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Improved Framework Conditions for a More Entrepreneurial, Innovative and Resilient EU

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Improved Framework Conditions for a More Entrepreneurial, Innovative and Resilient EU**

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Abstract: In the wake of the Covid-19 crisis, the European Union must regain lost ground and create more favorable conditions for inclusive and sustainable economic growth. The best way to achieve this goal is by increasing the Union's innovativeness. This effort requires extensive and broad-based institutional reforms aimed at strengthening the incentives for entrepreneurship.

Innovative entrepreneurship requires collaborations with numerous agents that provide those skills and resources that the entrepreneur is lacking: inventors, key personnel, demanding customers, and early and later-stage financiers.

Based on this ecosystem perspective, we propose reforms in the following six broad areas: (i) the rule of law and property rights, ii) taxation, iii) savings and finance, iv) labor market regulations and social security, v) entry and exit barriers in product markets, and (vi) human capital for entrepreneurship. The reforms would likely strengthen Europe's innovation capacity at a time when it is needed more than ever.

JEL *Codes*: L26; L5; M13; O38; O52; P14.

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Introduction

A flagship initiative of the Union's well-known 2020 strategy was the so-called "Innovation Union," launched with a tone of urgency in 2010: "We need to do much better at turning our research into new and better services and products if we are to remain competitive in the global marketplace and improve the quality of life in Europe. We are facing a situation of 'innovation emergency'" (European Commission 2015).[1]

The European Commission concluded that the EU is suffering from an "innovation emergency" and must become better at creating goods and services that benefit its citizens. Although the Union has made progress since then, the year 2020 made it clear that we can by no means discount the bleak diagnosis as something of the past for the EU. In the wake of the Covid-19 pandemic, a drastically improved innovation climate in Europe may be the only way for the EU to recover and generate inclusive and sustainable growth once the pandemic is over.

Economists often speak of innovations as new combinations of (new and old) knowledge, and there is a high level of consensus concerning their importance for economic growth (OECD 2010). Simply put, innovations lead to higher levels of productivity, which means that more of the same inputs generate greater and more valuable output. As productivity increases, people create more goods and services, and the economy grows. The importance of this process for competitiveness was concluded in Bakardjjeva et al. (2021), last year's volume in the series *Interdisciplinary European Studies*, on the theme of the European Union and the Technology Shift, and in Bakardjieva Engelbrekt et al. (2013), which focused specifically on the Union's competitiveness. New technology and organization processes improve societies' ability to handle digital and ecological shifts. In the case of the EU, for example, it can be said that the success of the EU's green deal – discussed by Bäckstrand in this volume – greatly depends on how good the EU is at generating and exploiting innovations.

According to the EU's *Innovation Scoreboard*, innovations accounted for around two-thirds of Europe's growth in recent decades, an assessment which is largely consistent with economist William Baumol's estimate that innovations have been responsible for nine-tenths of growth in the world since the industrial revolution (Baumol 2010). To be sure, it is somewhat absurd to even attempt to make any accurate estimates of such complex connections responsible for "the great enrichment and the creation of the modern world" (McCloskey 2016). At the same time,

[1] Bold in the original.

leading economic historians such as Nathan Rosenberg and Joel Mokyr, who, like Baumol, have dedicated their lives to these questions, would doubtless agree that innovations have played, and continue to play a decisive role in our economic prosperity – and much else.

The fact is that many of the innovations that, if put on the spot, we value most, hardly make an imprint on GDP or our income. Joel Mokyr put it succinctly in a 2013 *Econtalk* podcast interview (Econtalk 2013), with the rhetorical question:

> How much would you demand to be paid if I took out your appendix without anesthetizing you, without putting you to sleep? … It is the small things that actually don't amount to an awful large part of our income and product that actually have improved life a great deal and that we really wouldn't want to do without anymore.

In the age of Covid-19, we place our hope and our despair at the altar of innovation, although we may not see it that way. Since the beginning of the pandemic, people have called for reliable Covid-19 tests and vaccines. When these medical innovations became available for large-scale distribution, they helped us return to something at least reminiscent of normal times. Finally, it seems possible to see the light at the end of the tunnel.

