



## **Policy Brief on the FIRES-reform strategy for Germany**

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# Policy brief on FIRES-reform strategy for Germany

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## Abstract

In this policy brief we outline a draft FIRES-reform strategy to promote an Entrepreneurial Society in Germany. The reforms proposed are derived from a seven-step process in which the academic work and stakeholder engagement activities of the FIRES-project come together. This seven step process was applied to the case of Germany in a report (download [here](#)) and this brief summarizes its findings. Germany was selected to be representative for a Continental and so called coordinated market economy. This brief is one of three, where the other briefs address the United Kingdom and Italy.

## Introduction:

In this brief we present the FIRES-reform strategy for Germany. In the FIRES-project we developed a seven step approach to tailor a reform strategy to a specific situation (see box 1 below). In this brief we present the results of steps 1 to 5. Step 6 will be presented in a separate report on the results of the policy

round tables where this draft reform strategy is discussed.

Our method up to step five can be likened to the way in which a medical doctor would diagnose a patient. He/she would combine detailed knowledge about the patient's character and most recent medical history, data from diagnostic tools and an in depth discussion with the patient about his or her

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<sup>1</sup> This policy brief was drafted for the policy round table in Berlin on April 24, 2018 by the first author based on FIRES-report: D5.12 An Institutional Reform Strategy for Germany, Italy and the UK; Part II, Chapter 1. Co-authors contributed to this chapter in various ways, but do not necessarily agree to all the proposals made.





symptoms. After diagnosing the patient, the doctor will then prescribe, from an established arsenal of effective treatments, those he or she feels most fitting for the patient and his or her condition.

In section 1 you will find a brief summary of our diagnosis. This is based on a triangulation of historical analysis, quantitative data analysis and qualitative information from founder surveys, desk research and expert opinion. In section 2 we present our proposed treatment in the form of our proposed reforms. Section 3 concludes.

*Box 1: The FIRES seven step approach*

### **The FIRES seven step approach**

*Step 1:* Assess the most salient features of the institutional complex in place and trace its deep historical roots (WP2).

*Step 2:* Assess the strengths and weaknesses and flag the bottlenecks in the entrepreneurial ecosystem using a structured data analysis (WP4).

*Step 3:* Identify, using careful primary data collection among entrepreneurial individuals (i.e. founders) what most salient features characterize the start-up process and where entrepreneurs face barriers (D5.1).

*Step 4:* Map the results of step 2 and 3 onto the menu of policy interventions developed in Part I of this report to identify potential interventions for the country under investigation.

*Step 5:* Carefully consider the list of proposals in light of the historical analysis under step 1 and fit the proposed reforms to the relevant local, regional and national institutional complex in place.

*Step 6:* Identify who should change what in what order for the reform strategy to have the highest chance of success (WP6).

*Step 7:* Experiment, evaluate and learn and return to step 1 for the next iteration.

## **Section 1: The patient and our diagnosis**

The FIRES-project started out by establishing that one-size-fit-all approaches to promoting an entrepreneurial society are unlikely to be successful. Making a society more entrepreneurial involves reforming its institutions such that more of society's resources flow into experimental, new ventures. But if it is institutions that need to be reformed, then we have to consider that institutions have deep historical roots and never operate in isolation. In the complex web of interacting institutions that affect the entrepreneurial ecosystem, we need to first identify which elements can be reformed and which ones we need to take as given. For Germany we conclude that its history as a unitary state is brief in comparison to the examples of France and the UK. Nevertheless German culture and institutions have deep historical roots.

Political fragmentation established a strong tradition of local governance and left Germany much more decentralized than for example France and the UK. This is reflected to this day in a spatial structure with a comparatively low level of concentration of economic power in the capital region, but rather with economically strong clusters in the *Länder* capitals and large cities around the country such as Munich, Stuttgart, Frankfurt/Main, Cologne and Hamburg. This spatial structure is supported and reflected in historically evolved patterns. Germany is home to centuries old universities (e.g. Heidelberg, Jena, Tübingen, Cologne) and developed a rather strong system of non-university research institutes (Fraunhofer, Max-Planck, Leibnitz Society etc.) that combines global scientific excellence with





strong autonomy. Also Germany's financial system, with a fine grained locally embedded system of *Landesbanken*, *Sparkassen* and *Genossenschaften* is unique in the world and supports Germany's unique *Mittelstand* of decentralized export oriented medium sized industrial firms across the country.

German labour relations have been shaped more recently by Otto von Bismarck using social security as cement for the young new and rapidly industrializing nation. To build up the German nation, von Bismarck aimed to pacify the class struggle that was characterising UK but also Italian and French labour relations, leading to the famous *Rheinland* model of consensual and coordinated decision making. This led the Varieties of Capitalism literature to classify (Western) Germany (and e.g the Netherlands, Belgium, Denmark and Austria) as Coordinated Market Economies. In the FIRES-project a clustering analysis on institutional characteristics relevant for entrepreneurship (Dilli et al. 2018), put Germany firmly at the core of a continental European model, in slightly changing subclasses depending on the dimension at which one zooms in (finance, labour or education).

