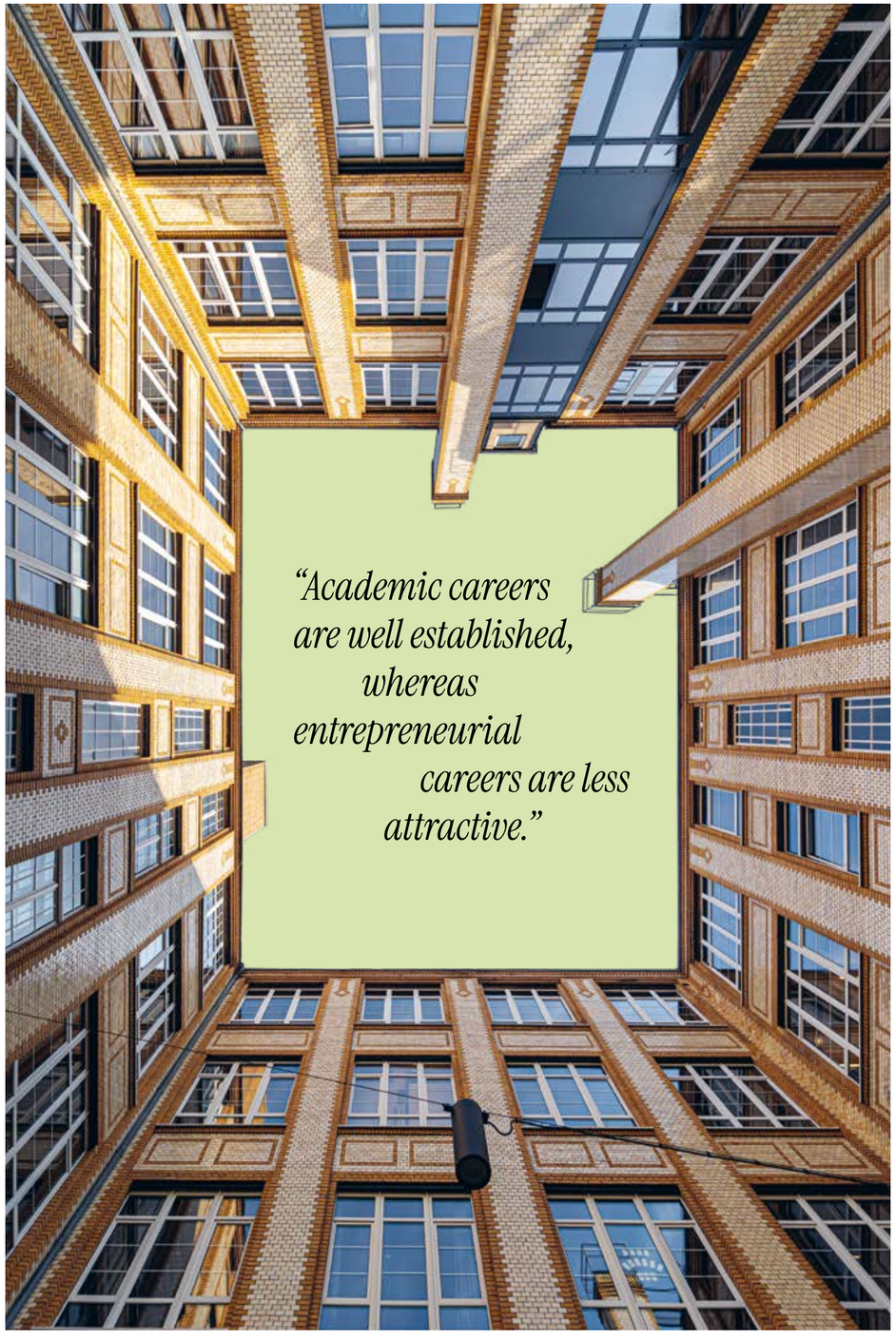
Stefan spent decades in global Investment & Corporate Banking – guiding some of Germany's biggest banking transactions – before becoming CEO of one of the leading promotional banks in the world. Now he's betting the country's future depends on innovation as much as on the mobilization of private investments.

Germany has an impressive scientific base and ranks among the world's best in many fields of research. Spending on research and development is high, the quality of basic research is internationally recognized, the number of patent applications is considerable, and Germany regularly ranks near the top of innovation indices.



Yet this strength has so far translated into too little economic dynamism: start-up activity is comparatively low, venture and growth capital per capita lags well behind leading innovation hubs such as the United States, and the number of fast-growing, highly valued technology companies remains very small. Many studies reach the same conclusion: Germany captures too small a "research dividend" domestically. The decisive question is therefore how innovative strength can be consistently translated into economic value creation and growth.

