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Stimulating Business Angels in the Czech Republic

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ABBREVIATIONS

€	Euro (currency)
\$	US Dollar (currency)
\$NZ	New Zealand Dollar (currency)
£	UK Pound Sterling (currency)
3Fs	Founder, Friends and Family
ACA	Angel Capital Association
AI	Artificial Intelligence
ALF	Angel Lenders Forum, Scotland
AMCIF	Act on Management Companies and Investment Funds
API	Application Programming Interface
BAE	Business Angels Europe
B2B	Business-to-Business
B2C	Business-to-Consumer
B2G	Business-to-Government
BAF	Business Angel Finding
BAN	Business Angel Network
BBB	British Business Bank
CEE	Central and Eastern European
CFM	Clarendon Fund Managers Ltd
CIFP	Caribbean Investment Facilitation Project
CMZRB	Czech-Moravian Guarantee and Development Bank
CoFunds	Co-investment Funds
CTU	Czech Technical University
CVCA	Czech Private Equity and Venture Capital Association
CZK	Czech Koruna (currency)
DBW	Development Bank of Wales
EAF	EIF European Angels Fund
EEA	European Economic Area

EBAN	European Business Angel Network
EC	European Commission
EIF	European Investment Fund
EIS	Enterprise Investment Scheme
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
ESIL	Early Stage Investing Launchpad
EU	European Union
EVCA	European Private Equity & Venture Capital Association
GCI	World Economic Forum's Global Competitiveness Index
GEM	Global Entrepreneurship Monitor
GDP	Gross Domestic Product
GVA	Gross Value Added
HBAN	Halo Business Angel Network - Ireland
IC	Investment Committee
ICT	Information and Communication Technology
IoT	Internet of Things
IP	Intellectual Property
IPO	Initial Public Offering
IRR	Internal Rate of Return
JIC	South Moravian Innovation Center (Jihomoravske Inovacni Centrum)
KPI	Key Performance Indicator
LLC	Limited Liability Company (US)
Ltd	Limited Company (UK)
M2M	Machine to Machine
M&A	Mergers and Acquisitions
MIT	Ministry of Industry and Trade
NAA	National Angel Association
NACO	National Angel Capital Organisation
NZVIF	New Zealand Venture Investment Fund
OECD	Organization for Economic Cooperation and Development
OP EIC	Operational Program Enterprise and Innovations for Competitiveness
P2P	Peer to Peer
R&D	Research and Development

SaaS	Software as a Service
SAFE	Survey on the Access to Finance of Enterprises
SCF	Scottish CoFunds
SCIF	New Zealand Seed Co-investment Fund
SEIS	Seed Enterprise Investment Scheme
SEN	Strathclyde Universities Entrepreneurial Network
SIB	Scottish Investment Bank
SME	Small and Medium Enterprise
SRO	Limited Company (Czech Republic)
SPV	Special Purpose Vehicle
TACR	Technological Agency of the Czech Republic
TFP	Total Factor Productivity
TOR	Terms of Reference
TTO	Technology Transfer Office
UKBAA	UK Business Angels Association
UK	United Kingdom of Great Britain and Northern Ireland
US	United States of America
VC	Venture Capital

EXECUTIVE SUMMARY

The objective of this study is to assist the Ministry of Finance of the Czech Republic¹ to capture the current state of angel investment activities in the country. This study is carried out in the wider context of developing domestic capital markets, identifying gaps and potential, and offering relevant policy recommendations for increasing risk investment activity in the country to better contribute to private sector growth, innovation, and consequently economic growth. This study complements the earlier analysis of the World Bank (2017) Capital Markets Assessment report², which focused on the broader capital market development agenda and more traditional financing instruments, with an emphasis on later stage financing.

Equity financing is the most appropriate form of funding to support innovative high-growth firms. High-growth firms tend to contribute disproportionately to job creation and are often at the earliest stages of innovation and looking to commercialize research and development. Because these firms do not yet have a saleable product or customers (being 'pre-revenue'), bank or other forms

of lending are unsuitable. Thus, external equity investment becomes essential for innovative high growth potential firms. In the Czech Republic, the share of young high growth enterprises measured based on turnover growth³ is just 1.4 percent of the active enterprise population, compared to Estonia's 4.3 percent.⁴ However the Czech Republic ranks above the European average in terms of the share of high-growth companies, as identified using the criteria of growth in employment.⁵

Equity investors, particularly business angel investors, bring not only financing to high growth firms, but also expert advice, post investment mentorship, and market connections ('smart money'). Business angels are typically 'hands on' investors who are either experienced business people or entrepreneurs (or both), and the firms they back also benefit from their advice, insights, knowledge, and contacts. This non-financial assistance is particularly important in the earliest development stages where the management team is incomplete and usually inexperienced.

¹ This study is supported by the European Commission's Structural Reform Support Service.

² "Capital Market Assessment /Market Development Options Czech Republic," *The World Bank* (September 2017).

³ Refers to enterprises which are five years or younger in terms of operations and have turnover growth of at least 10% per annum in the past 3 years.

⁴ "High growth enterprises (growth by 10% or more) and related employment by NACE Rev. 2," Eurostat.

⁵ Growth in this case is defined as annualized growth in employee numbers of more than 10% per year over a three-year period and at least 10 employees when this growth began. "1 in 10 enterprises in the EU recognized as high-growth companies," European Commission, http://ec.europa.eu/eurostat/web/products-eurostat-news/product/-/asset_publisher/c2r9i0eawwMY/content/DDN-20171019-1/pop_up?_101_INST%E2%80%A6

There are, however, considerable disincentives and barriers to entry that are likely to restrict the number of individuals willing to become business angel investors. This form of investing requires the individual to learn new skills, is potentially extremely time-consuming, and is very risky in comparison to other traditional forms of investment (data from the US suggests that up to 70 percent of investments made by angels fail to return capital, never mind a profit⁶). It is appropriate therefore for governments to consider the introduction of policies and incentives to encourage more individuals to consider angel investing, with the state benefiting from the resulting additional economic growth.

No assessment of demand for, or supply of, equity investments (particularly from angel investors) was available for the Czech Republic. This report attempts to fill this gap by providing a systematic assessment of business angel activities, and the ecosystem surrounding innovation finance in general. This report assesses the following three components: (i) supply side of investments (banks; founder, friends and family (3Fs); proof-of-concept competitive grants; crowdfunding; venture capital; and business angels), (ii) demand side of investments (high-growth firms), and (iii) the local framework conditions shaping demand and supply. The analysis is based on literature reviews, published data sources, and qualitative interviews.

Weak risk finance activity in a given market could be explained by potential gaps in the supply and/or demand-side of investments as well as issues surrounding local framework conditions. On the supply-side, issues relate to the absence or low capacity of angels, venture capitalists, and crowdfunding platforms. The absence or low capacity of business angels in turn can potentially be due to disincentives to investing, such as the need for angels to learn new skills (correlated with investor experience), information asymmetry, and lack of tolerance for certain attributes associated with investment-making (e.g., lack of liquidity, time-consuming, and risky). On the demand-side, possible issues may include a perceived lack of deal flow of investable ventures that demonstrate capacity to grow and capture markets, weak entrepreneurial

culture, and low levels of business innovation and knowledge creation. Issues related to local conditions are attributable to weak incentive structures among supporting intermediaries (e.g., incubators/accelerators, technology transfer offices (TTOs), universities, weak business regulatory conditions, and lack of exit markets). These assumptions of potential gaps shape this assessment of the current situation of the Czech Republic's risk financing ecosystem.

Core Findings

On the supply side, the Czech Republic has an emerging early stage investment community. It is small both in terms of the number of investors and the amount invested. The market appears dominated by a small pool of very high net worth individuals operating largely individually and investing directly into companies or via a private personal fund structure or family office. While there are one or two for-profit platforms, organizations that charge membership fees for access to investment opportunities, and some private investment clubs, there are no visible business angel networks (BANs) of the type typically found in developed European markets. There appears also to be a general lack of syndication of investments (more than one investor involved in funding the company to mitigate risk). Further, visible investment activities appear concentrated geographically in Prague and in the information, communication, and technology (ICT) sector. This combination of low levels of syndication and portfolio size and a general concentration in a single industry sector, together with low availability of follow on funding from venture capitalists suggests that angel investing in the Czech Republic is subject to a higher than necessary level of risk. Combined with a low number of individual investors, this high risk makes the Czech market fragile. A few individuals withdrawing from the market due to bad experience, changes in personal or economic circumstances, or simply retiring could have a disproportionate impact on available investment funds.

⁶ The study was funded by Ewing Marion Kauffman Foundation and the NASDAQ OMX Education Foundation and was based on exit data primarily from the period 2010 - 2016. <https://angelresourceinstitute.org/research/report.php?report=101&name=2016%20Angel%20Returns%20Study>

On the demand side, credible deal flows do exist, based on the existence of success stories.

Nonetheless, these success stories are relatively few and concentrated in certain locations and sectors. Most startups are based in Prague and Brno, and primarily in the ICT sector. There are relatively few academic spin-offs (these tend to focus on non-ICT innovations). The lack of detailed structured data makes it difficult to quantify the existing level of credible demand. Information made available through this report indicates that overall, demand falls short of the critical mass needed to support a developed market. Existing issues affecting a credible pipeline of potential deal flows and shaping the current set-up of demand in the Czech Republic include a lack of information and education on the part of founders, poor linkages between academia and industry, and weak entrepreneurial culture and education.

While issues in the local environment may affect the flow of angel investments these are clearly not insurmountable, based on the Czech Republic's competitive ranking on relevant indicators and the evidence that investment deals are being conducted. The Czech Republic ranked 31st out of 137 countries on the World Economic Forum's Global Competitiveness Index (GCI) 2017-18 and is the highest placed Central and Eastern European (CEE) country in the European Union (EU) 28, ranking 13th (between Estonia and Spain). Key findings on the current local framework conditions include:

- Reported issues in the regulatory environment regarding perceived difficulties in starting a business, outdated company laws, and expensive bankruptcy costs.
- A lack of clarity in terms of exit conditions, especially the level of exit opportunity for new technology companies as opposed to more traditional manufacturing and engineering companies (dominated by mergers and acquisitions). There have been only a few examples of technology company exits, such as AVG (which went public at the New York Stock Exchange in 2012 and was later sold to Avast Software in 2016) and Cognitive Security (sold to CISCO in 2013), and thus relatively few examples of Czech company success stories. This is not surprising given that early stage investing in the Czech Republic is still relatively young and exits typically take 5 to 8 years to achieve in developed markets.
- Startups receive varying levels of business development and mentoring support (from none to intensive) despite the availability of support intermediaries (e.g., incubators, accelerators). Intermediaries supporting the creation of more

academic spinoffs are hindered by institutional issues such as complicated processes in starting university spin-offs, ineffective TTOs, and weak incentive structure for commercialization of ideas, although there are government efforts to re-align universities' incentive structure through 'smart funding'.

- Uncertainty that existing government investment readiness programs, while available and aiming to improve the quality of potential investable deal flows, sufficiently address the issues investors care about most, particularly the investability of the startup's proposition and investor engagement. Government financing programs aim to stimulate the supply side by providing direct or indirect public capital to innovative firms, although it appears that the Czech government lacks experience in the provision of public capital given unsuccessful attempts to create financing support platforms.
- An absence of specific tax incentives or co-investment funds currently available to encourage or support business angel activities. The inability under Czech tax legislation to carry losses incurred on the sale of securities in a given year forward to offset against future gains, or against income, may discourage high risk investing such as that undertaken by business angels.

Recommended Actions

This report proposes a number of short-term, medium-term, and long-term policy recommendations for enhancing business angel awareness and investments in the Czech Republic (see table 1). The recommendations are problem-driven (based on the analyses of supply side, demand side, and local environment conditions for business angel investments) and phased (anchored on administrative and political cost considerations). They include the following:

Component 1 (short-term) - Data Collection and Mapping

Available data for the early stage market in the Czech Republic on both the demand and supply sides is weak. An essential first step is therefore to create a systematic understanding of demand and supply for angel investments. Specifically, data can be used to monitor the risk finance market to better inform policymaking. The data should be updated annually.

Recommendation 1.1: Commission time-series data on angel investment activity (similar to existing venture capital market data).

This helps provide an accurate measure of market size, investment activity, and the types of investments being made, among other indicators. An initial “baseline” analysis is required to establish the present situation, both to inform policy development (what problem needs to be addressed) and to facilitate future program monitoring (what success has been achieved). This can be done using survey interviews (as the New Zealand Government did when forming their Seed Co-Investment Fund (CoFund)⁷) and/or compilation of secondary data sources. Baseline information should include international benchmarking of angel investments, and when updated regularly this will provide useful information on deal size, number of investments, levels of syndication, industry sectors, and geographic location of investors and investee companies.

Recommendation 1.2: Conduct a taxpayer base analysis.

This analysis helps quantify the number of individuals who appear to have sufficient wealth / income to be potential angel investors. This will inform understandings of the potential investment capital that may be available in the Czech Republic. Collected data can be used to set reasonable expectations regarding the likely total pool of investors and create an estimate of their annual investment value. Ideally, data would consider characteristics that tend to define the likelihood of an individual being an angel investor, including disposable income, demographics (e.g., age, education, gender), and location. This analysis would not seek to identify individual tax payers, but rather produce aggregate data showing how many tax payers fall into specified bands of amounts of tax paid, with the objective of determining how many individuals pay the highest amounts and may therefore have income levels sufficient to support angel investing. Further, this analysis will inform the development of government policies to help stimulate investment. For example, disaggregated analysis based on geography helps identify regions where specific shortfalls to potential demand may require additional policy intervention. Based on analysis of potential investor’s capacity, policies can be enacted to provide differing support structures depending on investor types. An example is from the UK Government: while offering the same

tax incentives to both equity crowdfunding investors and business angels, higher protection is given to less sophisticated retail investors.⁸

Recommendation 1.3: Commission a demand side survey targeting startup founders/entrepreneurs.

This helps provide an assessment of credible demand side needs as well as uncover issues and guide policy interventions for different types of founders/investment applicants. These might include reluctant applicants (equity averse founders), discouraged applicants (founders who do not apply as they do not know how to, or have fears of being rejected), and unprepared applicants (founders who wish to obtain funding, but do not have the skills or collateral to effectively apply, or who do not understand the real needs of investors). Individual companies need not be identified, rather incubators and accelerators could be asked to report how many of their companies have actively sought equity funding, in which industry sectors, and at what values.

Component 2 (medium-term) - Promotion and Market-Structuring

The development of an effective angel investment market in the Czech Republic is inhibited by a lack of knowledge about the nature and operations of business angels. Individuals may not realize they can be an angel investor or know how to start; founders may not know where to find angels, whether their business is suitable for investment, or what steps they should take to attract investment. This recommendation helps to increase market capacity and the capability of business angels and develop the connection between investors and founders.

Recommendation 2.1: Create a Czech National Angel Association (NAA).

A Czech NAA can help improve the efficiency and effectiveness of the existing market, improve coordination and linking of existing investors, and provide better information, signposting, and access to training and international practices. This organization would not itself make investments but fulfil a “market making” function on behalf of the Government to support economic development policy. The Czech Government could seed fund the establishment of an NAA with the remit

⁷ Ministry of Economic Development. *Baseline Review of Angel Investment in New Zealand (Undertaken as Part of the Formation of the Seed Co-Investment Fund)*. New Zealand: Research, Evaluation and Monitoring Team, Industry and Regional Development Branch, November 2007. <https://www.mbie.govt.nz/publications-research/publications/evaluation-of-government-programmes/Archive/report.pdf>

⁸ Equity-based crowdfunding platforms are required to obtain a license or to have regulated activities managed by authorized parties. They are also required to have a screening process to sort sophisticated and non-sophisticated investors. A “non-sophisticated” investor is not allowed to invest more than 10 percent of their net investable assets through crowdfunding platforms.

to facilitate an increase in the capacity and capability of business angels in the country. While all angels and angel organizations would be encouraged to be members of the national association, its status as a development agency would allow it to be completely independent of any one angel's / network's interests. It would encourage individuals to be angel investors, but with no vested interest in which angel network that individual joins (or does not join). It would be able to deliver policy and programs on behalf of government that a private sector organization may not be motivated to engage in. Due to the very early stage of development of the Czech angel market and the need for government financial support, the more recent Halo Business Angel Network (HBAN) established by Enterprise Ireland in 2009 could serve as a good model for the Czech NAA.

The NAA could potentially become a member of Business Angels Europe (BAE). BAE can give practical support and guidance for the development of the Czech NAA as well as create linkages with other NAAs. BAE's members include the national associations of the most developed angel markets in Europe, including Germany, France, Spain, and the UK.

Recommendation 2.2: Introduce a self-certification system for business angels in the Czech Republic. Accrediting or certifying business angels may help remove any regulatory barriers hindering the easy distribution of early stage investment propositions to investors or limiting the number of investors participating in any individual investment.

Long-term option A - Establish a CoFund

CoFunds are increasingly being used by governments to stimulate behavioral changes in current and potential investors, encouraging them to take more risks. CoFunds lower the risk of investments by encouraging syndication, allowing more investments to be made and providing portfolio diversification. They are used where there is a lack of market capacity and lack of follow on funding (in less invested-in sectors or geographic locations) to help encourage more individuals to become angel investors, and for existing investors to invest more. A critical design element of these CoFunds is that the co investment

(of public funds and private investor funds) occurs at the level of individual deals, not at the level of the fund. The objective is to encourage "business angel type behavior", involving a hands-on involvement by the private investor, as opposed to a passive involvement in a fund managed by a professional fund manager. Based on the recommendations of the Organization for Economic Cooperation and Development (OECD), such a co-fund is appropriate once there is at least a minimal level of existing angel activity⁹ for the fund to engage with. Information flow is also a pre-requisite before considering this option. An example of a suitable fund structure for the Czech Republic would be one similar to that adopted by the Development Agency in Northern Ireland, where a professional fund manager is tasked with helping to coordinate the sourcing of investments, finding and encouraging new and existing angel investors to invest in each individual deal, and conducting a detailed review of the angel co-investors' due diligence and proposed deal structure. The fund manager must fund at least 50 percent of the value of each investment made from private investors.

Long-term option B - Tax Incentivization

The tax structure is being used by many countries to encourage individuals to take on the extra investment risks of being a business angel.¹⁰ The tax treatment of capital gains or losses realized on disposal of an investment will influence the risk appetite and decision-making process of a prospective investor. For instance, tax relief for capital gains or the provision of loss relief on a more favorable basis than the baseline tax system could support the de-risking of investments in young, growing, and innovative businesses. Given a general lack of market capacity and under-investment in certain sectors in the Czech Republic, such measures could help to increase the number of business angels (and particularly encourage more angels to become "visible" in the market) and widen the pool of angel capital by encouraging investment in a broader range of sectors. However, this measure can only be fully effective within a functioning ecosystem built upon a free flow of information and a culture of risk-taking and investment. These pre-requisites take time to be established, matched by appropriate policy interventions (e.g., general promotion of angel investment and facilitating the education of potential

⁹ OECD, "Financing High-Growth Firms: The Role Of Angel Investors," (OECD Publishing, 2011), <http://dx.doi.org/10.1787/9789264118782-en>.

¹⁰ A European Commission (EC) report "Effectiveness of tax incentives for venture capital and business angels to foster the investment of SMEs and start-ups", Institute for Advanced Studies (2017), looked at best practices in tax incentive programs for investors in 36 countries from within Europe and the OECD.

new investors to enable them to make informed investment decisions). The design of a tax incentive for the Czech Republic will need to take account of the specific characteristics of the Czech tax structure (generally a flat rate of 15 percent applied on all taxable income). Existing exemptions from capital gains tax on all forms of investments in securities held for a minimum period of three years are likely to make specific incentivization for “high risk” investments more difficult. A review of tax legislation should also consider any existing provisions that may discourage high risk investing, such as the provisions allowing losses on the sale of securities (in the case of a business angel investment characterized by the high probability of the failure of the venture and total write-off of the investment) only to be offset against

gains on securities sold in the same year (capital losses cannot be carried forward or offset against income).

While these recommendations are primarily focused on the supply-side, improving demand-side interventions and framework conditions are equally important. Effective demand-side interventions (e.g., investor ready programs) stimulate and ensure an adequate pipeline of credible deal flows. Ensuring conducive legal framework conditions (underpinned by deeper legal analyses) prior to the implementation of CoFunds and tax incentivization schemes is likewise a pre-condition for implementing these long term strategic options.

Table 1. Recommendations

Timeframe	Recommendation	
Short-term	<p>COMPONENT 1. DATA COLLECTION AND MAPPING</p> <p>Data collection and mapping to create a systematic understanding of demand and supply for angel investments.</p> <p>1.1. Commission time-series data on angel investment activity to be updated annually (similar to existing venture capital market data).</p> <p>1.2. Conduct a taxpayer base analysis to quantify the number of individuals in Czech Republic who have the potential to be a business angel and repeat annually.</p> <p>1.3. Commission a demand side survey targeting startup founders/entrepreneurs on an annual basis.</p>	
	Medium-term	<p>COMPONENT 2. PROMOTION AND MARKET STRUCTURING</p> <p>Promotion and market-structuring to increase market capacity and capability of business angels, and connection between investors and founders</p> <p>2.1. Create a Czech National Angel Association (and become a member of BAE).</p> <p>2.2. Introduce a self-certification system for business angels in the Czech Republic.</p>
	Long-term	<p>OPTION A. COFUND</p> <p>Establish co-investment funds to encourage more individuals to become angel investors, and for existing investors to invest more because they lower the risk of investments by allowing more investments to be made and providing portfolio diversification.</p> <p>OPTION B. TAX INCENTIVIZATION</p> <p>Introduce tax incentives to increase the number of business angels and encourage them to invest in a broader range of sectors</p>



INTRODUCTION

Young firms create the bulk of new jobs and are the key drivers of productivity and economic growth. Young firms are the net job creators in 17 OECD countries and Brazil¹¹ as well as in the United States¹². They also contribute disproportionately to innovation¹³ through the new ideas that they commercialize and bring to the market, thereby helping increase productivity and economic growth. Of importance for economic growth is a subset of young firms: young innovative companies achieving “high growth¹⁴” or “scale up”. For example, while high growth firms represent a minority of all firms in the UK (around 7 percent), estimates suggest that they generated 50 percent of all net new employment between 2002 and 2010¹⁵.

For high growth firms, the most appropriate form of funding to support growth is likely to be equity. For such firms it is normal for their revenues to lag the provision of investment significantly, making bank or other forms of lending unsuitable. They consume large quantities of cash to support increasing working capital needs, making diversion of revenues to pay back capital and interests on loans inappropriate. For example, nearly 50 percent of UK high-growth technology firms use external equity finance¹⁶ in comparison to just 1 percent of the general business population¹⁷. For companies at the earliest stages of innovation and looking to commercialize research and development (R&D) but which do not yet have a saleable product or customers (they are ‘pre-revenue’), external equity investment becomes essential (with the only alternative usually being a limited level of grant funding). Innovative high growth potential firms in the early stages of their life cycle therefore need an appropriate level of supply of the right type of capital (equity) from investors.

As in most countries, banks provide the majority of funding for Czech companies. The Survey on the Access to Finance of Enterprises (SAFE) 2017 found that top relevant sources of financing for Czech SMEs are primarily offered by banks: leasing (53 percent), credit lines (50 percent), and bank loans (45 percent) in 2017¹⁸. This relationship has been strengthened in the Czech Republic in particular because of the provision of state supported bank loan guarantees.