In the twentieth century, two devastating World Wars and more than 40 years of division in a capitalist West and communist East have left a deep imprint on the country, its institutions and its people. Reunification in 1989 is arguably still ongoing and to date this turbulent past persists. After World War II the entire country experienced a reset and East and West set off on diverging trajectories. At reunification the West had grown into the economic powerhouse of Europe, whereas the East had fallen far behind. Almost 30 years after reunification and in spite of enormous

efforts, that gap has still not been bridged. Against this background, it is advised not to treat Germany as a blank canvas, but rather suggest that policies and reforms should fit its historical heritage and regional heterogeneity. Moreover, Germany's federal structure implies policy proposals need to target the correct policy level, as many competencies lie at the level of the *Länder* following the *Subsidiaritätsprinzip*.

Figure 1: Self-employment in Germany 1991-2016

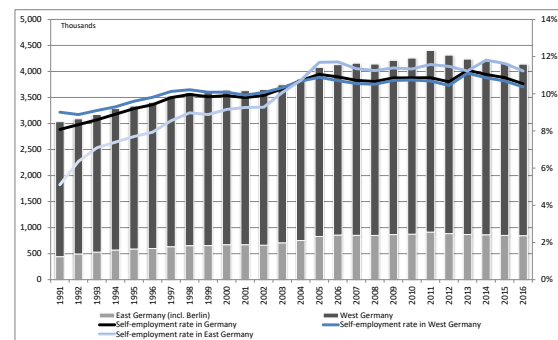


Figure 1 shows that start-ups and self-employment has begun to fall in Germany since 2011. The country report underlying this brief shows that the number of new businesses has a declining trend from 1999 onwards and this worrying trend is even more prominent in innovative start-ups in manufacturing, in spite of significant policy efforts to promote these. These declining trends in entrepreneurship despite robust growth suggest that the German economy can be characterized as “routinized” (Audretsch and Fritsch, 2002). Such routinized regimes can function well for significant spells of time, but risk losing steam as new business concepts and initiatives are needed to maintain long run growth. As it is better to prevent than to cure, interventions would now be timely. Before we can proceed with reform proposals, however, we need to identify the most

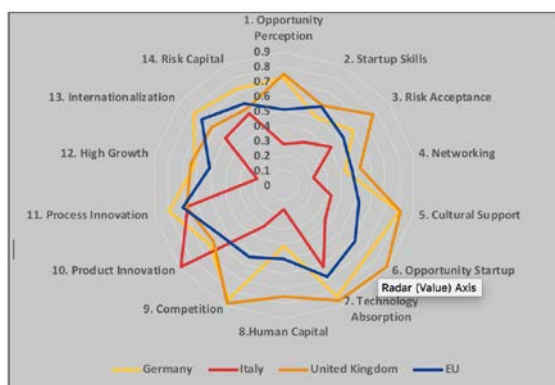




important bottlenecks and weaknesses in the German entrepreneurial ecosystem. A combination of quantitative and qualitative information is required to come to a complete diagnosis.

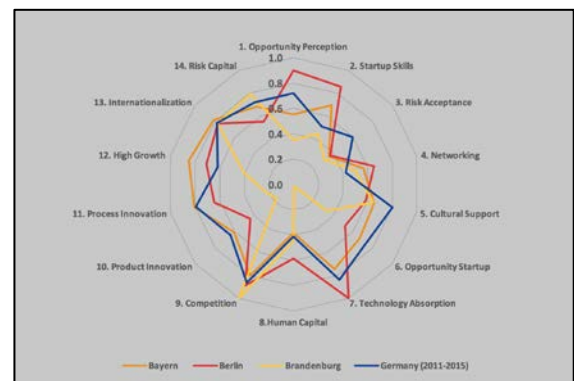
The quantitative analysis is based on the [Global Entrepreneurship Index](#) and its regional equivalent, the [Regional Entrepreneurship and Development Index](#) (Acs and Szerb 2012). The technical details behind constructing these indices are explained in detail in FIRES-reports [D4.1](#), [D4.2](#) and [D4.4](#). For this brief it would suffice to note that the index brings together data and information on some 14 pillars that consist of individual activity or agency drawn from the Global Entrepreneurship Monitor adult population and expert panel survey data and established institutional quality indices obtained from institutions like the World Bank, OECD and Freedom House. Using an algorithm that converts the raw data into normalized scores per pillar, such that a country or region's relative performance can be assessed. The algorithm also applies a "penalty for bottleneck" to reflect the importance of developing all relevant aspects of the ecosystem in a balanced way.

Figure 2: Average GEI-scores 2012-2015



Leaving the technical details in the black box (as a doctor would when looking at a PET-scan) we simply present the resulting plots for Germany and its NUTS-1/2 regions in the radar-plots below. Figure 2 shows Germany has a rather unbalanced entrepreneurial ecosystem. It excels in Competition and Technology Absorption, but these strengths are negated by lacking performance on Networking and Human Capital.

