II" NEWFINANCIAL Rethinking capital markets

FINANCING INNOVATION: EARLY STAGE INVESTMENT IN THE EU

ANALYSIS OF THE SIZE, DEPTH & GROWTH POTENTIAL OF INVESTMENT IN HIGH POTENTIAL COMPANIES ACROSS EUROPE

April 2023

By William Wright and Christopher Breen

> Innovative growth companies are a vital part of rebuilding a more resilient, dynamic, and sustainable economy in the EU. This report highlights the challenges faced in funding this important sector, analyses the rapid growth in early stage investment in the EU over the past five years, and outlines an ambitious but achievable growth opportunity that could unlock nearly €25bn a year in additional investment to support nearly 5,000 companies in reaching their potential.

Financing innovation: early stage investment in the EU

In the wake of the Covid crisis, the Russian invasion of Ukraine, and the recent turmoil in banking and financial markets, the EU needs all the help it can get to build a more resilient, more dynamic, and more sustainable economy. In particular, the EU needs to develop more financing of innovation at scale - an area where the EU has traditionally lagged behind other developed economies - to help support the sort of companies the EU needs to drive investment in jobs, growth, productivity, and prosperity.

This short paper was prepared for the Informal Ecofin meeting in Stockholm in April 2023 hosted by the Swedish Presidency of the Council of the EU. It frames early stage investment in the EU in the context of the state of wider capital markets, and compares early stage investment in the EU with comparable markets like the US, UK, and Canada. It highlights the welcome and rapid growth in activity over the past five years; analyses the wide range in the level of activity in different member states; and provides a directional indication of the potential growth opportunity at an EU and country level in concrete terms. It also presents some questions and suggestions for consideration at a member state and EU level as to how to achieve this growth.

Here is a summary of the key points from this paper:

- 1. The wider context: capital markets in the EU are under-developed and fragmented but they are heading in the right direction and have made steady progress since the launch of capital markets union. Activity has grown in absolute terms and relative to GDP in virtually every sector, and EU capital markets are deeper than ever before. But there is a wide range in development across the EU, and the EU's share of global activity has halved in the past 15 years.
- 2. Financing innovation: the gap between early stage investment in the EU and other developed economies is stark. Over the past five years activity in the US has been more than six times larger than in the EU (€845bn compared with €131bn). The market is highly concentrated (with Germany, France, and Sweden accounting for 70% of activity) and investment is not evenly distributed across the EU. This suggests that many high potential companies in some markets may not have access to the capital they need.
- 3. **Rapid growth:** the good news about early stage investment in the EU is that it is growing rapidly. Over the past five years activity has increased fivefold, and after explosive growth in 2021 investment held up well in 2022 despite the wider market downturn. Last year, activity in the US was just four times larger than the EU, compared with 12 times larger as recently as 2018.
- 4. Growth opportunity: the wide range in development between member states and rapid recent growth suggests there is huge growth potential in early stage investment in the EU. Using a simple analysis to benchmark EU member states with each other, we estimate that early stage investment in the EU could realistically grow by nearly two-thirds. This would unlock an additional €24bn in investment in an extra 4,800 high potential companies across the EU every year.
- 5. Seizing the opportunity: there is no magic wand that the EU or individual member states can wave to achieve this growth potential, and early stage investment may struggle to adapt to rising interest rates. Enabling this growth will require a combination 'top down' initiatives at an EU-level to reduce barriers and 'bottom up' measures at a national level to drive capacity. Ultimately, innovative companies will thrive in markets with well-developed ecosystems that incentivise, attract, and retain the best talent.

Note: we have used data on early stage investment from Preqin as the basis of this paper. For the purposes of this analysis we included the following categories as early stage investment: angel, seed, series A, later stage, venture debt, growth capital, and pre-IPO funding. Any errors are entirely our own.

EU CAPITAL MARKETS AT A GLANCE

Fig. I The growth and depth of EU capital markets

i) Heading in the right direction

Change in value and depth relative to GDP of EU capital markets Three years to 2021 vs three years to 2014

	Change s	Change since 2014:					
Sector	Value	Depth					
Venture capital investment	305%						
Private equity investment	I 30%						
IPOs	66%						
Pensions assets	64%						
Assets under management	62%						
Stock market	57%						
Corporate bond market	46%						
Corporate bond issues	39%						
High-yield bond issues	27%						
Insurance assets	27%						
Bank lending to companies	7%						
Small IPOs (<\$100m)	-11%						
		<u>.</u>					

Source: New Financial analysis of a range of public and private data sources

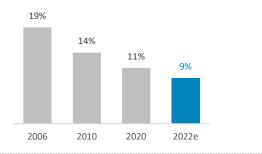
ii) Going up…

The depth of EU capital markets across 24 different sectors of activity since 2012 (*rebased to EU average = 100 in 2014*)



iii) Going down...

