

Abstract

This research study on five major European startup hubs in Berlin, Milan, Lisbon, Dublin and London analyzes the success factors for attracting and enabling entrepreneurship on the local level and shows how to promote entrepreneurship and innovation successfully, focusing on comparison of different startups ecosystems in order to elaborate policy suggestions to increase the number and quality of European startups.



Marina Zanatta, Researcher, Centro Einaudi



Nicole Larotonda, Researcher, Centro Einaudi





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Introduction

In the European entrepreneurial ecosystem, startups represent the most innovative and attractive way of doing business. They are the means through which young entrepreneurs can make new brilliant ideas real. Startups build their success on technological progress and innovative business models, projecting themselves into the future and placing themselves in ever-growing sectors. The total number of startups in Europe doubled in less than 8 years and the ecosystem counts now almost 200k startups¹. These enterprises are nowadays a relevant profit and job engine as well as one of the most attractive work environments for young top talents from all around the world.

The term "startup" has no official definition, but there are 3 main criteria on which scholars and most of the institutions agree²:

- 1) The company has to be younger than 10 years;
- 2) It has to have an innovative business model and/or product/service;
- 3) It has to have the intention to grow.

Although the definition is commonly accepted, some of the public incentives and policies consider tighter eligibility criteria.

Each startup has different characteristics and needs and follows its specific path. However, we can outline some general stages of development, which every startup goes through. First of all we have a *pre-seed* stage: this is the concept developing period, during which the startup hasn't been founded yet. The second stage is the seed stage: during this stage the startup creates its business, making its ideas more concrete and starting to sell its products and/or services. The third stage is the *growth stage*, during which the startup expands, reaching more and more users and clients and often getting more profitable.

This paper focuses on the European startup landscape, discussing institutional and social framework, economical conditions, startups' main challenges and strengths. The aim is to understand which factors affect startups' launch, survival and growth, focusing on description and comparison of different startups ecosystems in order to elaborate policy suggestions to increase the number and quality of European startups.

Dealroom database.

² European Startup Monitor 2021: https://www.europeanstartupmonitor2021.eu/

Of course, not all startups follow this precise path, as most of them will also have steady stages and some of them may exit the market or be merged or acquired by a bigger company. However, if they reach the growth stage they may become scaleups³. Also, there are some words used to define startups with

- a gazelle is a startup able to double its profits every 4 years;
- a unicorn is a startup whose value is at least 1 billion dollars.

This paper focuses on the European startups landscape, trying to highlight its strengths and weaknesses and finally suggesting some best practices to make the European startups more numerous and globally competitive. Of course, in order to estimate the impact of each factor that can influence startups (such as the total number of enterprises in the city, the number of hubs and the public policies) we need a very complete database with many information about each of the European startups. As there's no such database, this paper implements a case study analysis to compare different European cities in different European countries, each with a startup ecosystem with different peculiar features. Therefore, the goal is not to estimate the impact of the public policies but to understand the differences between different and successful examples of startup ecosystems around Europe. The analysis is based on 5 cities: Berlin, Milan, Lisbon, Dublin and London. Each city has its peculiarities but all of them are home to numerous startups. Discussing the similarities and differences between the cities, we will be able to highlight the most effective incentives and policies and to outline some possible future steps to be taken as well.

Methodology Note

The following analysis compares different European countries using pre-existing databases. The vast majority of these databases do not include all of the five countries we are comparing. In order to carry out this analysis, also non-homogeneous data had to be considered. This allows us to focus on some details for each country and deepen the analysis, studying more than just the total number of startups for each case study. However, this is also a very relevant limitation when it comes to comparing different countries since the collection method as well as the definition of "startup" itself can be possibly different among different databases. Cross-country comparisons can actually suffer from these differences, leading to biased results. However, this analysis' goal is not to measure the quantitative differences between countries but to describe different ecosystems, with their strengths and weaknesses. For this purpose, the data used in this study are to be considered suitable.

³ As well as "startup", the term "scaleups" doesn't have any official definition but it's commonly defined as a fast-growing company which achieved several goals and has raised at least 1 million of euros since the start of their commercial activity.

Chapter 1

European landscape

To start with the comparative analysis of the five cities, an overview of the European startup environment is essential in order to better understand the general ecosystem in which each country develops its specific entrepreneurial environment.

According to the European Startups Report 2021, American tech companies have an historical advantage over European competitors. Since most of the startups work in the tech field, this led in the past to the creation of a gap between American and European startups. However, during the past few years, this gap has been shrinking and European startups have made great strides. Due to the success and the progress made, startups are nowadays a relevant job engine in Europe, especially in the tech field. This results in attracting greater funds from all around the world, including some American investors⁴. However, European startups cannot only rely on global capital as they need local capital and public incentives as well.

As shown in Figure 1, during the *seed stage* the main financing sources are the founders' savings and only 40% of the startups can rely on government subsidies and/or fundings. Also, the third most relevant financing source are the founders' networks (family and friends). That is a great obstacle in the creation of potentially successful startups for people lacking funds to start their company. Incubators and accelerators only fund around 20% of the seed stage startups and that percentage even decreases during the following stages of development. Of course, bank loans increase with the startup's growth as well as internal financing as the startup gets more profitable.

⁴ Around 20% of funding rounds for European startups include an American investor, according to the European Startups Report 2021 (data referring to 2019 fundings).