Figure 3: REDI-scores Selected German Länder



Germany lags only slightly relative to the EU average on Start-up Skills, Human Capital and Networking but scores low in the upper-right (Entrepreneurial Attitudes, pillars 1-5) of figure 2. The country score, however, hides a lot of regional variation. When we benchmark the German NUTS-2 regions (Länder) against 125 NUTS1/2 regions in 24 EU countries, as in figure 3, we see for example Brandenburg showing a radically different pattern than Berlin and Bavaria.

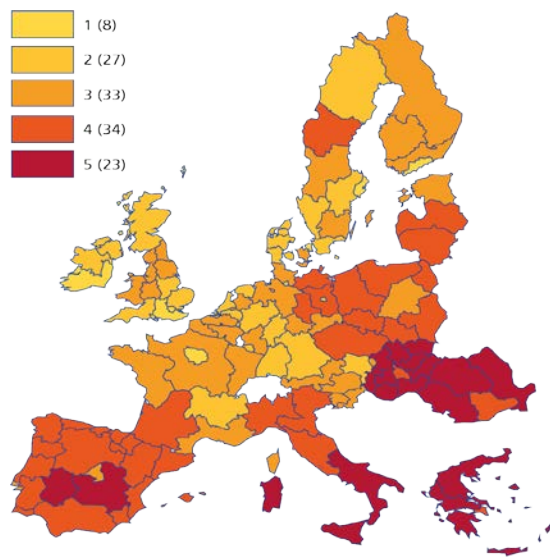
In the complete report on Germany, on which this Policy Brief is based, we present the radar-plots for all German Länder. As also the map in figure 3 shows, there is quite strong regional variation in overall scores on different pillars.







Figure 4: REDI-scores 125 EU NUTS1/2 regions



It should be recognised that Germany as a whole performs well, explaining a robust score on the overall index for Germany (with 65.9 it is ranked 13 out of 65 developed and emerging countries). Still it is clear from figure 4 that reforms to strengthen parts of the German entrepreneurial ecosystem, especially in the East are urgent and desirable, if Germany is to maintain its position in the core of Europe. The REDI-scans can also be used to identify where Germany should concentrate its efforts to improve remaining bottlenecks in its regional entrepreneurial ecosystems.<sup>2</sup>

Table 1: REDI Report Card Berlin

	PILLAR		INSTITUTIONAL VARIABLES		INDIVIDUAL VARIABLES	
Entrepreneurial Attitudes	Opportunity perception	0.90	Market Agglomeration	1.00	Opportunity Recognition	0.82
	Start-up skills	0.86	Quality of Education	0.93	Skill Perception	0.63
	Risk Acceptance	0.37	Business Risk	0.48	Risk Perception	0.67
	Networking	0.65	Social Capital	0.81	Know Entrepreneurs	0.63
	Cultural support	0.58	Open Society	0.75	Career Status	0.52
Entrepreneurial Attitudes 61.6						
Entrepreneurial Abilities	Opportunity start up	0.52	Business Environment	0.62	Opportunity Motivation	0.80
	Technology Absorption	1.00	Absorption Capacity	0.86	Technology Level	1.00
	Human Capital	0.58	Education and Training	0.60	Educational Level	0.87
	Competition	0.89	Business Strategy	1.00	Competitors	0.61
Entrepreneurial Abilities 67.1						
Entrepreneurial Aspirations	Product innovation	0.44	Technology Transfer	0.92	New Product	0.57
	Process innovation	0.64	Technology Development	0.94	New Technology	0.51
	High growth	0.71	Clustering	0.79	Gazelle	0.76
	Globalization	0.77	Connectivity	0.87	Export	0.73
	Financing	0.55	Financial Institutions	0.69	Informal Investment	0.69
Entrepreneurial Aspirations 58.6						
	GEI	62.4	Institutional	0.81	Individual	0.70

<sup>2</sup> The level of the *Länder* is perhaps not optimal for assessing entrepreneurial ecosystem quality as the *Länder* do not necessarily coincide with economic

regions. They do coincide with German administrative units and represent an effective level of policy making.





Table 1 gives the more detailed breakdown of REDI-report card for Berlin. The score on the pillar on “Risk Acceptance” signifies that in Berlin the score on this pillar is only 37% of the highest score observed in 125 European NUTS-2/1 regions on this pillar. The pillar combines information on Business Risk (0.48) in the region with the risk perception of starting up (0.67). Using an algorithm that combines the scores on individual agency and institutional quality, a score per pillar, per sub-index and ultimately for the entire region is computed.

It turns out that, even if performance differs quite significantly across German *Länder*, the regions are quite similar in their relative strengths and weaknesses (see the other regions report cards in the full country report [here](#)). At every level, the algorithm rewards a balanced development within and across pillars and punishes the score when bottlenecks are present. The low scores per cluster in the report card for Berlin are marked red.