This report focuses, however, on the needs of companies that require equity funding, something not normally provided by banks, and more specifically on the equity needs of early-stage and high-growth technology firms. Often, these firms’ source of equity capital comes from private individuals acting as business angels. Such investors make their own personal investment decisions and invest money in their control. Their investment in high-growth firms is not made from funds in private bank deposit accounts allocated for investment by bank fund managers. The report and policy recommendations therefore address stimulating investment by individuals¹⁹.

Equity investors bring more than just much-needed financing to entrepreneurs and high growth firms. One of their main contributions is providing expert advice, post investment mentorship, and market connections. This is perceived to be a particular attribute of business angel investors, who are said to provide ‘smart money’. Business angels are typically ‘hands on’ investors who are either experienced business people or entrepreneurs (or both), and the firms they back also benefit from their advice, insights, knowledge, and contacts. This non-financial assistance is particularly important in the earliest development stages where the management team is incomplete and usually inexperienced. The value of this to young firms was evidenced by a survey of German business angel-supported firms who considered business angels’ contacts and know-how to be more important than the provision of finance²⁰.

¹¹ C. Criscuolo, P. Gal, C. Menon, “The Dynamics of Employment Growth: New Evidence from 18 Countries,” *OECD STI Policy Papers No. 14* (2009).

¹² John Haltiwanger, Ron S. Jarmin, and Javier Miranda, “Who Creates Jobs? Small vs. Large vs. Young,” *Review of Economics and Statistics* 95, no.2 (2013): 347-61.

¹³ Zoltan J Acs and David B Audretsh, “Innovation in Large and Small Firms: An Empirical Analysis,” *American Economic Review* 78 (1988):678-690.

¹⁴ The OECD defines a high growth business as ‘a firm of 10 or more employees that grows either its employees or turnover by an average of more than 20 per cent per year for three consecutive years’.

¹⁵ NESTA, “Vital Growth: the importance of high growth businesses to the recovery,” *NESTA* (2011),

https://media.nesta.org.uk/documents/vital_growth.pdf.

¹⁶ 46 of the ‘Sunday Times Tech Track 100, 2016’ draw on external equity. See <http://www.fasttrack.co.uk/league-tables/tech-track-100>.

¹⁷ BDRc Continental found that 1% of SMEs had ‘applied’ for external equity investment in the last 12 months. “SME Finance Monitor Q4 2017” (March 2018), http://www.bva-bdrc.com/wp-content/uploads/2018/03/RES_BDRC_SME_Finance_Monitor_Q4_2017.pdf.

¹⁸ European Commission, “SME access to finance conditions 2017 SAFE results—Czech Republic,” (2017).

¹⁹ Banks, be they “high street” or “private”, play almost no role in equity investment in early stage companies in any country. Indeed, they often actively discourage individuals making personal angel investments as it removes funds from them that they may otherwise receive fees for managing.

²⁰ KfW Bankengruppe, “Beteiligungsmarkt nach der Krise: Optimistischer Ausblick Aber Angebotslücke beim Wachstums capital wird grosser,” (2010).

Current estimates show that business angels are the most significant source of risk capital for new and young entrepreneurial businesses in most environments²¹.

Business angel contributions to the early stage are greater than that of formal venture capital, despite that the majority of scholarly attention has been given to the venture capital industry. Invest Europe (formally known as European Private Equity & Venture Capital Association, EVCA) reported that of the total private equity investing (€71.7 billion) in Europe²² in 2017, only €600,000 “seed” investments were made by venture capitalists across Europe (spanning 1,081 investments)²³. This pales in comparison to the €6.6 billion of investment estimated to have been provided to 38,230 companies by European business angels²⁴. In the United States (US), possibly the most developed venture capital market in the world, there were 5,268 venture capital deals valued at \$74.2 billion in 2017, with only \$2.5 billion of venture funding into 1,524 companies being classified as “seed or early stage”²⁵. In the same period however there were 61,560 angel deals, valued at \$23.9 billion²⁶. In both the European and US cases, average deal sizes of venture capital funds even at the ‘early stage’ reflect investments in relatively well-advanced companies given that deal sizes are of very significant amounts for most startups to absorb. In Europe, the 2,193 “start-up” companies received an average investment of €1.6 million. In the US, seed or early stage investments averaged \$1.7 million per company, hardly typical startup funding requirements. These numbers highlight that the vast majority of early stage investments are made not by venture funds, but business angels.

The majority of technology firms which made successful exits have been shown to be funded by business angels and not by venture capital.

Comparing the relative impact angel investing and venture funding has on the successes of an investment, and the realization of entrepreneurial wealth, just 14 percent of the 152 technology company exits tracked in Europe in the first quarter of 2014 used venture capital funding²⁷. The rest had been funded by the 3Fs and business angels. Further, CB Insights reported that 68 percent of technology companies that made a successful exit in 2016 did not raise any venture capital funding but relied on business angels for example²⁸.

From a public policy perspective, business angel investments should therefore be integrated with other sources of financing²⁹.

This will include the creation of mechanisms to facilitate the effective deployment of such capital to the highest potential firms, such as the use of public funds to incentivize co-investments with business angels³⁰. Governments may also wish to encourage new firms to seek this form of capital, and minimize obstacles and disincentives to do so.

In emerging ecosystems, public sector intervention is common to encourage individuals to become angels and provide the essential financial and business support needed by high growth potential startups.

This is because of the effort required by potential new angels to learn the necessary skills, the significant time involved in finding and making investments, the commitment needed to support a company for many years before an investment return is likely³¹, and the high probability of the investment failing to produce any return at all.

²¹ Colin M Mason, “The Real Venture Capitalists: A Review Of Research On Business Angels,” (2008).

²² Europe includes: Austria, Baltic countries (Estonia, Latvia, Lithuania), Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, other CEE (Bosnia Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Serbia, Slovenia, Slovakia), Poland, Portugal, Romania, Spain, Sweden, Switzerland, Ukraine, and United Kingdom.

²³ Calculations are based on the following: Of €71.7 billion total private equity investment, majority (€65.3 billion) went into company buyouts. Just €6.4 billion was classified as venture capital, of which €0.6 billion was invested at the seed stage, €3.5 billion in startups, and €2.3 billion in latter stage companies.

²⁴ EBAN, “EBAN Statistics Compendium: European Early Stage Market Statistics,” (2016), <http://www.eban.org/wp-content/uploads/2017/11/Statistics-Compendium-2016-Final-Version.pdf>.

²⁵ PwC, “PwC MoneyTree,” www.pwcmoneytree.com/MTPublic/ns/nav.jsp?page=historical.

²⁶ Jeffrey Sohl, “The Angel Market in 2017: Angels Remain Bullish for Seed and Start-Up Investing,” Center for Venture Research (May 17, 2018), <https://paulcollege.unh.edu/sites/default/files/resource/files/2017-analysis-report.pdf>.

²⁷ CBInsights, “Coming of Age: European Tech Exits in Q1 2014,” Research Briefs (May 2014), <http://www.cbinsights.com/blog/european-tech-exits-q1-2014>.

²⁸ Ingrid Lunden, “CB Insights: 3,358 tech exits in 2016, ‘unicorn births’ down 68%,” TechCrunch (Jan. 31, 2017), <https://techcrunch.com/2017/01/31/cb-insights-3358-tech-exits-in-2016-unicorn-births-down-68/?gucounter=1>.

²⁹ European Commission, “Best practices of public support for early-stage equity finance,” Directorate-General for Enterprise and Industry (September 2005).

³⁰ Ibid.

³¹ The time to exit in the UK has been reported to be extending to 9-10 years - The Risk Capital Market in Scotland, 2009- 2010, Scottish Enterprise, 2012, page 5.

The 2016 Angel Resource Institute study on angel investing returns in North America³² suggests that 70 percent of investments made by angels in the US, possibly the most developed angel market in the world, failed to return capital to investors (they incurred losses).

This study considers policy for increasing access to finance not simply from the perspective of increasing the supply of capital per se. It looks at how appropriate levels of capital can be provided in the most efficient and effective way to entrepreneurs who are most likely to be able to use the funds to create and sustain high growth potential companies. The broader scope of the review is based upon the recognition that increasing sources of capital in itself is not sufficient. It must be part of a broader policy designed to stimulate increased numbers of startups with the capability of achieving high growth. This involves ensuring that obstacles other than just finances are identified and addressed. Unless there is a critical mass of companies that either want or need the finance, simply making more funds available will likely not result in a significant increase in business activity. Indeed, the oversupply of funding, particularly by inexperienced investors, can have significant negative effects on the market: valuations are likely to be excessively inflated; and poor ideas that are funded increase startup failure rates. Both scenarios lead to poor experiences by both investors and founders, with the result that early stage funding and entrepreneurship receive a poor local reputation.

Angel investing is about building companies of scale. The number of companies that have the potential to achieve sufficient growth to deliver the scale of returns sought by venture capital is limited. Most companies do not have the capacity to grow in value to the extent required to offset investment risk.

This means that merely increasing the supply of finance will likely have little or no effect on a region's overall business performance. There is a danger that increasing the funding available without at the same time matching it with appropriate investment opportunities will result in money going to poorer quality businesses which do not have the potential to grow to a significant scale. This possibility is increased where the investors are inexperienced and where investment is encouraged through various forms of subsidy (tax incentives or preferential private return through government CoFunds). This is what might be referred to as the over deployment of "dumb" money. It is likely to result in poor outcomes both on the demand side - few growing businesses will be successful, and few new jobs will be created - and on the supply side - investment returns will be negative or poor in comparison to other asset classes. Both result in adverse feedback. Potential entrepreneurs are discouraged by seeing few successes (and possibly many failures), and existing and potential new investors are discouraged from future investing due to preserved poor returns. This negative feedback could set back the development of an effective entrepreneurial ecosystem by many years. Policy should therefore be built on a proper understanding of the existing and potential demand for and supply of funding. *This requires that regular effective systematic data collection and analysis are the first step in policy development.*

Adequate data analysis will assist in setting realistic expectations regarding likely levels of credible demand and resulting deal numbers. Scotland is recognized by the OECD as one of the most developed angel markets in Europe. Members of LINC, the National Scottish Angel Capital Association, invested over €42 million into 68 companies in 2017, however, just 21 of these were "new" investments. The others were existing portfolio companies receiving follow on investment. This is despite having a strong university commercialization tradition³³ and a world-renowned gaming industry³⁴, as two strong sources of deal flow. At this time, the capacity of the Czech Republic to produce investable deal flow is not known. The need for improved data collection and analysis is covered in the recommendations of the report.

³² The study was funded by Ewing Marion Kauffman Foundation and the NASDAQ OMX Education Foundation and was based on exit data primarily from the period 2010 - 2016. <https://angelresourceinstitute.org/research/report.php?report=101&name=2016%20Angel%20Returns%20Study>

³³ Between 2012 and 2016 the Scottish universities of Edinburgh, Strathclyde, Aberdeen Heriot-Watt, Glasgow, and St Andrews produced a total of 57 spinout companies.

³⁴ The city of Dundee in Scotland has produced Minecraft, Grand Theft Auto, and Lemmings, and the industry employs 2,800 people in 91 companies. The Princeton Review rated Abertay University as number one in Europe for undergraduate level gaming courses.

This report provides a systematic assessment of business angel activities in the Czech Republic, and more broadly the ecosystem surrounding innovation finance in general.

The report starts by articulating the conceptual framework and the methodology adopted. It then defines business angels and their role and gives an overview of innovation and entrepreneurship performance in the Czech Republic compared to its peers. There follows the study's findings on the three components of the conceptual framework, namely: supply side of investments, demand side of investments (i.e., startups, high-growth firms), and the local framework conditions shaping demand and supply of investments. Based on these findings, the report concludes by proposing a number of short-term, medium-term, and long-term policy recommendations for enhancing angel awareness and investments in the Czech Republic. A series of annexes offer more detail on specific aspects of business angels and related issues. Finally, the report includes eight cases studies outlining some international experiences of angel investing.



CONCEPTUAL FRAMEWORK

A well-developed innovation finance ecosystem is centered around firms and entrepreneurs. A mature ecosystem is sustainably fed with innovation inputs (R&D) and infrastructure investments, qualified/skilled personnel, research and technology equipment, etc. that support the creation of a dynamic and networked private sector. The private sector, represented by firms, entrepreneurs, and investors, create a push-pull for investments. These non-linear interactions among actors within the ecosystem and across the boundaries (regional and international collaborations) over a sufficient period of time lead to the creation of an environment where innovative businesses compete and grow. Conducive framework conditions and supportive operating environments and institutions, represented by intermediaries, brokers, specialized service providers, enforceable intellectual property (IP) regimes, etc., are needed for such interactions to grow and come to fruition. The ultimate outcome of these interactions and investments in skilled labor, technology, and intangibles is increased productivity and economic growth. Figure 1 provides an illustration of this conceptual framework.

Diversified and competitive industries, functioning knowledge creation institutions, and innovative businesses create an ideal pull on the demand side for investments. Investment-ready startups comprise entrepreneurs who (i) are willing to consider equity financing; (ii) have good business management skills (teamwork and leadership, etc.); (iii) are able to pitch their ideas to investors (good presentation skills); (iv) have a good understanding of what makes their ideas an investable business (have ideas about how to grow (and required growth levels) and exit the market); and (v) address issues related to investor engagement (clear understandings of the investment process and how to prepare for it). To become credible for financing, startups are also expected to create and generate new ideas and knowledge, invest in innovation, and adopt an entrepreneurial mindset and culture that fosters entrepreneurial activity.

On the investment supply side, the right type of financing depends on the firms' position along the life cycle. Many firms and entrepreneurs intentionally cap the growth of their ventures at a certain size (lifestyle decisions) while others face financial, managerial, or market difficulties. Financing can come in the form of early stage grants (public financing), risk financing (e.g., public-private seed or venture capital funds, business angels, loan guarantees, etc.), or conventional bank financing.

The capacity of investors (e.g., business angels or venture capital) to provide financing is an important component to be considered on the supply side.

A well-functioning innovation finance ecosystem is also shaped by a set of actors such as: (i) local supporting intermediaries like incubators and accelerators, (ii) a complete spectrum of financial instruments including the availability of market exit options such as mergers and acquisitions (M&As) and initial public offerings (IPOs), (iii) a well-defined legal framework regulating the implementation of financial instruments including contract enforcement and minority protection for investors, (iv) a conducive business climate including investment friendly tax incentives for entrepreneurs and investors, and a well-functioning IP regime. These are cross-cutting conditions that mediate the interactions between demand and supply of finance and shape entrepreneurs and investors' behavior.

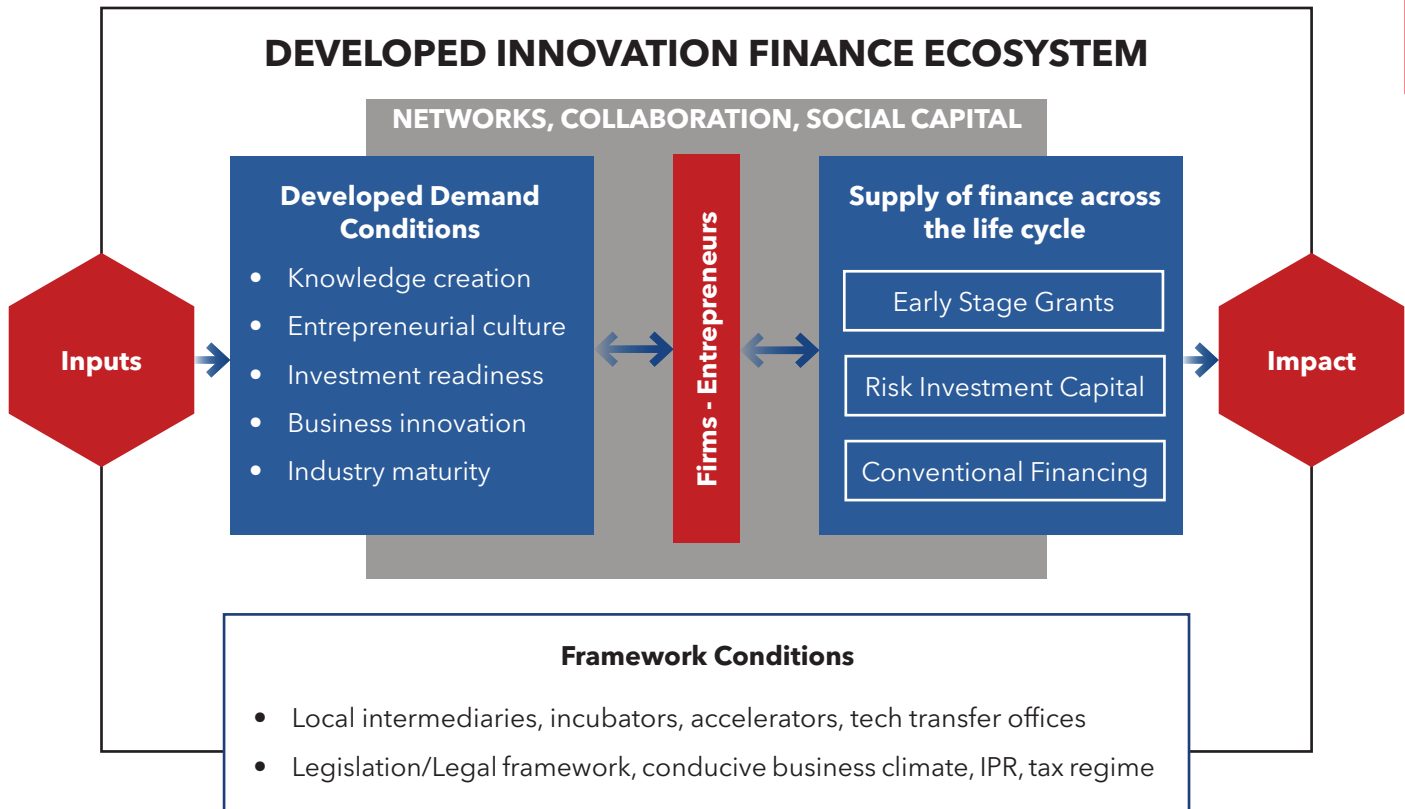
Finally, networks, collaboration efforts, and social capital are important components developed over time between firms, entrepreneurs, investors, and other actors to cultivate a vibrant ecosystem. More success stories, for example, on national, regional, and global levels encourage other investors to come into the market. Young entrepreneurs are also more inspired to follow the path of their role models.

This report adapts the above-mentioned demand-supply framework for analyzing the innovation finance ecosystem by zeroing in on the risk financing component, the deal flow of investable firms, and the local framework conditions. Following this framework, a weak risk finance activity in a given market could be explained by:

- (a) The absence or low capacity of angels, venture capitalists, and crowdfunding platforms (supply);
- (b) The lack of deal flow of investable ventures that demonstrate capacity to grow and capture markets; weak entrepreneurial culture; low levels of business innovation and knowledge creation (demand);
- (c) Weak incentive structures among supporting intermediaries (e.g., incubators/accelerators, TTOs, universities); weak business regulatory conditions; and lack of exit markets (framework conditions).

These assumptions of potential gaps will shape our assessment of the current situation of the Czech Republic's risk financing ecosystem.

Figure 1. Framework of analysis for the innovation finance ecosystem



Source: World Bank Group.



METHODOLOGY

The analytical bases for this report were a literature review, published data sources, and qualitative interviews. A literature review was conducted seeking academic and other papers that might assist in developing an early stage angel investing capacity building strategy and associated policy measures. The review of published literature revealed numerous papers advocating that government should introduce policies and incentives to encourage business angel activity. These papers describe and give examples of, in particular, policies such as tax incentives, CoFunds, and financial support for angel networks. However, there appears to be little practical advice on how to begin implementation, or considerations to be made as to the timing, sequencing, and localization of the differing options. The details of the literature review are set out in the **References** and **Annex 1**. Desk research was used to establish the details of existing early-stage financing actors in the Czech Republic including relevant government and other agencies, venture capital firms, angel investors, crowdfunding platforms incubators/accelerators, and entrepreneurs. Secondary data sources come from Invest Europe, European Commission (EC), OECD, and World Bank reports, together with a number of local surveys and reports produced by government and others.

Where appropriate these data sources have been used to benchmark the Czech Republic against select structural, regional, and aspirational peers. Structural peers are select peers that have similar gross domestic product (GDP) per capita as the Czech Republic³⁵. Regional peers are neighboring countries in the EU that do not have similar income levels as the Czech Republic. Aspirational peers are select countries the Czech Republic aspires to emulate, based on consultations with the Ministry of Finance. For the purposes of the report the following potential comparator countries were selected:

Peers	Country
Structural peers (based on GDP per capita)	Portugal, Slovenia, Slovakia
Regional peers	Hungary, Austria
Aspirational peers	Estonia (also structural), Ireland, Belgium

Thirty-five qualitative interviews were conducted with the main public and private stakeholders from the entrepreneurial and investment ecosystem (see **Annex 11. Czech Entrepreneurial Landscape**). The purpose of these interviews was to identify the current level of risk investment activities (especially at the early stage), the deal flow of investable startups, and the framework conditions governing the market. In particular, interviews were held with:

- (a) Business angels and business angel networks;
- (b) Venture capital firms;
- (c) Crowdfunding platforms;
- (d) Incubators, accelerators, tech transfer intermediaries, co-working spaces;
- (e) Financial advisors and expert consultants;
- (f) Individual technology entrepreneurs and startups teams;
- (g) Government bodies and public support institutions.

In addition, the team organized a round-table discussion with several startup CEOs, founders, and entrepreneurs at a local co-working space to discuss their experiences in setting up and growing technology startups, accessing early stage and growth financing, and accessing markets, talent, and specialized services. The team also inquired about the role of public institutions and support programs, local universities and research institutions, the entrepreneurial/startup culture, the capacity of local investors, and practices in the early stage investment process.

³⁵ Following the report: World Bank, "Capital Market Assessment /Market Development Options Czech Republic," 110.

Limitations

This report has its limitations. Foremost, qualitative interviews as part of this report were conducted in Prague alone due to time and cost limitations. While the geographical concentration of interviews in Prague may skew the findings of the report, this is mitigated by asking interviewees who are knowledgeable about activities in other cities to comment on the business angel landscape in these areas (e.g., Brno). Many of the interviewees are not only focused in Prague but all over the Czech Republic. CzechInvest, for example, have a business support mandate for Czech firms all over the country. Venture capital firms also scout for non-Prague based startups to maximize investment opportunities.

Further, reliable data relating to business angel activity is unavailable. This is true even in the most developed markets. In all countries, the majority of business angels (and most of their investment activity) are invisible and so virtually impossible to identify and track over time. The ability to discern investment activity on a systematic comparative longitudinal basis is therefore restricted to the “visible market”. This tends to comprise angel networks and syndicates and data from surveys of individual business angels who happen to have come to the attention of the survey administrators. .

Annex 2. Problems with Angel Data sets out the problems all researchers face when trying to assess angel markets.

On the supply side, there is no NAA in the Czech Republic. In countries such as the UK, Estonia, and Germany there are NAAs that collect “visible” angel data. In the Czech Republic, no government agency or other organization is systematically collecting data even of the visible elements of the market.

Similar data collection issues exist when trying to address the demand side. The firms surveyed can only include those that happen to have come to the attention of the surveyors. These are likely to be dominated by those in incubators and accelerators and may result in survey bias based on the sectoral focus and geographic location of those institutions. The position is further complicated as a result of the data sources not necessarily having consistent definitions (for example of seed and startup), by not differentiating between all startups (including those that are micro businesses) and those that represent innovative high growth potential firms appropriate for third party investment (typically estimated as being just 1 percent of all startups).