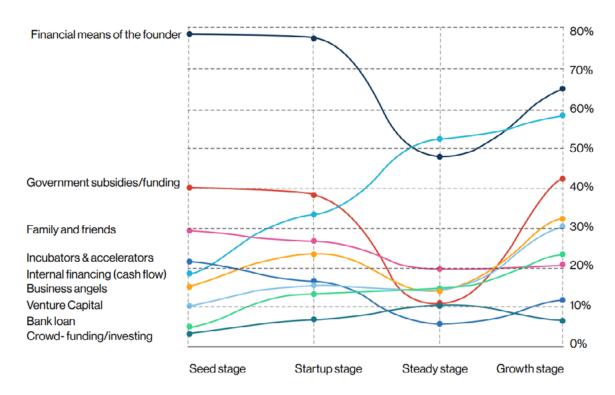


Figure 1: funding sources for each growth stage

Source: European Startup Monitor 2019⁵

Europe has recently implemented policies to support startups in their growth to make them more numerous and healthy. These policies mainly consist in creating a network across all of the EU, organizing workshops and competitions, collecting and sharing good practices, spreading and making more accessible information on available initiatives and support in the EU countries. *Digital Innovation and Scale-up* (DISC) is one of the main European initiatives. It supports digital innovation, startups and tech companies' growth in Central, Eastern and South Eastern Europe (CESEE) in order to fill the gap between these regions and the rest of Europe. The DISC initiative sets up a regional investment facility dedicated to investments in digital innovation and the scale-up of digital startups. *European Startup Nations Alliance* (ESNA) is a brand-new European entity based in Lisbon aiming to support entrepreneurs in the EU through monitoring the EU landscape, supporting countries in implementing new policies and sharing best practices.

^{5 &}lt;u>https://www.europeanstartupmonitor2019.eu/EuropeanStartupMonitor2019_2020_21_02_2020-1.</u> pdf

Moreover, the European Commission set the *European Startup Nation Standards*: practices to help startups to scale-up. The set is made of 8 main practices:

- 1) Speed up and simplify the creation of startups
- 2) Attract and retain talent
- 3) Stock options with non-voting rights
- 4) Innovate in regulation
- 5) Facilitate the acquisition of innovation through new tech transfer policies
- 6) Facilitate access to financing
- 7) Social inclusion, diversity, and protection of democratic values
- 8) Digitalization.

The policies we have just discussed are very useful in connecting startups and investors across the EU. The European Union also encourages the development of new and more innovative policies, partially financing initiatives across the member States through different funds such as the European Investment Fund (EIF). However, not being able to make the startups grow remains the biggest weakness of the European startups ecosystem: McKinsey's report⁶ shows that while 36% of all the global startups launched between 2009 and 2019 were European, Europe only hosted 14% of the world's unicorns in 2019.

Moreover, statistics on startups founders' characteristics show that some categories may find more obstacles in starting and growing a startup. That needs to be addressed since startups are a fundamental job and progress engine and they bring bright new ideas to the light making countries' economies younger and more innovative. First, as highlighted before, founders need a substantial starting capital and that, of course, is an important obstacle for young people, since they usually don't have that resources and also rely on more standoffish income, resulting in less chances to get a bank loan. Second, the gender gap in entrepreneurship also affects startups, which are mostly founded by all-men teams (Figure 2). Another very important characteristic of startups' founders is too often to be a team: most of the startups are founded by a team of 2 or 3 people. That shows the importance of being part of a network and therefore the importance of hubs, incubators, accelerators and universities, promoting team building and creating an entrepreneurial environment that allows the exchange of ideas.

^{6 &}lt;u>https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/europes-start-up-ecosystem-heating-up-but-still-facing-challenges</u>

Figure 2: Gender distribution among the startup founders



Source: European Startup Monitor 2019

In this paper we acknowledge the COVID-19 impact on startups. Many startup policies have been implemented to counter the pandemic negative effects on the startup ecosystem, both by national and European institutions. Given their number and relevance, the impact of these interventions is not negligible as well as the impact of the pandemic itself. However, literature on the theme is poor and, given the lack of data, it is impossible to disentangle the structural effects of the pandemic on the startup ecosystem. Also, impact analysis is to be done only once the phenomenon is exhausted. Hence, we are not deepening this aspect and we will focus on the general startups landscape, considering both pre-covid and covid periods without always distinguishing them.

Chapter 2

German Case: Berlin

Germany is a strong economy, historically based on agriculture, minerary and industry (mainly metallurgic, chemical and automotive). Today the service sector contributes to around 70% of the national GDP. Still, industry makes Germany one of the greatest exporters in the world. The German leadership in the European landscape is based on its solid economic system as well as its political role in the European Union: Germany is one of the founders of the EU and hosts the European Central Bank; also, its politicians have often played important roles in the EU institutions. Germany is also the main contributor in the EU, meaning that its political orientation strongly affects the rest of the EU countries.

Berlin

Berlin is the capital of Germany as well as its largest city. The economy of Berlin started to grow after the Wall's fall but this process took decades before its economy reached other German metropolises' profits. Berlin has also suffered a lot from the 2009's economic crisis since its unemployment rate has always stood higher than the German average.

Only in the last few years the city has started to be on top for the number of fast-growing and profitable companies. The startups' role in this process looks to be important: to contrast unemployment the city runs many self-employment programs and this led the Berlin population to be the most self-employed of Germany as well as one of the most self-employed of Europe. These programs, including entrepreneurial education and access to public grants and funds, proved themselves to work and Berliner startups created 70.000 jobs according to the *Berlin startup report 2022*.