The calls for tests and vaccines also highlight an important distinction between innovations and what is commonly referred to as an invention: an invention can only be defined as an innovation if it takes the form of a useful idea turned into a product on the market where people can benefit from it. The ultimately dependable Covid-19 test would not have any impact if technical, economic or logistical problems made it inaccessible. Furthermore, while it is one thing to produce a vaccine, it is another matter to distribute it to billions of people worldwide.[2]

How long the present crisis will endure is difficult to predict; however, political decision-makers and individuals can help determine the characteristics of the post-pandemic world. This applies also to the European Union, in which some Member States have been hard hit by the pandemic. This tragedy threatens to become more prominent the longer the economic recovery takes. Of course, it is possible to imagine packages of measures and financial and monetary policy support that help kick-start this process (see, e.g., Forssbæck in this volume on the Banking Union). However, recovery will largely be about the ability of the EU to generate innovations that improve the lives of its citizens and lay a foundation for inclusive and sustainable growth.

[2] The development of the steam engine nicely illustrates the difference between an invention and an innovation: The first prototype was invented as early as the first century BCE in Alexandria, Ptolemaic Egypt.

The measures launched should make Europe's economies more resilient and able to recover from future shocks. Ideally, the reforms should also make it possible for Member States to become "antifragile," meaning that they would actually grow stronger when exposed to stress (Taleb 2012). However, antifragility or stability at the macro-level probably requires instability and turbulence at the micro-level. For the economy as a whole to prosper and adapt, it is therefore necessary that many companies are started, compete and close down, and that many ideas are tested, developed, and phased out if they do not prove viable. This process is probably necessary to enable new and better innovations to replace existing technologies – what the entrepreneurship researcher par excellence, Joseph Schumpeter, aptly called "creative destruction."

The necessary reform agenda covers a wide range of areas, on which both the EU and individual Member States must act. These are reforms that the EU has been in dire need of for a long time (as attested by the aforementioned self-diagnosis by the Commission), and the authors of this chapter have already in detail discussed this agenda and the bodies that can turn it into reality (Elert et al. 2017, 2019). In summary, the reforms aim to make the EU more innovative by providing all Member States with improved entrepreneurship conditions. Our perspective on entrepreneurship is a holistic one, which means that the reform agenda will also be of a comprehensive nature.

For an invention or an idea to transform into an innovation, someone must apply the newly discovered or created knowledge in the form of new or improved goods and services. This "someone" is an entrepreneur, an agent who perceives and seizes economic opportunities, often by starting companies and making them expand (Schumpeter 1934 [1911]; Knight 1921). Although the independent entrepreneur has tended to be responsible for most fundamentally new innovations (Baumol 2002), entrepreneurship can take many forms, not least by employees in large companies ("intrapreneurs"). As such, a favorable entrepreneurship climate that makes it possible for Europe's citizens to experiment and be creative is a prerequisite for innovation, sustainable growth and a better quality of life in the EU.

This chapter will outline the main elements of a reform agenda that could create this kind of entrepreneurial climate in the European Union. The six areas of reform are:

i. The rule of law and protection of property rights

ii. Taxation

iii. Savings and finance

iv. Labor markets and social security

v. Contestable product markets

vi. Mobilizing human capital for entrepreneurship

Together, the reforms aim to even out the playing field between entrepreneurs and other economic actors. In no way do we wish to throw money at small companies or pamper entrepreneurship. Rather, it is a matter of ensuring that doors that should be open are not unnecessarily shut. While many of the proposals related to policy areas in which the Member States have substantial competencies, we believe that the EU has an important role in coordinating, encouraging, and highlighting good examples.

Before discussing the reform agenda, we will first introduce the different indicators used for the degree of innovation in the EU compared with other countries. This is followed by a description of the analytical framework, the "collaborative innovation bloc", that we use to identify which reforms are necessary for making the EU more innovative and entrepreneurial.

How innovative are the EU Member States?

The ability to innovate and exploit innovations in the form of successful firms are crucial factors for long-term economic success. This insight was a guiding principle among the politicians and bureaucrats who formulated the European Union's so-called *Horizon 2020* strategy, the purpose of which was to stimulate long-term and inclusive economic growth. As a cure to the "innovation emergency," the European Commission launched the idea of an Innovation Union, to make the European Union the most innovative region in the world (European Commission 2015). However, the Union's innovativeness has only risen marginally since the strategy's launch (European Commission 2016).