In highly developed economies, long-term growth in prosperity and income can hardly be achieved through more labor or more physical capital anymore. It rests mainly on efficiency gains – that is, the ability to generate more value creation with the same resources. This is where innovation comes in: new technologies, better processes, digital business models and new products raise productivity, open up markets, and strengthen an economy's competitiveness and resilience to crises.

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The gap between research and market impact

Yet there is a significant gap in Germany between this research strength and its economic impact. While scientific performance is impressive, entrepreneurship, start-up dynamism and the ability to scale lag behind. Investment in young, growth-oriented companies – measured against GDP – is clearly behind that of leading nations: venture capital investment accounts for only about 0.2% of GDP in Germany, compared with roughly 1.0% in the United States. To reach a similar level, at least around €40 billion would be needed annually, rather than the roughly €7 billion currently invested. At the same time, the number of large growth companies in the technology sector is significantly lower than in other leading ecosystems. SAP's IPO took place almost 40 years ago, and the company's current market capitalization of around €160 billion reaches only about 5 to 10% of the market capitalization of the leading US technology corporations.

This gap has several causes. A central problem lies at the interface between science and business. Although technology transfer offices, incubators and university programs exist in many places, research results are still too rarely converted into marketable products and scalable business models. Academic careers are well established, whereas entrepreneurial careers are less attractive and come with high hurdles – be they cultural, organizational or financial. In addition, the Mittelstand, which forms the backbone of the German economy, is in many cases open to innovation but tends to be cautious about adopting radically new technologies. As a result, the potential to scale research findings through cooperation with established companies is not fully realized.

An underdeveloped equity culture

A second structural weakness is also evident: an insufficient equity culture. Germany has traditionally been a nation of savers rather than broad-based equity investors. This makes it harder to finance risky but high-growth business models – both for start-ups and for the Mittelstand. Equity capital – that is, venture capital, growth capital and other equity-like instruments – is nevertheless a key lever for financing this transformation and keeping the research dividend within the country.

Another bottleneck lies in the growth phases. Innovations often require long development times and substantial upfront investment before meaningful revenues emerge. Conventional debt financing is only of limited use here. Successful German start-ups frequently turn to international investors in later financing rounds because domestic capital is lacking. Capital brings influence with it – over location, strategic decisions, and the build-up of development and production units. As a result, companies relocate key functions or their headquarters abroad. This causes value creation, high-quality jobs and tax revenue to be lost. Innovation that originated in Germany – often supported by public research funding – then generates most of its economic impact elsewhere. The goal must be to capture this research dividend far more strongly within Germany itself.

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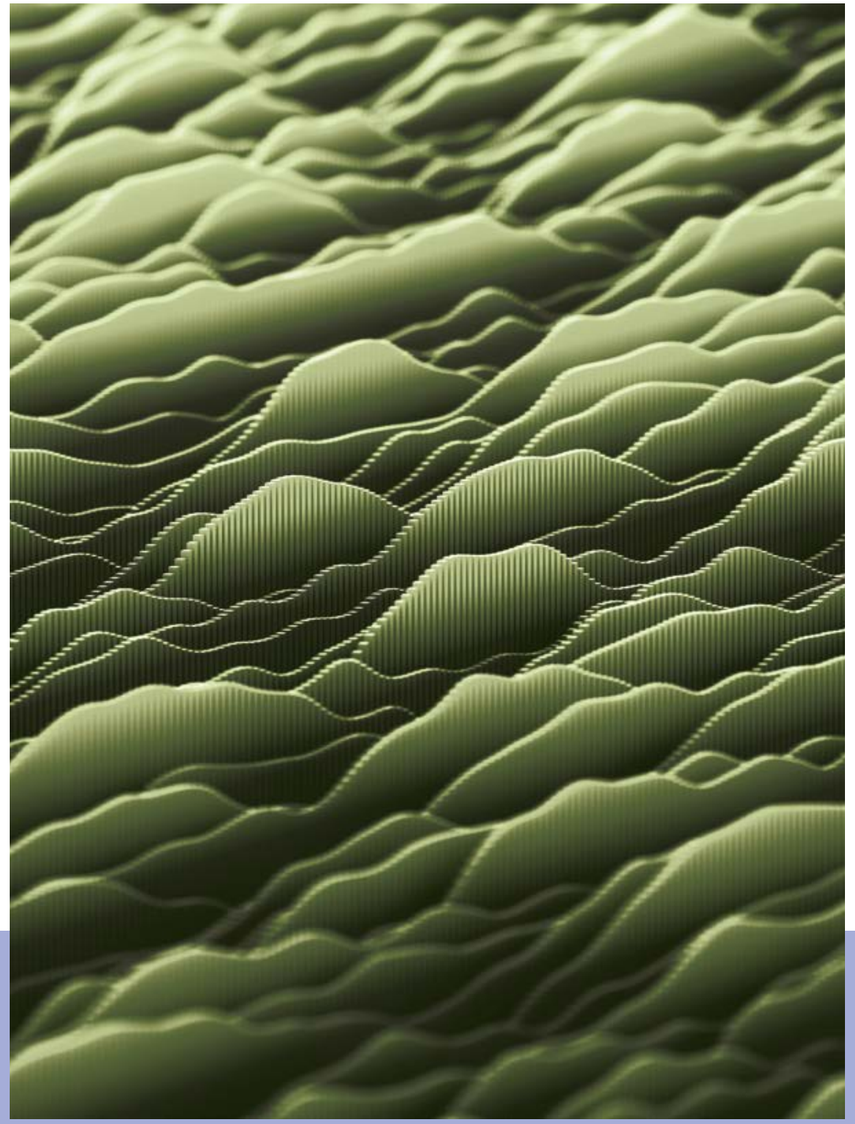