Berlin has a very thriving service sector, showing a higher percentage of third sector enterprises than the rest of Germany. This can partially explain why so many startups are based in Berlin: most startups offer services to customers or to other companies. In addition, the city, as already discussed, has a younger enterprise ecosystem and that has probably played a role in shaping a more innovative and creative environment compared to other more "traditional" ecosystems in Germany.

All of these conditions have made Berlin the startups' capital in Germany, hosting, as shown in Figure 3, more than 20% of all the German startups.

Berlin
21.5%

Other cities in Germany
78.5%

Figure 3: percentage of German startups located in Berlin

Source of data: Dealroom.co

The typical entrepreneur in Berlin looks quite different from the rest of Europe: many founders are non-nationals (many of them are from Eastern Europe) and non-nationals have a higher propensity to found a startup comparing to locals (3.5% versus 1%7). Also, many tech startups' employees are from other EU countries. However, talents from extra-EU countries are hindered by strict immigration policies that prevent them from obtaining a work visa.

Berlin is an attractive place to establish a startup and many European startups are planning to relocate to Germany: 17% versus 13% planning to move to the USA or to the Netherlands, which have a very attractive startup ecosystem as well as advantages in fiscal conditions for startups.8This percentage increased after Brexit, since the UK is now less attractive and accessible for EU startuppers.

After the 2009's crisis, access to capital has been the biggest obstacle for start-ups to grow. However, from 2014 to 2016, Venture Capital (VC) investments in Berlin's startups doubled and the positive trend has never stopped. Nowadays, Berlin can rely on many local VC's firms as well as foreign capitals.

Of course, startups do not only rely on VC as they need different kinds and volumes of funds depending on their growth stage. During the startup's first steps,

⁷ Source: Berlin: a hub for startups but not (yet) for fast-growing companies, 2016, Alexander S. Kritikos

⁸ Source: European Startup Monitor 2021.

⁹ Source: Berlin: a hub for startups but not (yet) for fast-growing companies, 2016, Alexander S. Kritikos

public support and founders' savings are the main financing sources, as shown in Figure 4.

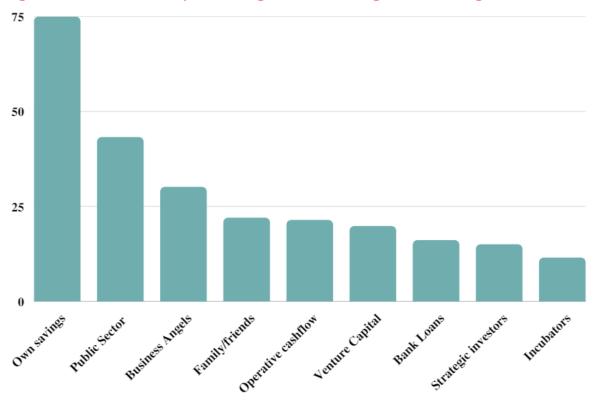


Figure 4: German startups' funding sources during the seed stage

Source: German Startup Monitor 2021

As Figure 4 shows, nearly half of the startups rely on public-sector funding. Berlin provides entrepreneurs with very complete guides showing each potential funding and advisory source (*Business Support Guide 2022-2023, Grunder Zeiten 28: start-ups, financing and VC*).

Here we will discuss the main funding sources as well as other networking and advisory opportunities for startups, in order to better understand the challenges and opportunities at each startup stage.

During the pre-seed stage, startuppers can mainly rely on EXIST funds, supporting graduates, researchers and students with promising ideas in the technology and science fields, with grants and networking programmes. Hence, only entrepreneurs from higher-education or research institutes can rely on public support at this stage.

Things change during the seed stage, as the startup needs to be funded at this time in order to start its actual business and enter the market. They can rely on

micro-mezzanine funds: the government acts as a silent partner,¹⁰landing up to 50.000 euros. Women-led companies or commercial social businesses can be provided with three times as much as the other startups. Among the several interventions and fundings to support startups we can find the Federal Ministry, which encourages private investments providing grants for investors investing at least 10.000 euros in a startup. The European Angels Fund Germany provides instead co-financing (50:50) for business angel investments for startups working in all sectors. Also, ERP/EIF Fund of Funds invests in Venture Capital funds in order to encourage them to invest in startups. Additionally, tech startups can rely on specific funds. At this stage many accelerators also provide internationalization counselling.

At the *growth* stage startups need a lot of capital in order to expand their business. At this stage, most of the funds are provided by privates. However, the public sector funds companies that can find a private investor who agrees to invest pari passu (same amount and same conditions). Also, many public-sector actors provide visibility and network to startups seeking private investors.

Drawing some conclusions: German domestic funds are abundant in the early stages and Germany's VC's industry is the one that invests more in early-stage startups in Europe. However, not as much capital is invested in growth-stage startups. These startups need tens of millions of euros. In Germany, most of the big rounds of investments come from foreign funds and investors, mainly from the USA, Asia and Canada. This process shows the most fragile and inefficient part of the German startups ecosystem: domestic capital funds startups in their first steps and therefore they get low returns as in these stages startups are not very profitable. When they get to grow, foreign investors replace domestic ones. Of course, attracting foreign investments is not to be considered a weakness per se, but only relying on non-domestic funds can be considered a problem since only foreign investors get the returns of local startups. Public support is not lacking but it needs to provide access to big rounds of funding. In the past few years, a neat trend developed showing how global investors' fundings are growing year after year, while domestic investments are constant and therefore less relevant over the total (Figure 5).

¹⁰ Silent partner: financing the startup doesn't allow them to have decision power.