EU share of global capital markets activity 2006 to 2022e



Slow but steady progress

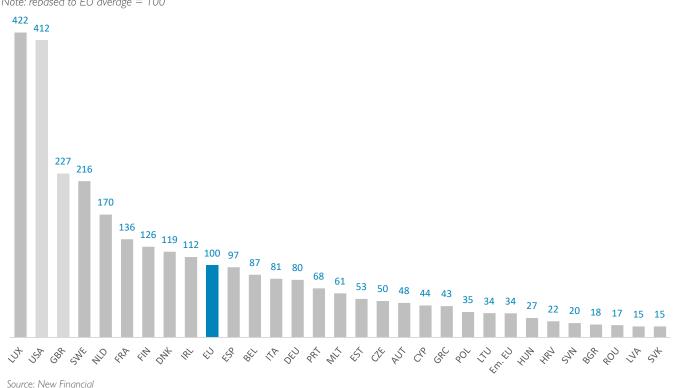
Capital markets in the EU can be a depressing topic. They are <u>small, under-developed, and fragmented</u>, and they are not yet in a position to help address key challenges such as financing the transition to net zero, providing a fully diverse source of funding for EU companies, or supporting an ageing population. Progress on capital markets union has been slow. The good news is that they are heading in the right direction and making steady if unspectacular progress on most measures. Fig. Ii shows the growth in activity in the EU in a selection of sectors in the three years to 2021 compared with the three years to 2014, the year CMU was first announced. In virtually every sector the value of activity has increased in absolute terms and relative to GDP. The strongest growth has come in venture capital investment, which has more than quadrupled.

This steady growth is reflected in the increase in the overall depth of capital markets across the EU. Fig. I ii shows that on average across 24 different sectors of activity, capital markets in the EU were nearly a third larger relative to the GDP in the three year to 2021 than in the three years to 2014, and have recovered strongly from the fallout from the euro-crisis. When we publish the updated index for 2022 later this year, we expect it to fall back to around 120 given the market slowdown last year. While this growth in EU capital markets is welcome, it is not something that can be attributed to structural reform from the CMU project. However, it provides good momentum for future growth on the back of CMU.

The bad news is that activity in the EU is growing at a slower rate than in the US and faster growing markets in Asia. According to our preliminary estimate for 2022, the EU's share of global capital markets activity has more than halved since 2006 from an average of 19% to just 9% last year (see Fig.1iii). Reversing this relative decline will require a renewed, co-ordinated, and more urgent effort across the EU.

RANGE IN DEPTH OF EU CAPITAL MARKETS

Fig.2 What is the range in depth of capital markets in the EU?



This chart shows the overall average depth of capital markets across 27 different sectors of activity over the three years to 2021. Note: rebased to EU average = 100

A wide range

One of the biggest challenges in developing bigger and better capital markets in the EU is the wide range in the level of development between individual member states. The range in depth of capital markets across the EU is far greater than the difference in depth between the EU and the US, or between the EU and the UK. Fig.2 shows the wide range in the depth of capital markets across 27 sectors of activity in each country in the three years to 2021 with every member state rebased to 100 as the EU average. This wide range highlights the potential benefits of CMU in reducing barriers through 'top down' measures to improve harmonisation, but also underlines how individual member states can build capacity in capital markets through their own 'bottom up' measures.

Capital markets in the US (on 412) are nearly twice the size relative to GDP than in the UK (on 227), which in turn are more than twice as deep as the EU (100). Luxembourg has the deepest capital markets in the EU (422), mainly because of its role as a regional hub for investment funds and international bond issuance, but Luxembourg's capital markets are very small (around 2% of overall EU activity). After a bumper year in equity markets activity in 2021, Sweden's capital markets (216) are now almost as deep as in the UK.

