



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

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# Policy brief on FIRES-reform strategy for the UK

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## Abstract

In this policy brief, we outline a draft FIRES-reform strategy to promote a more inclusive Entrepreneurial Society in the UK. 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 process was applied to the case of the UK in a report (download [here](#)) the findings of which are briefly summarized in this report. This brief is one of three; the other briefs address Germany and Italy respectively.

## Introduction:

In this brief, we outline the FIRES project strategy for reforms supporting a more entrepreneurial society in the UK. In the project, we developed a seven step approach to tailor a reform strategy to a specific national context (see box 1 below). We here present the results of the first five steps; step 6 will be presented later in a separate report on the results of the policy round table discussions.

Our approach can be likened to the way in which a medical doctor might diagnose a patient. 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 their symptoms. After diagnosis, the doctor will prescribe the most fitting treatment from an established medical arsenal.

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<sup>1</sup> This policy brief was drafted for the policy round table in London on April 26, 2018 by the first author based on FIRES-report: D5.12 An Institutional Reform Strategy for Germany, Italy and the UK; Part II, Chapter 3. Co-authors contributed to this chapter in various ways, but do not necessarily agree to all the proposals made.





In section 1 we summarize our diagnosis, based on a triangulation of historical analysis, quantitative data and qualitative information. In section 2 we present our proposed remedies. 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.

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

*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.

*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.

*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 aims to restore inclusive, innovative and sustainable growth to Europe. We believe that to achieve that goal, we need to move Europe to a more entrepreneurial society. Making a society more entrepreneurial involves reforming its institutions so that more

of society's resources flow into experimental, new ventures and equipping its people with the skills, means and appetite to engage opportunities while managing risks. Without experimentation at the micro level, we risk macroeconomic stagnation in the future. But Europe's entrepreneurial ecosystems show great variety and diversity. And if it is institutions that need to be reformed, then we have to consider that institutions have deep historical roots. Therefore, we do not favour one-size-fit-all approaches. Formulating a reform strategy involves zooming in and in the complex web of interacting institutions that underlie any entrepreneurial ecosystem, we need to identify those elements which in principle can be reformed and those so embedded as to be taken as given.

The UK's long and rich history has shaped its institutions in a unique way. The British Isles have not been invaded successfully since 1066, thought there were centuries of internal conflict before the country unified and rose to unrivalled global supremacy in the 19<sup>th</sup> century. In the 20<sup>th</sup> century, however, its rivals have rapidly caught up and overtaken. The UK's influence still extends across the globe, but like any other nation, the UK has to compete with innovative and efficient competitors for the favour of consumers across the globe. Moreover, the rise of China and the digital revolution will squeeze out any comfortable routine activities, leaving the UK little choice but to try and compete at the global technology frontier on creativity and innovation.

Since the 1980s, the UK has followed a path of privatization and market competition to foster its competitive position, with mixed success. Its financial sector has developed into the one of



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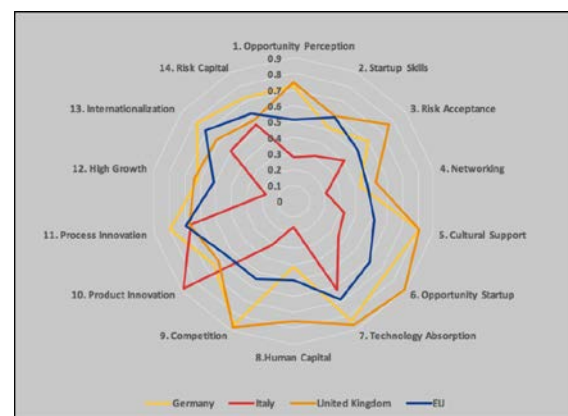
the most advanced and developed market based financial system in the world. The UK has also developed its distinct Anglo-Saxon model of capitalism with a relatively business friendly regulatory environment, highly flexible labour markets, well-funded universities and strong protection of intellectual property rights. In such a system, however, upward social mobility is increasingly limited and financial wealth is increasingly concentrated. At the same time, low labour protection reduces incentives for people to invest and accumulate (firm-specific) human capital. As a consequence, the UK has relatively efficient and business friendly markets, but is also short-termist and economic rewards are not always socially inclusive. This is reflected in the famous Great Gatsby Curve ([Corak, 2013](#)) where the UK ranks high on both inequality and intergenerational wage elasticities, implying wealth and poverty are highly entrenched. Policies that consecutive Conservative but also the Coalition and Labour governments have implemented, still tend to be based on the tried and tested UK recipes of further liberalisation and stronger market competition. We argue below that the UK may instead need to give more attention to the public and collective infrastructures that entrepreneurs also need in order to succeed in global markets. Making the UK entrepreneurial ecosystem more inclusive, regionally and across income groups and wealth classes, may be important for the long run socio-political sustainability of the UK-model.