Table 2: Weakest Pillars by Region

REGION	WEAKEST PILLARS	WEAKEST VARIABLES
Hamburg	3,8,11	Business Risk, Education and Training and New Technology
Schleswig-Holstein	3,8,10	Business Risk, Education and Training and New Product
Bremen	3,8,13	Business Risk, Education and Training and Exports
Niedersachsen	3,7,10	Business Risk, Technology Level and New Product
Nordrhein-Westfalen	3,8,11	Business Risk, Education and Training and New Technology
Rheinland-Pfalz	3,8,10	Business Risk, Education and Training, Educational Level and New Product
Hessen	3,8,10	Business Risk, Education and Training and New Product
Saarland	3,8,11	Business Risk, Risk Perception, Education and Training and New Technology
Baden-Württemberg	3,8,10	Business Risk, Education and Training and New Product
Bayern	3,8,10	Business Risk, Education and Training and New Product
Thuringen	1,8,11	Market Agglomeration, Education and Training, Educational Level and New Technology
Sachsen-Anhalt	1,8,10	Market Agglomeration, Education and Training and New Product
Sachsen	3,8,10	Business Risk, Risk Perception, Education and Training and New Product
Brandenburg	3,7,10	Business Risk, Technology Level and New Product
Berlin	3,6,10	Business Risk, Business Environment and New Product
Meckelenburg-Vorpommern	1,8,14	Market Agglomeration, Education and Training and Informal Investment





Table 2 lists the results of such an analysis of all report cards, where we have listed the weakest links in the respective ecosystems and identified the underlying variable(s) that drive this low score.

The appearance of pillars 3 (Risk Acceptance), 8 (Human Capital) and 10/11 (Product and Process Innovation) across many German *Länder* suggests that perhaps national policy action is called for. In addition, Business Risk, Education and Training and New Technology or Products seem to drive the weak performance on these pillars in most *Länder*. This suggests that interventions to address these weaknesses should be targeted and possibly coordinated at the national level, to address these weaknesses. Our reading of the data above reveals that in all German *Länder* and the country as a whole the main bottlenecks in the entrepreneurial ecosystem are a limited willingness to take risk (Business Risk), an

educational system that could use improvement (Education and Training) and a shortage of significant innovation (New Products and Technology) that feeds back into a low familiarity with ambitious entrepreneurship and a rather low level of social recognition and cultural support (Networking and Cultural Support).

It is dangerous, however, to rely exclusively on data and aggregate indices, even if they are composed of a broad set of sub-indicators. It is always important to complement a data based quick scan with common sense and more qualitative information to contextualize and complete the diagnosis. Only after triangulating the results above with the historical analysis, literature review, expert judgement and more qualitative survey results below, we can map the diagnosis onto our menu of interventions to propose treatments for Germany.

Table 3: Responses Survey

REGULATORY OBSTACLES	#
Which regulatory requirements did you perceive as major obstacles during venture creation?	323
None	130
Does not answer question	32
Stringent Environmental Regulations	18
Regulatory requirements for buildings	12
Bureaucracy in general	11
Specific requirements related to energy sector	10
Legal requirements for approval	10
Onerous requirements for documentation	10
Tax Laws in general	8
Legal requirement to be member of IHK	7
Lengthy approval process	5
Registration procedure	5







Before one turns to treatments it is advised to listen to what the patient has to say. In a survey among 313 founders in Germany, we collected responses on a list of questions, of which the open question on barriers to founding gave us an opportunity to triangulate the information from the quantitative analysis with more qualitative information. After coding the answers, Table 3 presents the top-10 most mentioned issues in this open question. First, we can conclude that the survey results complement the picture that emerged from the data. Germany has a challenging business environment due to a daunting and complex bureaucracy. As a consequence, entrepreneurs see few opportunities for making radical product or process innovations and those that do start up mention regulatory complexities and high taxation as barriers to growth. In the top-10 we see that the founders confirm the problem of a poor quality business environment. Many mention bureaucracy and complicated legal and regulatory requirements to start a firm. It seems it is unclear how and rather complicated to start a venture in Germany.

Some barriers to entry are of course necessary and some can be justified and work to increase the quality of start-ups that overcome such barriers. International comparisons suggest, however, that starting a new business in Germany requires considerably more effort in Germany than elsewhere.

It is worth mentioning here that environmental and energy sector specific regulation, as well as safety and building codes, were not very much in scope in the FIRES-project. One might argue that strict environmental regulation can be a source of dynamic competitive advantage. But

this works only when such administrative hurdles serve to weed out lower quality entrepreneurs and regulations set clear and ambitious goals and standards for those that remain. The 'complaints' about tedious administrative processes, building and environmental permits etc. in our survey came - almost exclusively - from alternative energy ventures. The core problem here is that founders in this sector have to fulfill particular *Umweltauflagen* that is a lengthy and quite cumbersome process.