Within the Czech Republic, there is no national association of incubators and accelerators to collect data relating to levels of unmet credible demand. When trying to assess the extent of any “funding gap” by measuring existing levels of supply and demand, care must be taken to distinguish between absolute demand and “credible demand”. It is a consistent theme of research in this area of finance to hear from firms that there is a shortage of supply of capital (typically from those who have been unsuccessful in securing any) and investors who complain they are unable to invest all the funds they have available due to there not being sufficient investable opportunities. Some of this disparity can be attributed to market inefficiencies (often referred to in academic papers as including issues such as asymmetric information, connection problems, and presentational failings). Experienced angels are likely to respond that in practice the reality is that many of the propositions they receive are simply not, and are never likely to be, investable³⁶. This is not because of the typically described asymmetric information problem where the startup/firm supposedly has more information about the true success chances (or valuation) of the venture than the potential financiers. Conversely, experienced investors, having reviewed hundreds of propositions and invested in many, are likely to have a better understanding of the true success chances and realistic valuation than the first-time entrepreneur. For the researcher, the difficulty is assessing how much of the unmet demand for funding should be met.

³⁶ The management team is not credible; the product is not novel or compelling, there is no competitive advantage, there is no likelihood of achieving an adequate return on investment, etc. Angel and venture capital investors typically recount how they receive several hundred propositions and invest in only 3% or 4%. The vast majority (75% is normal) are rejected quickly on an initial screening.

This report draws on examples of best practices from a range of countries within Europe and worldwide, not primarily from Czech Republic peers.

There has been limited opportunity to use best-practice examples from Czech Republic peers (or the CEE region) due to the lack of examples of specific government policies in support of business angel investing, or the lack of analysis or assessment of such policies (if they exist). For the latter, this is because such policies' impacts are often too early to assess. Thus, the report has referenced examples from more advanced countries with business angel good practices. The US is often cited as the most developed venture capital market in the world; nonetheless, it has some examples of national or state level public policies to support angel investing (apart from tax incentives). Many examples are also drawn from the UK, as this reflects the assessment by notable institutions such as the OECD that "the United Kingdom has been the most active angel market in Europe"³⁷. Further, the UK has the longest history of supporting angel investing in its policy mix. Scotland established the world's first national angel association in 1992 and the first angel co-investment fund in 2004. The UK Government initially introduced angel tax incentives in 1983³⁸, and has continually evolved these policies to meet changing market conditions. Because of its long history of support, the UK is probably the most studied and assessed market in the world, and one of the few where it is possible to obtain information on the effectiveness of policy at different stages of market development. Nevertheless, in choosing policy examples, the report has taken into account the need to adapt any policy to local market conditions and has drawn applicable examples from Czech Republic peers to ensure their appropriateness. Country examples include those of Portugal, Ireland, Belgium, and Estonia.

³⁷ OECD, "Financing High-Growth Firms: The Role Of Angel Investors," (OECD Publishing, 2011).

³⁸ This is known as the Business Expansion Scheme.



INTRODUCING BUSINESS ANGELS

The European Commission defines a business angel as:

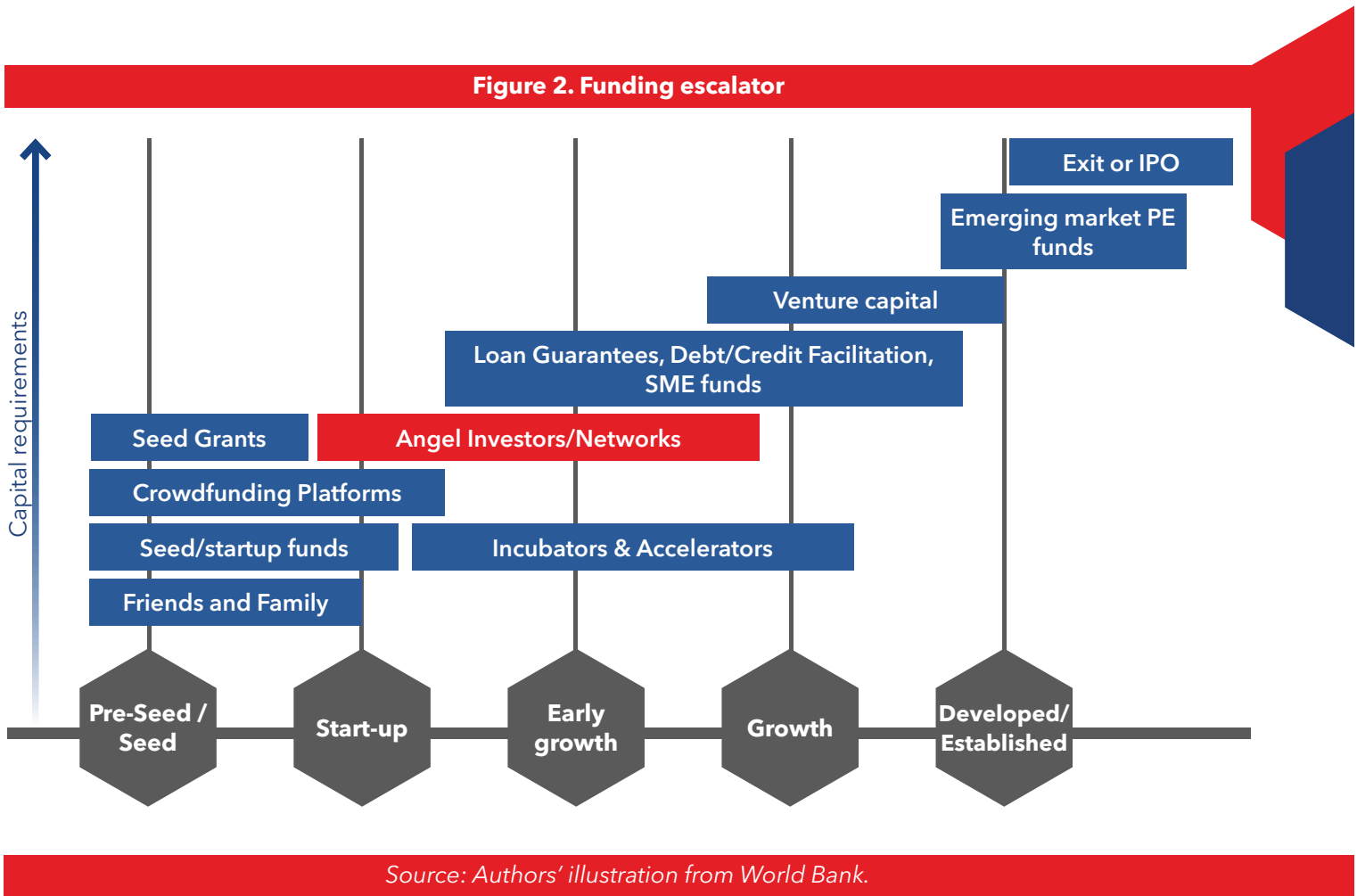
“a private individual, often of high net worth, and usually with business experience, who directly invests part of his or her personal assets in new and growing private businesses. Business angels can invest individually or as part of a syndicate where one angel typically takes the lead role”³⁹.

Business angels are often referred to as sources of “smart capital” as they typically provide business management experience, skills, and contacts for the entrepreneur, in addition to funding.

Business angels are classically presented as bridging the gap between pre-seed/seed stage and growth stage in the firm’s life cycle. However, in reality, they serve as the primary source of financing for high growth firms. An exemplary high growth venture goes through different stages of growth and require different sources and types of

funding. Figure 2 represents the funding escalator which plots the different funding mechanisms across five different stages: pre-seed/seed, startup, early growth, growth, developed. While business angels are often depicted as part of a “funding escalator” bridging the gap between the 3Fs and venture funds, relatively few firms go on to secure follow on funding from venture capitalists. Not all firms grow and very few achieve exits or IPOs.

There is increasing recognition that the classically presented “funding escalator” is now broken, increasing the importance of business angels within the funding ecosystem. In fact, business angels are the primary source of capital for most high growth potential companies. For example, a mere 14 percent of the 152 technology company exits tracked in Europe in the first quarter of 2014 used venture capital funding. The rest had been funded by the 3Fs and business angels⁴⁰.



³⁹ European Commission, “Business angels,” https://ec.europa.eu/growth/access-to-finance/funding-policies/business-angels_en.

⁴⁰ “Coming of Age: European Tech Exits in Q1 2014.”

Research shows that angel investors have a positive impact on the growth of the firms they fund, as well as on their survival. Startups funded by angel investors are 14 percent to 23 percent more likely to survive for the next 1.5 to 3 years and grow their employment by 40 percent relative to non-angel-funded startups⁴¹. For countries other than the US, having angel funding also seems to matter significantly for the ability of a firm to obtain follow on financing from venture capital funds⁴², in part due to its role in 'accrediting' unknown startups (startups without investment history) and helping startups become investor-ready⁴³. More

recently, a panel study between 1992 and 2015 on the economic impact of Scotland's business angel syndicate Archangels showed that companies backed by Archangels generated close to 3,000 high value jobs (with salaries above the national average) since its inception in 1992. The group also generated high quality deal flows for venture capitalists/IPOs, having exited 18 companies. Further, the study also showed that for every £1 (pound sterling) of business angel investment, business angel-backed companies contributed between £7 and £9 of gross value added (GVA) to the Scottish economy⁴⁴.

Box 1. Who are the business angels?

Business angels are often associated with very early stage companies in the technology sectors. In reality, business angels can be found providing funding of many sorts (equity, debt, revenue royalties, and guarantees) in business at all stages of development from pre-seed to pre-IPO, and in all sectors from a single restaurant or coffee shop to the most complex biosciences. Angel investors invest their own personal funds into propositions that they find interesting, both financially and emotionally. Most do it because they enjoy the process and the engagement with entrepreneurs, not just for a financial return. The majority of angel investors are not 'super' wealthy but have sufficient income and capital to allow them to do 2 to 3 investments of between €5,000 and €25,000 per year, syndicating with others to provide a typical investment to a company of up to €200,000. Individual contributions tend to be higher in financial centers such as London, where the median individual angel contribution to an investment was £25,000⁴⁵. The median total investment on all deals done by a typical UK angel in the year was £45,000 (the cost of which to the investor would be at least 30 percent less due to the UK angel tax incentives). See **Annex 8. Business Angels: Myths and Reality** for more detail about the characteristics, motivations, and operating practices of angel investors.

⁴¹ Josh Lerner, Antoinette Schoar, Stanislav Sokolinski, and Karen Wilson, "The Globalization of Angel Investments: Evidence across Countries," *NBER Working Paper No. 21808* (March 2016), <http://www.nber.org/papers/w21808.pdf>.

⁴² Lerner postulates that risk capital in the US may be more abundant, and therefore startups have many different avenues of obtaining their initial seed funding, including venture capitalists. As a result, US firms do not necessarily have to raise an angel round before getting funding from larger players.

⁴³ J. J. Madill, G. H. Haines Jr., and A. L. Riding, "The Role of Angels in Technology SMEs: A Link to Venture Capital," *Venture Capital* 7 (2005): 107-29.

⁴⁴ N. MacKenzie and M. Coughtrie, "Archangels Impact Evaluation of Activities, 1992-2015," Hunter Centre for Entrepreneurship, University of Strathclyde. [https://pure.strath.ac.uk/portal/en/publications/archangels-impact-evaluation-of-activities-19922015\(428ad4b1-100d-450d-85e2-7fbc240f212d\).html](https://pure.strath.ac.uk/portal/en/publications/archangels-impact-evaluation-of-activities-19922015(428ad4b1-100d-450d-85e2-7fbc240f212d).html).

⁴⁵ IFF Research, RAND for British Business Bank (BBB), UK Business Angels Association, "Business Angel Spotlight", (2017), <https://www.british-business-bank.co.uk/wp-content/uploads/2017/12/Business-Angels-2017-Research-Findings-compressed-FINAL.pdf>.



THE CZECH REPUBLIC'S INNOVATION AND ENTREPRENEURSHIP PROFILE

The Czech Republic has been enjoying strong economic growth performance in recent years.

Real GDP growth ranged from 2 percent to 4.5 percent between 2014 and 2016, topping 4.5 percent in 2015 before slowing to 2.6 percent in 2016. Real GDP growth is forecast to have accelerated to 4.5 percent in 2017 and expected to grow further by 3.2 percent in 2018 and 2.9 percent in 2019⁴⁶. The unemployment rate has fallen considerably, reaching an average of 4 percent in 2016, and is currently the lowest in the EU. Labor shortages are increasingly becoming a growth constraint, with increasing job vacancies and reported difficulties in recruiting workers⁴⁷.

Despite recent economic growth, the Czech Republic continues to face long-term challenges in weak labor productivity and total factor productivity (TFP) growth.

GDP per hour reached just over \$35 in 2017 (equivalent to about half or less than those of Belgium and Ireland). TFP growth has also been low and more modest than some of its peers, averaging 0.1 percent between 2010 and 2016 compared to Ireland (1 percent) and Estonia (1.3 percent)⁴⁸.

Figure 3. Labor productivity (GDP per hour worked), constant prices USD PPP

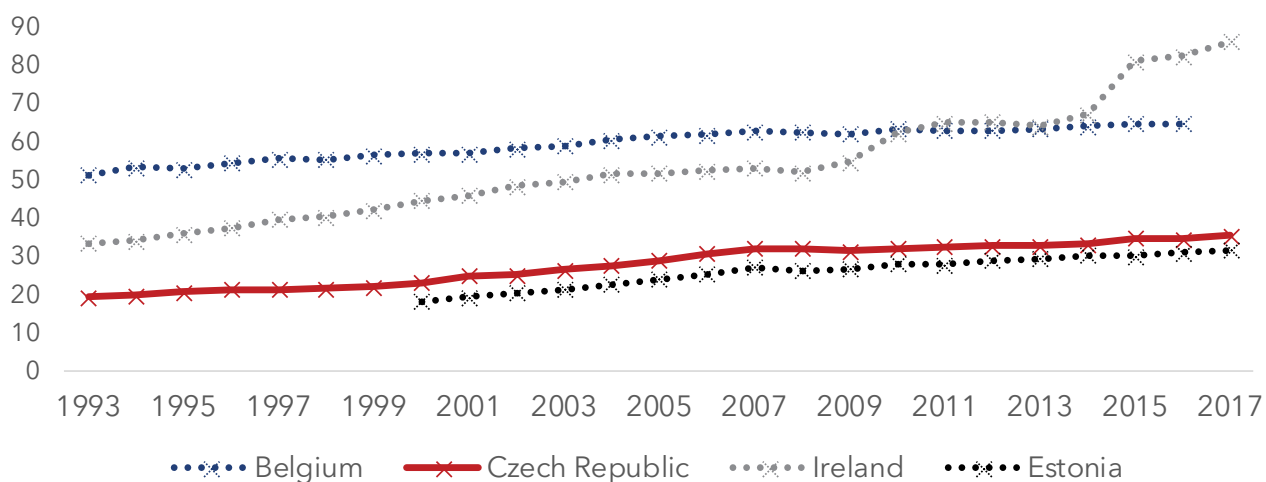
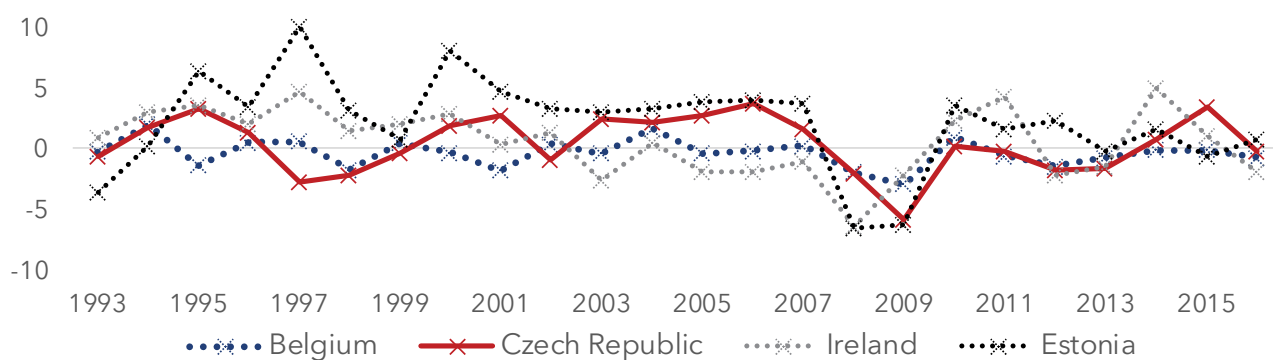


Figure 4. TFP growth, The Conference Board



Source: OECD; The Conference Board.

⁴⁶ European Commission, "Czech Republic: Strong Growth And Tightening Labour Market," (2018), https://ec.europa.eu/info/sites/info/files/economy-finance/ecfin_forecast_winter_0718_cz_en.pdf.

⁴⁷ OECD, "Czech Republic," *OECD Economic Outlook* (2018), <http://www.oecd.org/eco/outlook/economic-forecast-summary-czech-republic-oecd-economic-outlook.pdf>.

⁴⁸ The Conference Board, "Total Economy Database: Growth Accounting and Total Factor Productivity, 1950-2016". (November 2017).

Innovation, one of the key productivity drivers, revealed modest performance in the Czech Republic. The European Innovation Scorecard 2017 classified the Czech Republic as a 'moderate innovator' with relative weaknesses in the areas of SME innovation, public-private co-publications, collaboration between innovative SMEs, and sales of new-to-market/firm innovations⁴⁹. The country ranked 24th globally and 14th in Europe on the Global Innovation Index, behind Ireland and Austria but above Belgium, Slovenia, Slovakia, Hungary, Poland, and Romania⁵⁰. The European Innovation Scoreboard states that the Czech Republic is in this respect at 42 percent of the EU average. In 2012 the European Patent Authority received 129 invention applications per million of EU citizens, but only 13 applications were received from the Czech Republic. The level of total investment in R&D has come close to the EU average, however this is largely driven by the public sector, EU funds, and large, foreign-owned enterprises.

Challenges remain in the area of cooperation between businesses and research institutes⁵¹ and in the commercialization of university research. For Czech public research organizations (universities, the Academy of Sciences, and other research institutions in the government sector), commercialization of R&D results is perceived as a relatively marginal discipline⁵². While patent activity in public research organizations has increased in recent years, it has been attributed to the current methodology for evaluating scientific and research results, and therefore funding allocations by government. Commercialization of the research output is not part of the research performance assessment and as a result is not rigorously pursued.

Entrepreneurship, another important productivity driver, is lagging in terms of new business creation and firm dynamism. About 3 new businesses were created per 1,000 people in the working age population in 2016, dwarfed by Estonia at over 15 new businesses created (as well as by Ireland and Portugal)⁵³. Figures on firm dynamism show that existing enterprises are dominated by SMEs, which comprise 99.8% of the population of enterprises. These SMEs employ an average of 2.4 workers, behind peers such as Germany (7.1 workers), Austria (5.8), Estonia (4.7) and the EU average (3.9). The smallest subset of SMEs, "micro" firms represent 96% of Czech enterprises which is a slightly higher percentage than any other EU country (93 percent on average). They employ an average of just 1.1 people, compared to "small" firms (3.1 percent of Czech enterprises) that employ an average of 19.8 people⁵⁴.

The Czech Republic displayed a mixed performance in indices relevant to high-growth and innovative businesses. The share of young high-growth enterprises measured on the basis of turnover growth⁵⁵ is just 1.4 percent of the active enterprise population, compared to Estonia's 4.3 percent (see Figure 5)⁵⁶. However, the Czech Republic ranks above the European average in terms of the share of high-growth companies, as identified using the criteria of growth in employment (see Figure 6)⁵⁷. It should be noted though that high growth in terms of employee numbers does not necessarily correspond to high growth in terms of economic contribution or investment value, which is more likely to be related to the strategic value of the technology / product being developed or turnover / profits. Technology companies are generally not valued on the basis of employee numbers.

⁴⁹ European Commission, "European Innovation Scoreboard," (2018), http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en.

⁵⁰ Cornell University, INSEAD, and WIPO, "The Global Innovation Index 2017: Innovation Feeding the World," Ithaca, Fontainebleau, and Geneva (2017).

⁵¹ European Commission, "Country Report Czech Republic 2017", (2017), https://ec.europa.eu/info/sites/info/files/2017-european-semester-country-report-czech-en_1.pdf.

⁵² Czech Ministry of Trade and Industry and Deloitte Advisory s.r.o., *Ex Ante Assessment of Financial Instruments of the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020*, 2015. <https://www.mpo.cz/assets/dokumenty/54704/62511/648398/priloha002.pdf>.

⁵³ World Bank, "World Development Indicators."

⁵⁴ European Commission, "Czech Republic 2017 SBA Fact Sheet," (2017).

⁵⁵ Refers to enterprises which are five years or younger in terms of operations and have turnover growth of at least 10% per annum in the past 3 years.

⁵⁶ "High growth enterprises (growth by 10% or more) and related employment by NACE Rev. 2."

⁵⁷ Annualized growth in employee numbers of more than 10% per year over a three-year period and at least 10 employees when this growth began. See: European Commission, "1 in 10 enterprises in the EU recognized as high-growth companies."