We will first identify the most important bottlenecks and weaknesses in the UK

entrepreneurial ecosystem, based on our analysis of available quantitative and qualitative information.

The quantitative analysis is based on the [Global Entrepreneurship Index](#) and its regional equivalent, the [Regional Entrepreneurship and Development Index \(Acs and Szerb 2012\)](#).<sup>2</sup> The index brings together data and information on 14 “pillars” concerning individual activity drawn from the Global Entrepreneurship Monitor adult population and expert panel survey data and institutional quality indices obtained from for example the World Bank. These pillars quantify and benchmark individual entrepreneurial agency and institutional support in three broad areas - the Attitudes, Abilities and Aspirations of entrepreneurs - that together express the health and strength of an entrepreneurial ecosystem.

Figure 1: Average GEI-scores 2012-2015



Using an algorithm that converts the raw data into normalized scores per pillar enables the assessment of a country or region’s relative performance. The algorithm applies a “penalty for bottleneck” to reflect the importance of

<sup>2</sup> The technical details behind constructing these indices are explained in detail in FIRES-reports [D4.1](#), [D4.2](#) and [D4.4](#).



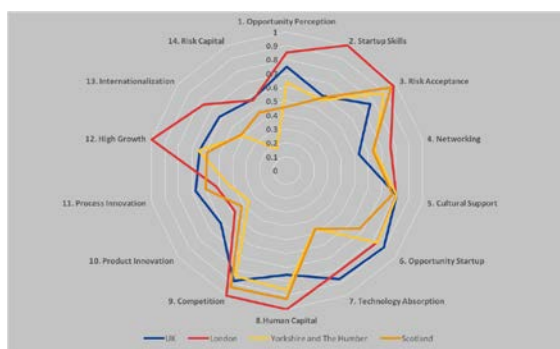


developing all relevant aspects of the ecosystem in a balanced way.

We present the results for the UK and its NUTS-1/2 regions in the radar-plots in figure 2 and 3. Figure 2 shows that at the national level the UK has a rather unbalanced entrepreneurial ecosystem. It excels in Opportunity Recognition and Risk Acceptance by EU standards, but less so on Networking and Start-up Skills. Furthermore, the UK lags slightly relative to the EU average on Internationalization and Process Innovation. However, it generally scores poorly in the upper-left (Entrepreneurial Aspirations, pillars 10-14) of figure 2.

This countrywide score, however, hides a lot of regional variation. When we benchmark the UK NUTS-2 regions against 125 NUTS1/2 regions in 24 EU countries, as in figure 3, we see for example York and The Humber and Scotland showing a significantly different pattern than London, with weaknesses in Technology Absorption, Start-up Skills and Risk Capital (Informal Investment) especially in Yorkshire and the Humber.

Figure 2: REDI-scores Selected UK Regions

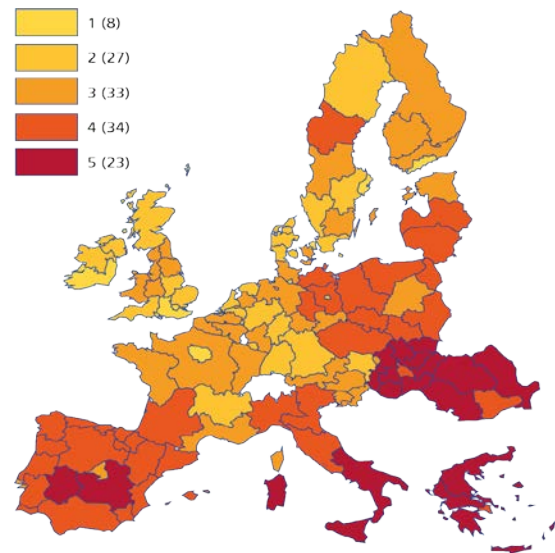


In the complete report on the UK, on which this Policy Brief is based, we present the radar-plots

<sup>3</sup> The level of the NUTS-2 regions is perhaps not optimal for assessing entrepreneurial ecosystem quality as the regions do not necessarily coincide with economic regions. Wales, Scotland,

for all UK NUTS-2 regions. The strong regional variation in overall scores, though not as wide as in some other EU countries, can also be seen in the map in figure 4 .