Table 2.1 presents recent rankings of the top 20 countries according to the most commonly used measures for innovativeness. Switzerland is ranked highly according to all five measures, and the Asian tigers Singapore and Hong Kong are at or near the top based on several of the measures. Nonetheless, half of the top 20 countries in all rankings are European Union members; in particular, Nordic and Western European countries continue to do well. By contrast, southern and eastern EU member states are absent in the rankings, hinting at Europe's well-known core–periphery pattern. Thus, the EU's alleged "innovation emergency" is far from uniform, and if this stark inequality is allowed to persist it is likely to result in increased tension between countries and regions within the Union. However, a lessening of these tensions and a strengthening of innovativeness in laggard countries and regions cannot be achieved without

an improved understanding of what policies and framework conditions are conducive to innovation and commercialization.

<TABLE 2.1 ABOUT HERE>

A common view is that innovations are primarily a result of research and development (R&D), with the conjecture that larger R&D efforts lead to more innovations. This perspective is far too mechanical. R&D *can* constitute an important innovative spark, but the ideas for innovations can come from several directions, and as we shall see, other actors are needed to realize them. A large part of the societal benefit of R&D arises through imitation and knowledge spillover, that is, when ideas and knowledge from yesterday's successful innovations find new areas of application or flow to other parts of the economy (Klepper 2016). Rather than focusing on quantitative expenditure targets for R&D or directing R&D support to companies or industries, European politicians should provide a regulatory framework that makes it easier for entrepreneurs to start businesses and make them grow. Almost without exception, successful enterprise clusters have emerged spontaneously. Rarely can they be implemented top-down. What politicians and reformers can do is to increase the likelihood that such clusters emerge.

Entrepreneurship and the collaborative innovation bloc

While entrepreneurship is a multifaceted concept,[3] we place particular emphasis on what has come to be called Schumpeterian entrepreneurship: the kind of entrepreneurship that introduces new products and technologies and serves as a conduit of knowledge to generate innovation and growth (Schumpeter 1934 [1911]).[4] Thus, we adopt a definition of entrepreneurship that makes it essential to innovation and economic growth. This is the so-called Schumpeterian view of the entrepreneur as an innovator (Schumpeter 1934 [1911]). We define entrepreneurship as the ability and willingness of individuals, both independently and within organizations (Henrekson and Stenkula 2016; Wennekers and Thurik 1999),

- to discover and create new economic opportunities;
- to introduce their ideas into the market under uncertainty, making decisions regarding the location, product design, use of resources and reward systems; and

[3] According to Hébert and Link (2006), there are at least twelve different definitions of entrepreneurship.
[4] In Schumpeterian terms, innovation is the creation of new combinations, generally of (old and new) knowledge, resulting in a new product, a new method of production, the opening of a new market, the conquest of a new source of supply, or the carrying out of a new organization or industry (Schumpeter 1934 [1911], p. 66).

- to create value, which often, though not always, means that the entrepreneur aims to expand the firm to its full potential.[5]

A myriad of people who are active in many contexts fall within this definition. Common to these individuals is that they do not live or work in a vacuum. It would be a mistake to believe that entrepreneurs alone can make innovation-based entrepreneurship flourish. On the contrary – to be able to realize their ideas, for example by establishing a company and making it grow, they must collect and mobilize talents and resources that other people possess. For this reason, it is apt to see the entrepreneur as the hub in an extensive cooperation network.

Viewing entrepreneurship as collaboration has a long tradition in our native country, Sweden (Erixon 2011). In our writings in this area (synthesized in Elert and Henrekson 2021), these collaborations take place in what we call the collaborative innovation bloc, a kind of entrepreneurial ecosystem that harbors several pools of agents and skills. In addition to the entrepreneur, we identify at least five more categories needed for a new idea to transform into a growing firm that eventually reaches maturity: inventors, key personnel, demanding customers, and early-stage and later-stage financiers. The relationships between the agents and their different skills are shown in *Figure 2.1*. The need for these skills varies depending on the type of entrepreneurial project and over the phase of a project, but if one or several required skills are missing, the probability that the project will succeed falls sharply.