From the GEI-REDI analysis we observed that regulatory barriers did not seem to be a pressing problem, but from the survey and other sources we get the impression that regulatory barriers in Germany tend to be excessive in some regards. This confirms the importance of triangulating across methods to formulate an accurate and full diagnosis. From our analysis of recent policies in Germany, we conclude that e.g. the *Gründerland Deutschland Initiative* of 2010, or the more recent *Aktionsprogramm Zukunft Mittelstand* still rely on the classic "inform, deregulate and fund"-approach that is common in a long list of modestly effective entrepreneurship strategies in past decades. We would argue that German entrepreneurs are not short of money or information about entrepreneurship. They lack an appetite for and incentives to take risk and walk away from the risk of failure, while regulatory and bureaucratic hurdles hold back the few that would consider to start up, it seems especially in green tech ventures. This lack of risk acceptance is much harder to address with policies in the traditional entrepreneurship policy domain and we believe more profound and fundamental





institutional reforms are needed to strengthen the ecosystem as a whole. Germany excels in Entrepreneurial Aspirations, but remains weak in Entrepreneurial Attitudes and Human Capital. Founders add that regulation is a significant barrier to firm formation and incentives to start up new businesses should be strengthened. We will therefore propose some targeted interventions that will make Germany a more adventurous and entrepreneurial ecosystem.

## Section 2: The proposed treatment

In our report we have considered the medical history of the patient, used an advanced diagnostic tool to scan for her health problems and asked the patient how she felt. Based on all this information we can come to a diagnosis and mapping that diagnosis onto the menu of available treatments (downloadable [here](#)), propose a treatment that fits the patient. Germany's distinct decentralized spatial pattern has historical roots its long history as a collection of loosely federated States. Germany was never the productivity leader of the world, but was also never more than a few steps behind. Even today Germany boasts a highly innovative small and medium sized manufacturing *Mittelstand* sector that competes at the global level and "Made in Germany" is still a strong brand that stands for quality and technology that works. Entrepreneurship has deep historical roots in Germany, but German entrepreneurs seem to have lost their appetite for risk and willingness to experiment and fail.

The German economy proved robust to the financial crisis and is yet showing strong macroeconomic performance. So some will

argue Germany is doing fine and could continue for decades producing high tech export manufactures. One might assume that the country's model of locally embedded relationship banks, on-the-job training with high levels of firm specific human capital and world class research institutes to complement its more educationally oriented universities is geared to that with clockwork precision.

But time has progressed and the landscape is changing. To face the challenges of the future, Germany will have to more aggressively assert its position at the global technology frontier. It should thereby build on its strengths but urgently address its weaknesses. Germany can strengthen its entrepreneurial ecosystem in the area of boosting (non-firm specific) human capital investments and more importantly, motivating the young and talented to engage in more innovative and experimental venturing in Germany. Removing over-stringent regulatory barriers could facilitate the development of new niches and export markets. Germany is doing well to date, but a somewhat more adventurous spirit would help secure its strengths in the future.

Taking these ailments to our menu of policy interventions and reform proposals in Part I of this report, we can select the sixteen most suitable interventions for Germany. They are listed in Table 3 below. In column 1 we find the number under which they were presented in Part I of the full report (downloadable [here](#)) and column 2 gives the section number in that report where one can read more of the background and general motivation for the proposals. Column 3 lists the title and 4 the full proposal, where column 5 gives a short motivation linking the proposal to the analysis





presented above and fitting it into the German context.

The first proposal (3), and similar ones developed in the menu of treatments in Part I of this report, refers to intellectual property and is beyond the competencies of even national authorities. Still, the voice of the German patent office in international negotiations that do establish the legal framework, is heard. Our proposal here is to be interpreted as a suggestion to raise the issue at the appropriate governing bodies and treaty negotiations.

The proposal in taxation and financial regulation (11, 19, 22 and 23) do lie clearly within national competencies and here serve the dual purpose of mobilizing more capital for more risky, radically innovative ventures and increasing the financial rewards for such venturing and investing in it. We disagree with a general call for more public funding and financial support. Instead, we believe that mobilising more so called triple-F (Friends, Fools and Family) finance can be promoted by allowing for more wealth to accumulate and be transferred among private individuals. Public funding can possibly be justified in the very early seed-stage of innovative new businesses, but these are hard to target effectively. As policies to do so are already proposed by the new coalition government we made no additional proposals in this area.

Proposals on social security and labour market regulation (26, 30, 31, 33 and 34) all aim to mobilize Germany's most knowledgeable and valuable employees. Portability of social security entitlements across jobs, sectors and labour market statuses will eliminate the lock-in of skilled labour in gilded jobs. This reduces the barriers for employers to hire and creates a

level playing field for start-ups on the demand side. Moreover, this also benefits marginalised groups in the labour market on the supply side, as more jobs will open to them also. Creating a level playing field will also entail forcing self-employed to join collective social insurance, e.g. for old-age insurance. This will make growth in Germany more inclusive and equitable as well as more innovative.

Proposal 33 explicitly targets barriers to spin-out and spin-off entrepreneurship. It is true that in German firms a lot of knowledge generated in R&D labs will reach markets through intrapreneurship and innovation inside existing firms. But that could be complemented by opportunities for more radical ideas to spin-out. As such experimentation creates a public good, while entailing high personal private risks and costs, we propose public intervention is justified in this case.

A fourth group of proposals (40, 42 and 44) aims to improve the regulatory situation for start-ups and founders both at the start and possibly the end of their venture, as well as strengthen the digital infrastructure of Germany, that is and essential and vital infrastructure for platform based services that account for most spectacular new firm formation in the world today.