Figure 3: REDI-scores 125 EU NUTS1/2 regions



Thus the UK as a whole performs relatively well by EU standards in terms of the entrepreneurial ecosystem underlying the robust score on the overall index for the UK (with 77.8, it is ranked 4th out of 65 developed and emerging countries, behind the US, Canada and Switzerland). Still the UK entrepreneurial ecosystem is heavily concentrated in the South and around London more specifically. The entrepreneurial society in the UK can be made more inclusive and reforms to strengthen parts of the UK entrepreneurial ecosystem, especially in Northern England are urgent and desirable. The REDI-scans can also be used to identify where the UK should concentrate its efforts to improve bottlenecks in its regional entrepreneurial ecosystems.<sup>3</sup>

Northern Ireland and London itself do coincide with sub-national administrative units and represent potentially effective levels of policy making.



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Table 1: REDI Report Card London

PILLAR		INSTITUTIONAL VARIABLES		INDIVIDUAL VARIABLES		
Entrepreneurial Attitudes	Opportunity perception	0.85	Market Agglomeration	1.00	Opportunity Recognition	0.79
	Start-up skills	1.00	Quality of Education	0.98	Skill Perception	0.75
	Risk Acceptance	0.98	Business Risk	1.00	Risk Perception	0.84
	Networking	0.76	Social Capital	0.92	Know Entrepreneurs	0.66
	Cultural support	0.81	Open Society	0.87	Career Status	0.83
Entrepreneurial Attitudes 80.6						
Entrepreneurial Abilities	Opportunity start up	0.83	Business Environment	0.88	Opportunity Motivation	0.80
	Technology Absorption	0.82	Absorption Capacity	0.95	Technology Level	0.79
	Human Capital	1.00	Education and Training	1.00	Educational Level	0.84
	Competition	1.00	Business Strategy	1.00	Competitors	0.64
Entrepreneurial Abilities 82.7						
Entrepreneurial Aspirations	Product innovation	0.48	Technology Transfer	0.94	New Product	0.59
	Process innovation	0.52	Technology Development	0.64	New Technology	0.66
	High growth	1.00	Clustering	0.92	Gazelle	0.86
	Globalization	0.76	Connectivity	1.00	Export	0.66
	Financing	0.56	Financial Institutions	1.00	Informal Investment	0.56
Entrepreneurial Aspirations 63.3						
GEI		<b>75.5</b>	Institutional	<b>0.93</b>	Individual	<b>0.73</b>

Table 1 gives the more detailed breakdown of REDI-report card for London. London represents the UK's most important entrepreneurial hotbed. It can be seen in the table that London scores 100% on many of the pillars and institutional variables in a comparison with the rest of Europe. That does not imply that improvements on these aspects are not possible, but it does imply these are not bottlenecks in the London ecosystem.

Using an algorithm that combines the scores on individual agency and institutional quality, a score per pillar, per sub-index and ultimately for the whole London ecosystem is computed. At every level, the algorithm rewards a balanced development within and across pillars and punishes the score when

bottlenecks seem present. The low scores per cluster in the report card thus flag the bottlenecks in the ecosystem and are marked red.

The score on the pillar Product Innovation, for example, signifies that on this pillar London scores only 48% of the highest score observed in 125 European NUTS-2/1 regions. This low score is found despite a relatively high level of general Technology Transfer (0.94) in London, but with a low prevalence of New Products introduced to the market by start-ups (0.59). The analysis thus identifies the latter as an important bottleneck and improvements here could significantly improve the functioning of London's already strong entrepreneurial ecosystem.





Though performance differs quite significantly across UK regions, there are some similarities in their relative strengths and weaknesses (see the other regions report cards in the full country report [here](#)). Table 2 lists the results of an analysis of all report cards, where we have listed the weakest pillars in the respective

ecosystems and identified the underlying variable(s) that drive these low scores. In the London example, the three lowest scoring pillars in table 1 were 10, 11 and 14 and the column “weakest variables” in table 2 lists the variables that drive these low scores.