<FIGURE 2.1 ABOUT HERE>

That being said, most entrepreneurial projects go wrong; most companies and business ideas fail within a couple of years (Hall and Woodward 2010). Although this fact is inevitable in an experimentally organized economy, well-functioning collaborative blocs curtail the presence of two types of (linked) errors: (i) that projects without real potential survive, and (ii) that projects with real potential fail. The institutional framework surrounding collaborative blocs is decisive to ensure that this error reduction works as well as possible. At the same time, this perspective gives a concrete way of thinking of the connection between entrepreneurship, innovation, and institutions.

[5] This is not to deny that there are motives other than monetary gain to be an entrepreneur. Many entrepreneurs have an intrinsic desire to produce a valued good or service and to outcompete other entrepreneurs (Baumol 2002). However, the pursuit of economic gain has a central function even in this case as the accumulation of net assets is a necessary means for an entrepreneur who wants to expand and attain a leading position in the marketplace. It also serves as the yardstick for comparing how successful one's business is relative to others.

Suppose, for example, that an entrepreneur develops an idea together with an inventor but has difficulty finding early-stage financiers. Is this because the idea is too poor to attract these financiers and benefit from their capital and know-how? Or is there an institutional bottleneck resulting in too few early-stage financiers of the right kind or too few connections between them and the entrepreneur? In the first case, it is preferable that the project is discontinued to avoid a type-1 error. In the second case, it is preferable that the project endures to avoid a type-2 error. Political decision-makers who would like to see a more entrepreneurial and innovation-driven economy must take this distinction seriously. This approach also guides our reform agenda.

The philosopher and mathematical statistician Nassim Nicholas Taleb introduced the term *antifragility* as the true opposite of fragility (Taleb 2012). While something robust, such as a stone, is not affected if you throw it to the ground, an antifragile system thrives when exposed to shock. A classic example is the body's immune system, which is strengthened when it successfully defeats a disease; this analogy illustrates that antifragility is also a desirable quality for an economic system.

The better the collaborative innovation bloc is at addressing the two types of errors, the greater the probability that the bloc in question is robust or even antifragile. If there are many collaborative innovation blocs in the economy that are robust or even antifragile, then there is a high probability that the entire collaborative innovation bloc system is antifragile. Even if individual collaborative innovation blocs suffer or perish from a shock, the system as a whole will be strengthened.

For a collaborative innovation bloc to become antifragile, all its actors must have "skin in the game," so they can both receive part of the profit in success and carry the cost in failure. Ideally, incentives should be structured as options, that is, the upside of actions is unlimited, while the maximum downside is limited and known in advance. The institutional system surrounding the collaborative innovation bloc determines whether this sort of incentive structure is possible, which is why it is so crucial. We now present the main features of a reform agenda that can create a beneficial entrepreneurial climate based on strong collaborative innovation blocs in the European Union.

The rule of law and the protection of property rights

Despite the convergence stipulated in the EU treaties, the Member States differ greatly with regard to their most fundamental institutional frameworks. Member States such as Hungary and

Poland have recently resorted to *democratic backsliding* and have seen a gradual dismantling of the rule of law. This troublesome tendency has been reinforced by the Covid-19 outbreak, for example in Hungary, where Viktor Orbán has become increasingly authoritarian. While the EU must do its best to curb this worrying development for more than economic reasons, the rule of law and property rights are crucial for collaborative innovation blocs. They must be promoted by mutually reinforcing policy measures at the national, regional, and local level.

Legal certainty and stable property rights are essential for economic activity of all kinds, not least productive entrepreneurship. The uncertainty that would otherwise exist hampers all forms of division of labor and specialization, which is disastrous for the ability of actors in collaborative innovation blocs to cooperate. In particular young businesses with limited financial resources may be seriously affected.[6] It is hardly surprising that the dividing line in the EU is clear here: Northern and Western Europe have, on the whole, high legal certainty and well-functioning property rights, while the Eastern European and the Mediterranean countries perform less well on this front. By addressing these systemic shortcomings, the latter group would take a major step towards becoming more entrepreneurial.