Finally, a group of proposals (48, 49, 53 and 55) suggests reforms to make Germany's strong knowledge generation sector more open to entrepreneurs also and in particular for more radical ideas. By shifting traditional R&D subsidies more in the direction of more radical innovation, a direct incentive is given to incumbent firms to become more adventurous in innovation whereas the promotion of creativity and experimental mindsets in





primary and secondary education will support this shift in the long run. Policies to support intrapreneurial ventures will have to be designed in close cooperation with knowledge intensive firms in Germany, as this concept is relatively new and policy making is still experimental in this area. In contrast higher investment in higher education and basic research is a proven recipe for improving the quality of life in the long run.

### Section 3: Concluding remarks

The proposals individually and in combination aim to strengthen the knowledge base, talent pool and capital base from which German entrepreneurs can draw and aim to open opportunities for not only starting but also growing innovative firms in all regions in Germany. All regions stand to benefit from these interventions. If density and clustering tend to promote the quality and impact of entrepreneurial venturing, the same policy improvements will probably benefit already prosperous regions most. Still, that should not stop policy makers from pursuing these interventions as it is the German citizens, not its regions per se that the national government should care about. Moreover, due to its unique history, the German entrepreneurial landscape is probably the most decentralized and regionally diffused in all of Europe. It is advisable, however, to also maintain the automatic transfer systems that will help

maintain high quality of life throughout the country.

Of course these proposals will need a much more detailed discussion and only form the starting point, not the final word in the policy debate. Moreover, even if eventually adopted, our proposals all require careful implementation and evaluation to complete the 7-step policy cycle presented in Box 1. But based on our analysis of the situation, we propose the patient consider this set of interventions to bring its entrepreneurial ecosystem in top condition.

### Sources and further reading:

All FIRES-reports and policy briefs on:  
[www.projectfires.eu](http://www.projectfires.eu)

Most relevant FIRES-deliverables:

[D4.1](#) Report on the Extension of the GEDI-Indicator

[D4.4](#) Regional Entrepreneurship and Development Index: Structure, data, Methodology and Policy Applications

D5.1 Report on Start-up Processes in Italy, Germany and the UK

[D5.12](#) Part I: The FIRES Reform Strategy

[D5.12](#) Part II: The FIRES Reform Strategy for Germany

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Table 4: The FIRES-reform proposals for Germany

#	Section	Title	Proposal	Explanation	In Germany
3	3.1.3	Patents and Intellectual Property	Limit the breadth, width and span of patent protection to cover working prototypes and market ready innovations only for a short period of time.	Of course, the European union is party to international treaties, such as the WTO TRIPS Agreement, that sets minimum requirements to IPR. We do not propose the European Union violate or disregard these treaties, but encourage the Union to use its influence in the governing bodies to get them reformed to accommodate our proposals. These limitations of patent rights would still fall well within the institutional structure in place, but would significantly reduce the risk entrepreneurs face of being sued for infringements on patents they did not even know existed.	Of course this is an international issue, but it would certainly help if Germany were to advocate this at the appropriate levels. Because Germany is an important player in this field. It may, on first sight, go against the interests of a country that patents a lot. But this will stimulate commercialization also in Germany.
11	3.2.6	Taxation of Private Wealth	We therefore propose to increase the wealth available for informal entrepreneurial finance by reducing taxes on private wealth, private wealth transfers and inheritance.	Entrepreneurs distribute ownership rights to informal investors and their investments early in the start-up process, suggesting triple-F financiers are not mere charities. The supply of triple-F informal entrepreneurial finance typically follows demand closely and that amounts invested are typically in the same order of magnitude as those committed by angel investors discussed below (in the 0000s). That is, entrepreneurs mobilize significant funds from their personal networks and these funds help them develop their venture in its earliest stages. It is possible that more supply of informal finance would thus enable or even cause more entrepreneurial venturing.	The transfer of wealth across generations, especially in the form of business assets, is a major issue in the family-firm dominated <i>Mittelstand</i> in Germany. The ageing demographic may add to this problem. By reducing taxation on private wealth transfers, the transition in these firms can be improved, but this also frees up more so called triple-F finance in Germany.
19	3.3.4	Banking	Increase the mandatory equity ratio in banking gradually to 10-15% to have more skin in the game and allow banks to take on more risk responsibly in their lending portfolios.	Given that European banks operated profitably at much higher equity ratios in the past whereas non-European banks continue to do so, this proposal only requires a sound implementation and transition strategy. Gradually building up the equity buffer while at the same time accumulating more publicly guaranteed SME-loans in the portfolio is a balanced approach. Higher required equity buffers will increase the price of credit and some might argue that this will reduce credit and investment in the aggregate. We feel, however, that such price increases will only drive out the marginal investment projects and most of these are currently found in the secondary, speculative investments that economists deems unproductive.	German banking landscape has a few very large banks, Deutsche Bank in particular and many small, often locally operating banks ( <i>Sparkassen</i> ). European and international minimum standards are applied, but allow for rather low reserves and high leverage. German banks currently are well capitalized and operate on average with low leverage, but Deutsche Bank was branded the worlds' riskiest bank by the US FDIC in 2016 using its simpler method of computing leverage.
22	3.3.5	Angel and Venture Capital	Reduce barriers to the sale, acquisition and IPO of VC-funded start-ups.	An option to ensure that incentives to invest are stronger while possibilities to offload risks onto taxpayers and financiers are kept small, is to reduce capital gains taxation for venture capital equity investments (but NOT for private equity used for leveraged buy-outs, speculation and mergers and acquisition). And to improve the opportunities to exit. In that way, VC investments are not subsidized directly but become more interesting as there are more options for a quick exit.	Germany does not seem to suffer from a direct lack of Angel and VC funds and its geographical distribution nicely matches the entrepreneurial ecosystem. However, the German market remains small because of low demand. We propose to stimulate this market by strengthening incentives as direct subsidies in these circumstances will only cause too much cheap money chasing too few projects.