*Table 2: Weakest Pillars by Region*

REGION	WEAKEST PILLARS	WEAKEST VARIABLES
North East	7, 12, 14	Absorptive Capacity and Technology Level, Clustering and Gazelles, Informal Investment
North West	10, 13, 14	New Product, Exports, Informal Investment
Yorkshire and the Humber	10, 13, 14	New Product, Exports, Informal Investment
East Midlands	12, 13, 14	Clustering and Gazelles, Exports, Informal Investment
West Midlands	10, 11, 14	New Product and Technology Transfer, Technology Development and New Technology, Informal Investment
East of England	10, 13, 14	New Product, Exports, Informal Investment
London	10, 11, 14	New Product, Technology Development and New Technology, Informal Investment
South East	10, 12, 13	New Product, Gazelles, Exports
South West	10, 11, 14	New Product, New Technology, Exports
Wales	7, 10, 11	Absorptive Capacity and Technology Level, New Product, Technology Development and New Technology
Scotland	10, 13, 14	New Product, Connectivity and Exports, Informal Investment
Northern Ireland	1, 13, 14	Opportunity Recognition, Connectivity and Exports, Informal Investment

The repeated appearance of pillars 10/11 (Product and Process Innovation), 13 (Internationalization) and 14 (Risk Capital) across many UK regions in table 2 suggests that policy action in these areas is called for at the national as well as the local level. Furthermore, New Technology or Products, Exports and Informal Investment seem to drive the weak performance on these pillars in most Regions. This suggests that interventions should be targeted and possibly coordinated at the national level, to address these weaknesses.

Our reading of the data above reveals that in all UK regions and the country as a whole, the main bottlenecks in the entrepreneurial ecosystem are a limited willingness or ability to adopt new technology (New Product/New Technology), a lack of export orientation and success (Export) and a shortage of informal capital (Informal Investment). Arguably we could link the former to the limited loyalty and firm specific human capital that would strengthen incumbent and start-up firms to adopt the latest technology, whereas the low



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scores on informal investment perhaps parallel the success of formal financial markets.

It is helpful to complement this quantitative analysis with more qualitative information to contextualize and complete the diagnosis. In a survey among 100 founders in the UK, we collected responses on a list of questions, of which the open question on barriers to

Table 3: Responses Survey

founding gave us an opportunity to triangulate the data from the quantitative analysis with qualitative information. Table 3 presents the top-10 most mentioned issues in this open question. Interestingly, many enterprise founders do identify any regulatory obstacles in the UK, which might be the consequence of a sampling bias towards successful ventures.

REGULATORY OBSTACLES	#
Which regulatory requirements did you perceive as major obstacles during venture creation?	125 <sup>4</sup>
None	50
No answer	3
Onerous requirements for documentation	9
Data protection laws	9
Legal Insecurity	6
Legal requirements for approval	6
Tax legislation	6
Difficulties with obtaining government funding	4
Pension scheme	4
Constantly changing regulatory environment	3
Insurance requirements	3
High Taxes	3
Specific requirements related to energy sector	3

The UK has a business friendly regulatory environment, and has seen sustained policy efforts to reduce bureaucracy and regulatory burdens. Presumably as a result, entrepreneurs cannot identify many regulatory barriers and those mentioned are the common ones in any such surveys; regulatory uncertainty, data protection, tax and legal requirements with each mentioned by less than 10% of the respondents. We interpret this as being in

agreement with the view of e.g. the World Bank’s Doing Business indices; that the UK has probably relatively little to gain from further deregulation in this area.

Indeed, some barriers to entry are necessary and can be justified if they work to increase the quality of start-ups that overcome such barriers. Overall the survey therefore confirms that the UK ecosystem is rather supportive for individual founders. We observed that

<sup>4</sup> More than one answer was allowed.







regulatory barriers did not seem to be a pressing problem, and that in the UK bureaucratic hurdles do not tend to be excessive. The weaknesses the GEI-REDI analysis revealed point instead in the direction of problems that one cannot solve by further deregulation and market competition. From our analysis of recent policies in the UK, we conclude that the UK may need to shift focus, with increased attention on the bottlenecks that remain in its entrepreneurial ecosystem. These, we would argue, are largely about strengthening the collective foundations and making the entrepreneurial ecosystem more inclusive.