Five levers for change

Achieving this requires a coordinated combination of several measures along the entire innovation and value-creation chain.

First The transition from research to founding a company must be systematically strengthened. Universities and research institutions need incentives and suitable instruments to view spin-offs as an integral part of their mission. This includes professional transfer structures, clear IP arrangements, rigorous entrepreneurship education, and programs that allow teams to test and validate their ideas under entrepreneurial conditions over an adequate period of time. Successful innovation regions – from parts of Germany to ecosystems such as Copenhagen, Tel Aviv or Silicon Valley – show how strong regions become when knowledge, talent and capital circulate within dense networks.

Second Strengthening the entrepreneurial ecosystem is urgently needed. Start-up activity rises when society and institutions regard entrepreneurship as a normal and attractive option. Given Germany's demographic development, it is also important that business succession be viewed as a quasi-new-founding. This calls for a culture that does not stigmatize failure, swift and reliable regulation, and networks in which founders can find mentors, pilot customers and skilled professionals. The Mittelstand can play a key role here by acting more often as the first customer for new technologies developed domestically. At the same time, more than the current 41% of Mittelstand companies should be generating innovations. This requires, in particular, reducing bureaucratic burdens, improving financing options, and specifically addressing the shortage of specialist and digital skills within the Mittelstand.

Third Innovation needs equity capital. The financing gap, especially in the growth phases, must be closed quickly. National and European initiatives already aim to deepen the market for venture and growth capital. What matters is that institutional investors – such as pension funds and insurers – are able to invest in this asset class on a larger scale and under appropriate regulatory conditions. A well-functioning European capital markets union can help ensure that capital flows efficiently across borders to where it is needed for innovation and growth.

Development banks such as KfW play a particular role in this ecosystem. With the Zukunftsfonds (Future Fund), KfW, together with KfW Capital, has been structurally strengthening the supply of equity capital since 2021. The goal is to mobilize around €30 billion by 2030, together with private investors, for technology-oriented start-ups, of which €10 billion is public capital invested through various modules. By the end of 2024, €13 billion had been made available, around €6.6 billion committed, and nearly 2,500 start-ups supported through more than 134 venture capital funds. The WIN Initiative ("Growth and Innovation Capital for Germany") aims to increase commitments to the German and European VC ecosystem to more than €25 billion by 2026. The planned Deutschlandfonds (Germany Fund) will also create an umbrella instrument specifically designed to mobilize private capital for future-oriented investments in Germany.

Fourth It is essential to create attractive framework conditions within a genuine EU single market, so that innovative companies can build and retain their value creation in Germany and Europe. This includes competitive tax regimes, high-performing digital and physical infrastructure, an open labor market for skilled professionals, and reliable planning and legal certainty. Cutting red tape, speeding up approval procedures, and establishing regulatory sandboxes for new technologies should therefore be treated as mandatory, not optional.

Fifth Innovation strategy should deliberately focus on key future fields in which Germany already has strengths – such as green tech. The market for environmental and climate protection technologies is among the most dynamic growth sectors worldwide. In 2023, Germany's green-tech sector achieved a market volume of more than €480 billion, roughly 15% of GDP. Start-ups such as Greenlyte Carbon Technologies – which has developed a technology for capturing CO_2 from the air while simultaneously producing hydrogen, and which is supported, among others, through a fund co-financed by KfW Capital – show how research can be turned into market-shaping business models.

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If Germany succeeds in decisively activating these levers, it can convert its strength in research and development into productivity gains and higher economic output. The challenge is to close the gap between science and market, substantially increase the supply of innovation and growth capital, and establish a broadly shared equity culture. Innovation must not end at the door of an institute or laboratory. It must be systematically translated into business models, growth companies, and ultimately into broad economic impact. What is needed for this is a financial architecture that turns ideas into equity stakes, equity stakes into growth, and growth into prosperity – in Germany and in Europe.