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#	Section	Title	Proposal	Explanation	In Germany
23	3.3.6	Alternative Finance and Disintermediation	We propose to implement a light-touch regulatory regime for equity crowd funding.	Light touch regulation has been successful in Britain and could work well in all European Member States. This is not controversial as the European Commission and most of the member states have already expressed their intentions to do so.	Crowdfunding Insider argues that German crowdfunding regulation introduced in 2015 and reviewed in 2017 seeks to limit crowd funding for real estate investment. The arguments are all about stability. We would encourage experimentation with this new form of finance under tight supervision, but loose regulation.
26	3.4.1	Social Insurance Systems	We propose below to make important social insurance benefits “portable” between jobs and between regular employment and self-employment.	Public income insurance systems in combination with strict labour security legislation tend to penalize individuals who assume entrepreneurial risk (Ilmakunnas and Kanninen 2001). This is because these systems confer a relative advantage on employees with many social security benefits—such as disability, sickness, unemployment and pension benefits—being explicitly linked to formal employment. These benefits further increase the opportunity cost of leaving a tenured position as an employee and thus reduce the incentives for entrepreneurship (Audretsch et al. 2002).	Labour market mobility in Germany is relatively low. Geographically, occupationally and across LM-statuses. It seems in Germany this is also due to the “orderly” educational system that sets people on a very predictable career path. Decoupling formal employment from social security entitlements is an important start.
30	3.4.3	Employment Protection Legislation	Relax the stringency of employment protection legislation for permanent contracts.	A competently implemented liberalisation will reduce job security but increase employment security for workers, as labour demand will increase and more opportunities will be created in the labour market. That said, the impact and strictness of employment protection legislation depends on a complex combination of components, such as grounds for individual dismissal, redundancy procedures, mandated periods of advanced notice, severance payments, special requirements for collective dismissals, rules favouring disadvantaged groups, and so forth. For liberalisation to have the desired results, countries must develop carefully tailored strategies to avoid jeopardizing the process, ideally by considering and possibly emulating the paths already taken by similar countries.	Germany ranks 4th for permanent and 44th for temporary contracts protection in the OECD ranking. The gap is huge. Not many countries show such a difference. It may be argued that tight labour protection is needed to maintain the high levels of firm specific human capital that characterise Germany, but that cannot justify the gap with temporary workers. This disparity implies not all employers compete for talent on a level playing field and government enforced regulation benefits large corporates over new entrants.
31	3.4.3	Employment Protection Legislation	Establish or strengthen training programs to prepare workers for new occupations	Countries with a low rate of substitution between inputs in routine production, will not be able to gain a comparative advantage in high-value products that are intensive in non-routine tasks. As a result, they will end up specializing more and more in routine-intensive products and experience lower wage growth. The pattern of firm-growth in e.g. Belgium indicates that young firms under-adjust to good news. As a result, many promising firms scale up too slowly and they might miss out on opportunities in a fast-paced global market.	On the job training for mobility has to be publicly funded. Or by employees. Because we cannot expect employers (let alone start-ups) to pick up the bill. This can be a first step towards addressing the lock-in effect of the German dual educational system mentioned also under proposal 26.
33	3.4.4	Other Barriers to Mobility	Consider experimenting with a guaranteed return to a job after time spent with a start-up and/or a publicly funded “venture creation leave” for people engaged in a firm start up.	It was generally agreed that a policy to promote mobility would involve both pull (eliminating barriers) and push (encouraging mobility) instruments. However, the desirable mobility and flexibility in the labour market can only be achieved when a basic level of income and job security is ensured for those involved. People will not take the risks associated with working as or for a young start-up when necessities of modern life are not met and reasonably secure.	Germany would stand to gain from R&D workers leaving their employer when especially serendipitous discoveries are outside the strategic scope of the incumbent. This may be important to support not only R&D workers that could start up innovative high tech ventures but support also the everyday entrepreneurs who are important in an entrepreneurial society.