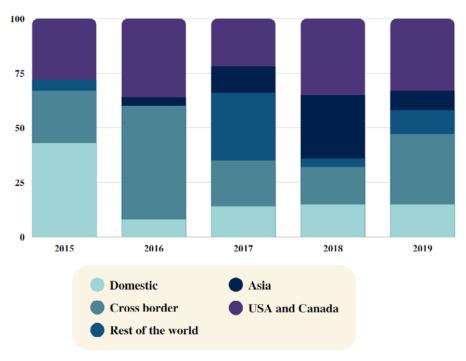


Figure 5: investment rounds of 50M+ from 2015 to 2019

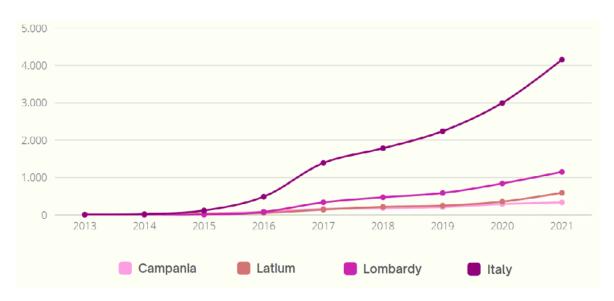
Source: Shortage of later stage venture capital in Germany: more acute due to Corona crisis, 2020,_ Dealroom.co

Chapter 3

Italian case: Milan

Italy is a leading economy in the European landscape, it is the fourth country for GDP in the EU. However, public debt is very high and most of the enterprises are SMEs lacking technologies and digitalization. Also, Italy is one of the European countries that suffered most from the 2009 economic crisis and its aftermath. Only recently this has changed as Italy has started some new programmes and initiatives to stop the brain drain and keep its young entrepreneurs. Startups are constantly growing in their number, despite the COVID crisis (Figure 6). However, the country looks very heterogeneous as only a few cities host most of the Italian startups. Figure 6 also shows the gap between northern (Lombardy), centre (Latium) and southern (Campania) regions.

Figure 6: number of startups in Italy, Lombardy, Latium and Campania from 2013 to 2021



Data source: Registro Imprese

Milan

Milan is the most thriving city for startups in Italy because of its rich entrepreneurial culture, its innovation appetite and its lively economic ecosystem. More than 20% of all the Italian startups are in Milan, as shown in Figure 7.

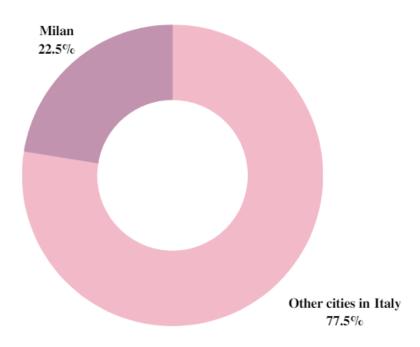


Figure 7: percentage of Italian startups located in Milan

Data source: Dealroom.co

The city is full of hubs and incubators, involving both the public and the private sector. Also universities are deeply involved in the startups networking and financing, running funding and advisory programmes for innovative startups in all of the sectors and industries. Italy in 2012 approved a policy package to improve the accessibility to capital for startups and create an inclusive environment in which startups can grow. This package is called the *Startup Act* and it is renewed year by year with new policies and funds. The main policies include:

- 1) The chance to found the startup fast, online and for free, with no need of any intermediator (public organizations, associations, hubs etc);
- 2) A tax relief of 30% for investors investing in risk capital;
- 3) The government acts as a guarantor for bank loans;
- 4) "Smart & Start": interest free loans up to 1,5 million euros;
- 5) 30% discount on advisoring;
- 6) Equity crowdfunding regulation, providing a government website on which privates can buy little shares of the startups. This allows even small investors to invest in startups;

7) Additional job flexibility;

8) "Fail fast": no additional taxes on failure statements, shorter times and less bureaucracy.

Also, the Ministry of Economic Development provides additional fundings to counter the COVID crisis co-funding investments with an amount four times higher than the private-invested amount.

The startup programme Smart & Start, started in 2015, has received many applications during 2020 (Figure 8), showing the resilience of the startups' environment to the COVID crisis and the consistency of the policies.

1.000
750
500
250
0
2015
2016
2017
2018
2019
2020

Figure 8: Smart & Start number of applications from 2015 to 2020

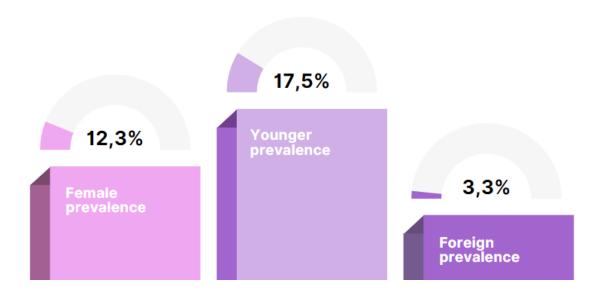
Data source: Invitalia

Among the applications, 19% are from startups located in Lombardy (Milan's region). Over 30% of the startuppers involved are under 36 and 19% are women; the vast majority (71%) have a higher-education degree (bachelor's degree or higher). Many of the applications (around 38%) came from pre-seed stage startups.

Those policies are very helpful during the *pre-seed* and *seed stages*. However, during the *growth stage*, startups need a lot of capital and they mostly rely on private investments and debt. Also, it's worth to note that most of the tax-relief investments are under 50.000 euro (91.6%). Furthermore, Italy has implemented tax reliefs for entrepreneurs hiring Italian talents that have worked in a foreign country and are now coming back to Italy, in order to counter the brain drain.