To summarise, we would argue that high scores on Entrepreneurial Attitudes imply UK entrepreneurs are not short of spirit and our survey suggests they are not held back by stifling bureaucracy (as they are in some EU countries). Moreover, its formal financial markets are world class and offer investors high returns on a globally diversified portfolio of assets. But efficient markets will allocate resources to their most productive use only in a static sense. High mobility of labour, capital and knowledge, implies accumulation, clustering and concentration, as occurs in London. But UK entrepreneurs in the rest of the country have a hard time hiring and retaining a loyal workforce willing to invest time and energy in their ventures and attracting patient equity capital from informal sources. This lack of inclusiveness is much harder to address with policies in the traditional entrepreneurship policy domain and we believe that more profound and fundamental institutional reforms are needed to strengthen make the ecosystem more inclusive and innovative. The UK excels in Entrepreneurial Attitudes, but

remains weak in Entrepreneurial Aspirations. That means that the entrepreneurial attitude is there, but the results in terms of actions lag. There is an interesting contrast with Germany in our study; what Germany has too much of in terms of entrepreneurial ecosystem, the UK lacks and vice versa. Thus, the UK's adventurous spirit with weak collective support structures means a lot of experimentation with low probabilities of individual success, where in Germany there is much less experimentation but much higher levels of success. A balanced and more inclusive entrepreneurial ecosystem could therefore move the UK towards an even better position than it holds today. We will therefore propose some targeted interventions that will make the UK a more inclusive and effective entrepreneurial ecosystem.

## Section 2: Proposed reforms

We base our discussion on a broader analysis of potential policy interventions, downloadable [here](#). We have seen that the UK's highly concentrated geographical pattern has longstanding historical roots, with London always the administrative, cultural, financial and economic capital. No wonder that London today boasts a highly service oriented entrepreneurial hotbed that attracts talent and capital from the country and indeed the world. Entrepreneurship has deep historical roots in the UK, but our evidence suggests UK entrepreneurs lack access to a labour force that helps them build competitive advantage in the long run in global value chains.

The UK economy proved vulnerable to the financial crisis and is still showing weak macroeconomic performance that is likely to suffer more with Brexit. This also affects the





entrepreneurial ecosystem, if only indirectly. One might assume that the country's model of globally operating banks and advanced VC and angel investor communities is well positioned to support gazelles and unicorns if they come along, but the UK underinvests in the broad basis of everyday, turtle entrepreneurs from which these rare beasts can spring.

To face the challenges of the future, the UK will have to develop a broader foundation to support a position at the global technology frontier. It should thereby build on its strengths but also address its weaknesses.

As a highly liberalised economy, the UK has strongly developed markets. A market economy, however, has the tendency to lead to accumulation of wealth and opportunities in the hands of relatively few. When returns on financial wealth then exceed real growth, a dynamic towards a closed renter society is a real threat ([Piketty, 2014](#)). An inclusive, open and entrepreneurial society can provide a significant antidote.

The UK can strengthen its entrepreneurial ecosystems by boosting firm specific human capital investments and more importantly, creating opportunities for all as employees, investors and employers, to engage in innovative and experimental venturing in the UK. Platform based financial innovation and educational reforms can strengthen the position of the socially excluded in its competition based market economy and help them unlock their potential also. As these resources are also geographically less mobile, this may strengthen especially the weaker regions in the UK ecosystem and make future growth more inclusive, also geographically.

We now propose fifteen interventions which our analysis leads us to propose as most

suitable for the UK today. They are listed in Table 4 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 general motivation and column 6 links the proposal to the analysis presented above and fits it into the UK context.

The first two proposals (2 and 5) refer to intellectual property rights (IPR) and call for the UK to experiment and negotiate for less stringent and encompassing IPR. This may sound counterintuitive and goes against the mainstream thinking that strong IPR promotes innovation and growth by providing incentives to generate knowledge. In stakeholder dialogues and discussions, as well as academic research, however, that conventional wisdom is often put on its head. Complex legal protection of IPR serves the interest of large incumbent corporates, who use IPR to maximize their profits. This rarely involves maximizing the generation and diffusion of new knowledge and technology through commercialisation. The British experience in the industrial revolution, when IPR enforcement was expensive and scant, is a case in point. The reforms we propose would aim to restore IPR to its original purpose: give credit to the inventor, while promoting further incremental innovation and commercialisation by entrepreneurs. By opening up IPR, the UK would create opportunities for less sophisticated entrepreneurs to compete at the global frontier.