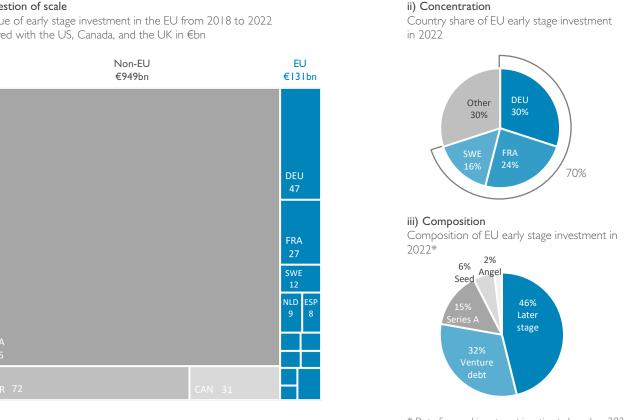
There are three clear groups of countries in terms of the depth of their capital markets. The first group is made up of wealthier countries in the north west of the EU such as Sweden, the Netherlands, and France. These countries' capital markets are significantly more developed than the EU average and give an idea of the potential of CMU. The countries in the second group have relatively developed capital markets but are less developed than the EU average, including three out of the four biggest economies in the EU - Germany, Italy, and Spain. And finally, there is a long tail of smaller economies where a fully developed CMU could make a big difference. This wide range matters in terms of generating political momentum and ownership behind efforts to expand capital markets. It is too easy for many countries with less developed markets to park the problem in the 'too difficult' or the 'not relevant box'.

FARLY STAGE INVESTMENT IN THE FU

Fig.3 The scale of early stage activity in the EU

i) A question of scale

The value of early stage investment in the EU from 2018 to 2022. compared with the US, Canada, and the UK in €bn



Source: New Financial analysis of data from Pregin and individual stock exchanges

* Data for angel investment is estimate based on 2021

Playing catch-up

The disparity between the size and depth of capital markets in the EU and other developed markets is particularly stark when it comes to early stage investment. Fig.3i shows that in the five years to the end of 2022, the value of early stage investment in the US was more than six times larger than in the EU (\in 845bn compared with \in 131bn). If the UK (\in 72bn) were still part of the EU it would account for 36% of all EU investment activity. This suggests that early stage innovative companies in the EU - the sort of companies that the EU economy needs to drive growth, jobs, and productivity - are missing out on the sort of funding they need to fulfil their potential compared with their US counterparts. This may reflect the bias in the EU financial system towards bank lending, which is not designed to provide growth capital to high potential but higher risk companies.

Another challenge for early stage investment in the EU is that it is an unusually concentrated and lumpy market: the three largest markets (Germany, France, and Sweden) represent 70% of all EU investment activity, despite accounting for just 45% of combined GDP, as shown in Fig.3ii. This level of concentration is significantly higher than the average share of 59% for the top three countries in other sectors of the capital markets in the EU, and suggests that high potential companies in some smaller markets are missing out on investment.

The composition of early stage investment is perhaps surprising. Of the \in 45bn in early stage investment in the EU in 2022, less than 10% is in the form of angel investment (2%) or seed funding (6%), with Series A funding - financing for companies that have demonstrated proof of concept - accounting for another 15%. Later stage investment, for more established companies with a clear track record of growth, represents nearly half of all early stage investment (46%), with venture debt (lending to early stage companies) accounting for the remaining third.

THE GROWTH IN EARLY STAGE INVESTMENT IN THE EU

Early stage investment relative to GDP

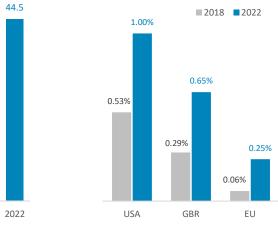
(three years to 2022 vs three years to 2018)

Fig.4 The growth in early stage investment activity

i) Growing...

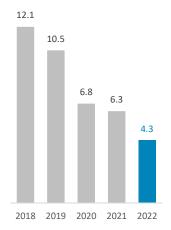
Value of early stage investment in the EU 2018 to 2022 €bn

45.8



ii) Getting deeper...





Source: New Financial analysis of data from Preqin

2021

19.5

2020

Note: for a full sector-by-sector growth analysis see the appendix on page 13

Encouraging progress

12.1

2019

8.7

2018

One of the most encouraging developments in EU capital markets over the past five years has been the rapid growth of early stage investment across the board. In the five years to 2022 the total value of investment in early stage companies in the EU increased five times to nearly \leq 45bn (see Fig.4i) according to data from Preqin. The trend in virtually every sector has been the same: healthy growth from 2018 to 2020; an explosion of activity in 2021; and activity holding up reasonably well in 2022 despite a wider market downturn. It is early days for 2023 but the initial data for the first quarter shows a significant fall in activity: investment fell by 71% to just \leq 4.1bn compared with the same period last year, with later stage funding hit particularly hard. This decline suggests that members states and the EU will have to redouble their efforts.