Figure 5. Percentage share of young high growth enterprises (Gazelles) in the population of active enterprises, 2015

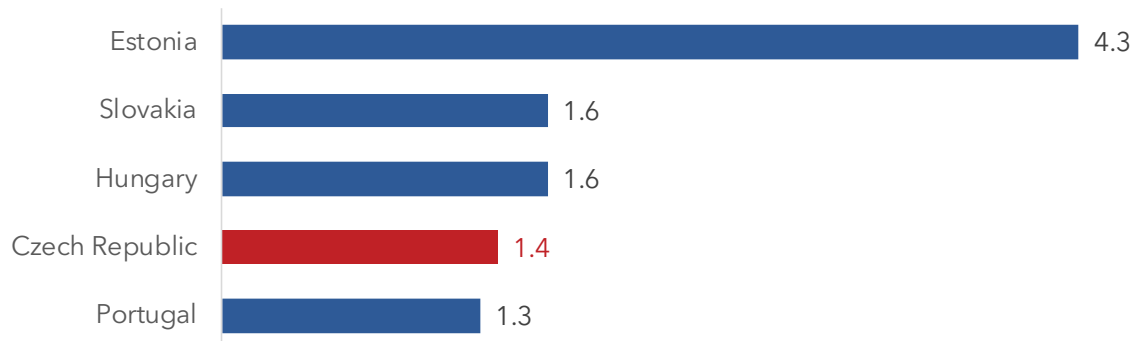
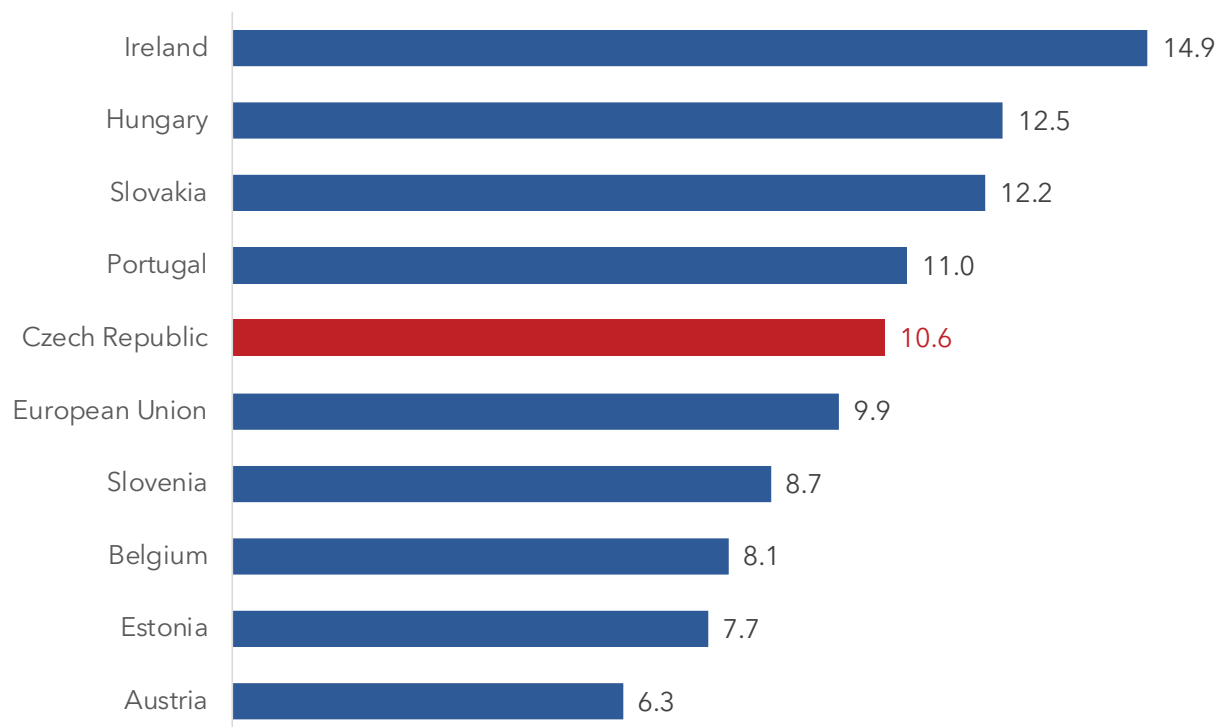


Figure 6. Percentage of high growth enterprises (active enterprises with at least 10 employees) to all companies, 2015.



Source: Eurostat.



KEY FINDINGS

This section presents the key findings along the three main components of the conceptual framework: supply side of investments, demand side of investments, and local environment conditions shaping demand and supply.

On the supply side, possible sources of finance are assessed, including banks, the 3Fs, seed granting entities, crowdfunding platforms, venture capital, and business angels. On the demand side, the existence of credible deal flows is assessed, including characteristics of startups and availability of a conducive entrepreneurial culture and skillsets that affect startups' potential to obtain investments. Assessment of the local environment conditions focuses on current regulatory conditions (including market exit conditions), availability of local supporting intermediaries and government support programs, and availability of tax incentives to encourage angel investing.

Overall, our investigations and interviews did not reveal any significant previously unknown data sources. Reliable data specifically relating to the early stage market is extremely limited for the Czech Republic. The report has been able to use some published data, relating primarily to the venture capital industry, to obtain a proxy measure of likely angel activity. The interviews highlighted that the lack of reliable data causes some confusion in the market as to the realities of activity and therefore what the critical issues are that need to be addressed through new policy intervention.

Supply-side analysis

Bank lending

Access to finance for established revenue generating business does not appear to be a significant problem for Czech firms. According to the European Central Bank's most recent survey on enterprises' access to finance (2016), the success rate of applications for credit lines or overdrafts in the country is the highest of all Member States. SMEs are stated to have ample access to loans thanks to the guarantees from the Czech-Moravian Guarantee

and Development Bank (ČMZRB)⁵⁸. As a result, for the majority of (established) firms, access to finance scores low on the list of problematic factors for doing business. Access to finance issues ranked 10th with a score of 2.8, well below the top three issues: tax regulations (17.6), inefficient government bureaucracy (16.9), and tax rates (10.9).

Founder, friends, and family funding

Similar to most countries, the 3Fs are the primary sources of funding for the majority of startup firms in the Czech Republic. The Aspen Institute's 2016 survey of startups reported that 78 percent used the founders' funds, and 12.8 percent used friends and families⁵⁹. These numbers are not surprising given that nearly 70 percent of the surveyed startups were in the early stages of development (pre-seed and seed stage), where bank, venture capital, and even business angel funding is likely to be inappropriate (typically business angels wish to see a minimum viable product and some early customer engagement before considering investment)⁶⁰.

Proof-of-concept competitive grants

The availability of capital in the very early stages (proof-of-concept stages) tends to be limited. Players at the seed stages in the Czech Republic include Startup Yard Accelerator, CzechInvest, and South Moravian Innovation Center (Jihomoravske Inovacni Centrum or JIC). There are also business plan competitions that startups can participate in, although these tend to be useful for startups for recognition and visibility purposes rather than funding (prize money tends to be small and insufficient). Examples include Startup Summit (annually held in Prague) and Idea of the Year competition (sponsored by Vodafone).

Crowdfunding

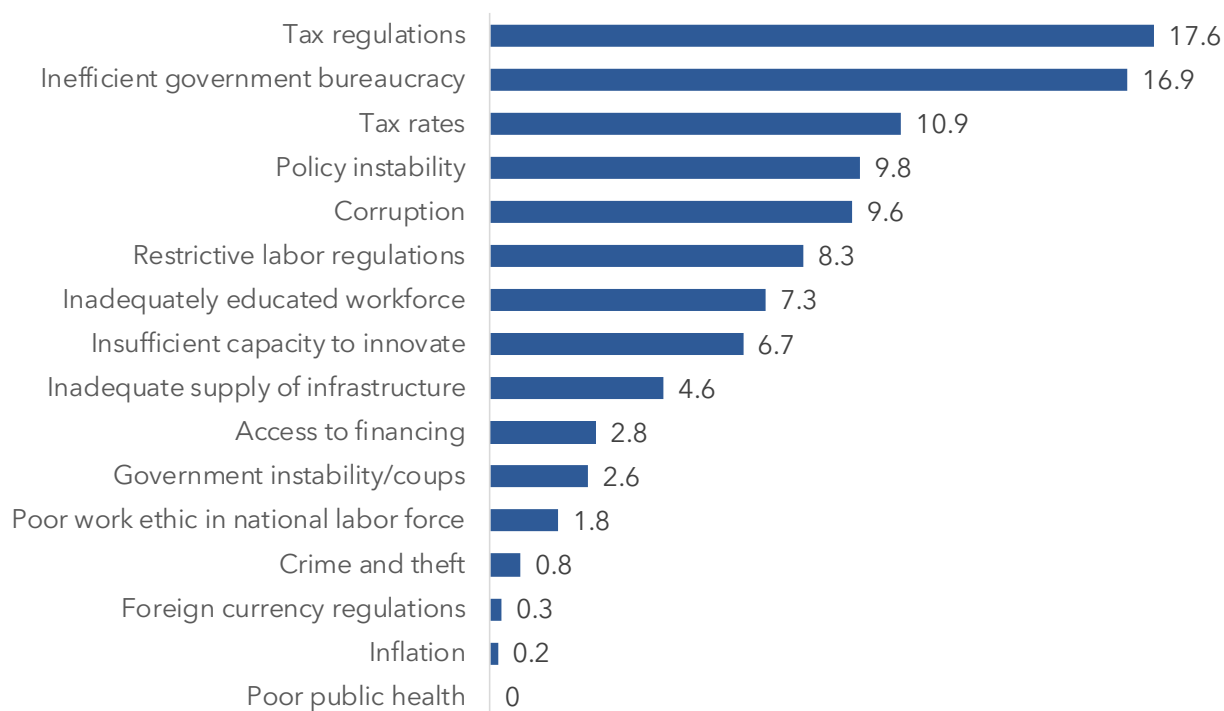
Crowdfunding platforms are used in the Czech Republic: although their impact is still relatively limited, it is growing. The majority of crowdfunding platforms in the Czech Republic are based on the rewards model and the platforms are domestic.

⁵⁸ European Commission, "Czech Republic 2017 SBA Fact Sheet."

⁵⁹ Maria Staszkiwicz and Daniela Havlíková, "Czech Startups Report 2016," *Aspen Institute Prague* (2016).

⁶⁰ For example, Jenny Tooth, chief executive of UK Business Angels Association (<https://www.ukbaa.org.uk/>) noted: "You should not approach angels when you're just at the idea stage. As a start-up or early stage entrepreneur, you need to approach them when you have built your business to the point where you have designed and initially tested the business concept". See Hajra Rahim, "How to find and pitch to an angel investor," *The Telegraph* (June 6 2018), <https://www.telegraph.co.uk/connect/small-business/finance-and-funding/how-to-find-pitch-to-an-angel-investor/>.

Figure 7. Most problematic factors for doing business, 2017



Note: From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

Source: World Economic Forum, Executive Opinion Survey.

Currently there are around 10 rewards platforms in the Czech Republic⁶¹. In 2015, Czech entrepreneurs raised approximately €1.7 million via donations and rewards-based crowdfunding. Social and cultural projects form a majority of funded ventures, along with a smaller number of startup companies. The Czech-based Hithit.com platform that supports creative projects in the Czech Republic and Slovakia claims to have helped secure €4 million of funding since its launch in 2012. Likewise, some Czech startups use global crowdfunding platforms such as Kickstarter. Warhorse Studies, the developer of a video game called "Kingdom Come: Deliverance" successfully launched a Kickstart campaign. The campaign raised over £1 million from over 35,000 backers during its campaign in 2014, exceeding its crowdfunding goal by almost 400 percent⁶².

Lending crowdfunding is offered on 5 domestically based platforms. These platforms include Fundlift, Pujcmefirme, Zonky, Symcredit, and Benefi. Lending crowdfunding is a type of crowdfunding where individuals lend money to a company or project in return for repayment of the loan and interest on their investment. Business loans are outnumbered by loans to private individuals. In addition, the Fundlift platform, for example, is offering investments in the form of mini-bonds for business.

Fundlift is the first platform to offer equity crowdfunding. This is a relatively new development facilitated by legislative change⁶³. However in comparison to more developed equity crowdfunding countries, such as the UK, the legislation is still somewhat restrictive. Investing in return for a share

⁶¹ European Crowdfunding Network, "Review of Crowdfunding Regulation 2017," (2017), https://eurocrowd.org/wp-content/blogs.dir/sites/85/2017/10/ECN_Review_of_Crowdfunding_Regulation_2017.pdf.

⁶² Dave Tach, "Kingdom Come: Deliverance funded after two uncertain years," *Polygon* (Feb. 21 2014), <https://www.polygon.com/2014/2/21/5433100/kingdom-come-deliverance-kickstarter-funded>.

⁶³ This change is partly attributable to new legislation governing corporations (Act no. 90/2012 Coll., the Corporations Act, which took effect on January 1, 2014). The Corporations Act enables more flexibility in setting up the corporate governance structure of target companies, thereby making equity crowdfunding projects more viable in the long term.

⁶⁴ License under Act no. 240/2013 Coll., on management companies and investment funds, as amended.

in the profits or revenue generated by a company/project is defined by the Act on Management Companies and Investment Funds (AMCIF)⁶⁴ as a form of collective investment. Such activity corresponds most closely to the definition of an investment fund under the AMCIF. Platform operators are required to obtain a license from the Czech regulator (i.e. the Czech National Bank).

Fundlift claims 8,000 registered investors, of which 2,500 have been active since its launch in 2016. Most of its issuances are in the form of bonds and convertible debts (referred to as investment certificates), and less on equity. This is reflective of the type of firms that they market on their platforms, with the majority being established businesses with recurring revenues. Startups which have yet to reach sustainable revenue generation will tend to offer convertible debts. Only a minority offer equity investment.⁶⁵ Based on Fundlift's 30 projects (either 'running' or 'completed'), 57 percent of crowdfunding projects issued minibonds (average investment value of 5,100,000 Czech koruna - CZK), 37 percent offered investment certificates (average investment value of 5,700,000 CZK), and only 2 projects (6.7 percent) issued equity shares. For these 2 projects, one project had an investment value of over 8,500,000 CZK, whereas another project (investing in Startup Yard, a renowned accelerator in the Czech Republic) was an exclusive non-public offer (no publicly disclosed investment amount)⁶⁶.

Czech authorities and regulators offer crowdfunding platforms in the Czech Republic no specific exemption from the standard license requirements for the distribution or sale of investments required under the Capital Markets Act regulations. This mirrors the position in a number of well-developed markets, such as the UK, where the operators of lending and equity investing crowdfunding platforms are required to be licensed and monitored by the relevant financial conduct authorities. While some of those who would wish to quickly set up and operate platforms offering investments to the general public may see this as an inhibitor of market development, others are likely to consider it a reasonable protection for less sophisticated or experienced investors attracted to such easily accessible platforms.

Venture capital⁶⁷

Access to venture capital in the Czech Republic is weak, even in comparison to other CEE countries.

While total private equity funding amounted to over €3 billion between 2007 and 2017, just €129m (4.2 percent) was venture capital funding, primarily in the startup and later venture stages. The 4.2 percent venture capital share in the volume of private equity investments is lower than the overall level for CEE countries (6.2 percent). This figure is even lower than countries such as Ireland (19.1 percent), Hungary (15.3 percent), and Austria (14.4 percent) (see Table 2).

One defining characteristic of the Czech Republic market is the number of effectively private "venture capital" funds essentially operating as private offices on behalf of "super angels".

It is likely that transactions by these organizations may not be recorded in the Czech Private Equity and Venture Capital Association (CVCA) and EVCA statistics. As can be seen in the visible members of Invest Europe in 2017, the Czech Republic appears to have a lower proportion of venture capitalists to total private equity firms (27 percent) translating to only 3 venture capital firms (see Table 3). Published data also indicate that venture capital investment is only 0.002 percent of GDP, giving the Czech Republic the lowest ranking among its comparators (Figure 8). While the number of active venture capital funds in the Czech Republic has been growing, there is still an apparent shortfall in the startup stage.

Since the private equity market in the Czech Republic, except for the venture capital segment, is relatively comparable to its peers, this indicates a lack of investors' interest in this particular segment rather than an overall lack of funding in the Czech Republic.

The share of growth capital to all private equity between 2007 and 2017 is 19 percent, comparable to peers such as Hungary (18 percent) and Belgium (21 percent). The share of rescue/turnaround, replacement capital and buyout⁶⁸ to total private equity seems disproportionately higher (close to 10 percentage points) in the Czech Republic than Hungary and Belgium but at par with the CEE region (Table 4). Some caution in interpreting the figures is also required as early stage venture

⁶⁴ License under Act no. 240/2013 Coll., on management companies and investment funds, as amended.

⁶⁵ Interview with the CEO of Fundlift, May 10, 2018.

⁶⁶ Figures are based on projects mentioned on Fundlift's website: <https://www.fundlift.cz/#/projekty>

⁶⁷ Information in this section relies predominantly on publicly available data from InvestEurope. Thus, there are probably investments that are not captured by InvestEurope data.

⁶⁸ InvestEurope defines rescue/turnaround as "financing made available to an existing business, which has experienced financial distress, with a view to re-establishing prosperity". Replacement capital is defined as "minority stake purchase from another private equity investment organization or from another shareholder or shareholders". Buyout is defined as "financing provided to acquire a company". See Annex 3. *Venture Capital Definitions* for more information.

Table 2. Type of investment by the Czech Republic and peers, in thousands of euro, aggregates 2007-2017

Stage Focus	Czech Republic	Portugal	Hungary	Austria	Ireland	Belgium	Other CEE	Baltic countries	CEE
Seed	6,775	27,854	35,148	92,611	83,828	65,834	10,592	15,404	91,366
Start-up	26,250	279,505	185,770	321,407	605,080	665,973	62,819	83,770	515,292
Later Stage Venture	95,801	167,801	67,484	324,734	358,811	551,465	33,630	39,407	490,489
Total venture	128,826	475,161	288,401	738,752	1,047,720	1,283,272	107,041	138,581	1,097,147
Growth capital	580,938	533,176	342,549	600,913	2,239,382	2,739,262	161,480	499,750	3,290,775
Rescue/ Turnaround	475	212,216	1,949	33,730	46,168	93,769	35,988	1,800	64,736
Replacement capital	295,554	128,346	8,640	176,309	20,867	465,511	15,872	14,510	489,166
Buyout	2,038,199	2,085,832	1,247,222	3,574,370	2,141,147	8,289,217	1,211,641	531,635	12,706,581
Total Investment	3,043,992	3,434,730	1,888,761	5,124,074	5,495,284	12,871,031	1,532,022	1,186,276	17,648,406
Share of VC to total	4.2%	13.8%	15.3%	14.4%	19.1%	10%	7%	11.7%	6.2%
Share of growth to total	19.1%	15.5%	18.1%	11.7%	40.8%	21.3%	10.5%	42.1%	18.6%
Share of remaining to total	76.7%	70.6%	66.6%	73.9%	40.2%	68.7%	82.5%	46.2%	75.1%

Note: Other CEE countries include Bosnia-Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Serbia, Slovenia, Slovakia.

Source: InvestEurope (2017).

capital in the Czech Republic has not historically been supported by the public sector to the extent of that in other countries such as Poland, Hungary, Slovakia, or Bulgaria, which have used EU funding (in particular under the European Regional Development Fund (ERDF) and Joint European Resources for Micro to Medium Enterprises) to stimulate private sector investment in early stage companies by providing co-investment at the fund or deal levels. This might change in 2018 with the launch of new European

Investment Fund (EIF) supported funds under the €50 million European Structural and Investment Funds (ESIF) Fund-of-Funds Czech Republic project⁶⁹. The Fund of Funds is intended to increase the available equity funding for enterprises throughout the whole cycle of their early stage development, ranging from accelerators for the very first entrepreneurship steps to further venture capital for companies that have already demonstrated interest in their products or services.

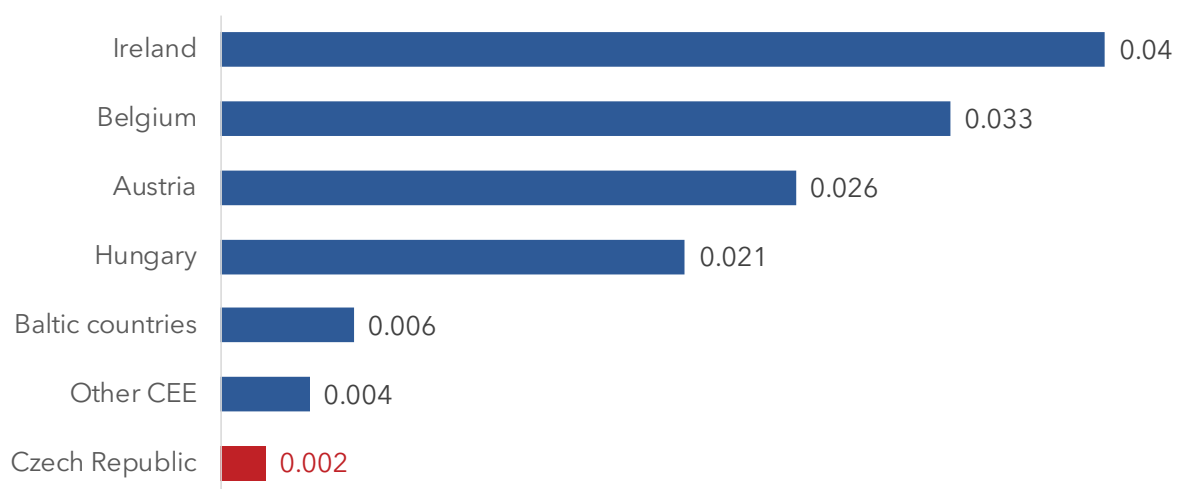
⁶⁹ European Investment Fund, "ESIF Fund-of-Funds Czech Republic," (2017), http://www.eif.org/what_we_do/resources/esif-fund-of-funds-czech-republic/index.htm.

Table 3. Types of private equity firms in 2017

Firms	Czech Republic	Hungary	Austria	Ireland	Belgium	Other CEE	Baltic countries
Number of private equity firms headquartered in country of which	11	30	43	33	75	23	24
<i>venture capital firms</i>	3	20	14	20	30	13	14
<i>buyout firms</i>	7	2	16	5	22	5	3
<i>generalist firms</i>	1	8	13	8	23	5	7
Share of venture capital firms to total private equity firms	27%	67%	33%	61%	40%	57%	58%

Source: Invest Europe (2017).

Figure 8. Venture capital investment as percentage of GDP, 2017



Note: VC investments calculated based on location of the portfolio company. Other CEE countries include Bosnia-Herzegovina, Croatia, Macedonia, Moldova, FYR Montenegro, Serbia, Slovenia, Slovakia.

Source: Invest Europe (2017).

Average investment deal sizes from 2007-2017 are comparable to aspirational Belgium and larger than regional peers. However, there were significantly fewer transactions in the Czech Republic than peers. This seems to suggest that venture capitalists in the country invest more in well-advanced companies rather than truly early-stage companies. In the venture capital classification of seed stage for example, average deal size is close to €680,000 (see Table 4). This is about 3 times that of average investments in other CEE countries, Portugal, and Austria. Conversely, whereas the total number of deals generated in the seed stage was 10, Austria's seed deals surpassed the Czech Republic by over 43 times and Portugal by over 13 times (see Table 5). The very low number of deals done in the Czech Republic also seem to indicate that the "private" Czech venture capital firms are not counted in the totals.

Venture capital activity is concentrated in the ICT sector in the Czech Republic, compared to peers whose venture capital investments are more diversified. All of the Czech Republic's venture capital investments in 2017 went into ICT (see Table 6). Peers such as Portugal, Ireland, and Belgium have substantial venture capital investments in sectors beyond ICT, including more R&D intensive sectors such as biotech and healthcare, etc. This seems to indicate a missed opportunity to boost investments in a more diversified set of sectors. The Czech Republic's later stage investments however seem somewhat more diversified (see Table 7), possibly reflecting its diverse manufacturing base.

Table 4. Average investment deal size, 2007-2017

Stage Focus	Czech Republic	Portugal	Hungary	Austria	Ireland	Belgium	Other CEE	Baltic countries
Seed	678	209	272	213	1,524	621	235	157
Start-up	1,010	525	822	1,270	1,157	1,204	654	346
Later Stage Venture	4,790	2,072	668	2,151	2,271	1,751	1,529	616
Total venture	2,300	637	632	882	1,424	1,318	657	343
Growth capital	12,360	3,271	7,612	3,130	28,710	4,659	2,884	4,852
Rescue/ Turnaround	238	11,169	1,949	1,874	5,771	1,995	5,998	900
Replacement capital	98,518	2,790	8,640	6,781	3,478	8,313	7,936	2,902
Buyout	31,357	7,476	49,889	29,298	41,176	32,005	26,925	12,967
Total Investment	17,595	2,741	3,577	4,284	6,245	6,690	5,632	2,137

Notes: Amounts in € thousands. The average between 2007 and 2017 is calculated by summing total investments from 2007-2017 divided by total number of transactions from 2007-2017.

Source: Invest Europe (2017).