Proposals 11, 15 and 18 aim to increase the levels of informal investment in the UK. Lowering taxation on wealth should not be understood as an across the board reduction in such taxes. Indeed, if our diagnosis calls for a more inclusive entrepreneurial ecosystem, such a proposal would be strange indeed. We should therefore add that these proposals are to be interpreted as interventions in the taxation of wealth that will promote the accumulation of small private fortunes to be invested in small, everyday entrepreneurial ventures, through good old personal networks and modern crowd based equity and lending platforms. Proposal 18 adds to the mix the credit information that banks typically consider proprietary. By disclosing that information at least for the publicly guaranteed loans, also the refused ones, private investors that can take on more risk can pick up on these opportunities to invest.

Proposals 43 and 45 are very much aligned with the above in strengthening the infrastructure on which platform based financial (and other) services operate and creating central and publicly funded “Observatories” that collect, curate and disclose relevant and reliable information on entrepreneurial venturing and ventures, for entrepreneurs but also for (less-sophisticated) investors.

Proposals 27, 31, 52 and 63 directly aim to promote the flow of talent into entrepreneurial venturing. Proposal 27 targets marginal and vulnerable groups in the UK’s free and flexible labour markets, while proposal 52 aims to mobilize the relatively secure R&D workers that may not consider (spin-out) entrepreneurship a viable strategy to date. Proposal 31 aims to make Britain’s workers more resilient in the face of faster changing

jobs and labour markets. Employability in a modern economy depends to a large extent on the ability to learn, not knowledge that was acquired in school. Proposal 63 is intended to prevent the depreciation of human capital and complements the income floor in the social security system provided by the Universal Credit system. It adds an entitlement to work to prevent deskilling while unemployed.

Proposals 55, 59, 61 and 62 aim to strengthen the accumulation and maintenance of human capital throughout the average British career. In primary and secondary education, creativity and experimentation (with the required tolerance for failure) need to be pushed, whereas in higher education this line should be continued in support for entrepreneurial behaviour and venturing. Proposal 62 then aims to also keep that spirit alive on the work floor. The latter three proposals in the UK context translate into the government incentivising and stimulating such programs, as higher education and of course private firms are not under direct government control. Still, as two thirds of higher education budgets are still public and such funding is increasingly earmarked and performance based, the government can exert considerable influence.

### **Section 3: Concluding remarks**

The proposals individually and in combination aim to strengthen the knowledge base, talent pool and capital base from which UK entrepreneurs can draw and aim to open opportunities for not only starting but also growing innovative firms in all regions in the UK. 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 London and the South-East most. But by strengthening informal investment and the skills and resilience of low wage workers, while fostering a more entrepreneurial spirit throughout, it is likely that peripheral regions benefit as well. Of course these proposals 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 in the UK, we propose this set of interventions to make its entrepreneurial ecosystem more inclusive and thus build a broader foundation that can support a position at the global economic frontier.

## Sources and further reading:

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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 the UK

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Table 4: The FIRES-reform proposals for the UK