It is particularly encouraging to see that Seed investment and Series A investment, which involve funding companies at a very early stage, remained resilient in 2022. However, the value of later stage investment, which involves follow-on investments in companies that have already received external backing, fell sharply in 2022 (by 30% to €21bn). This could suggest a problem further down the line if companies that are trying to scale-up struggle to access capital.

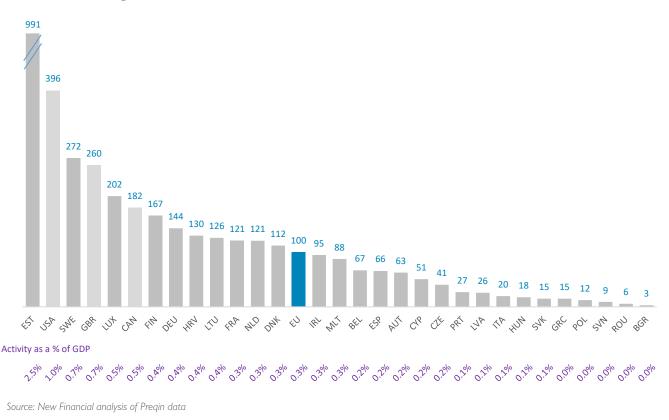
This rapid growth means that the gap between the US and EU has been closing over the past five years. Fig.4ii shows that in the three years to 2018, early stage investment in the US was nine times larger relative to GDP than in the EU (0.53% a year vs 0.06%) and activity in the UK was five times larger. While activity has doubled in the US and UK, it has quadrupled in the EU and now stands at 0.25% a year in the three years to 2022, reducing the gap to 'just' four times.

In the decade before 2018, activity in the US was 12 times larger than in the EU each year. But over the past five years this ratio has dropped every year from just over 12 times in 2018 to just 4.3 times last year (see Fig.4iii). This concerted and significant narrowing of the gap between the US and EU market in the past five years could mark a more structural and permanent change. However, there is still a long way to go for early stage investment in the EU to be anywhere like the levels seen in the US, Canada, or the UK.

THE RANGE IN EARLY STAGE INVESTMENT IN THE EU

Fig.5 The range in depth and development of early stage investment activity in the EU

This chart shows the value of early stage investment activity relative to GDP by country in the three years to 2022. Note: rebased to EU average = 100



A range of opportunity

Early stage investment activity is highly concentrated and not evenly distributed across the EU, which suggests that high potential companies in some markets may be missing out on the capital they need. Fig.5 shows the value of early stage investment by country in the three years to 2022 as a percentage of GDP, rebased to the EU average as 100. The wide range in depth highlights what individual member states can achieve on their own merits and underlines the huge potential growth opportunity across the EU.

Estonia is the most developed market relative to the size of its economy with early stage investment equivalent to 2.5% of GDP a year: more than double the level in the US and 10 times higher than the EU average (although it accounts for less than 3% of all activity in the EU). Sweden is the next most developed market (ahead of the UK) and it is encouraging to see that activity in Germany is well above the EU average and a lot more developed than the rest of its capital markets.