Such efforts toward reform will not happen overnight. Firstly, what happens in practice (*de facto*) is more important than the letter of the law (*de jure*) (Rodrik 2007; Hodgson 2016). Secondly, balance is essential: while weak property rights may nurture the shadow economy, excessive property rights could result in high entry barriers for new market entrants, which leads to the emergence of a class of economic favorites – a recipe for economic stagnation.[7]

For civilizations to flourish, the right balance is needed between, on the one hand, protecting people's expectations and, on the other hand, permitting adaptation when conditions change (Kuran 1988, p. 145). Member States that have found this balance (more or less) have an important role to play as models for those still striving for it. Although this is largely a task for local, regional, and national authorities, the EU could play an important role in promoting this development by requiring members to comply with their commitments in the various treaties.

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[6] To the extent that economic actors can compensate for weaknesses in these institutions, they will do so by undertaking more activity off-the-books; as a result, member countries that perform poorly in these respects have larger underground economies (Schneider 2015). In Bulgaria and Romania, the shadow economy is approximately 30 percent of official GDP, while in Northern European countries, the proportion is less than half of that. Shadow economy activity creates unfair competition for firms that adhere to rules and regulations. Because firms in the shadow economy do not benefit from the division of labor and specialization of collaborative innovation blocs to the same extent as formal firms, they are unlikely to grow large.

[7] Intellectual property rights illustrate this tradeoff quite well: If protection is too weak, incentives to generate new knowledge are impaired, but if protection is too strong, this will hinder the knowledge flow necessary in a technologically advanced economy.

It is vital that this is more than just empty words, and that the representatives of the EU do not just monitor what is happening at the national level. To uphold the rule of law and secure property rights, regional and local authorities must join forces to reduce the risk of decisions that benefit local actors with a strong position.

Taxation

The design of the tax system has a major impact on entrepreneurial activity – in terms of both the total volume of entrepreneurship and how it is channeled. Tax rules and tax rates affect the net return to potential entrepreneurs *and* other actors in the collaborative innovation bloc.[8] Entrepreneurship combines a business idea, human capital, effort, and re-invested capital over the many years that are required for a firm to grow; it is thus part of an inseparable bundle of inputs that specific individuals supply. However, no tax exists that specifically pertains to income from entrepreneurship. Details in the tax code determine whether such income is taxed as labor income, business income, or capital income in the form of dividends and/or capital gains.

Consideration of the other agents in the innovation bloc greatly complicates the analysis of tax effects, as taxes form and distort incentives for organizations as well as individuals. Although it would be valuable to analyze all relevant taxes and their potential effects, that is beyond the scope of this chapter. Instead, we will restrict ourselves to spell out the principles that ought to guide the design of a tax system that fosters innovation and entrepreneurship.

In general, low taxes give strong incentives to the agents in the innovation bloc to productive collaboration. Still, aggregate tax income must be sufficiently high to balance government budgets. Perhaps more important is to espouse the principle of neutrality and aim for as small a tax bias as possible across different owner categories, sources of finance, and economic activities. Since nobody knows where tomorrow's pathbreaking innovations will emerge and who will make them, it is crucial to provide a level playing field for all types of prospective actors and constellations. Therefore, the tax system should not favor certain types of firms, sources of finance, or industries relative to others. An obvious example of a tax distortion hampering entrepreneurship is how debt financing is favored relative to equity financing in many member countries (Huizinga et al. 2008). This effect arises because interest payments on debt are tax-deductible while dividends to owners are subject to corporate taxation before being

[8] See, e.g., Henrekson and Sanandaji (2016) for a survey of the evidence.

paid out and taxed at the owner level. Newly started firms are subject to a great deal of uncertainty and many founders lack excess private assets to use as collateral and a previous track record as successful entrepreneurs – factors that make it relatively more difficult for them to gain access to debt financing.

One goal that goes hand in hand with neutrality is transparency. Capital gains taxation of shareholdings often suffer from a lack of transparency, which significantly affects the incentives for potential entrepreneurs and their (early- and later-stage) financiers (Cumming 2005; Da Rin et al. 2006). Firstly, these taxes differ greatly across EU countries. Secondly, there may be substantial differences between the nominal and effective tax rates (Grant Thornton 2016). An illustrative example is the large difference between Ireland and Sweden. While the Swedish capital gains tax can vary between 20 and 54 percent for natural persons, the Irish tax can be reduced from 33 to 0 percent if certain conditions are met.