#	Section	Title	Proposal	Explanation	In the UK
2	3.1.3	Patents and Intellectual Property	Experiment with the right to infringe upon patents that are not actually commercialized.	IP is intended to promote the registration, diffusion and commercial application of new knowledge and technology. But the system is gradually turning into a one where savvy lawyers help large corporates to prevent, not promote these things. To restore the system to its original purpose, the rights of inventors and infringers need to be better balanced. You can be the inventor/discoverer of an idea, but society only benefits if that knowledge is commercialised. 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, the UK is party to international treaties, such as the WTO TRIPS Agreement, that sets minimum requirements to IPR. We do not propose the UK violate or disregard these treaties, but encourage it to use its influence in the governing bodies to get them reformed to accommodate these proposals and perhaps lead in experimenting with such reforms.
5	3.1.3	Patents and Intellectual Property	Support experiments and pilots currently developed with open source patent registration.	The functions of patenting can perhaps be fulfilled more efficiently in other ways and certainly do not require allowing inventors to monopolize and thereby limit the profitable use of the knowledge they have generated. But given the legal complexities and institutional complementarities we propose a cautious approach of experiments that retain the system's benefits while increasing the free flow of knowledge. Scholars proposed open source patents to retain the functions of knowledge repository and verification, while improving the access to knowledge also for commercial use.	Open source patents combine giving credit to the inventor, keeping a registry of useful knowledge and opening up that knowledge base for further expansion, also through commercial venturing. The UK after Brexit will remain a member of EPO, but can offer to take the lead in experiments that will promote free flows of knowledge in society.
11	3.2.6	Taxation of Private Wealth	Reducing taxes on private wealth, private wealth transfers and inheritance.	Evidence shows that 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 amounts invested are typically in the same order of magnitude as those committed by angel investors (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.	This may sound counterintuitive as a policy to promote a more inclusive entrepreneurial society in the UK, but small, everyday entrepreneurs cannot access London's increasingly formalized angel and VC markets. Their tickets are too small and returns too low to attract such funding. Thus triple-F finance is their only recourse. This proposal aims to increase the availability of such funding in all regions. As we want to promote especially small tickets and amounts, the tax reductions can be capped at relatively low amounts. Wealth that is actively invested in small, triple-F, equity investments should be treated differently from large fortunes, passively invested in global financial markets.
15	3.3.3	Institutional Investors	Make it (fiscally) attractive to invest private wealth in entrepreneurial ventures.	Wealth-constrained would-be entrepreneurs are unable to credibly signal their project's worth to outside investors by means of making sizeable equity infusions of their own. More private as opposed to institutionalized wealth would lessen the inherent problem caused by such asymmetric information, and, if needed, enable entrepreneurs to fully finance their ventures until organic growth based on retained earnings is possible.	Following up on the proposed above, the low taxation on wealth could be made conditional on how the wealth is invested. The government should of course not get involved in capital allocation directly, but could rather promote some over other categories of investments. This, combined with crowd lending and equity platforms, can democratize capitalism.
18	3.3.4	Banking	In the system of bank loan guarantees for start-ups, ensure that credit decision information is made available.	Such public guarantees can be motivated from the fact that entrepreneurial venturing creates knowledge spillovers and positive externalities that banks and entrepreneurs do not consider in their private decisions. This information, however, should then be disclosed (for example via the proposed Entrepreneurship Observatories in Proposal 45 below).	Banks in the UK do not disclose information about credit they grant or credit they refuse. Such information, if adequately anonymised, however, can be very helpful for other credit seekers and investors, also outside the banking sector. Access to such information should be supervised by the government and privacy must be protected.
27	3.4.2	Inclusive Entrepreneurship	Further develop entrepreneurship programs targeting groups that are disadvantaged in formal employment.	Entrepreneurship is perceived to be inherently more inclusive than employment, but the evidence shows that income and participation gaps largely extend to business ownership and income. To enable disadvantaged groups to engage with the opportunities the Entrepreneurial Society offers, some special attention and support, as already offered in the latest Horizon 2020 program, is justified.	In the UK the probability of being self-employed is higher among migrants and disadvantaged groups and even when self-employed they earn less and work longer hours, they report higher job satisfaction and happiness. For women this is not the case. It is therefore worthwhile to increase participation through promoting self-employment and entrepreneurship among these groups.
31	3.4.3	Employment Protection Legislation	Establish or strengthen training programs to prepare workers for new occupations	Evidence shows that 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	Job creation and destruction are relatively high in the UK. Small firms are disproportionately responsible for this. This implies a more entrepreneurial society, with more people employment in small and medium sized firms in experimentation, will imply employees need to