Despite the governmental policies, young (age 18-35), women and non-nationals entrepreneurs still struggle in founding their own startups (Figure 9). This accessibility gap prevents some brilliant ideas from becoming reality. The government has started some programmes, in response to the crisis, to support these categories in starting their own business. However, these kinds of initiatives should exist regardless of the crisis in order to make the startup environment more inclusive and thriving.

Figure 9: prevalence of female, younger and foreign people in the Italian startups in 2020



Source: Annual report to Parliament on the implementation and impact of policies in support of innovative startups and SMEs, 2021

Chapter 4

Portuguese case: Lisbon

Portugal has been one of the countries mostly affected by the economic crisis of 2009. However, unlike other European countries hit by the crisis such as Italy, Portugal has started to strongly invest in innovation and technologies. Despite the startup ecosystem being quite ripe, Portugal strongly relies on this ecosystem's revenues (1% of Portugal's GDP¹¹). Also, the country attracts foreign investors with the *Golden Visa Programme* and foreign entrepreneurs with the *Startup Visa Programme*. Both are very accessible, making Portugal one of the most open European countries for extra-EU entrepreneurs and investors to move in. The country offers tax relief for foreign people as well. According to the European *Startup Monitor 2020-2021*, 13% of the European startups plan to relocate to Portugal. That percentage looks even more impressive considering that the USA and the Netherlands also stand at 13%. The Portuguese startup ecosystem cannot be compared to other prosperous and profitable ecosystems like the English, German or French ones. However, it has shown very good growth signs and the late-years positive trend seems solid and persisted despite COVID-19.

Lisbon

Lisbon is the biggest city in Portugal as well as the one with the most thriving innovation and technology network; it also has the highest GDP per capita (about 24900 euro per inhabitant) despite Portugal's being lower. In fact, almost 40% of the total Portuguese startups are located in Lisbon (Figure 10).

¹¹ Source: Portugal, the best place to startup, 2021, IDC

Lisbon 39.5%

Other cities in Portugal 60.5%

Figure 10: percentage of Portuguese startups located in Lisbon

Data source: Dealroom.co

The city is home to a large number of incubators and hubs and focuses its economy on innovation and technologies. As shown in Figure 11, expenditures on research and development are growing year after year as well as the GDP per year, suggesting a positive effect of innovation on GDP.

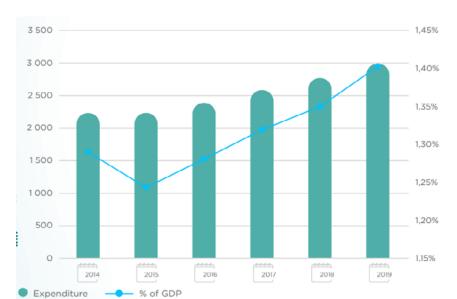


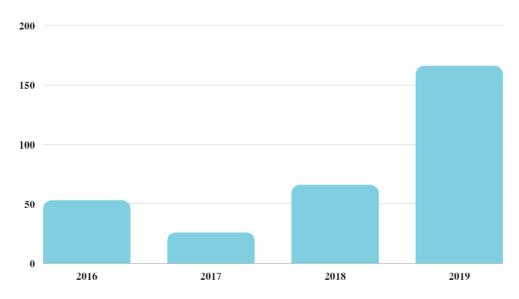
Figure 11: total R&D expenditure and percentage of GDP of R&D in Portugal from 2014 to 2019

Source: Portugal, the best place to startup, 2021, IDC

Universities play a big role in this process, investing 40% of the total national investments in R&D.¹²Also, being universities innovation hubs, many startups see the light of day right in the universities and they only later move to the market. The government enhances this process by supporting VC investments to transfer tech projects from universities to the market.

Since 2016, the city has hosted the *WebSummit*, one of the most important global technology conventions, attracting investors and talents from all around the world. This has pushed the startup ecosystem to a significant growth trend, as we can see looking at the VC investment trend (Figure 12).

Figure 12: total of VC's investments in Portugal from 2016 to 2019 (millions of dollars)



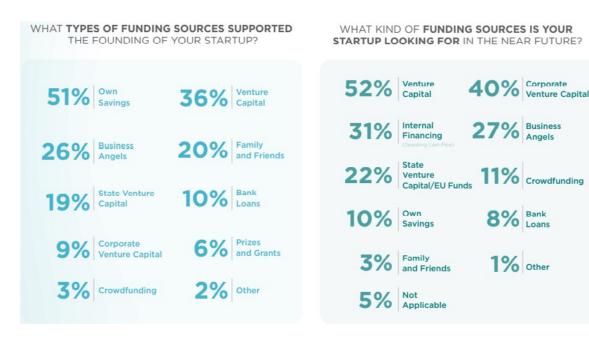
Source: Portugal, the best place to startup, 2021, IDC

However, the startup ecosystem is still young and immature and, therefore, quite fragile. The network is still developing and lacking expertise. Incubators and hubs are very helpful for inexperienced entrepreneurs but, compared to most of the other European thriving startup ecosystems, Lisbon lacks governmental policies offering free advisory, counselling and workshops. The Portuguese government does not grant any public support to the startups. *Portugal Ventures* invests in startups in pre-seed and seed stages; however it only invests in selected startups and only from the tech sector, as well as Portugal Tech, providing them with venture capital. The government also provides co-investments through *200M Fund*. This fund invests up to 100% of the private investor's commitment (up to 50:50), with a minimum of 500.000 euro and a maximum of 5 million euro. This

¹² Source: Portugal, the best place to startup, 2021, IDC

range makes most of the startups in the pre-seed and seed stage not eligible for the co-funding, as their funding rounds are usually much lower. As Figure 13 shows, the main startups' funding source during the seed stage is founders' savings. Also the founders' personal network (family and friends) is an important funding source. However, the state venture capital contributes in the funding of 19% of the startups funds, and this percentage raises after the seed stage as the EU funds come into play. Also crowdfunding sources become relevant at this point, funding 11% of the startups, according to the startuppers expectations.