Table 5. Total number of transactions, 2007-2017

Stage Focus	Czech Republic	Portugal	Hungary	Austria	Ireland	Belgium	Other CEE	Baltic countries
Seed	10	133	129	434	55	106	45	98
Start-up	26	532	226	253	523	553	96	242
Later Stage Venture	20	81	101	151	158	315	22	64
Total venture	56	746	456	838	736	974	163	404
Growth capital	47	163	45	192	78	588	56	103
Rescue/ Turnaround	2	19	1	18	8	47	6	2
Replacement capital	3	46	1	26	6	56	2	5
Buyout	65	279	25	122	52	259	45	41
Total Investment	173	1,253	528	1,196	880	1,924	272	555

Source: Invest Europe (2017).

Table 6. Sectorial focus of venture capital investments in 2017

Sector	Czech Republic	Portugal	Hungary	Austria	Ireland	Belgium	Other CEE	Baltic countries
Agriculture	0	0	0	2.3	0	5.7	0	0
Business products and services	0	12.2	29.9	4.5	1.8	15.9	0	7.7
Chemicals and materials	0	2	0	0	0	3.4	0	7.7
ICT (Communications, computer and electronics)	100	38.8	26.8	56.8	61.4	29.5	71.4	53.8
Construction	0	0	0	0	0	3.4	0	0
Consumer goods and services	0	12.2	15.5	4.5	3.5	8	14.3	23.1
Energy and environment	0	4.1	1	2.3	0	6.8	7.1	7.7
Financial and insurance activities	0	0	5.2	2.3	0	0	7.1	0
Real estate	0	4.1	0	0	0	1.1	0	0
Biotech and healthcare	0	26.5	15.5	22.7	33.3	25	0	0
Transportation	0	0	6.2	4.5	0	1.1	0	0
Other	0	0	0	0	0	0	0	0

Note: Distribution in terms of the number of companies invested in by venture capitalists.

Source: Invest Europe (2017).

Table 7. Sectorial focus of venture capital and private equity investments in the Czech Republic, 2015-2017

Sector focus	2015		2016		2017	
	Venture	All PE	Venture	All PE	Venture	All PE
Agriculture	0	0	0	0	0	0
Business products and services	0	16.7	0	0	0	41.7
Chemicals and materials	0	0	0	0	0	0
ICT (Communications, computer and electronics)	85.7	58.3	100	64.3	100	41.7
Construction	0	0	0	0	0	0
Consumer goods and services	14.3	25	0	14.3	0	16.7
Energy and environment	0	0	0	0	0	0
Financial and insurance activities	0	0	0	0	0	0
Real estate	0	0	0	0	0	0
Biotech and healthcare	0	0	0	21.4	0	0
Transportation	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total investment	100	100	100	100	100	100

Note: Distribution in terms of the number of companies venture capitalists and private equities invested in.

Source: Invest Europe.

Business angel funding

Funding from the 3Fs is insufficient to support high growth potential companies, although vital for micro startups. According to the Global Entrepreneurship Monitor (GEM) 2013 survey⁷⁰, 8 percent of the Czech population had supported a startup of someone else's business in the previous three years. The funding amounts however were small, typically under €4,000 and provided to relatives, friends, or colleagues.

In 2016, the European Business Angel Network (EBAN) identified €5m of visible angel investing⁷¹.

Average investment deal size was over €140,000 in an estimated 35 investments. Comparing this to Estonia, which generated more angel transactions (145) in smaller deal sizes (over €60,000), the data seems to support the impression from interviews that the visible angel market in the Czech Republic is largely made up of a relatively small number of wealthy individuals investing by themselves (what might be referred to as "super angels").

⁷⁰ GEM, "Entrepreneurial Behavior and Attitudes," (May 2013), <http://www.gemconsortium.org/country-profile/55>.

⁷¹ See EBAN, "EBAN Statistics Compendium". However, the significant difficulties faced in compiling data relating to angel activity are discussed in Annex 2. *Problems with Angel Data*.

The level of syndication (more than one angel doing the same deal) appears more limited in the Czech Republic. Angel investing practice in mature ecosystems encourages syndication. By pooling investments, angels are able to participate in a larger number of individual investments at a lower average deal size. This reduces the risks for the business angel. As an example, 87 percent of reported angel deals in Estonia were syndicated by more than one angel investor in 2017⁷². Hungary has more than double the number of transactions than the Czech Republic for a similar aggregate investment amount (see Table 8).

There is no NAA in the Czech Republic. An NAA is of assistance to the Government as a representative association for the industry and a partner for policy development and implementation, in a manner similar to that played by a national venture capital association (see Box 2 for an example of an NAA). Not only is there is no NAA in the Czech Republic, there is no Czech member of the BAE, the European confederation of angel investing⁷³, nor of EBAN⁷⁴, the European trade association for business angels.

In the absence of a representative body for business angels in the Czech Republic, the Government does not have a structured way to engage with the industry. There is no easy way to consult regarding the impact of possible legislative changes. Also, there is no body through which to promote best practice or increase the professionalism of investors. Moreover, there is no source of local data in angel investing activities.

Reports covering angel investing in the Czech Republic tend to refer to named individual investors. Known individual investors include for example Ondrej Tomek, Karel Obluk, Tomas Cupr, Martin Kasa, Jan Vsiansky, and Jiri Hlavenka, among others. Compared to other markets, while individual “super angels” are recognized, the investments are often associated with the name of an angel network or group. This is true even though it is individual members of such organizations that make the investments. This is suggestive of a lack of syndication and visible structured angel networks in the Czech Republic. There are, however, some angel initiatives being created (at their infancy stages) particularly in the Brno region.

Table 8. Angel investments, 2016

Country	No. of investments	Total Business Angel Investment 2016, €M	Average deal size, €
Austria	36	22	611,111
Portugal	47	16.9	359,574
Ireland	50	16.7	334,000
Belgium	50	12	240,000
Estonia	145	8.8	60,690
Hungary	80	5.5	68,750
Czech Republic	35	5	142,857
Slovenia	36	3.3	91,667
Slovakia	21	2.1	100,000

Source: EBAN, 2016.

⁷² EstBAN, “EstBan 5 Years & 2017 Review!,” <http://www.estban.ee/about/annual-reviews/2017>.

⁷³ BAE members are business angel federations or national associations that represent, are a recognized voice for, and promote a country's angel market. For more information, see: <http://www.businessangelseurope.com/AboutBAE/Pagine/default.aspx>.

⁷⁴ EBAN is a pan-European represented organization for early stage investor organizations, including individual and networked angels, crowd funders and early stage VC funds. For more information, see: <http://www.eban.org/about/who-we-are>.

Box 2. Example of a national angel association: Scotland

The first NAA was formed in Scotland in 1993. LINC Scotland's⁷⁵ role is to support and improve the functioning of the local business angel market. At individual deal level, it focuses on improving the efficiency of the 'process' by making targeted introductions to well matched business angels among its members. It acts as a facilitator and not an investment adviser. It has an executive director, two secretarial support staff, and three part time managers who provide advice to angels and founders at a regional level. LINC is funded by Scottish Enterprise, with support from European ERDF, contributions from LINC member angel groups, and private sector sponsorship by a range (currently fifteen) of corporate partners, mainly professional services companies active in the angel market. It is structured as a not-for-profit company limited by guarantee, with enterprise agency status. A recent formal assessment found that total investment in early-stage businesses by LINC Scotland members was just over £55 million into 114 businesses in the period between July 2015 and December 2017⁷⁶. This was found to have leveraged a further £59.70 million of public sector and private investment. Provision by LINC Scotland of early stage advice, information, and practical support was considered essential by over 70 percent of members to the establishment of their angel syndicate. Particular importance was placed by members on the networking and knowledge transfer facilitated by LINC. Over 90 percent of members considered the market intelligence provided through Young Company Finance Scotland and the identification and dissemination of international best practice in angel investing as important or essential.

Structured angel organizations exist only to a very limited extent in the Czech Republic. While there are informal and unstructured angel groups, these are effectively invisible, and thus difficult for those seeking funding to engage with. One such group is in Brno, which has about 6 "members" and focuses on connecting local companies to Germany. Another is Startup Yard, which uses its mentorship panel as potential investors in its own companies. Startup Yard has about 157-strong pro-bono mentors with a minimum of 15 years of work experience and counts the local executives of Cisco and L'Oreal and other entrepreneurs as mentors for its startups.

Some small and private BANs or syndicate activities exist. A common feature among these networks is that there is little or no data on these organizations' websites regarding their actual level of investment activity, either in terms of amounts invested or names of invested companies. The few known ones are listed below:

- *Keiretsu Forum in Prague*: A Prague-based "for profit" angel management organization. The franchise was started in 2016 and covers the Czech Republic, Slovakia, Poland, and Belarus.
- *Keiretsu Forum* is the world's largest network of angel investors, i.e. capital and financial resources, with 50 chapters on 3 continents. For the Czech based chapter, investors pay an annual fee of €1,050. The Forum claims a membership of 35 and operates the "Angel Academy" (<https://angelacademy.cz/>), a web site and associated lectures on aspects related to angel investing, such as valuation.
- *Busyman*⁷⁷: An introduction platform which includes an "angel club" where members can see live (as opposed to online) pitches from companies. The platform charges investors €777 for membership and a commission on completed investments. Companies are charged between €155 and €388 plus a commission on funds secured. For the first six months of 2018, 14 projects were added to the platform, consisting of a mix between technology, fashion, and retail products.
- *Symfonie Capital*: Operates the "Symfonie Angel Venture Fund"⁷⁸. The Fund's website states that it offers investments for seed and early stage companies between €50,000 and €250,000. The fund has focus on UK, Czech Republic, and Poland.

⁷⁵ LINC Scotland, "About us," <http://lincscot.co.uk/about-us/>.

⁷⁶ Malcolm Watson Consulting, "LINC Scotland Angel Capital Programme Interim Evaluation, July 2015 to December for 2017," (2018).

⁷⁷ For more information, see: www.busyman.cz

⁷⁸ For more information, see: <http://www.symfoniecapital.com/services/angel-fund/>

Box 3. Models of BANs and benefits

There are three general models of BAN:

1. The most common in Europe involves a network managed by a professional manager, typically appointed by an economic development agency, incubator unit, or other organization seeking to find investors. This has been called the 'dating agency' model. It involves using the network to reduce search costs, providing a pitching platform to introduce would-be investors to companies seeking investment. Once introductions are made, the network tends to step back and let the investors, who may not have worked together previously, negotiate between themselves and with the company regarding who will do the deal, and on what terms.
2. In the second model, the role is undertaken by an investment professional who can put larger deals together while getting a finder's fee (i.e. 5 percent). This model can be appealing to passive investors, and therefore often does not provide valuable 'smart money'. The investment professionals can also provide 'investment readiness' training to build up human capital. Within the Czech Republic, Keiretsu Forum and Busyman probably fall into this category.
3. A third model, which is common in the US, Australia, and Scotland, involves investors working as a group or club, who collectively vote for investments and get behind the firms to provide them with smart capital. Syndication is normal; often with all members participating in each deal (deals in Scotland will often see as many as 45 individual investors participating in a single round of funding). This model doesn't require a paid investment manager, as much of the work is done by the members themselves, though as the groups grow it is common to have a paid "front person" or "gatekeeper" to be the public face of the group and manage deal flow. Moreover, the teams work together repeatedly to build up capability and trust allowing them to form more standardized deals more quickly. This provides firms and international co-investors with easier routes to effective due diligence. This structure also allows the networks to co-invest, either with government funds, or with syndicates of other investment institutions or networks. This may be more capital efficient but requires considerable training that can take many years to build up. The Scottish Government encourages the formation of such groups through its funding of LINC Scotland, the Scottish NAA, as does the Irish Government through HBAN, the Irish national angel association established by Enterprise Ireland for the purpose.

In countries where BANs are more developed and in common use, significant benefits have been observed.

Members benefit from:

- Improved deal flow management (sourcing and screening) provided by the BAN management.
- Information and knowledge exchange with other angels. Inexperienced investors learn by observing their more experienced fellow members.
- Increased participation rates. Individuals who would like to invest but do not wish to be active in the process are able to take a passive investment in a syndicate of active angels. Individuals who wish to be active, but invest individually, are able to see a higher number of pre-screened deals.

Economic benefits include:

- Being a member of an angel community increases the amount of wealth of individuals who are willing to allocate to angel investing by up to 24 percent⁷⁹. Members of BANs tend to have a higher number of companies in their portfolio than non-BAN members (50 percent of the Italian BAN members had in excess of 5 investments compared to just 18 percent of non-BAN members). Overall BAN members are able to invest less in each individual investment, but make a higher number of investments, significantly reducing their risk (as well as increasing the number of companies supported).

⁷⁹ Stefano Bonini, Vincenzo Capizzi, Mario Valletta, Paola Zocchi, "Angel Network Affiliation and Business Angels' Investment Practices," *Journal of Corporate Finance* 50 (June 2018): 592-608.

- Because investors have the opportunity to learn from engagement with other experienced investors the quality of their investments increases, increasing survival rate.
- The investors are more visible, making it easier for founders to access funding.

Recognizing their positive effect on the volume and quality of investment, governments have increasingly sought to support the establishment of BANs⁸⁰. A number of countries have seen an evolution of their BAN structures from simple introductory services to the more intensive group structures. This development process has been encouraged by governments in for example Ireland and Scotland which have recognized the economic development advantage of encouraging more effective investment. BANs can also be channels for government co-investment, such as through the Scottish CoFund and the New Zealand Seed CoFund.

Despite the availability of investment capital in the Czech Republic (primarily focused on latter stage funding), there is a lack of professional capital or 'smart money'. The availability of capital and appetite for investments is evident in new and existing "venture capital funds" in the market. Many of these tend to be private family offices set up by rich individuals ('super angels') looking to generate investments outside their core business operations. However, based on interviews with Czech investors and entrepreneurs, rich private individuals who are willing to invest their capital (whether in the early or latter stages) were described as having the following characteristics:

- Impatient (seeking short term investments and quick returns in a year or two);
- Risk averse and conservative;
- Lacking in deal flow/investment experience (unsophisticated);
- Using their successful experience in business, they seek to control startups by asking for very high levels of equity (e.g., 51 percent) and strong minority rights such as veto powers (resulting in over-burdening and over-management that affects startup growth);
- Individualistic and secretive (resulting in a fragmented market where the portfolio of investments is much smaller compared to mature markets where many invest together in smaller amounts of money over several deals);
- View startup investment as charitable work (this is true at least for some investors);

- Have low awareness of startup investment (e.g., do not think about follow on investments);
- May display a general lack of interest to be educated (given their success, may struggle to accept that there may be gaps in their business knowledge).

In general, 'smart money' comes from business executives and entrepreneurs who have general business knowledge and relatively modest investment funds but, critically, can devote the time needed to provide mentorship and connections to new and upcoming startups. At the present time, there are few Czech networks to facilitate the engagement of such individuals, resulting in a lack of critical mass needed to develop a well-functioning angel market.

Sectorial investment concentration

Interviews with Czech based angel investors suggest that they have an almost exclusive focus on ICT, as was also noted for venture capital funds in the Czech Republic⁸¹. Clustering in the ICT sector focuses primarily in cyber security, software, and other mobile applications. Even the oldest accelerator in the CEE region and arguably most successful in the Czech Republic –StartupYard–supports (at a very modest amount) primarily ICT startups. While this is not surprising given low barriers to entry and high potential scalability, more R&D-intensive sectors are likely being overlooked.

⁸⁰ Alasdair Reid and Paul Nightingale, "The Role of Different Funding Models in Stimulating the Creation of Innovative New Companies. What is the most appropriate model for Europe?" (October 2011), https://www.researchgate.net/publication/277257785_The_Role_of_Different_Funding_Models_in_Stimulating_the_Creation_of_Innovative_New_Companies_What_is_the_most_appropriate_model_for_Europe.

⁸¹ See Table 6.

In comparison, while angel investors in other countries also show a strong interest in ICT, their overall investments tend to be more diversified.

In 2017, ICT accounted for 39 percent of angel investing in Estonia⁸² and 50 percent in Belgium⁸³. HBAN, the NAA started by the Irish Government, has assisted in the development of a number of angel syndicates specializing in activities outside ICT, such as the Food Syndicate and the MedTech Syndicate⁸⁴. This diversification of investment does depend upon the availability of deal flow, and as noted elsewhere in the report there is little visible deal flow in the Czech Republic other than ICT.

Overall supply-side assessment

Looking specifically at the business angel market, the Czech Republic has an emerging early stage investment community.

It is small both in terms of the number of investors and the amount invested. The market appears dominated by a small pool of very high net worth individuals operating largely individually and investing directly into companies or via a private personal fund structure or family office. There are no visible BANs of the type typically found in developed European markets. There are a number of largely invisible groups, either associated with a specific accelerator or acting independently, but they do not have web sites or appear to solicit for deal flow. There are two for profit organizations promoting angel type investing, Keiretsu Forum and Busyman. The latter combines a company fund raising advisory service, introduction platform, and an "angel club". There is no NAA or federation. Visible investment activities appear concentrated geographically in Prague and in the ICT sector.

In comparison to more developed European markets and international best practice, there is a lack of syndication⁸⁵. Given the limited value of investments being made and the lack of syndication it is likely that the level of portfolio diversification is also less than best practice would recommend. This combination of low levels of syndication and portfolio size and a concentration in a single industry sector, together with low availability of follow on funding from venture capital suggests that angel investing in the Czech Republic is subject to a higher-than-necessary level of risk. Combined with

a low number of individual investors, this high risk makes the Czech market fragile. A few individuals withdrawing from the market due to bad experience, changes in personal or economic circumstances, or simply retiring could have a disproportionate impact on available investment funds.

While obtaining reliable data on angel investing is problematic in all countries, (i) the fragmented and individualistic nature of the Czech market and (ii) the absence of any conventional BAN structures or a national association makes assessing and monitoring the Czech market particularly challenging. The present number, location, and capacity of Czech angels is not known, nor is there any estimate of the number of individuals who have the capacity to become angel investors if suitably motivated.

Demand-side analysis

Credible deal flows are present in the Czech Republic based on the existence of success stories. However, interviews with investors and entrepreneurs acknowledged that these success stories are relatively few and are concentrated in certain locations and sectors. Box 4 provides examples of such successful startups. These examples, as well as qualitative interviews, suggest that most startups are based in Prague and Brno, and primarily in the ICT sector. There are also relatively few academic spin-offs (these tend to focus on non-ICT innovations). Overall, demand falls short of representing a critical mass, which is a characteristic of a mature market.

This section elaborates on existing issues affecting credible demand for investments in the Czech Republic. Issues appearing to be primary demand side concerns during interviews and literature reviews include: market failures such as lack of information and education on the part of founders, weak linkages between academia and industry (thereby affecting knowledge creation and business innovation especially in non-ICT sectors), and lack of entrepreneurial culture and education.

⁸² EstBAN, "EstBan 5 Years & 2017 Review!."

⁸³ BeAngels, "Rapport d'activité 2017."

⁸⁴ HBAN, "Meet our Syndicates", <http://www.hban.org/Syndicates/Meet-Our-Syndicates.166.html>.

⁸⁵ The Estonian Angel Association (ESTBAN) reports that 87% of their deals are syndicated between 2 or more angels. (<http://www.estban.ee/about/annual-reviews/2017>). Be Angels, the Belgium association, reports that on average each of their investments involves 3.3 angels (Taking the pulse of the business angel market

Be Angels 2000 - 2015, Deloitte). In Scotland, 60% of investments involve syndication between multiple networks / groups of angels (The Risk Capital Market in Scotland Prepared for Scottish Enterprise by Beauhurst and Young Company Finance Annual Report 2017).

Box 4. Czech Success Stories

Avast.com, originally from Prague and one of the world's largest antivirus software developers, acquired fellow Czech startup AVG.com (Grisoft) for \$1.3 billion in 2016 and became the second Czech unicorn.

AVG.com was the first Czech unicorn (Brno-based) that went public on the New York Stock Exchange in 2012 with a valuation of over \$1 billion. The company also returned to shareholders over \$1 billion in dividends over time.

Kiwi.com is an online travel agent based in Brno. It is currently one of the top 5 online airline ticket seller in Europe. It achieved a turnover of around €700 million in 2017.

Socialbakers.com is a Prague-based social media analytics developer with over 2,500 clients in 100 countries. It is named in the 2018 Inc. 5000 list of the fastest-growing private companies in Europe (based on revenue growth) which counts Intuit, Microsoft, and Oracle as alumni in earlier rankings.

Apiary.io, an application programming interface (API) development platform based in Prague, was sold to Cisco in 2017 for a price believed to be between \$50 million and \$100 million.

TCPCloud.eu, an IT cloud infrastructure headquartered in Prague, was acquired by Mirantis.com for about \$40 million in 2016.

Cognitive Security, a cybersecurity company, was acquired by Cisco systems (a US-based technology multinational) in 2013. This resulted in Cisco opening their R&D center in Prague, with over 100 new high-skilled jobs created and support provided to the Czech Technical University.

Equity financing limitations

Access to finance does not appear to be the primary concern of Czech Republic startup founders. The Prague-based founders interviewed cited more binding constraints they faced in growing their companies: access to talent in a tight labor market appeared to be a greater issue, for example. These founders are also generally inclined to take a relatively long term approach to the development and funding of their business, consistent with the findings of the 2016 Czech Startups Report⁸⁶. The report found that 78 percent of the surveyed founders used their own resources as a form of financing, only 13 percent of the startups had used friends and family (the report included "business angels" in the family member category). Going forward, 57 percent intend to finance their projects from their own capital, while 40 percent intend to seek angel or venture capital (a larger proportion than the above-mentioned 13 percent). This level of use and intended use of angel/venture capital funding appears low for high

growth potential companies in comparison to more developed capital markets. Further, figures provided can be overestimated as the survey did not seek to further ascertain the level of failed application for funding (disappointed demand), nor did it seek to classify or verify the credibility of the funding demand. Also, the small survey sample size (just 125 fully completed responses were received) was open to any self-certifying startup in any business category. Given the nature of qualitative interviews and survey interviews cited, care must be taken in extending this to the wider population of existing and potential new entrepreneurs, and in particular those outside Prague and the ICT sector.

Another survey result, focused on early stage funding, found that startups are not necessarily looking for finance. However, there appears to be some market failure issues (i.e., lack of information). A survey of startups asking wider questions regarding access to finance was conducted for the 2015 Ex Ante Assessment of Financial Instruments. It uses only a small returned sample size (64)⁸⁷. This survey

⁸⁶ Maria Staszkiwicz and Daniela Havlíková, "Czech Startups Report 2016."

⁸⁷ To put the responses into context, the median age of companies that took part in the survey was two years. 80% were micro-companies with up to 10 employees and just 16% were university spin-offs. 39% of the companies were classified at the post-creation stage, 35.6% at the growth stage (these responses were mainly driven by companies older than three years), 11.9% at the startup stage, and 6.8% at the seed stage. In terms of sector orientation, 51% are in ICT, 17% in R&D activities, and 5% in processing industry and trade. Three companies from creative industries also answered the questionnaire survey.

reported that founders' own capital had been used by 46 percent of respondents. 22 percent had secured friend and family (excluding business angels) typically in combination with their own funding. Just 9 percent claimed angel funding, despite 35.6 percent being in the growth stage and more than three years old. Venture capital funds were ticked off as a source of finance by only one respondent. However more than 51 percent of entrepreneurs had searched for information about financing opportunities from business angels and venture capital funds, and presumably either decided not to apply or had been unsuccessful in doing so. In total, 41 percent of the target respondents (24 out of 62 responses) said they planned to use venture capital in the coming three years to fund their investments. This means that the majority (59 percent) did not. The reasons cited for not seeking an external equity investor were two-fold:

- the company is too small;
- raising equity is too demanding in terms of time and administrative work.