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				more in routine-intensive products and experience lower wage growth. As a result, many promising firms scale up too slowly and they might miss out on opportunities in a fast-paced global market.	be equipped with the skills to transfer jobs and employers. This is a public good, benefitting all employees but also their employers.
43	3.5.4	Digitalisation	Develop open standards and open regulation for digital platforms to facilitate peer-to-peer and business-to-business trade, services and finance.	It is important to carefully consider the position of workers and customers in these platforms. Scholars have voiced concerns about the quality of work and the potential that digital platforms may undermine social security. These developments necessitate a careful modernisation of labour market protection and social security systems and adequate investment in human capital, to ensure digitalisation contributes to inclusive growth.	The digital revolution is beginning to change the way we do business across the board. It touches the very institutions that allocate capital, labour and knowledge in society. The UK is leading in platform based financial innovation and in a position to develop and set the standards. A strong infrastructure with clear and well-designed open standards will promote innovation and the creation of new services and creates opportunities for all to contribute and participate. Crowdfunding, crowdsourcing, self-employment and open innovation are all greatly leveraged with digital technology.
45	3.6.3	Knowledge Diffusion after Failure	We propose to set up publicly funded "entrepreneurial knowledge observatories"	Our consortium agreed that a lot of useful knowledge, perhaps of a more applied and tacit nature, is generated in the entrepreneurial process, particularly when ventures fail. That knowledge is lost when entrepreneurs do not share their experiences. However, as that is not their core business and private incentives are absent, it makes sense to publicly fund the collection, curation and diffusion of that knowledge.	In the UK there is a relatively high rate of firm formation and failure. This is beneficial and signals a healthy entrepreneurial ecosystem generating a lot of variety and selecting quick in a tough market environment. However, this also implies a lot of knowledge is lost. Incentives to retain and disclose experiences of in particular failures, are low. Such knowledge constitutes a public good, justifying government intervention.
52	3.7.4	Knowledge Diffusion and Commercialisation	We propose experimenting with a (publicly funded) entrepreneurial leave of absence for R&D workers.	The idea behind that proposal is that a lot of R&D results currently are shelved at incumbent firms because they do not fit these firms' strategies and interests of the moment or outright go against their short-term interests. Instituting the right to an entrepreneurial leave of absence could then promote more spin-out entrepreneurship that may lead to new industries and activities.	Spin-out ventures are on average more innovative and successful than those started without industry experience. R&D employees engage with pressing problems in their sector and are therefore well-positioned to identify opportunities and assess technical feasibility.
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 suggests 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.	The weakness in the UK we most try to address is low levels of absorptive capacity and firm specific human capital. UK citizens are willing to start a firm, but not so much willing to work for one and invest a lot in its success. Fostering a more entrepreneurial mindset, will in the long run make jobs in start-ups and new ventures more appealing, even for the non-entrepreneurs.
59	3.8.4	Universities	Educate the young and bright to be more entrepreneurial before they make their career choices.	Recognizing the importance of this European model of knowledge diffusion, European universities can take a larger role in the transition to a more Entrepreneurial Society in Europe. This starts with simple no-regret policies that have been proposed before (i.e. the European Commission's Entrepreneurship 2020 Action Plan).	This proposal is an ingredient in almost any Entrepreneurship Strategy and indeed most UK universities offer courses in entrepreneurship. It is perhaps more important that an entrepreneurial spirit is brought in the curricula more broadly. By going from desk to action research, students can be taught entrepreneurial skills even when learning about other topics. Trial and error and learning from failure are traits that any UK pupil should embrace.
61	3.8.4	Universities	Encourage university faculty to stimulate entrepreneurial initiatives while incentives for university spinoffs are increased.	Most US universities have a Technology Transfer Office (TTO), an in-house organization specializing in assisting academic entrepreneurs in commercializing their inventions. However, a TTO could also hinder the commercialization of useful technologies by making the process too bureaucratic and focusing on its own narrowly defined proprietary interests and key performance indicators. Therefore, we propose to promote team start-ups at universities as opposed to trying to sell university knowledge through licence agreements and patents.	UK initiatives to form clusters around its academic centres of excellence can be strengthened and made more inclusive to focus on team formation and new firm foundation as opposed to licencing and exploiting IP in more traditional ways. It involves more active engagement of the universities, but such activity would dovetail nicely with proposal 59 above.
62	3.8.5	Lifelong Learning Strategies	Develop mentoring programs by and for elderly employees and entrepreneurs.	FIRES deliverable 5.8 has proposed entrepreneurship campaigns for the elderly as a no-regret option as age should not be considered a barrier to entrepreneurship (Proposal 27). Notably, here we feel it would also be beneficial to develop mentoring programs by and for elderly employees, for whom the transition to a more flexible labour market may be particularly challenging.	The population of the UK is ageing and will continue to do so over the coming decades. This suggests it is important to keep the ageing population actively engaged. Entrepreneurship and self-employment have the great benefit that productivity declines can be absorbed by working less hours and at lower wages with much less problems.



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63	3.8.5	<b>Lifelong Learning Strategies</b>	Experiment with guaranteed public sector jobs to earn a minimum income. Jobs in young, innovative start-ups should easily compete with such guaranteed public sector jobs, both on wage and content.	The basic idea is that the public sector simply absorbs excess labour when activity in the private sector declines and releases it again when the private sector is expanding. Replacing the buffer of unemployed by a buffer of publicly employed labour. In that way, human capital can be maintained while access to the human capital remains guaranteed.	This proposal goes a step beyond the 2013 Universal Credit system currently being phased in. It extends that program with an entitlement to (part-time) work and aims to maintain human capital when demand is slumping. It is an option, not an obligation to accept such public service jobs and under the Universal Credit system such work will increase earned income. Of course, these jobs should not be so attractive that people get stuck in them. Hourly wages can be kept very low.
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