Figure 13: Portuguese startups funding sources and startuppers funding expectations



Source: Portugal, the best place to startup, 2021, IDC

Chapter 5

United Kingdom's case: London

The United Kingdom has a flourishing economic system, being the sixth-largest economy in the world by nominal GDP. Its GDP per capita is much higher than the European average. The UK economy is global oriented and relies on exports. According to the World Bank Group, the unemployment rate stands around 4%. The service sector contributes to 81% of GDP and bases its success on cutting-edge technologies. In this context, startups play an important role, being the most innovative form of entrepreneurship and focusing on new ideas and technologies. The United Kingdom has always been the European leader when it comes to startups, being home for around 40.000 startups, ¹³ only second to the USA. The startup ecosystem is not only the most profitable and thriving but also the most expertised in Europe as the UK ecosystem has been one of the first to develop, over 10 years ago.

However, Brexit changed the game, as it is now harder for foreign people to move to the UK and many European startups now prefer moving to Berlin or Lisbon rather than London. The UK's growth trend has slowed while the German and French ones get steeper year by year. However, the UK is far from being reached by other European ecosystems in the number of startups, as well as their revenues and investments.

London

London is the biggest city of the UK. Its ecosystem hosts, according to Dealroom, 17.000 startups, 84 unicorns as well as 1370 VC firms and the numbers grow year after year. This makes London the UK city hosting the biggest number of startups: more than 43% of the UK's total (Figure 14).

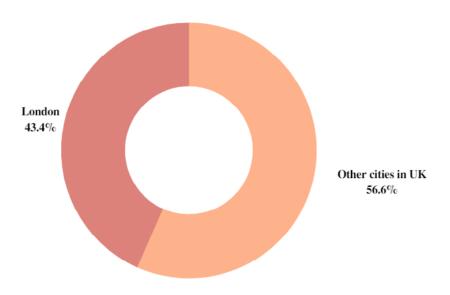


Figure 14: percentage of UK's startups located in London

Data source: Dealroom.co

According to the *UK Tech Tracker Report 2021*, London is the global capital of talent and almost 1 person out of 5 works in a startup as a founder/associate or employee. That is not surprising considering that 4 out of the 10 world's top universities are located in or close to London and that a lot of talents move to London after university as well.

London's enterprises' environment is one of the most attractive thanks to its cowork spaces, its themed districts hosting different enterprises working on the same topics, and its propensity to innovation and technologies. Public policies also have a role in making the environment full of stimuli and more accessible for young people. In fact, UK's and London's policies have very specific eligibility criteria: small businesses can benefit from massive tax relief; innovative technology enterprises can have access to the Smart Grants (25 million pounds grants); startuppers can benefit from an income support programme making startup founders able to work on their business as their full-time job; The Prince's Trust supports young people (aged between 18 and 30) getting their business started through low interest loans, grants, mentoring and development programmes. In addition, there are several COVID-19 specific loans and incentives. However, as already underlined in this report, it is difficult to say whether those kinds of interventions are going to last after the pandemic or not, so we are not discussing them in detail.

Compared to other countries, the UK does not provide startups with a large number of grants, loans and programmes but UK's policies seem to be very focused on allowing talents getting their business started no matter how much money they need. Most of the policies only target the fittest startups, namely the ones with the best and most creative ideas, while the others are left behind. However, these policies seem effective and pretty efficient.

It is important to highlight the relevance of private investments in the UK's start-ups environment: as the private capital flow is very generous, the government's role is to intervene in very specific and rare cases and that's the reason why only few but very targeted interventions work very well. Not only London hosts an impressive number of VC's firms but the city also attracts a large number of investors from abroad, mainly from extra-EU countries. The amount of capital coming from other countries is rising year after year as the UK's startups land-scape grows and gets more and more attractive for investors.

As shown in Figure 15, the global capital invested in the UK by US and Asian investors has risen by 147% from 2018 and 2019 and nowadays a lot of capital comes from the Silicon Valley itself.

\$ 4 B

\$ 3 B

\$ 2 B

\$ 1 B

\$ 0 B

Jan-Jul 2018

Jan-Jul 2019

Figure 15: capital invested by US and Asian investors in UK, 2018 versus 2019

Source: TechNation <u>Dealroom.co</u> Capital Flows Report 2019

Also, as shown in Figure 16, the rounds are getting bigger as many startups turn into unicorns and gazelles and need a lot of capital to increase their customers and products, as well as future profits.