Legislative power over taxation is almost entirely in the hands of the Member States. However, the EU has several policy tools to steer developments in the right direction, such as recommendations, statements by the European Council, non-binding agreements between Member States, and the exchange of good examples. The EU has the right to take such coordinating action whenever tax reforms affect the internal market. This can be said to be the case for taxes that affect the efficient allocation of capital within the EU, such as corporate taxes, dividend and capital gains taxes, and the taxation of debt, equity, and employee stock options (Suse and Hachez 2017).

Savings and finance

Europe does not suffer from a shortage of savings (OECD 2019). However, as we have already mentioned, some financing forms are more accessible for entrepreneurial business ventures than others; the problem is more about allocation than about volume. Despite being so extensive, most EU savings flow to banks and institutional investors who prefer large, low-risk debt-based assets and listed shares to small, risky investments – such as equity holdings in entrepreneurial companies (Westerhuis, 2016). This systematic problem has significant consequences for collaborative innovation blocs. One can only speculate about how many sound entrepreneurial projects were never realized because the financial game plan was not to their advantage.

As in the field of taxation, neutrality is an important guiding principle for finance reforms. To make collaborative innovation blocs flourish, the institutions surrounding savings and financing

should ensure that financial resources can benefit companies with entrepreneurial potential. Several measures are needed to realize this goal.

First, less private savings should be channeled to institutional investors, as entrepreneurs find it difficult to obtain money from such actors (van Tilburg 2009), in part because they rarely have the capital needed to signal that they believe in their own ideas. Being able to put down more of one's own savings would alleviate this problem *and* enable more people to assume the role of business angels and other early financiers (Ho and Wong 2007). Unfortunately, the trend continues towards an increased concentration of European savings among institutional actors (Pilbeam 2018), a development that is difficult to stop (OECD 2018).

However, it is possible to envisage remedies that make a larger share of these institutionalized savings available to new entrepreneurial companies. One such measure would be to give individuals a greater say in how their savings should be invested, another to allow pension funds and other institutional investors to invest considerable sums in equity in general and in venture capital (equity in very young companies) in particular. Such reforms would strengthen early financiers and the flow of financial resources to new entrepreneurial companies in the collaborative innovation blocs. Giving major financial actors such opportunities would unlock a great deal of entrepreneurial creativity.

The treaties jointly signed by the Member States only give the EU limited powers over financing and savings. Consequently, the Member States themselves must take most of these measures. However, we should note that the European Commission has considerable powers in the single market for financial services, as demonstrated in 2013 with the establishment of overarching rules for venture capital funds. The banking union and the capital markets union have also given the EU increased influence concerning coordination, monitoring, and legislation.

Labor markets and social security

A necessary condition for entrepreneurial business venturing is that the entrepreneur can recruit key personnel when needed (Eliasson 1996; Elert and Henrekson 2019). The design of employment protection legislation and social security systems plays a crucial role in ensuring that this recruitment can occur. By their very nature, such systems often benefit large, existing companies because it is easier for them to handle regulatory burdens and onerous employer responsibilities vis-à-vis employees. It gives large incumbents a competitive advantage in the competition for key personnel compared with new entrepreneurial firms.

While there is unequivocal evidence that (excessively) strong job security reduces labor market mobility (Skedinger 2010), citizens in most EU Member States undoubtedly value social security highly. Yet, the details in the design of the systems play an important role for collaborative innovation blocs. The situation is most advantageous when pension rights, health care insurance, and other benefits are portable, while social insurance is universal and independent of a person's labor market status and employment history. When this is the case, individuals are not needlessly punished for leaving stable employment to become entrepreneurs or employees in a new entrepreneurial business.

The differences between the Swedish model and the Danish *flexicurity* system are illustrative. Denmark combines general social protection and opportunities for retraining with weak employment protection (Andersen 2005). Danish employees, therefore, have little to lose by switching employment or becoming self-employed, which in practice means that new entrepreneurial firms compete for key personnel on equal terms with incumbent firms (Bredgaard 2013). In Sweden, on the other hand, an employee who voluntarily gives up a tenured position for self-employment may often end up having no more security than what is provided by (means-tested) social welfare, and this presupposes that the individual depletes all her assets. Thus, the opportunity cost for leaving stable employment is considerably higher in Sweden than in Denmark.