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34	3.4.5	Social Insurance Systems	Guarantee equal access to welfare state arrangements for all, regardless of tenure in a specific job or labour market status, to make all potential employers compete on a level playing field.	An Entrepreneurial Society will see more people active in the labour market as self-employed or freelance worker or working in inherently risky ventures and SMEs with corresponding intervals of being between jobs. It is evident that these people face income and health risks that they cannot (self-) insure, as much as anyone else. Therefore, in a modernized labour market, these citizens should be given access to collective arrangements on an actuarially fair basis.	We could even make this proposal a bit stronger and argue that joining such collective arrangements should be mandatory to avoid competition resulting in underinsurance and eventually transferring the risk on society, as is the case with for example health costs and pension insurance.
40	3.5.2	Product Market Regulation	Excessive barriers to new business formation and new entry should be lifted where possible.	This, however, seems to be part and parcel of the EU policy agenda already. Our consortium supports that effort with the caveat that well justified barriers to entry are useful to keep unproductive or even destructive ventures out. It should be easy for challengers to enter (and exit) but these challengers should be serious.	The survey above clearly indicates founders think bureaucracy and regulation is a barrier to business formation and the Doing Business Index of the Worldbank ranks Germany ranks 113 out of 190 in ease of starting a business. Comparing to Georgia at 20% below the global frontier and not improving as fast.
42	3.5.4	Digitalisation	Invest in an excellent, open access digital infrastructure for European citizens and businesses.	To allow entrepreneurs to act on the opportunities and protect European citizens from the risks involved in digitalisation, it is important to embrace these trends. No regret policy proposals to do so are to provide an excellent ICT-infrastructure in Europe that allows entrepreneurs to quickly scale their innovative ideas to the EU and global level.	Providing such an infrastructure would promote scaling of new digital ventures and high tech services. As this is a fertile ground for new firm formation, Germany could invest here to promote a more adventurous entrepreneurial ecosystem without jeopardising upsetting its existing routine innovation paradigm in manufacturing.
44	3.6.2	Bankruptcy Law	Insolvency regulation should protect inherently healthy and promising ventures and allow for a quick and ex ante transparent liquidation of those that are not.	It should not be too easy to file for bankruptcy. That would give the firm too much bargaining power in such negotiations. If writing off debt and starting anew is too convenient a resort for failing entrepreneurs, it may encourage exploitation and destructive entrepreneurship, harming creditors and the rest of society. On the other hand, a person who goes bankrupt because of a failed venture should not be stigmatized and forever haunted by debt and ostracized from future entrepreneurship.	This proposal ties in with the Business Risk Acceptance and Fear of Failure but this necessarily is a long run intervention. Only by signalling strongly to society that failure in business is accepted and forgiven, can cultural attitudes gradually become more supportive. No quick results to be expected. German bankruptcy law seems stringent.
48	3.7.2	Knowledge Generation	Both the EU and its member states should create healthy, well-funded, academic institutions that allow Europe's best and brightest to pursue their research interests.	In the literature, there is also broad consensus that basic research is a pure public good. It therefore makes perfect sense to channel more of the EU and national budgets to an activity that provides such evident positive spillovers throughout the Union.	For Germany this should be interpreted as a call for increasing the public funding for universities in particular. These institutions have a strong educational focus in Germany as it is and spending per student has declined and at €9000 per students is less than the OECD average of €10.400. Underinvesting in academic teaching and basic research jeopardizes the knowledge base in the long run.
49	3.7.3	R&D	We propose to limit R&D subsidies and tax breaks to "new to the market" activities.	The reasoning behind that proposal is that only "new to the market" R&D generates the positive external effects that justify public support. New to the market should here be understood as new to the global markets and therefore truly innovative.	Ties in with shortage in radical product and technology innovations. "New to the market" is by definition more radical. Current programs support using grants and loans (not tax breaks) and incremental projects are eligible.



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53	3.7.4	Knowledge Diffusion and Commercialisation	We propose to strengthen intrapreneurship.	Our consortium agrees that perhaps intrapreneurship, entrepreneurial venturing in the relative security of a formal employment relationship, is more complementary to the European model of the welfare state. Promoting intrapreneurship is then probably a more efficient way to push Europe in the direction of a more Entrepreneurial Society.	In the German case it is important to promote more radical intrapreneurship. Intrapreneurs in Germany are still too often seen as enemies and policies should be designed to support them.
55	3.8.2	Creativity in primary and secondary education	Push for reforms in primary and secondary education that promote creativity, a willingness to experiment, a tolerance of failure and out-of-the-box thinking.	More appreciation for creativity (and therefore tolerance of deviant behaviour) will probably shift the balance from business oriented to more creative entrepreneurship. Evidence from field experiments and in the FIRES-project suggest that creative entrepreneurs are more socially oriented than strictly business-oriented entrepreneurs. Promoting creativity in primary and secondary education, to the extent possible, is therefore a long-term strategy to promote productive entrepreneurship that will create innovative, sustainable and inclusive growth.	If we combine German low scores on Education and Training plus the need for more risk acceptance in the REDI-data analysis, we conclude reforms in education are desirable. The government has put some programs in place in the 2000s already, but a focus on creativity and out-of-the-box thinking was not part of these programs. A lot has been achieved in recent decades. But education in the 21 <sup>st</sup> century requires different skills and brave leadership alongside professional teachers in German schools. As this is a shared competency, the federal and Länder levels will have to coordinate, but individual Länder can also experiment.