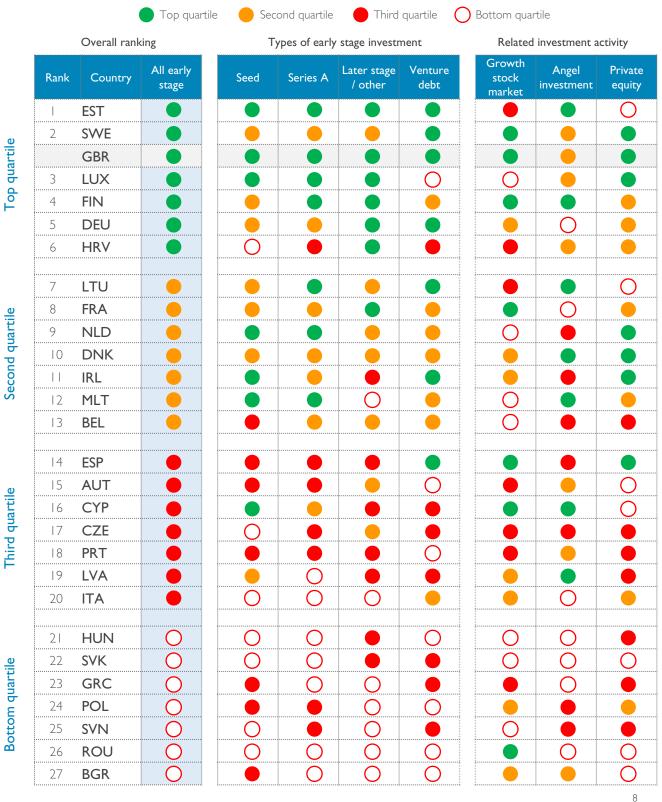
We think this chart should send a strong aspirational message to individual member states: if Estonia can attract early stage investment of 2.5% a year, why not Lithuania (0.32%) or Latvia (0.06%)? If Sweden can manage 0.7% a year, what about the likes of Denmark, Belgium, or Austria? And what is stopping large economies such as Spain (0.17%) or Italy (0.05%) having the same sort of market as France (0.30%) or Germany (0.36%)?

In other words, this chart is not so much asking 'what can be done at an EU level to boost early stage investment?' but 'what can individual member states do to support and attract more early stage investment given that comparable economies have already shown what can be achieved?'. We explore what this growth might look like in the next few pages.

DEPTH OF EU EARLY STAGE INVESTMENT BY COUNTRY

Fig.6 What is the depth of activity across EU countries?

This table provides an 'at a glance' ranking of the depth of early stage investment in each EU country and the UK across eight sectors of activity. It is divided into four groups, from most developed (top quartile) to least developed (bottom quartile).



Bigger and deeper

The previous two pages have highlighted the wide range in the level of early stage investment across the EU. The data can also be used to provide a directional estimate of the growth potential in early stage investment and its impact in practical terms. Overall, we estimate that early stage investment activity in the EU could grow by 64%, which translates into an additional €24bn of investment in nearly 4,800 extra companies a year (see Fig.7).

We ran a simple 'what if...?' analysis based on the rankings by quartile: what if the value of early stage investment activity in each country increased to the average level of the countries in the quartile above?

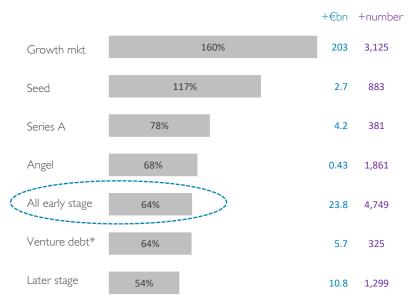
For example, investment in Spain of €2bn a year over the last three years translates into 0.17% of GDP, at the top of the third quartile. The average depth of countries in the quartile above is 0.28%. If activity in Spain increased to that level - and there is no particular reason why Spain should not have the same sort of market as France or Belgium - it would translate into an increase of 80% in investment or an extra €1.7bn a year being invested in at least 280 additional companies. If you repeat this exercise for each country and each sector (and apply a conservative growth rate of half the average growth to countries in the top quartile) you get an ambitious but achievable measure of the growth opportunity across the EU.

At an EU level, this growth ranges from 160% for the market value of growth stock markets (an extra €203bn and more than 3,000 extra listed companies) to 'just' 54% for later stage investment (an extra €11bn a year funding nearly 1,300 companies). At a country level (see Fig.8) activity in Germany would increase by nearly 60%, unlocking an extra €8bn a year for roughly 770 companies. In Italy, activity would more than triple with an additional €1.9bn a year supporting 520 companies. And across Central and Eastern Europe (what we call the EUII) this directional growth would mean activity more than doubling with an extra €2.3bn to support more than 900 companies.