National social insurance systems and national labor markets are the results of a long country-specific institutional co-evolution. Reforming them without throwing out the baby with the bathwater requires deep knowledge of national and local conditions. Therefore, it is not surprising that the EU's scope for action in this area is limited. That being said, the treaties give the EU legislative capacity to ascertain free labor mobility across Member States. The fact that rights that are not portable from one employer to another are also seldom portable across countries could thus give the EU some influence.

Contestable product markets

Collaborative innovation blocs improve if they allow better new ideas to displace existing ideas. This evolution presupposes the mitigation of type-1 and type-2 errors, i.e., limiting investment in bad projects while avoiding to unnecessarily hamper high-potential projects. Because the two error types are connected, rules for entry into and exit from markets must be jointly analyzed. Discarding bad projects to make it possible to channel resources into more promising projects does not mean that fear of failure should impede newcomers to markets from

challenging the status quo. On the contrary: learning from failure is vital for individual agents, collaborative innovation blocs, and society at large.

Since a complex regulatory burden is easier to handle for incumbent firms, an overly strict regulatory framework dissuades potential entrepreneurs and hinders the creative destruction necessary for collaborative blocs to become antifragile. Restrictive product market regulations related to information technology have, for example, held back the dissemination of new production technologies, in part by hindering customers from acting efficiently (Conway et al. 2006). Deregulation of many product markets has also increased high-impact entrepreneurship opportunities in many EU countries (Elert et al. 2017).

The situation is different for social services that are strictly regulated or even public monopolies, e.g., education, health care, and care of children and the elderly (Andersen 2008; Henrekson and Johansson 2009). If the government controls production and/or financing, the scope is very limited for the collaborative innovation bloc's actors to be innovative. Therefore, it is noteworthy that several welfare states have concluded that these services do not need to be produced exclusively by the public sector. The Netherlands even shows that it is possible to replace public financing. Dutch health insurance is privatized in the sense that all private suppliers must offer a standardized insurance policy at a competitive price, while all citizens are required to purchase health insurance (Schäfer et al. 2010). A Member State that adopts such a model increases its citizens' opportunities to act as competent customers in areas where this ability may be most needed.

Entry and exit go hand in hand. After all, failed projects provide valuable information to other agents in collaborative innovation blocs regarding whether a business model is viable. Too stringent bankruptcy legislation therefore curtails knowledge flows (Holbrook et al. 2000; Armour and Cumming 2006). By contrast, research suggests that when lenient, such legislation leads to more business creation (Fan and White 2003; Peng et al. 2009) and may even improve venture quality (Eberhart et al. 2017). Entrepreneurship will always be about risk-taking, but Member States that ensure that risks are not greater than necessary could change the calculus for promising would-be entrepreneurs, making their economies more entrepreneurial and innovative in the process.

The EU has extensive competencies concerning the regulation of product markets and the single market's mobility of capital, labor, goods, and services. These instruments should be used to ensure that challengers can compete on a level playing field with incumbents. EU competencies are also strong regarding competition regulation and supervision as well as state aid and public

procurement, but the political backlash of the financial crisis suggests that it is wise to be more modest here. Member States themselves should thus be allowed to experiment with new governance models and allow for more contestability in public service provision. Once experimentation has provided the evidence base on which to formulate specific reforms, the EU should become involved in opening up public sector services for more competition.

Mobilizing human capital for entrepreneurship

The human brain's creative potential has prompted researchers to call it the ultimate resource (Simon 1996; Naam 2013). Thus, it may seem obvious that people's education, skills and talents – their human capital – should be of crucial importance for countries' economic growth, as demonstrated, e.g., by Hanushek and Woessman (2015) and Barro (2001). They show a strong relationship between aggregate economic growth and a country's level of human capital as measured in international assessments of students' knowledge attainment. Since collaborative innovation blocs rely on a broad spectrum of skills and talents, institutions in society should facilitate and encourage the individual's acquisition of human capital. This process begins in school and continues throughout working life, whether it takes place on the factory floor or in a research lab.

However, the promotion of human capital is more than a matter of expenditure, as comparisons between Member States show. While Romania and Bulgaria spend little *and* do poorly, Polish and Estonian pupils do well despite low public expenditure on elementary and secondary schooling (Elert et al. 2019). Consequently, there is little to suggest that large education budgets per se will benefit collaborative innovation blocs. The important thing is how the resources are used.