Based on these results, it appears that many startups are postponing securing funding until they have reached the point of being able to generate a stable cash flow, which they believe will give them access to bank debt. This represents a potentially significant lost economic opportunity. Companies that could potentially grow, and grow significantly, if they had the correct funding in the appropriate form (and for high growth potential companies this is most likely to be equity funding), prefer a gradual start of their business to one that they perceive as being a complicated and often unsuccessful negotiation with investors.

Results also suggest that a critical area of market failure is one of information and education on the demand side. Founders do not understand the benefits and uses of equity funding, or how or where to get it. It is perceived as too difficult for small companies to apply. When asked what could improve access to financing, the most popular responses related to improved information, signposting, and preparation assistance (see Table 9).

Seen as less important were securing a guarantee for the loan (7.8 percent), joining a hub, business incubator, better cooperation with a university, etc. (7.8 percent) and improving the conditions for the loan - less strict guarantee requirements (7.8 percent).

The tech entrepreneurs interviewed did not express overt aversion to taking equity investment. Nor did they express opposition to giving up some control of the company in exchange for equity at some time in the future. They did have concerns regarding their perceptions of the experience and value of potential Czech Republic investors (in comparison to their perceptions of those to be found in more developed markets such as the US). This may represent a form of unconscious equity aversion brought on by a mix of their own lack of experience and understanding of investment and their perception, rightly or wrongly, that Czech investors are somehow less experienced compared to those in more developed countries.

Table 9. Policies to increase access to finance, 2016

Raising awareness of available sources of financing in the Czech Republic, getting new contacts	68.6%
Raising awareness of available sources of financing from abroad, getting new contacts (e.g. via support of business trips in foreign destinations)	49%
Reduction of the administrative barrier to fundraising	49%
Assistance at preparation of the project (e.g. business plan or specialized consultancy)	29.4%

Source: 2015 Ex Ante Assessment of Financial Instruments.

Industry-academia linkages

Industry and academia linkages, which are a requirement for transforming innovative ideas into investable deal flows, are weak in the Czech Republic. There are few academic spin-offs. The Czech Republic ranked 41st out of 137 countries in terms of industry-university collaboration in R&D, behind aspirational Belgium (9th), Ireland (13th), and Estonia (40th)⁸⁸. One of the few successful examples of research-based spin-offs in the country was a profitable technology transfer via the Czech Academy of Science Institute of Organic Chemistry and Biochemistry's patent of drugs for treatment of HIV/AIDS, Hepatitis B, and small pox⁸⁹. Another example of a successful tech transfer center is the South Moravian Innovation Center⁹⁰ in Brno. In general, weak collaboration between industry and academia may contribute to the lack of startups in more advanced fields such as biotechnology, internet of things (IoT), etc. As an example, only 14 percent of surveyed respondents in the Czech Republic Startup Report 2016 claim to be a university/research center spin-off⁹¹.

Startups' focus on ICT means there are missed opportunities in specific sectors which could boost productivity. The Czech Republic National RIS3 Strategy (Smart Specialization Strategy)⁹² highlights six key application areas of economic specializations in which the Czech Republic shows comparative advantage and growth potential:

- manufacture of transport means and equipment;
- mechanical engineering;
- electronics and electrical engineering (e.g., industrial automation, communication, identification, control equipment, robotics, artificial intelligence [AI]);
- IT services and software (e.g., network technologies and network security, antivirus software);
- electricity production and distribution;
- drugs and medical products.

To date, the focus has been on only one of these sectors: IT services and software. Given the small

domestic market, this sector is primarily concentrated in the business-to-government (B2G) and business-to-business (B2B) markets, rather than the business-to-consumer (B2C) market.

Entrepreneurial culture and skills

The lack of entrepreneurial culture stems from the lack of a history of entrepreneurial education in schools. In Estonia and Scotland, by comparison, this type of education is available (see Box 5). Further, entrepreneurship in the Czech Republic is not championed or celebrated publicly by the Government, the press, or the media (one notable exception is the Czech edition of the Forbes magazine). The public is still suspicious of entrepreneurial success and capitalist investors due to a tainted period in the early 1990s characterized by the privatization of public assets.

In terms of skills quality, Czech graduates possess good technical skills but less developed soft skills. Good technical skills are attributable to government priorities in building a technology and engineering-based workforce. Yet, strengths in Czech workers' technical skillsets are offset by weaknesses in entrepreneurial skills and related soft skills, including managerial skills and sales and marketing skills. These weaknesses are attributable in part to a rigid curriculum (e.g., facts-based and with little room for creative thinking that helps develop the soft skills) as well as a lack of entrepreneurial culture. Because of constraints related to soft skills, 90 percent of Startup Yard activities focus on improving startup founders' business development skillsets (e.g., sales and marketing, and pitching to potential investors).

In terms of the availability of specific technical skills, there is a shortage of good local technology developers (reflected in high salaries and low labor turnover rates for developers). This risks affecting deal flow generation in the future. Entrepreneurs are facing difficulties accessing good local developers as they must compete with established companies that are willing to pay higher salaries with good benefits. Talent spotting is also difficult due to high coordination costs; there are for example very few alumni networks to tap into.

⁸⁸ Klaus Schwab, ed., "Global Competitiveness Index 2017-2018," WEF (2017), <http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf>.

⁸⁹ Roman Pasek, "The Greatest Science Story in the Czech Republic," *CzechInvest* (2017), <http://www.czech-research.com/greatest-science-story-czech-republic/>.

⁹⁰ For more information, see: <https://www.jic.cz/en/about-us/>

⁹¹ Maria Staszkiwicz and Daniela Havlíková, "Czech Startups Report 2016."

⁹² Government of the Czech Republic Department for Analysis and Coordination of Science, Research and Innovation, "National Research and Innovation Strategy for Smart Specialisation of the Czech Republic (National RIS3 Strategy)," (2016).

Box 5. Scotland's entrepreneurial education

Scotland has developed a range of projects to encourage entrepreneurship from an early age:

- Young Enterprise Scotland (<https://yes.org.uk/>) offers entrepreneurship education at primary school, secondary school, and university levels.
- The Scottish Institute for Enterprise (<https://www.sie.ac.uk/>) funded by the Scottish Funding Council and Scottish Enterprise targets undergraduate students in each of the Scottish universities, and in every subject. It helps students develop enterprise skills, discover their entrepreneurial talent, and start up their own ventures. It has a small fund to cover the cost of undergraduates applying to patent their ideas (the intellectual property of university staff, doctoral students, and researchers belongs to the university – but this does not apply to undergraduates).
- Entrepreneurial Scotland offers an internship program to university students between their third and fourth years of study to work overseas with an international company for two months.
- Informatics Ventures (<https://www.ed.ac.uk/informatics/innovation-industry/informatics-ventures>) has a mission to support Scotland's technology entrepreneurs from all the Scottish universities and wider business community.

There is a consistent and long term message to young Scots that no matter what their degree is, their interests, or current involvement with business, they can make enterprise an active part of their life and that they have the potential to be a successful entrepreneur.

Estimated total demand

Given the lack and unreliability of data, it is difficult to estimate actual demand for equity investments. The 2015 Ex Ante Assessment⁹³ includes a calculation suggesting that the demand for equity investment from SMEs at the seed and startup stages for the period up to 2023 would be €120 million. This however was partially based upon 2013 GEM data (relating to for example entrepreneurial intention), now somewhat out of date, and on then existing estimates of absorption capacity. In addition, while this calculation gives an estimate of the total funding requirement it does not break it down by sector or location.

Spreading the Ex Ante Assessment estimated funding requirement of €120 million out over 6 years would give an annual demand of around €20 million a year. Average 2016-2017 venture capital investment was estimated to be €4 million⁹⁴ and the EBAN estimate of business angel investing was €5 million⁹⁵, suggesting a shortfall of €11 million. However, the venture capital data only includes funds run by members of the European venture capital association, Invest Europe (not all funds operating in the Czech Republic), and the EBAN data is only an estimate of the visible angel activity. In practice the value of existing investment into seed and startup SMEs is unknown, i.e., the real level of actual and potential credible demand or therefore the present or projected future funding gap.

⁹³ Czech Ministry of Trade and Industry and Deloitte Advisory s.r.o. *Ex Ante Assessment of Financial Instruments of the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020*, 2015.

⁹⁴ InvestEurope, "2017 private equity Activity Data," (2017).

⁹⁵ See Table 8.

Analysis of the local framework conditions

This section discusses current local environment conditions in the Czech Republic: regulatory conditions for equity investment along the firm's life cycle (including starting and exiting a business), availability of local supporting intermediaries (e.g., incubators, accelerators) and government support programs, as well as availability of tax incentives for entrepreneurs and investors to encourage angel investing.

Regulatory conditions for equity investment

Interviewees suggest that there are no significant regulatory or business-related issues in the Czech Republic, which is consistent with a competitive ranking on relevant indicators. This sentiment is reflected by the fact that investment deals are being conducted. Some of the Czech Republic's strengths include a favorable 19 percent corporate tax rate (which stands competitively against the OECD average of over 24 percent) and lower costs of

doing business (wages, rent etc.) making the same investment last longer for Czech-based startups than places with more expensive environments. The country ranked 31st out of 137 countries on the GCI 2017-18 and is the highest placed CEE country in the EU 28, ranking 13th (between Estonia and Spain). Some complaints exist in relation to difficulties in starting a business, outdated company laws, and expensive bankruptcy costs.

The Czech Republic's overall ease of doing business ranking is comparable to many of its peers, with a general ranking of 30. However, it ranked weaker in the starting a business category, (ranking 81 out of 190 countries). The low ranking is related to the length of time it takes to incorporate a business and the need for simplification of startup procedures. The World Bank estimates that the time needed to start a business has fallen by around 40 percent since 2015. Yet it still takes 9 days, compared to 4 in Belgium and 3.5 in Estonia (and half a day in New Zealand, the best performer in this measure). It also takes more than double the number of procedures to incorporate a business in the Czech Republic compared to these countries. Overall the use of e-government services in the Czech Republic, while improving, remains one of the lowest in the EU.

Table 10. Starting a business, 2018

Country	Starting a Business ranking	Procedure	Time (days)	Cost (% of income per capita)	Paid-in min. capital (% of income per capita)
Ireland	8	3	5	0.2	0
Estonia	12	3	3.5	1.2	16
Belgium	16	3	4	5.6	16.8
Slovenia	46	4	7	0	39.6
Portugal	48	6	5	2.1	0
Hungary	79	6	7	5.4	43.8
Czech Republic	81	8	9	1	0
Slovak Republic	83	7	12.5	1.1	17.2
Austria	118	8	21	5.1	12.5

Source: World Bank Doing Business database.

Although the country has in the past scored poorly in the area of “second chance” for entrepreneurs, it has improved and now performs in line with the EU average on this principle⁹⁷. The time needed to resolve insolvency has fallen from 6.5 years in 2008 to 2.1 years in 2016. However, the costs associated with insolvency remain high, at 17 percent of the debtor’s estate compared to Belgium (3.5 percent), Estonia (4 percent), and the EU average of 10.3 percent.

Interviewees considered Czech corporate laws outdated and complex, especially as they relate to equity financing. Issues raised by the interviewees were the following:

- While the s.r.o. status for a company in the Czech Republic is similar to that of ‘limited liability company’ (LLC) in the USA or ‘limited company’ (Ltd) in the UK, it is costly to set up a s.r.o. company that distributes equity shares. At present it requires about €77,000 (2 million CZK) as minimum capital for a company that can distribute shares, although it requires only €0.04 (1 CZK) as minimum capital for one that does not require share distribution. Nevertheless, it is difficult to set up a shareholder scheme in an s.r.o. given a lack of clear rules involving stock option schemes. For example, an s.r.o. does not recognize employee stock option plans (and

there is no ‘authorize and issue later’ capital). Yet, share option schemes are frequently used in early stage companies in other jurisdictions to attract senior talents to join a company⁹⁸. Because of this issue, many Czech startups are encouraged to incorporate in the UK and the US.

- Current employment law discourages formal employment (hiring official employees) due to its rigid structure and relatively high employer’s social security contributions (34 percent), in addition to related employment taxes. Firing employees is perceived to be rather difficult, similar to France. As a result, startups tend to use individuals classed as ‘external consultants’. These consultants are responsible for their own health insurance, can offset 60 percent of revenues and pay income tax on their remaining 40 percent of income, and can be given ‘30 days or less’ notice (when employers choose to lay off their workers) depending on negotiated conditions. Lack of flexibility in startup work contracts provides disincentives for both workers (who may prefer to pay lower income taxes and social contributions) and startup entrepreneurs (who may prefer to hire consultants for short-term roles, to provide flexibility given their uncertainty of future growth and reduced cost). This can potentially affect the innovation process of quality startups.

Table 11. Resolving insolvency, 2018

Country	Resolving Insolvency rank	Recovery rate (cents on the dollar)	Time (years)	Cost (% of estate)	Strength of insolvency framework index (0-16)
Slovenia	10	88.7	0.8	4	11.5
Belgium	11	84.6	0.9	3.5	11.5
Portugal	15	63.8	3	9	14.5
Ireland	17	85.8	0.4	9	10.5
Austria	23	80	1.1	10	11
Czech Republic	25	67	2.1	17	13
Slovak Republic	42	47.3	4	18	13
Estonia	44	40.6	3	9	14
Hungary	62	43.7	2	14.5	10

Source: EBAN, 2016.

⁹⁶ ‘Second chance’ ensures that honest entrepreneurs who have gone bankrupt get a second chance quickly.

⁹⁷ European Commission, “Czech Republic 2017 SBA Fact Sheet.”

⁹⁸ In practice, this scheme is not commonly used for most staff in the majority of startups in other countries. This is often reserved to attract new member of senior management (e.g., CEOs).

Exit conditions

Exit markets are dominated by M&A with very few IPOs. A recent survey by Mergermarket (2017)⁹⁹ on M&A in the CEE region showed that the Czech Republic ranked second for M&A (behind Austria). This is in part attributed to positive economic growth rates for both countries (the Czech Republic for example grew by around 4 percent in 2017). Overall, the Czech Republic ranked third in M&A deal values, behind Austria and Poland.¹⁰⁰ These figures reflect the high proportion of private equity finding devoted to later stage M&A activity in the Czech Republic. What is unclear is the level of exit opportunity for new technology companies as opposed to more traditional manufacturing and engineering companies. In the last five years there have been few examples of technology company exits. One notable example is AVG which was sold to Avast Software, another Czech-born enterprise, in 2016¹⁰¹. Another example is Cisco's acquisition of Cognitive Security in 2013. Early stage investing in the Czech Republic is still relatively young however, and with exits typically taking 5 to 8 years to achieve in developed markets, it is unsurprising that there are relatively few examples of company success stories yet.

A recent innovation in the exit market is the START program launched by the Prague Stock Exchange. The START program is an IPO market for SMEs. It is branded as a "market for smaller businesses" valued at between €1 million and €80 million¹⁰². The market allows shareholders to hold non-controlling shares of three SMEs currently in the market, allows a minimum investment of about €19,000, and allows trading once every three months for 20 minutes. This measure encourages concentrated liquidity for SMEs as liquidity tends to be derived from the size of the company. Given the nascence of this IPO market, it remains to be seen whether it can be effective.

Supporting intermediaries

Incubators and accelerators

Across the Czech Republic there are reported to be 51 business incubators (a mix of publicly and privately owned) and 80 co-working spaces¹⁰³. Each of these intermediaries provide varying levels of business development and mentoring support for startups (from none to intensive). Start-up Yard appears to be one of the few accelerators offering any form of funding to startups joining its program (they also operate an informal angel investment network made up of some of the members of their pool of business mentors).

Intermediaries supporting R&D and commercialization

While intermediaries supporting R&D commercialization exist (e.g., universities and TTOs), few are effective in supporting innovative projects. Universities tend to work in silos and lack cooperation with the private sector to transform innovative ideas into investable companies. Key challenges reflective of weak industry-academia linkages include: low levels of public research contracted by the private sector (about 3 percent), underutilization of intellectual property (IP) rights instruments (in spite of availability of legislation), low applicability of public research, poor commercialization of research outputs, lack of knowledge transfer, weak entrepreneurial culture, and weak interaction between domestic private sector and research entities to create new technologies¹⁰⁴.

⁹⁹ Mergermarket (2017) conducted the survey of 150 senior-level executives who are either based in the CEE region or outside. These executives are part of private equity firms (1/3) and the rest are corporate executives. Respondents have either made at least one acquisition during the past year or are considering making an acquisition in the next 24 months.

¹⁰⁰ Mergermarket, "M&A Spotlight: CEE," *Wolf Theiss Corporate Monitor* (2017), https://www.wolftheiss.com/fileadmin/content/6_news/Guides/2018/MnA_Spotlight_CEE_WolfTheiss_Corporate_Monitor.PDF.

¹⁰¹ Deloitte, "CVCA Private Equity Report: Summary of deal activity in 2015-2016," (June 2017), <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/survey/cvca-private-equity-report-2015-2016.pdf>.

¹⁰² Prague Stock Exchange, "START Market," <https://www.pse.cz/en/trading/markets/start-market/>.

¹⁰³ University of Economics Prague (VŠE) statistics via Maria Staszkiwicz and Daniela Havlíková. "Czech Startups Report 2016."

¹⁰⁴ Martin Shrolec and M. Sanchez-Martinez, "Research and Innovation Observatory country report 2017: Czech Republic," *European Union* (2018), <https://rio.jrc.ec.europa.eu/en/library/rio-country-report-czech-republic-2017>.

Within universities and TTOs, institutional issues hinder the creation of more academic spinoffs.

These issues include complicated processes in starting university spin-offs, ineffective TTOs, and weak incentive structures for the commercialization of ideas¹⁰⁵.

- Complicated processes to create spin-offs stem from complicated laws related to whether universities can own equity shares in spin-offs as well as rigid procedures necessitating obtaining clearances from different academic senate and administrative levels.
- TTOs in the Czech Republic have no special purpose vehicle (SPV) to accommodate investors interested in supporting commercialization of R&D results, as is common in more developed markets (although the success story related to HIV/AIDS treatment was made possible through the creation of an SPV).
- There are low incentives for public sector researchers to commercialize their ideas, as researchers are evaluated primarily on scientific publication outputs with little emphasis on commercialization¹⁰⁶. Most funding opportunities are also concentrated in basic research instead of commercialization. In general, the mindset and entrepreneurial inexperience of people working in universities is problematic, as university personnel tend not to understand what it means to conduct an IP transfer and set up a business. For example, even though Cognitive Security spun out of the Czech Technical University (CTU), the university does not necessarily use this as a success story (having been sold to Cisco)¹⁰⁷.

There are nonetheless Government efforts to realign universities' incentive structure through 'smart funding'. For example, the Technological Agency of the Czech Republic (TA CR) which is in charge of R&D cooperation between state agencies, academia, and industry, provides competitive funding to universities to support practical application, commercialization of R&D, and business collaboration as part of its GAMA program¹⁰⁸. This project provides incentives for universities to set up

systems for research commercialization. There is also a growing number of university incubators, such as the xPORT at the University of Economics in Prague and Point One at the Czech University of Life Sciences in Prague.

Existing government programs

The Czech Government offers a suite of programs aimed at helping startups become 'investable' or 'investor-ready' as well as providing initial public capital. These direct support programs can be classified as follows, along with their corresponding government agencies:

- Investment readiness programs: CzechInvest, Technological Agency of the Czech Republic (TACR), Ministry of Industry and Trade (MIT), university incubators (xPORT (University of Economics) and Point One (CTU in Prague))
- Financing programs: Czech-Moravian Guarantee and Development Bank (CMZRB), EIF supported funds

Investment readiness programs aim to strengthen the demand side by helping improve the quality of potential investable deal flows. In addition, these programs address market failures related to asymmetric information and coordination failures. Common intervention mechanisms in Czech programs include business advisory services (e.g., business planning), training, mentoring, networking (e.g., access to investors and foreign accelerators), and matching services. There is also an emphasis on addressing presentational failings by helping founders prepare for pitch days. In some programs, non-financial support is also coupled with financial support. For example, CzechInvest (a government agency in charge of boosting startup development) provides mentorship, consultancy, and training as well as small competitive grants to boost startup capacities in the pre-seed stage (e.g., prototype development). **Annex 4. Program Instruments: Early-stage Government Support** provides information on these current investment readiness programs.

¹⁰⁵ For more details on constraints to academic entrepreneurship in the Czech Republic, see: V. Machacek and M. Srholec, "Knowledge Transfer through Academic Entrepreneurship in the Czech Republic," (2016).

¹⁰⁶ Martin Shrolec and M. Sanchez-Martinez, "Research and Innovation Observatory country report 2017: Czech Republic," (2017).

¹⁰⁷ For more information on Cisco's acquisition of Cognitive Security, see: <https://blogs.cisco.com/news/cisco-to-boost-network-security-platform-with-acquisition-of-cognitive-security>

¹⁰⁸ For more information on TA CR's GAMA Program, see: <https://www.tacr.cz/index.php/en/programmes/gama-programme.html>

It is unclear whether these investment readiness programs emphasize issues investors care about the most: the investability of the startup's proposition and investor engagement. Even if founders know how to pitch their ideas, for example, there are inherent concerns underlying what it means to be an investable business. Investor's concerns include: the likelihood of achieving the required growth (that will match the investor's return on investment requirements), having clear exit plans, having a credible management team (who can handle financial accounts, IP protection, market demonstration, etc.), having a novel and compelling product/service, etc. There are also issues related to investor engagement such as how to prepare for the fundraising process. Given that government investment readiness programs tend to be managed by career public servants (along with the nascence of the local market), it is unlikely that program managers have a clear understanding of the investment process and know what it means to be 'investor ready'.

Financing programs stimulate the supply side by providing direct or indirect public capital to innovative firms. Common intervention mechanisms in the Czech Republic include the provision of early stage grants (direct) as well as fund-of-funds, loan guarantee schemes, and tax credits (indirect). For example, CMZRB provides loan guarantees to certain expenditures of innovative businesses. The EIF supported funds under the €50m Czech Republic ESIF Fund-of-Funds project¹⁰⁹ is intended to increase the available equity funding for enterprises throughout the whole cycle of their early stage development. **Annex 4. Program Instruments: Early-stage Government Support** also provides information on these current financing programs.

It appears that the Czech Government lacks experience in the provision of public capital. The Government's first attempt to establish an early stage venture capital support scheme (the SEED fund) during ESIF programming period 2007-

2013, using operational program "Business and Innovation" (OPPI) funds, was unsuccessful and had to be cancelled¹¹⁰. This experience is helping inform the establishment of a new venture capital support scheme (EIF Fund-of-Funds project) under a different implementation model¹¹¹ through ESIF resources (operational program "Enterprise and Innovations for Competitiveness" (OP EIC) 2014-2020). Yet, another successor project that sought to establish a state owned investment platform (National Innovation Fund) was scrapped recently.

Qualitative interviews suggest that these government measures are piece-meal, limited/non-consequential, and riddled with administrative uncertainties. Early-stage grants are insignificant and cannot support the actual financing amount startups need. R&D grants (as well as R&D tax credits) involve considerable paperwork, administrative delays (with implementers forcing recipients to observe original project terms despite these delays), and tax agents have subjective interpretations of what R&D is (discouraging R&D firms from actually applying this credit in their tax forms). Some interviewees stated that some firms have been asked to pay back R&D incentives, notably when government agents decide that what firms thought was an R&D activity was not considered by the official to be so. Public support and perceptions about startups are often negative, as Czech citizens tend to associate putting government money into startups as a loss ('public money wasted again'). Governments are seen as slow moving, the opposite of the fast-paced environment of startups. Some founders suggested there is a social stigma against receiving state grants: grantees were viewed negatively as 'incapable of earning money'¹¹². These factors combine to give some founders a negative view of government, making them less likely to engage in support programs.