\$4 B \$3 B \$2 B \$1 B \$0 B Q3 Q1 $\mathbf{Q2}$ Q4 Q1 Q22018 2019 **\$100M + rounds** \$10M - \$25M rounds \$50M - \$100M rounds **\$0M - \$10M rounds** \$25M - \$50M rounds

Figure 16: dimension of the funding rounds in UK, 2018 vs 2019

Source: TechNation_Dealroom.co Capital Flows Report 2019

Chapter 6

Ireland's case: Dublin

Ireland is not a big country and, historically, it has always depended on the UK. In fact, in 2009, the country suffered and underwent a severe economic crisis. In response, the EU helped the country and required austerity measures. However, unlike for other EU countries, the raised taxes and the cut in expenditures worked and in 2013 the Irish GDP was already growing and it has never stopped since, not even during 2020's pandemic.

Despite the austerity measures adopted to counter the crisis, Ireland has the lowest corporation taxation of the EU area (corporation tax is 12,5%). In fact, the austerity programs involved property and income taxes while the corporation tax has never been raised. These fiscal conditions make Ireland very attractive for enterprises and the country is, indeed, home for many multinational companies such as Google, Pfizer, Facebook, Johnson & Johnson, Twitter, Apple and many others. Many companies relocate to Ireland in order to pay less in taxes and this makes Irish GDP and companies network grow year after year.

Moreover, after Brexit, Ireland became the biggest English-speaking EU country, gaining attractiveness for companies planning to relocate. Since many big pharma and med-companies are located in Ireland, and since these companies had great profits from COVID-19, Ireland was the only EU country that succeeded to have a positive GDP trend in 2020.

Dublin

Dublin is the biggest city in Ireland and is home to more than a quarter of the Irish population and to many multinational companies in the tech and fintech fields as well (Figure 17).

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Figure 17: big companies based in the centre of Dublin

Source: ideamotive.co

Since Dublin hosts so many tech companies, the startup ecosystem can rely on a strong and thriving network, allowing young companies to get in touch with colossus like Google or Facebook and therefore to improve themselves and find investors. Facebook (that has recently changed its name to Meta), for instance, is a leading company in the artificial intelligence field and many startups in Dublin, nowadays, develop new cutting-hedge technologies in this very same field. As shown in Figure 18, Dublin hosts almost half of the Irish startups.

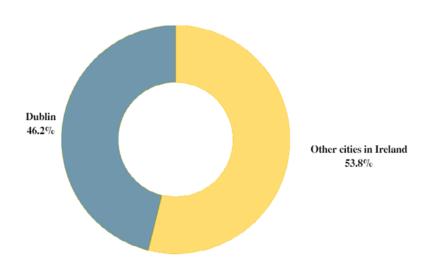


Figure 18: percentage of Irish startups located in Dublin

Data source: <u>Dealroom.co</u>

While bigger companies mainly choose Ireland because of its taxation system, smaller ones also rely on public support to start and expand their business. The Irish government provides startups with tax reliefs, depending on the field and the characteristics of the startup founders. Moreover, the Irish government has started two different autonomous agencies: IDA Ireland and Enterprise Ireland, both providing companies with funding, counselling and advisory. Each sector has its own funding and advisory services and most of the support initiatives are accessible only after a selection process. Many of the fundings incentivize enterprises' evolution, improving green transition, digitalization and internationalization. Enterprise Ireland provides a great amount of capital and it is ranked first in the world of venture capital investors by deal count. Moreover, Enterprise Ireland has an impressive number of International Offices located all around the world (Figure 19).

Canada

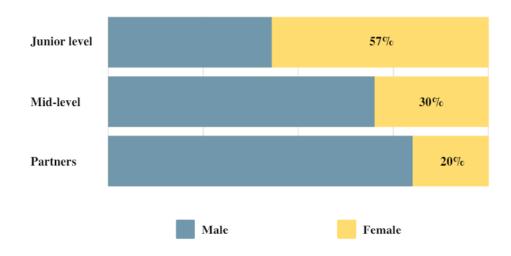
Figure 19: map of the International Offices

Source: Enterprise Ireland

IDA Ireland is an agency that provides foreign companies with fundings and incentives in order to help them relocate to Ireland or establish partnerships with Irish companies.

Moreover, Ireland's commitment in gender equality is quite impressive, compared to the other countries discussed in this paper. Ireland has many different incentives for women-led companies and seriously addresses the gender gap problem in enterprises, running annual statistics and analysing the impact of its policies on the issue. Ireland stands on top of the EU landscape when it comes to gender balance in enterprises with 20% of the investing partners being female compared to a 7% European average. However, we are very far from equality and, despite females being the major team members in junior staff, the percentage of women decreases as we go up the hierarchy (Figure 20).

Figure 20: gender of the workers for hierarchy level in Irish startups in 2020



Source: Enterprise Ireland

Chapter 7

Conclusions

In this final chapter we will discuss the main desirable characteristics of a startup ecosystem; we will then analyze each country to better understand its main strengths and weaknesses and we will finally suggest some policy recommendation for each country.

This analysis provides a better understanding of how different European startup ecosystems work. Every hub city considered has got its strengths and weaknesses and the best way to improve each system is to learn from the experience of others, become part of a network and work on strengths. The main desirable characteristics highlighted here come from study of papers and official documents read to write this very analysis.

The first crucial characteristic is access to financial resources. In fact, as we have already discussed, the foundation of a startup needs a lot of initial capital and this could hinder entrepreneurs with brilliant ideas but a lack of funds from founding a startup. Economical accessibility is not just an equity issue: all the ecosystem benefits from the foundation of new and successful enterprises.

The second characteristic is practical accessibility: the foundation system has to be fast and smooth and has to work online, as well as the support applications.

The third desirable characteristic is expert support: a startup often starts from scratch, from the ideas of young entrepreneurs in their first entrepreneurial experience. Hence, there has to be some kind of coaching by experts helping the entrepreneurs taking their first steps.