Fig.7 The growth potential by sector at an EU level

The growth opportunity in early stage investment activity at an EU level The numbers in blue show the potential increase in value in \in bn

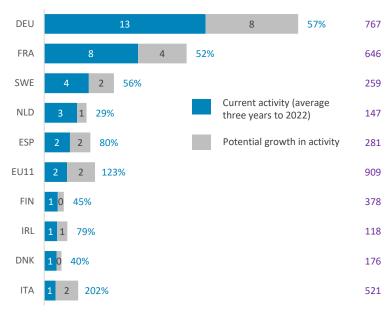
The numbers in purple show the potential increase in the number of investments



* Note: the high concentration of activity in just two countries for venture debt means that we have applied the average potential growth of the other sectors instead of a quartile-based analysis

Fig.8 The growth potential by country

The growth opportunity in early stage investment at a country level The numbers in purple show the potential increase in the number of investments



Source: New Financial analysis

Financing innovation: unlocking the growth potential

One of the key messages in this report is that early stage investment in the EU has made significant progress in the past few years but needs all the help it can get to fulfil its potential, particularly in the wake of rising interest rates and recent market turmoil. This will not happen by accident, and will need a combination of 'top down' measures at an EU level *and* 'bottom up' initiatives at a national level. Here are some questions and suggestions for policymakers across the EU to consider:

- 1. The wider picture: innovative companies do not exist in a vacuum they need a supportive business, legal, regulatory, and social environment. Many of the challenges they face are more 'upstream' in nature than regulatory changes, such as education, corporate and personal tax, labour laws, government bureaucracy as well as housing, infrastructure, and social policy. Innovative companies thrive in cities that mobile and talented people can afford to move to and want to live in.
- 2. A unified market: the single market is a perpetual work in progress, but the remaining barriers to a genuinely unified markets in terms of hiring, bureaucracy, and regulation are one of the biggest obstacles for innovative companies. Europe does not have a start-up problem, but too many companies struggle to scale-up in a fragmented European market and find it easier to expand in larger markets like the US.
- 3. Direct investment: public sector vehicles that invest directly in high potential companies help kickstart market growth and encourage private sector investment. There is a danger in assuming public money can solve the problem, but examples such as ALMI Invest in Sweden, Bpifrance in France, or High-Tech Gründerfonds in Germany show how active public sector investment can galvanise activity.
- 4. Scale-up funds: despite rapid growth in early stage investment in the EU, later stage investment and scale-up capital is still underdeveloped. The TIBI programme in France to help connect companies with institutional investors shows the value of governments playing a co-ordinating role in providing scale-up capital to help companies through the 'valley of death' as they grow to maturity.
- 5. Open vs closed: one of the trade-offs to consider is the balance between the EU being open to investment from overseas while encouraging the development of more domestic investment. For example, we estimate that US investors were involved in just over half of all early stage investments in Europe last year by value.
- 6. Ecosystems: the thriving ecosystems for growth companies in London, Paris, Stockholm, and Tallinn did not happen overnight or by accident. One of the best ways to encourage clusters of innovation is to work with successful local founders and encourage them to become funders and mentors, creating well-funded and <u>self-propelling ecosystems</u> in which returns from successful companies are reinvested in the local market.
- 7. Tax reform: one way to incentivise this sort of reinvestment by successful entrepreneurs is to design tax breaks at every stage of the funding escalator. The Seed Enterprise Investment Scheme in the UK was specifically designed for start-ups and based on an existing tax scheme for more established companies.
- 8. Not an option: competition for talent among innovative companies is fierce and money is often tight. This means that share options are a fact of life. Harmonising the structure and tax treatment of options across the EU and building on the reforms at a national level over the past few years would help level the playing field (see the <u>Not Optional</u> initiative).
- 9. Customer of first resort: much of the innovation in the US and other successful markets has been a response to government demand for new technologies. Too often, governments can default to hiring more established tech companies for projects rather than taking a risk on smaller local companies.
- 10. Intellectual capital: first class universities across the EU are a goldmine of innovation and technological progress. Governments can work more closely to bring together universities, investors, and companies to help stimulate clusters, and standardise the process of university spin-outs to tap into this rich resource.

Rethinking capital markets

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William launched New Financial in 2014 to make the case for bigger and better capital markets in the UK and Europe. He previously spent 18 years as a financial journalist as the editor and member of the launch team at Financial News, which was acquired by the *Wall Street Journal* in 2007. He was educated at Oxford, London, and INSEAD.



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APPENDIX I: A COUNTRY-BY-COUNTRY SUMMARY

Fig.9 Summary of activity and growth potential in early stage investment

This table provides an 'at a glance' summary of the value, depth, and growth potential in early stage investment in each EU country and the UK.