¹⁰⁹ European Investment Fund, "ESIF Fund-of-Funds Czech Republic."

¹¹⁰ A complaint to the anti-monopoly office by an unsuccessful contender for the Ministry's public tender to select financial intermediaries for the SEED fund resulted in long proceedings, such that the project could not be implemented within the OPPI time limit.

¹¹¹ Rather than publicly administering the fund, the government is working with EIF which will manage the project.

¹¹² Focus group discussion with entrepreneurs (May 16, 2018).

Availability of incentives to encourage angel investing

Tax incentives

There are no targeted tax incentives in the Czech Republic to specifically encourage business angel investing. The EC recently published a report looking at best practices in tax incentive programs for investors in 36 countries¹¹³ from within Europe and the OECD. The report found that the Czech Republic does not provide specific tax incentives related to boosting angel investing compared to countries such as Belgium, Ireland, and the UK in Europe. Even in the US, possibly the most developed early stage funding market in the world, around 50 percent of states have some form of angel tax incentives¹¹⁴ and in May 2018 China announced the expansion of their tax incentives for angel investment¹¹⁵.

The tax structure is being used by many countries to encourage the desired change in behavior for individuals to take on extra investment risks. A critical difficulty in persuading more individuals to divert part of their wealth to investing as a business angel is the very high risk area of startups as opposed to the much lower risk investments available through real estate equities and bonds. Not only is the risk high, but the investments are illiquid. They cannot be easily sold, even at a loss, as would be the case if the investment was in a listed equity or bond. Investment returns, where they happen, may not be

realized for five or eight years or more. As increasing tax on tobacco may be used to discourage smoking (and deliver a saving on the cost of health care), so a suitably structured tax incentive can persuade individuals to invest in high growth potential companies, relieving the state of the responsibility for supporting this element of economic stimulation.

Co-investment funds (CoFunds)

There are at present no CoFunds in the Czech Republic targeted at encouraging or supporting business angel activity. CoFunds are increasingly being used by governments to stimulate behavioral changes in current and potential investors, encouraging them to take more risks. The EBAN 2016 compendium of CoFunds¹¹⁶ lists details of funds in 22 European countries.

Annex 5. Operation of CoFunds includes an analysis of the nature of a number of different fund structures that have been developed to reflect differing local conditions.

CoFunds are seen as a potential tool to encourage more individuals to become angel investors, and for existing investors to invest more because they lower the risk of investments by allowing more investments to be made and providing portfolio diversification. A paper produced for the EC described CoFunds for business angels as representing an added value for public authorities in comparison to grants because their leverage effect is higher¹¹⁷.

¹¹³ Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

¹¹⁴ For more information, see: <https://www.angelcapitalassociation.org/aca-public-policy-state-program-details/>

¹¹⁵ Li Yan, "New policies to help small firms," *Ecncs.com* (2018), <http://www.ecncs.cn/business/2018/05-04/301404.shtml>.

¹¹⁶ EBAN, "Compendium of Co-investment Funds with Business Angels 2016," (2017), http://www.eban.org/wp-content/uploads/2017/06/Co-Investment-Funds-2016_EBAN-website.pdf.

¹¹⁷ European Union, "Fostering business angel activities in support of SME growth," *Guidebook Series: How to support SME Policy from Structural Funds* (2015), <http://www.eban.org/wp-content/uploads/pdf/Guidebook-FosteringBusinessAngelActivities.pdf>.



POLICY RECOMMENDATIONS

This section proposes a list of short-term, medium-term, and long-term policy recommendations for enhancing business angel awareness and investments in the Czech Republic. Proposed recommendations are problem-driven and based on the analyses of supply side, demand side, and local environment conditions for business angel investments discussed above. Phrasing of specific recommendations are also anchored in administrative and political cost considerations. Further, these policy recommendations are supported by case study examples from various countries (e.g., UK, Germany, New Zealand). While this report acknowledges the lack of evidence of success in some of these case studies (due to the lack of rigorous impact evaluations and assessments of such programs and because they are new), they are included for consideration and possible application given their relevance to the Czech context.

In general, there are significant challenges in drawing up policy to stimulate business angel activity. Policy needs to address multiple and very heterogeneous groups - business angels, entrepreneurs, and small companies, simultaneously to be effective¹¹⁸. Looking specifically at business angels, not only does each angel differ in terms of available investment amounts, industry focus, preferred role in the investment process etc., each of them often takes on different roles depending on the investment, investment partners, and circumstances. Moreover, they also change their role in the course of their career as business angels. High level lessons in regard to policies aiming to boost angel investing are discussed in Box 6.

Box 6. Lessons from literature reviews on business angel development

- There appears to be little practical advice on how to begin implementing policy for the development of an effective early stage investment market, or the timing, sequencing and localization of the differing options.
- Many of the 'headline' policies, such as co-investment funds and tax incentivization, need a reasonably well functioning angel market to be in place before implementation for them to be effective.
- Significant flexibility in approach is needed to take into account local circumstances, culture, and practice. Needs and challenges are likely to vary not just by country but by regions within countries.
- It is important to attract the right type of investor not just a volume of investors. Early stage investing requires patience and an affinity with founders.
- Angel investing takes many forms and angels organize themselves in many ways. There is no single right solution or methodology and policy should be structured to support and guide market development, not dictate it.
- Developing an angel community cannot be done in isolation, but requires the development of entrepreneurial activity, and critically the "right type" of entrepreneurial activity. It also requires the development of a support community (lawyers, accountants, incubators, etc.). This needs to be a coordinated and integrated activity, and it needs to evolve as the local market evolves and develops.
- Policy should be focused on the development of the market rather than on the provision of direct funding to companies.
- Simply increasing the volume of funding available, without providing a structure within which that funding can be easily connected to appropriate investment opportunities, will do little to improve overall investment levels.
- High growth firms are found in all sectors of the economy, not just in high-tech sectors. Development policy should be agnostic in terms of business sector.

¹¹⁸ Swedish Agency for Growth Policy Analysis, "Business Angel, Co-investment Funds and Policy Portfolios," (2013), https://www.tillvaxtanalys.se/download/18.700b9665156832afbae1de28/1471261058898/Report_2013_08.pdf.

Typology of proposed policy recommendations

Proposed policy recommendations address the gaps identified in the supply side and demand side of business angel investments based on the analytical exercise (outlined in “Key Findings”).

These gaps include a lack of demand-supply data, the invisibility and/or inexperience of potential investors, and a lack of diversified credible demand for investments. A typology of these recommendations is discussed in Table 12, which summarizes potential objectives, problems, and policy interventions that may be considered. Although not the subject of this report, non-binding constraints mentioned in the analysis of local framework conditions, such as on starting a business and resolving insolvency, should also be addressed.

The policy recommendations are structured to permit a phased approach to implementation (i.e., short, medium, and long term).

Short term recommendations begin with improved data collection of the supply and demand sides to allow a better calculation of the extent to which the capacity of either side needs to be stimulated. This data will also help identify possible measures to increase the efficiency and effectiveness of the existing market. Improved efficiency and effectiveness can be achieved at relatively low cost through better information and signposting and access to knowledge and training. Increased capacity can

be achieved initially, and again at relatively low cost, through promotion and awareness raising activities. More complex and expensive policies to increase capacity and influence capability such as tax incentives and CoFunds should be considered in the long term.

Administrative and political costs differ across the suggested phased recommendations.

Short and medium-term policy recommendations (i.e., data collection and awareness measures to increase existing market efficiency) should be relatively inexpensive to implement. These recommendations do not require legislative change. Long term policy recommendations include potential tax incentivization and CoFunds. Both of these are likely to have more significant costs, are complex to set up and implement, and involve varying degrees of legislative change. Ideally, short term policy proposals should be implemented immediately. Their impact and outcome will influence the choice, design, and timing of the longer term policies.

The following subsections of this report elaborate in further detail on recommendations to stimulate business angel investing in the Czech Republic.

Figure 9 presents a schematic diagram of the short-term, medium-term, and long-term proposals discussed. While beyond the scope of this report, the importance of effective demand-side interventions and conducive framework conditions is acknowledged in ensuring a healthy innovative finance ecosystem.

Figure 9. Schematic diagram of elaborated policy recommendations

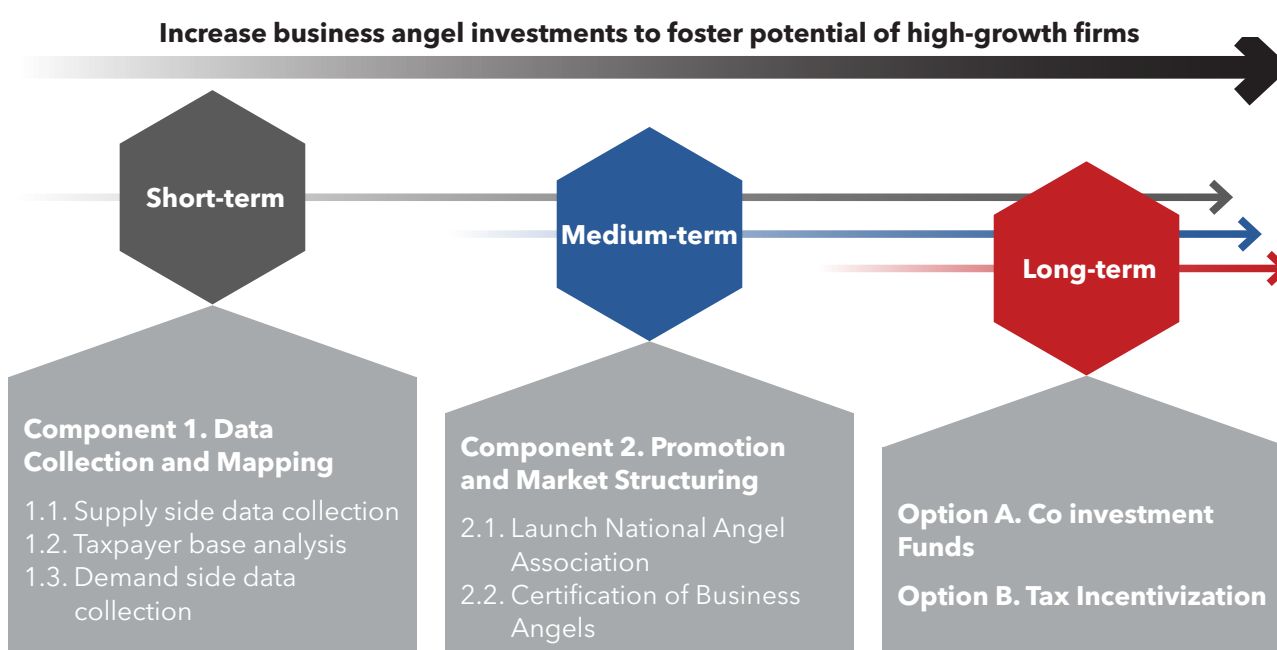


Table 12. Menu of Possible Government Interventions

Objective	Problem	Possible Policy Intervention
SUPPLY SIDE		
Increase number of business angels (market capacity)	Low awareness of potential to become a business angel	<ul style="list-style-type: none"> • Awareness raising/publicity • Establishment of NAA (short term)
	High risk of financial losses	<ul style="list-style-type: none"> • Business angel training¹¹⁹ (short term) • Tax incentives (long term) • CoFunds (long term)
	Lack of business angel related skills, i.e., knowledge and competence barriers discourage participation	<ul style="list-style-type: none"> • Training and mentoring (short / medium term) • Syndication of deals: new business angels learn from those with experience (short / medium term)
Increase connection between investors and founders	Angels are often invisible	<ul style="list-style-type: none"> • Support establishment and operation of BANs (medium / long term)
Encourage business angels to invest in a broader range of sectors	<ul style="list-style-type: none"> • Concentration of investment in ICT • Lack of funding for technology transfer in knowledge intensive sectors 	<ul style="list-style-type: none"> • Awareness raising / education (short to medium term) • Support for specialist syndicates (e.g. subsidized due diligence on IP) (medium term) • Knowledge intensive tax incentives (long term) • Knowledge intensive co-fund (long term)
Increase effectiveness of angel investing (knowledge and capability) for higher company success	<ul style="list-style-type: none"> • Inexperienced investors may make poorly structured or researched investments • Low returns discourage new investments • Company performance may be suboptimal 	<ul style="list-style-type: none"> • Training and mentoring of investors (short / medium term) • Dissemination of international best practices and standards documentation (short / medium term)
Increase availability of follow on funding to promote scale up	Companies fail to scale due to lack of follow on funding from existing or new investors	<ul style="list-style-type: none"> • Increase networking (short / medium term) • Encourage syndication (short / medium term) • Investor education regarding lifetime funding of companies (short term) • Introduce CoFunds (long term)
DEMAND SIDE		
Increase demand for funding	Not all founders who would be suitable for equity investment apply due to: <ul style="list-style-type: none"> • Reluctant applicants • Discouraged applicants • Unprepared applicants 	Policy measures to address this will include: <ul style="list-style-type: none"> • Investment readiness programs, highlighting the benefits of equity finance (faster value growth) and explaining / demonstrating how equity investment works in practice, including founder success stories (short / medium term) • Improved signposting¹²⁰ (short / medium term)
Broaden range of industry sectors receiving funding	While patent activity in public research organizations has increased in recent years, this has not been matched by an increase in commercialization / spinouts	<ul style="list-style-type: none"> • Continue development and implementation of policies/programs that support research commercialization (short / medium term)

¹¹⁹ See Annex 7. Business Angel Trainings for nuances related to business angel trainings.

¹²⁰ Signposting refers to informational activities that guide startup founders on how to apply for funding.



SHORT-TERM RECOMMENDATION 1: DATA COLLECTION AND MAPPING

Effective policy recommendations should build upon a proper understanding of the existing and potential demand for and supply of funding.

Having a clear grasp of the demand for and supply of business angel investments requires regular, effective, and systematic data collection and analysis. Data collection and mapping addresses the lack of information about angel investments in the Czech Republic. Existing data for the early stage market on both the demand and supply sides in the Czech Republic is weak.

Activity 1.1: Supply-side data collection

Policy Objective

Develop baseline measure of market size and existing in-vestment activity

Priority level

High - precedes other recommendations and future policy development

Implementing partners¹²¹

Statistics Office, Technological Agency, private data service provider firms, NAA

Measuring the level of angel activity in any environment is difficult¹²², and in the Czech Republic this may well be particularly challenging.

The angel market is largely invisible and fragmented. There are no directories of angel investors and their investments are not recorded in any systematic way. Even where individuals may be known or thought to be angel investors details of their investments are usually not disclosed. Many angel investors will be unknown. Some of those individual and networks that are known may well exaggerate their actual level of activity (particularly networks seeking to recruit members to increase membership fee income or encourage more entrepreneurs to pay to apply for funding). Conversely, other investors may wish to stay 'invisible' and not disclose their investment activities so as not have to managed large numbers of unsolicited applications for funding.

Despite these challenges, the first priority for policymakers must be to develop time-series data on angel investment activity that parallels what already exists for the venture capital market.

Time series data helps provide an accurate measure of market size, investment activity and the types of investments being made. This is needed to identify the need for intervention and the impact of such intervention. An initial "baseline" analysis is required to establish the present situation, both to inform policy development (what problem needs to be addressed) and to facilitate future program monitoring (what success has been achieved). This data then needs to be updated annually. Caution must also be taken in deciding the data implementation partner and procedures¹²³.

An example of an angel market baseline assessment was undertaken by the New Zealand Government as part of the formation of their Seed CoFund¹²⁴ using survey interviews.

The purpose of the assessment was to "describe the then current state of New Zealand's angel investment market and analyze performance expectations of the Seed CoFund to use as a basis for subsequent evaluation". It included international benchmarking of angel investments. The angel data was largely collected by interviews. It is recognized that many angel investors share a desire for anonymity and may be unwilling to divulge information about their investment activities. Further, all inferences about the true and potential size of angel investment markets are based on guesswork, and there is no way of knowing whether a sample of angels is representative or not. Caution is therefore needed when drawing conclusions concerning an angel market. However, the New Zealand survey did provide useful information on deal size, number of investments, levels of syndication, industry sectors, and geographic location of investors and investee companies. During the interview process, more "invisible" investors became known to the survey as they were revealed as syndicate partners of the already known investors. A number of previously "invisible" syndicates were revealed. The survey also addressed the characteristics and motivations of New Zealand investors, enabling policy to be developed to help identify and motivate new potential investors. The interviews also revealed previously unappreciated barriers holding back angel activity.

¹²¹ The implementing partner is the delivery partner, and it is responsible for organizing and delegating tasks, as appropriate, to others they need to partner with. For example, the implementing partner may need to bring in specialists to devise the terms of reference, develop programs, assess potential delivery partners, etc.

¹²² See Annex 2. *Problems with Angel Data* for an explanation of the difficulties of developing reliable data relating to angel activity.

¹²³ For example, given that business angels are likely to be turned off by disclosing investment information to tax authorities, data collection may be conducted by independent and/or private service providers.

¹²⁴ Ministry of Economic Development. *Baseline Review of Angel Investment in New Zealand (Undertaken as Part of the Formation of the Seed Co-Investment Fund)*.

Table 13. Regular studies on business angel activities

Country	Studies	Link
Belgium	<ul style="list-style-type: none"> • Taking the pulse of the business angel market, Be Angels 2000 - 2015, Deloitte, 2015 • Be Angels annual report 2017 	www.beangels.com
Estonia	<ul style="list-style-type: none"> • Annual activity reviews, 2013 - 2017 	http://www.estban.ee/about/annual-reviews/2017
UK	<ul style="list-style-type: none"> • Taking the pulse of the Angel market, Deloitte, 2014 • A Nation of Angels, Assessing the impact of angel investing across the UK, ERC 2015 • Business Angel Spotlight, Research by IFF Research and RAND for BBB together with UK Business Angels November 2017 	

Other examples of regular general studies of countries' angel activities are available for Belgium, Estonia, and the UK. Table 13 provides information on these studies.

Obtaining information on angel investment activity in the Czech Republic will be problematic until the industry becomes more structured (e.g., when there are more formal networks). As a result, it may not be possible to obtain accurate and up-to-date data on angel investment for some time. However, it is likely that once a regular (annual) report begins to be prepared, data collection methods and participation rate will improve. Other potential policy interventions, such as support for BANs, CoFunds, and taxation incentives are also likely to provide access to better data.

Initial attempts for data collection should include the following indicators:

- Number of investments.
- Total value of investments.
- Average deal size.
- Form of investment (equity, debt, convertible note, etc.).
- Percentage of ownership taken by investors.
- Stage of company (pre-seed, seed, etc.).

- Split between initial and follow on investments.
- Number of individual investors in each deal (level of syndication).
- Detail of any co investment with venture capital and other funding sources (grants, bank loans etc.).
- Gender of investors (to measure female angel participation).
- If investors are part of a network / group.
- Industry sectors.
- Geographic location.
- Details of exits (positive and negative) would also be useful.

Apart from survey interviews, another plausible data collection method is compilation of secondary data sources. For example, an annual quantitative data collection and analysis on the angel market in Scotland has been commissioned by the Scottish Government since 2003 in the form of the Risk Capital Market in Scotland Annual Report¹²⁵. It is "intended to identify the contribution made by risk capital investment to business ventures in Scotland and to provide evidence for the development and evaluation of policies to stimulate the market". Unlike the previously mentioned reports, the data in the

¹²⁵ Young Company Finance, "The Risk Capital Market in Scotland: Annual Report 2016," (March 2017), <http://www.evaluationsonline.org.uk/evaluations/Documents.do?action=download&id=835&ui=basic>.

Scottish report is built from press reports, winners of grants and business plan competitions, pitching events, tenants of science parks and incubators, and companies supported by government departments and agencies. The Government's company registration database is checked for all these companies, to establish the dates of any returns indicating the issue or allotment of shares, which usually represent new investment.

Once some understanding of the existing levels of angel activity is gained, this can address questions related to the appropriate focus, and changing focus of policy, such as:

- The extent to which it is necessary to stimulate angel investing generally;
- Measures to encourage investment in particular sectors (e.g. life science);
- Measures to address regional shortfalls of funding (e.g., outside Prague);
- Measures to increase the effectiveness of investment, for example by encouraging increased syndication.

Further, up to date data on business angel activity can inform the effectiveness the individual policies are having in achieving the desired stimulation of the market. The availability of annual data also gives the opportunity to promote the industry through events and press reports.

Activity 1.2: Taxpayer base analysis

Policy Objective

Determine scale of potential angel investors

Priority level

High - precedes other recommendations and future policy development

Implementing partners

Statistics Office, Technological Agency, private data service provider firms, NAA

As part of the annual data collection process, an analysis of the tax base should be conducted to determine the number of individuals who appear to have a taxable income of a sufficient level to potentially engage as an angel investor. This data can be used to set reasonable expectations regarding the likely total pool of investors and create an estimate of their annual investment value. To ensure anonymity of these potential angel investors, individual names should not be recorded, and only the magnitude of this target pool and their average characteristics. For example, the taxpayer base analysis may take into account other demographics, such as age, educational base, and gender as these are all characteristics that tend to define the likelihood of an individual being an angel investor¹²⁶. While income levels are a reasonable initial indicator of potential capacity this measure alone is not sufficient. Early stage investing is extremely risky. International practice suggests that an investor should only invest amounts they can afford to lose entirely. A more accurate indicator therefore is marginal disposable income, quantified after deducting all living expenses, mortgage and loan payments, "safe" savings and investments, and pension contributions. Age may be considered as a high-level filter, as older individuals tend for example to have lower levels of family dependency. The analysis may also be split on a geographic basis to identify regions where specific shortfalls to potential demand may require additional policy intervention. The Statistics Office, Technological Agency, NAA, and other private data service providers could serve as implementation partners in this endeavor.

¹²⁶ See Annex 8. *Business Angels: Myths and Reality* for a review of angel characteristics

The data will inform the policies required to stimulate the total investment value estimated as needed from the demand side analysis. Different support structures and stimulus may be required to encourage equity crowdfunding investors and business angels. The UK Government, for example, while offering the same tax incentives to both equity crowdfunding investors and business angels have different requirements for different activities and types of investors reflecting their desire to offer higher protection to less sophisticated retail investors¹²⁷. Individuals with less than €10,000 a year to invest are likely to be best advised to consider equity crowdfunding or some form of pooled investment fund in order to be able to make the number of investments needed to adequately mitigate risk.

Consideration could be given to establishing a pooled investment fund structure similar to the UK Enterprise Investment Scheme (EIS) funds enabled by the UK Government¹²⁸. These are professionally managed funds essentially making “angel type” investments on behalf of passive investors and those who have insufficient funds to make direct investments themselves. The investors in the funds benefit from the same tax incentives as directly investing business angels.

Individuals with larger amounts to invest on a regular basis (say from €10,000 upwards), and who wish to be more active in the investment process should be encouraged to become a member of an angel network or group. Provided there are a sufficient number of members willing to syndicate in each deal, this level of investment capacity could allow an individual to build up the recommended 10 to 15 minimum investments over a 3 to 5 year period¹²⁹.