The fourth characteristic is a strong network involving startups, enterprises and universities: this is the chance to improve innovation and to pull toward a more progressive ecosystem.

The fifth characteristic is positive externalities: when trying to evaluate a startup we should not only consider its profits but also its positive externalities. Some startups work in the fields of climate and environmental issues, social inclusion and many more. These startups should be particularly supported since their existence is fundamental to come up with some new and smart ideas to solve old problems. Some startups' innovations are actually game changers. This could be an example: BioNTech, a biotech German startup, invented the mRNA vaccine technology and helped in developing the first COVID-19 vaccines.

The last, but very important, characteristic is efficiency: no system can work without it. Of course the goal is creating the biggest and strongest startup ecosystem, but the financial resources are limited. Hence, the system has to optimize these resources, finding the best way to identify the startups that really need support and that will use the fundings to grow and become strong, innovative and profitable enterprises.

In the following section we will try to outline the main interventions we suggest for each case considered in the study, considering as a goal to have all of the just mentioned desirable characteristics and therefore highlighting the strengths and weaknesses of each ecosystem

Starting with the German ecosystem the main strengths are the strong support systems, which fund startups in the *seed stage*, as well as the general solidity of the economic system. Also, the environmental advocacy and the gender of the founders are relevant in targeting startups eligible for funding. The weaknesses can be summarized in poor domestic big rounds of funding. Also, many public support policies target startups already funded by private investors. This system is quite efficient but it's based on the private's ability to choose the fittest startups. As we know, private investors can make mistakes and this system does not guarantee the startups access to funding rounds even if they have the perfect features.

The main policy suggestion here would be to make the Federal Government, or the Landers, fix some eligibility criteria, considering their impartial role and their ability to take into account not only profitability but the public interest as well. Also, there should be more attention to *pre-seed stage* startups, since this is a sensitive time and many startups, not finding capital, could never see the light of day.

The Italian ecosystem is very inclusive and this is to be considered its main strength. In fact, almost everyone with the intention to found a startup can ask both for public economic support and for practical support. Also, Italy introduced many innovative tools to support startups such as the online crowdfunding platform allowing little investors to invest in startups. Founding a startup is very easy, fast and cheap. However, this is also the main weakness of the system: since there barely is any eligibility criteria, the funding rounds are quite small as the government funds a large number of startups and many of them exit in a short period.

The policy suggestion here is to include more eligibility restrictions, trying to find a balance between inclusivity and efficiency. Also, being Italy not very attractive to foreign investors, the government should introduce more incentives to promote global private investments.

Portugal is a quite ripe ecosystem as well as a fast-growing one. Its main strength is being young and innovative. The system gained a lot of visibility in the last few years, attracting both talents and investors. Also, Portugal came up with some very smart ideas such as the *Startup Visa*. However, the public support system seems promising but of course it needs to develop just like the rest of the ecosystem. In the next few years this first boosting phase will end and a steadier phase will start. At this point the public policies system should resemble more the German one, having a larger variety of interventions. However Portugal, according to the *European Startup Report 2018*, has a very low female prevalence among the startup founders: only 5.1% versus 15.6% European average (Figure 21). This is something that should be addressed, introducing new policies and incentives to help gender balance in entrepreneurship.

European Avg.

UK 18.8%

Ireland 18.5%

Germany 15.1%

Portugal 5.1%

Female Male

Figure 21: gender distribution of startup founders in 2018

Source: European Startup Report 2018

The United Kingdom has a flourishing startup ecosystem, there are lots of investors willing to fund UK's startups and many startups move to the UK as well. The public policies are very targeted and efficient and they offer every kind of support the startup needs as long as it has been selected among the fittest ones. However, there are some weaknesses in this system as well since, after Brexit, the country has slowed down in its growth and many other ecosystems, such as the German one, are now growing much faster than the UK's. This could lead, in the next few years, to a re-destination of the global investments from the UK to other countries and, therefore, an increased need of public support to the local startups in the UK. In order not to experience any sort of crisis if this time comes,

the UK should already plan some new policies and support to counter the lack of funds.

The Irish ecosystem attracts lots of foreign startups, as well as big companies, and it is therefore prosperous. However the governmental policies focus on foreign enterprises much more than local ones. This led to the very strong ecosystem being Ireland right now, but it is also neglecting local entrepreneurs, giving much more incentives and support to the foreign rather than the local ones. The Irish ecosystem would benefit from more-local enterprises: the revenues would be domestic and the unemployment rate would decrease.

Additionally, it is important to underline the great positive impact of funding public research organizations and higher education institutions on the startup ecosystem. Both are great innovation engines as well as networks for researchers with brilliant ideas. Many startups actually start as academic spin-offs. This particular kind of startup tends to grow slower than other types of startups but is impressively resilient: these startups have a very high survival rate14 and didn't suffer much from the COVID-19 crisis. Hence, increasing public and private investments in research organizations is an effective practice when trying to foster the growth of new startups as well as their survival chances.

As highlighted in this report, the European startup ecosystem is growing year after year and there's no reason to think this trend is going to stop in the short terms. However, at least for the EU countries, a general implementation should be seriously considered: the introduction of policies impact evaluation. Not only the specific country would benefit from this evaluation, being able to improve its policies, but also the other EU countries would benefit from other States sharing their experiences and European best practices formulation. The Declaration on the EU Startup Nations Standard of Excellence15 is a first step in this direction but it should be followed by more resembling initiatives.

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