Activity in 2022 (exc. angel)
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Depth in 2022 relative to EU average = 100

Annual growth potential

Country	Value €bn	% of GDP	# of deals	Overall	Seed	Series A	Later / other	Venture debt	Angel (2021)	Growth market	Value €bn	%	
Austria	0.71	0.16%	33	57	51	37	102		117		0.510	76%	-1
Belgium	0.85	0.15%	45	54	78	96	65	4	98	8	0.770	89%	
Bulgaria	0.01	0.02%	5	5	95	0	0	0	104	28	0.077	542%	
Croatia	0.51	0.78%	4	276	41	0	582	0	42	8	0.097	51%	
Cyprus	0.03	0.11%	6	40	360	46	28	0	305	1906	0.038	116%	•••
Czechia	0.40	0.14%	12	50	20	47	86	6	150	21	0.398	153%	•••
Denmark	0.91	0.25%	51	88	163	109	55	112	287	29	0.402	40%	•••
Estonia	1.15	3.11%	44	1102	1505	828	1897	0	2083	7	0.357	44%	
Finland	I.09	0.41%	53	44	179	269	186	20	425	129	0.495	45%	
France	10.55	0.40%	340	142	136	169	206	37	98	168	3.951	52%	
Germany	13.55	0.35%	482	126	142	121	106	153	71	38	7.522	57%	
Greece	0.03	0.01%	7	5	32	9	0	5	27	18	0.152	209%	•
Hungary	0.10	0.06%	3	21	4	0	43	0	44	0	0.203	276%	
Ireland	I.47	0.30%	62	106	60	120	71	157	93	108	0.831	79%	
Italy	1.39	0.07%	64	26	12	18	24	35	60	75	1.851	202%	
Latvia	0.01	0.02%	6	5	85	0	0	2	301	16	0.050	196%	
Lithuania	0.08	0.12%	7	42	149	226	0	0	288	6	0.069	38%	
Luxembourg	0.37	0.47%	12	167	146	162	285	0	134	0	0.180	49%	•
Malta	0.03	0.20%	3	72	0	482	0	0	195	6	0.027	73%	
Netherlands	I.45	0.15%	117	55	123	104	50	27	87	0	0.781	29%	
Poland	0.21	0.03%	26	П	32	25	11	I	110	61	0.607	298%	
Portugal	0.13	0.05%	23	19	54	85	7	0	102	24	0.334	207%	
Romania	0.02	0.01%	10	3	17	12	0	0	64	129	0.214	516%	
Slovakia	0.09	0.09%	I	30	0	0	64	0	25	0	0.151	317%	
Slovenia	0.02	0.04%	3	14	0	54	12	0	81	0	0.056	375%	
Spain	2.35	0.18%	130	63	60	65	61	66	87	211	1.668	80%	
Sweden	6.96	1.21%	98	431	173	145	155	1010	104	550	2.036	56%	ſ
EU	44.48	0.28%	1,647	100	100	100	100	100	100	100	23.8	64%	
UK	17.81	0.59%	805	208	277	261	216	160	235	466	-	-	

Source: New Financial analysis of data from Preqin, EBAN, and individual stock exchanges

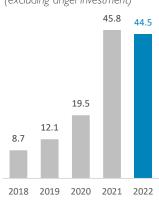
APPENDIX 2: GROWTH IN EARLY STAGE INVESTMENT

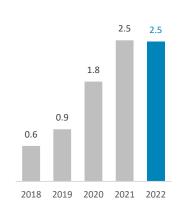
ii) Seed investment

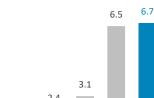
Fig.10 The growth in early stage investment activity in the EU

Summary of the value of early stage investment activity in the EU in different sectors from 2018 to 2022 €bn

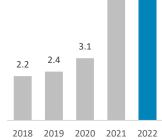
i) All early stage investment (excluding angel investment)



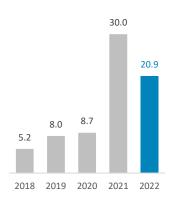




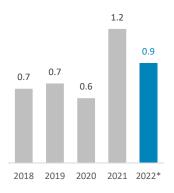
iii) Series A investment



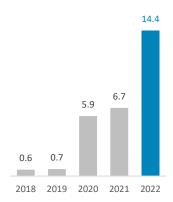
iv) Later stage investment



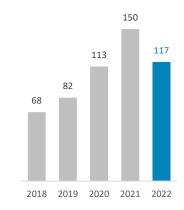
vii) Angel investment



v) Venture debt







Source: New Financial analysis of data from Preqin, except EBAN for angel investment, and individual stock exchanges for growth markets * Note: New Financial estimate of angel investment in 2022