The objective of compulsory schooling must be to provide a solid and consistent knowledge base, notably in mathematics and the sciences (Shavivina 2013; Dilli and Westerhuis 2018). Simultaneously, pupils need to be incentivized to acquire knowledge at all stages of their education. This is easier said than done. As William Baumol (2005, p. 7) observed regarding entrepreneurship, "the educational approaches that are most effective in providing mastery of the already extant body of intellectual materials actually tend to handicap a student's ability to 'think outside the box' and thus discourage unorthodox ideas and breakthrough approaches and results."

Nevertheless, Swedish evidence suggests that it is possible to educate and train successful entrepreneurs already at the compulsory school level, as long as the methods are pragmatic and

focus on all stages of the entrepreneurial process (Elert et al. 2015). University students probably also benefit from including entrepreneurial aspects in the syllabus regardless of discipline; an experimental approach in which you learn from your mistakes, after all, is something that students can benefit from whether or not they choose an entrepreneurial career (Sanders et al. 2020).

Member States, together with local and regional authorities, have the necessary powers in the educational area. Still, the Union can play an important role as an agenda setter. In its *Horizon 2020* strategy, the EU highlights issues such as the need for a world-class academic education system to enable the development of new world-leading innovations. This ambitious agenda presupposes reforms that give universities and researchers incentives to aim for the top of the world league in academia while collaborating with the business community and adapting their curricula and research budgets to outside demand (without sacrificing their integrity).

Concluding discussion: Reform areas for a resilient EU

In this chapter, we have discussed which institutional areas the EU and its Member States should reform in order to stimulate innovation and entrepreneurship. Based on our research, we outlined the institutional prerequisites needed for prosperous collaborative innovation blocs to help create an antifragile macro environment capable of sustainable and inclusive growth. Generally, political measures that facilitate the emergence of such favorable circumstances are indirect by nature and target the institutional framework conditions rather than attempting to actively create collaborative innovation blocs or economic clusters. Extensive direct political involvement risks causing distortions that increase the vulnerability of the economy.

We have highlighted six areas in which we believe that reforms are particularly important for increasing the EU's innovative power and entrepreneurship:

- *Strengthen the rule of law and the protection of property rights*. These are fundamental conditions for all kinds of economic activities, not least productive entrepreneurship. Here, Eastern and Southern Europe have considerable homework to do.
- *A simple and transparent tax system*. Since no one knows where or how tomorrow's major innovations will show up, the tax system must refrain from favoring specific owner categories, financing methods, and economic activities.
- *Adequate channeling of savings*. The volume of savings is not the problem, but rather that pension funds and other institutional actors are too often only allowed to invest in safe assets. If they could invest more in entrepreneurial projects, they could unleash considerable creative potential.

- *Flexible social security benefits.* The opportunity to act in an entrepreneurial way increases in a *flexicurity* system, in which social benefits accompany the individual who leaves a permanent job to found or join a startup.
- *Low entry and exit barriers.* When it is easy to start, run, and shut down a firm, new ideas can be tried at a low cost. Such turbulence creates competitive pressure that keeps incumbent firms on their toes.
- *Entrepreneurial human capital*. Education is central to innovation but can only flourish if the EU members' educational systems put knowledge and creativity first, from first grade all the way to postgraduate education.

Of course, it is important to remember that the EU has 27 Member States, each with its own unique character, history, and institutional setup. No "best" strategy will suit all countries. On the contrary: each country must shape its strategy based on its specific circumstances. Nor is there a single proposal or reform package that, like cutting the Gordian knot, removes all obstacles for the emergence of a well-functioning entrepreneurial ecosystem and inclusive and sustainable economic growth.

Existing rules and new reform proposals can complement and reinforce each other, but they can also work at cross purposes. As each EU country has established its variety of capitalism, a particular policy measure does not necessarily have the same effect in all countries. However, that is not an argument for inaction in the area of reform. Increased innovativeness and more entrepreneurial venturing is a prerequisite for Europe to remain competitive in global markets and improve the quality of life of its citizens. These beneficial effects will not materialize unless the European Union and the individual Member States implement a broad palette of reform measures along the lines outlined in this essay.

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