Geographic analysis of the tax base will help to identify whether there is a sufficient pool of individuals likely to have sufficient disposable income in a region to create the critical mass necessary for such a network to be sustainable. The ability to grow to 25 or more members is desirable, although this depends on individual investment capacity.

¹²⁷ Equity-based crowdfunding platforms are required to obtain a license or to have regulated activities managed by authorized parties. They are also required to have a screening process in order to sort sophisticated and non-sophisticated investors. A “non-sophisticated” investor is not allowed to invest more than 10 percent of their net investable asset through crowdfunding platforms.

¹²⁸ Syndicate Room, “What is an EIS fund?” <https://www.syndicatoroom.com/crowd-investing/eis-funds>.

¹²⁹ These minimum numbers will depend on the required deal size, which in turn will be dependent on local costs of developing a business, availability of follow on funding, co-funding, and the nature of the industry sectors.

¹³⁰ Maria Staszkiwicz and Daniela Havliková, “Czech Startups Report 2016.”

¹³¹ “The Risk Capital Market in Scotland: Annual Report <https://lincscot.co.uk/wp-content/uploads/2017/10/The-Risk-Capital-Market-in-Scotland-Annual-Report-2016.pdf>.

¹³² See: Czech Ministry of Trade and Industry and Deloitte Advisory s.r.o. Ex Ante Assessment of Financial Instruments of the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020, 2015.

Activity 1.3: Demand-side data collection

Policy Objective

Credible assessment of demand side needs

Priority level

High – precedes other recommendations and future policy development

Implementing partners

Statistics Office, Technological Agency, local intermediaries, private data service provider firms, NAA

The supply side data on angel funding needs to be complemented with an assessment of credible demand side needs. This needs to be on a deeper basis than for example the Czech Startups Report 2016¹³⁰, which was based on around 141 self-selected respondents to an online survey. This survey was open to all entities which identify themselves as startups, and there was no opportunity for them to be screened to determine for example their suitability for angel or venture capital investment. It would be appropriate for the Czech authorities to commission a more rigorous annual demand side survey. The Risk Capital Market report prepared for the Scottish Government serves as a good model¹³¹.

Available estimates¹³² of the equity financing gap need to be brought up-to-date based on current levels of e.g. entrepreneurial intention. These estimates also need to take into account the impact of the continuing expansion of business incubators and accelerators.

While available data and interview results suggest an over-concentration on the ICT sector, a policy focus on encouraging investment beyond the ICT sector will only be appropriate if analysis shows that there is likely to be investable deal flow to match the created demand. Given the finding that there are only a small number of good university spin-offs to which investments could be channeled (attributed in significant part to inability of public entities to support commercialization of plans in

research centers),¹³³ creating more available funding will in itself not be effective. The structural issues need to be addressed first to free the flow of investable companies, allowing appropriate structures and sources of funding to be developed to match the needs of these emerging companies.

While there is an apparent particular weakness of supply and demand outside the ICT sector, wider demand issues should not be ignored. While ICT investment is relatively strong, this does not mean it is at its full potential. It is appropriate to consider policy measures to increase the credible demand for finance in all sectors by stimulating various classes of inactive founders to apply for equity funding:

- **Reluctant applicants:** Founders who are equity averse, typically due to concerns of sharing control of the business. Policy measures to address this will include education, highlighting the benefits of equity finance (faster value growth) and explaining / demonstrating how equity investment works in practice, including founder success stories.
- **Discouraged applicants:** Founders who do not apply as they do not know how to or have fears of being rejected. Policy measures would include improved signposting.
- **Unprepared applicants:** Founders who wish to obtain funding, but do not have the skills or collateral (business plans, financial forecasts, pitch decks) to effectively apply, or who do not understand the real needs of investors (levels of growth required to achieve target rates of return). Policy measures include enhanced investor ready and investor engagement training and resources.

A proper market analysis will ascertain the extent to which each class of inactive founder represents a significant block on demand. Resources can then be appropriately allocated to address them, by founder class or geographically.

Specific areas of soft development support can also be identified. These might include addressing specific investor ready¹³⁴ issues (as opposed to the more traditional “investment readiness” programs), the need for improved promotion of angel investing as an investment class, or the introduction of training and support to “professionalize” the activities of local investors. Policies to support such activities are both simpler and less expensive to implement than, for example, tax incentive schemes or CoFunds, but may have significant impact on the volume and efficiency of angel activity.

Data collection and mapping summary

By bringing a detailed analysis of both the supply and demand side together, it will be possible to better determine the level and nature of interventions needed to bring the two into balance without unnecessary market distortions. Specifically, this section recommends the following:

- Commission time-series data on angel investment activity to be updated annually (similar to existing venture capital market data).
- Conduct a taxpayer base analysis on an annual basis to engage potential investors as business angels.
- Commission a demand side survey targeting startup founders/entrepreneurs on an annual basis.

¹³³ Czech Ministry of Trade and Industry and Deloitte Advisory s.r.o. Ex Ante Assessment of Financial Instruments of the Operational Programme Enterprise and Innovation for Competitiveness 2014-2020, 2015, page 53.

¹³⁴ The difference between investor ready and investment ready is set out in *Annex 6. Investor Readiness*.



**MEDIUM-TERM
RECOMMENDATION 2:
PROMOTION AND MARKET
STRUCTURING**

The development of an effective angel investment market is inhibited by the general lack of knowledge about the nature and operations of business angels. Significant misunderstanding exists regarding the typical profile of the individuals who become angel investors, the amounts they invest, the ages and stages of companies they invest in, and even their underlying motivations. Individuals do not know they can be an angel investor, or how to start. Founders do not know where to find them, whether their business is suitable for investment, or what is the best way to attract investment. Government face difficulties in engaging with an informal and largely invisible market. Few individuals who are active as angel investors have had access to training, support materials, or interaction with other angels to learn and develop best practice.

A number of governments have introduced policies to support the establishment and operation of a national umbrella organization designed to facilitate the development of a structured angel market. While each varies according to local circumstances, they all have the same general objective of increasing the number, capacity, and effectiveness of angel investors. In some well-developed markets, such as the US, national associations have been formed by existing (and often numerous) regional angel networks. The US Angel Capital Association (ACA) was initially funded by the charitable Kauffman Foundation as part of their mission to support entrepreneurship. Where angel investing is less developed it is appropriate for a national association to be seen as an economic delivery mechanism and, at least initially, be funded by government. The first national association, LINC Scotland, was formed in 1993 as an enterprise agency by the Scottish Government.

Activity 2.1: Launching a national angel association

Policy Objective

Increase number of business angels (market capacity), capability of angels, and connection between investors and founders

Priority level

High - precondition to address supply-side issues in angel investing

Implementing partners

Government (e.g., CzechInvest, Technological Agency, JIC), investing community

Launching a Czech NAA could help address supply-side issues, including: lack of information that one can be a business angel, lack of business angel-related skills and experience, and lack of visible business angels. A Czech NAA would help improve the efficiency and effectiveness of the existing market, improve coordination and linking of existing investors, provide better information, signposting, and accesses to training and international practices. CzechInvest, Czech Technological Agency and/or JIC may serve as implementation partner and possible host/incubator of the Czech NAA. Leveraging private sector players in the day-to-day operations of the NAA could reduce the risk of it being perceived as another government body or a bureaucratic body.

The Czech Government could seed fund the establishment of an NAA with the remit to facilitate an increase in the capacity and capability of business angels in Czech Republic. Its role would be to facilitate the development of the market through enabling frameworks, implementation support, information dissemination, knowledge transfer, and public policy development. It would have responsibility for identifying existing active angels and encouraging them to become more visible, of providing information and signposting to those wishing to become angel investors, and as a source of support. Support measures for angel investors include the provision of standard documentation, training materials, and links to other angels (domestic and international). Its task would be to increase the number of active angels investing in the Czech Republic, increase the amount invested by active investors, and increase the effectiveness of the investments made.

As a “market maker”, the NAA would not itself hold pitch events but rather direct potential investees to its members. Members would be made up of individual angels, angel funds networks, and syndicates. It would also signpost those wishing to become angels to those of its members looking to recruit new angels. It would have a specific objective of assisting the development of new angel networks and syndicates nationally. As such it would provide training advice and template documentation to individuals and organizations wishing to establish investment networks and syndicates. It would also have responsibility for promoting angel investment in the media.

The HBAN established by Enterprise Ireland in 2009 could serve as a good model for the NAA¹³⁵.

The HBAN model is relevant given the very early stage of development of the Czech angel market and the need for government financial support. The model allows the Government to set the framework, objectives, and targets, while delegating delivery to a private sector contractor who can be appointed on a rolling contract based on performance (HBAN is described in more detail in Case Study 1: HBAN Business Angel Network Ireland).

The Czech NAA could potentially become a member of BAE¹³⁶.

BAE is the European Confederation of Angel Investing, representing the European national business angel federations and trade associations. BAE works with national associations to promote the growth of the angel market in Europe. Its members include the national associations of the most developed angel markets in Europe, including Germany, France, Spain, and the UK. BAE can give practical support and guidance for the development of the Czech NAA.

Recommended tasks for NAA

Host awareness raising activities at government level

- Place angel investing at the core of enterprise and economic development thinking by increasing the profile and awareness of business angel investing amongst key decision makers.
- Host an annual high-level round-table event with ministers, senior officials, and advisers from the Government, and representatives from the business angel community. The theme of the events should be 'dialogue and discussion' (not lobbying/promotion) in order to develop a relationship of trust and commitment on both sides, and to inform strategic policy making.
- Host an annual meeting between economic development practitioners and active business angels to facilitate mutual understanding and help inform the practical design and delivery of economic development interventions on the supply and demand-side, ensuring those responsible for policy and execution are fully informed of business angel thinking and activities.
- Appoint a chairperson of the NAA to act as a national champion and recognizable figure head for the business angel community. The role would focus on raising the profile of business angel investing and providing expert advice to government.

Box 7. Examples of government endorsement of business angel's activity from the UK

Endorsement of angel investing from government can provide a useful signal that this form of investing is credible, legitimate, and appreciated as a driver of economic growth. Visible support from politicians encourages government agencies to consider the value and appropriate support for angel investment when developing policies and regulations.

The UK Prime Minister hosted a reception for over 100 representatives of the angel community around the UK in 2012. The Prime Minister emphasized that the Government was keen to hear the ideas from the angel community on what more could be done to support their role in the UK.

Also in 2012, the Scottish First Minister hosted a reception to mark the 20th anniversary of the Archangel angel group in Edinburgh castle.

In 2014 His Royal Highness The Duke of York initiated Pitch@Palace¹³⁷, introducing early stage companies to angel investors at St. James's Palace.

¹³⁵ For more information, see: <http://www.hban.org/>

¹³⁶ For more information, see: <http://www.businessangelseurope.com/AboutBAE/Pagine/default.aspx>

¹³⁷ For more information, see: <http://pitchatpalace.com/what-is-pitch-at-the-palace/>

Increase the number of Czech business angels

- Support the development of new BANs across the country. These may include networks linked to universities, incubators, and accelerators. This would include advice on how to set up, manage, and fund a new network, and training for network managers.
- Promote the idea of being a business angel to a wider audience, using promotional activities including a website with inspirational videos from active angel investors.
- Highlight success stories from both investors and founders.
- Aim to promote the idea that angel investing is normal, respectable, celebrated, appreciated, and "cool".
- Organize an annual Czech angel conference to promote networking and education of both demand and supply sides. Include high quality (well screened) pitching activities. Celebrate angel investing through award ceremonies for Angel of the Year, Deal of the Year, etc.

Box 8. Example of support to create an angel network: Scotland

LINC Scotland, the Scottish NAA, supported the establishment of the angel network Gabriel¹³⁸ at the University of Strathclyde business incubator. The network lists 16 investors. The network meets six times per year to consider pitches. The network focuses on the very early, pre-seed stages of a company's development. One idea is chosen to be invested in, nurtured, and supported through to the next level of investment, ideally within six to nine months. The selected firm gets a small investment (minimum £20,000), plus matching funding from Scottish Enterprise. The Strathclyde University Incubator, which also houses a larger number of companies that have not received investment from the Gabriel syndicate, provides physical space, business planning, financial projections, marketing strategy, administrative and secretarial support, and IP advice, as well as mentoring to ensure that the company stays focused on the benchmarks agreed at the outset of investment. The key focus is to prepare the company for follow on funding from larger angel syndicates of venture capital funds.

Box 9. Angel promotion

An example of an 'inspirational video' is "Angel Investing for You". It was prepared for the EC funded project Early Stage Investing Launchpad (ESIL). The video aims to encourage potential angels and further inspire existing angels to become active. It is delivered by a highly experienced angel investor who explains her motivation over the previous 15 years, and her recommendations of the best ways to get started.

Box 10. Example of angel celebration: Germany

A further example of celebrating angel activity is the German Business Angel Day, initiated in 2001. The 2018 event included a conference and exhibition held in the Hamburg Chamber of Commerce on June 17-18. Discussions by experienced angels covered best practice, deal stories and successful exits, current trends, and benchmarking of the German industry against international examples. Business angels and other early stage finance providers, service providers, commercialization offices, accelerators, and government agencies met for an exchange of ideas, networking, market evaluation and analysis, as well as for maintaining contacts. There was an exhibition area for companies seeking finance and a "Hotspot Tour" took place on June 16 ahead of the Business Angel Day in cooperation with Hamburg Invest and local accelerators to visit local companies and provide an impression of the investment opportunities in the region.

¹³⁸ For more information, see: <http://www.gabriel-is.com/>

¹³⁹ "ESIL-Angel Investing, is it for you?" YouTube. Video File. Feb. 14 2018. www.youtube.com/watch?v=p5oP7jwFGkE.

¹⁴⁰ ESIL is an EU funded project aiming to improve angel investment market. For more information, see: https://www.europeanesil.eu/About-us_a71.html.

Increase the capability and effectiveness of active angel investors

- Provide an angel training program with a focus on knowledge transfer on developing a diversified-portfolio and exit-focused investing.
- Develop a program of study visits for Czech business angels to engage with other successful business angel markets. The objective of the visits would be to develop relationships with other places internationally to both generate learning and potentially attract investment interest.

Support policy development by collecting market data

- Establish a 'Business Angel Monitor', seeking to capture all business angel investment, both the 'visible' market, and as far as appropriate the 'invisible' market.
- Publish an annual report on business angel investing in the Czech Republic, setting out the scale and nature of market activity, and highlighting 'success stories'.

Box 11. Examples of government endorsement of business angel's activity from the UK

The UK Business Angels Association, the UK NAA, provides an online training facility for its members¹⁴¹. The course is designed to give guidance and insights into the world of angel investing through experienced angels and professional experts, giving new angels a better understanding of how to back small businesses and helping them avoid common pitfalls and mistakes. Topics covered include:

- How to Approach Angel Investing;
- How to Develop a Comprehensive Investing Strategy;
- How to Choose the Right Business;
- How to Structure a Deal Correctly;
- How to do your Due Diligence and Research;
- How to Build an Effective Exit Strategy.

Box 12. Example of a study visit program: New Zealand

The New Zealand Angel Association, with sponsorship from New Zealand Trade & Enterprise, has for the past ten years provided financial support for up to 12 New Zealand angels to attend the American ACA annual summit. Organizing a group visit by a significant number of individual investors is seen as helping to build cooperation and common purpose within the New Zealand angel community. The objective is to assist New Zealand angels obtain access to best practice and experience, benchmark their own methodologies and practices, and make contacts who may be useful in assisting the international expansion of their portfolio companies. The 2018 ACA summit was held in Boston and included an international exchange workshop over half a day, attended by angels from 44 countries. In addition to attending the summit, the New Zealand Angel Association arranged meetings with well-known angels from the US and other countries, a tour of the MIT Label Free Research Group, and joined a TIE Scale-up pitch event¹⁴².

¹⁴¹ UK Business Angels Association, "Welcome to The Effective Angel Investor: How to get the most out of angel investing," <https://www.ukbaa.org.uk/effectiveangelinvestor/>.

¹⁴² A report by one of the New Zealand angels who took part is available at: www.angelassociation.co.nz/wp-content/uploads/2018/05/ACA-Trip-Report-2018-Phil-Southward-1.pdf

Box 13. Example of market data collection: Scotland

LINC Scotland, the Scottish Angel Association, publishes a monthly magazine Young Company Finance through its subsidiary LINC Scotland Ventures Ltd. The magazine provides news, comment, and analysis on the Scottish young company market. It lists details of investments (including available details of the company's activities, the names of the investors, the amount invested, and the advisors involved in the transaction), details of companies that have received innovation and other grants (a way of highlighting potential deal flow to investors), events, and investment exits. The June 2018 edition included details of a new digital development loan launched by the Scottish Government and an article highlighting the work of Strathclyde Universities Entrepreneurial Network (SEN), which comprises the University's extensive investment, commercialization, and enterprise activities. SEN is dedicated to helping students, staff, and alumni to launch new business ventures, commercialize research, and develop entrepreneurial skills.

Young Company Finance is published as a pdf, available on subscription from LINC Scotland Ventures Ltd, www.ycfscotland.co.uk.

Box 14. Example of publication of annual angel activity data

EstBan, the Estonian Angel Association, publishes an annual review of its activities¹⁴³. This highlights the growth of angel activity since the network was launched in 2013 with 25 individual members, to over 125 in 2017 who made a combined annual investment of €8.8 million. The report highlights the sectors invested in (39 percent ICT, 12 percent finance and business services, 11 percent creative industries); the investment by stage (57 percent initial investment, 42 percent follow on); the structure of the investments (61 percent equity, 33 percent convertible loan); and the stage of the companies (16 percent pre-seed, 13 percent seed, 41 percent early stage, 29 percent expansion, 1 percent buy-out). The 2018 report highlights that 87 percent of the deals done were by syndicates of investors, with just 13 percent of investors acting independently, a useful educational point. The report provides some motivation to new and existing angels, highlighting some exit data and profitable returns.

Build a national angel community

- The NAA should seek to build a national angel community by encouraging cooperation and syndication, reflecting the environment in the most effective angel markets. All angels and angel groups are encouraged to become members of the association and given free access to events and training resources. An advisory group could be established made up of representatives of business angel syndicates and high profile entrepreneurs. The role of the advisory group will be to provide feedback and advice to the NAA. Volunteer members would be appointed for a two year period. Within all of its activities the NAA would seek to be inclusive and supportive of angels in the Czech Republic, and not competitive or controlling.

¹⁴³ EstBAN, "EstBan 5 Years & 2017 Review!"

Box 15. Example of building an angel community: Scotland

LINC Scotland hosts and facilitates the Angel Lenders Forum (ALF)¹⁴⁴, a bimonthly meeting of the leaders of Scotland's angel networks and groups. The meeting is divided into two parts, with the first session being devoted to enabling organizations, such as local and government agencies, venture capital funds, and service providers with new products to present and engage with the Scottish angel community. It is not a forum for company pitches. The forum is regularly used by representatives of the UK Treasury and the Financial Conduct Authority to consult with the angel community over proposed legislative and tax changes. Scottish Enterprise uses it to brief angels on developments in economic support programs for SMEs.

The second, closed, session is used for the angels to exchange information on present developments in the market, and raise any concerns or opportunities. This engagement has fostered a strong attitude of mutual support and increased investment syndication.

Support the establishment of business angel networks

In developed markets, angel investing is evolving from a largely invisible market dominated by individuals and small ad hoc groups of investors who strive to keep a low profile to a more organized and professional market place in which angel syndicates (sometimes termed 'structured angel groups') are becoming increasingly significant. In such markets, new angels are now most likely to get involved through angel groups rather than via the influence of informal relationships, individual endeavor, or emerging online vehicles. 89 percent of US angel investors identify prospective investments through angel groups¹⁴⁵. The reliance on angel groups to discover investment opportunities is particularly prominent among angels who have less than two years of investing experience.

Angel networks have emerged because individual angels find advantages in working together. These advantages include better deal flow, superior evaluation and due diligence of investment opportunities, and the ability to make more and bigger investments, as well as social attractions. Groups typically range from 25 to 75 members.

Angels who are members of networks and groups invest more of their wealth than those who are not, invest in more individual companies¹⁴⁶, and

have the opportunity to increase their investment skills and to mitigate risk. Visible angel networks reduce the difficulty of connecting founders seeking capital to investors. Investments made by syndicates of angels in groups tend to be larger, have greater capacity for follow on, and come with a greater range of advice, mentoring, and other soft support. The availability of experienced angels in structured organizations provides a delivery mechanism for government support, such as CoFunds. The EC described support for creation of a BAN as an important precondition for co-investment schemes¹⁴⁷.

The Czech Government could provide initial funding support for the establishment of angel networks on a regional basis. Funding would be provided on the basis of competitive tender, provided for a limited period (say three years), subject to annual review against specific targets (such as member numbers, investments reviewed, investments completed), and provide a maximum of 50 percent of qualifying operating expenses. Examples of funding to support the operating costs of angel groups is provided by LINC Scotland (funded via ERDF support), the Belgium Government which funds 40 percent of the costs of BeAngels, and the Multilateral Investment Fund of the Inter-American Development Bank which funds the Xcala program that supports over 40 angel investors networks in Latin America and the Caribbean¹⁴⁸.

¹⁴⁴ For more information, see: <http://lincscot.co.uk/about-us/>

¹⁴⁵ For more information, see: <http://www.theamericanangel.org/access-full-report>

¹⁴⁶ A study of Italian angels showed that being a member of an angel community increases the amount of wealth of individuals who are willing to allocate to angel investing by up to 24% and BAN members tend to have a higher number of companies in their portfolio than non-BAN members (50% of BAN members had in excess of 5 investments compared to just 18% of non-BAN members). Stefano Bonini, Vincenzo Capizzi, Mario Valletta, Paola Zocchi, "Angel Network Affiliation and Business Angels' Investment Practices," *Journal of Corporate Finance* 50 (June 2018): 592-608.

¹⁴⁷ European Union, "Fostering business angel activities in support of SME growth."

¹⁴⁸ For more information, see: <http://xcala.org>

Help improve investment efficiency

- The NAA (following the examples of LINC Scotland and the National Angel Capital Organization of Canada (NACO)¹⁴⁹) could develop and publish standard deal documentation to help speed up deal completion, reduce legal costs, and promote international best practice. The standard NACO term sheets¹⁵⁰ are designed to develop standards that guide investors and founders to structure deals that align their interests, position the company for future investment and growth, protect the rights of each party, and reduce some of the friction inherent in negotiating deal terms.
- The NAA could assist in improving the investor readiness of Czech companies seeking funding by publishing guidance on how best to approach business angels, and examples of best practice pitch decks.

Box 16. Example of financial support for angel networks - Xcala

The aim of Xcala is to encourage the creation of angel investor networks as well as to professionalize management of the existing ones, helping to guarantee their survival, and economic sustainability.

To do so, it provides selected angel investors networks with: (i) training – on-site and online for investors, entrepreneurs, and network managers, (ii) partial subsidy for the development of networks; (iii) participation in specialized events for members of the region’s entrepreneurial and angel investment ecosystem; (iv) the *Angel Monitor*, a publication that promotes the main results of angel investment in the region and its features, and (v) privileged access to knowledge products and to the “angel network dashboard” to improve networks’ operations.

Selected networks must meet the following requirements: a) a minimum of 5 investors with an active participation within the network; b) in the spirit of the institution there is a mentoring vocation to support and assist entrepreneurs; c) investment amounts per project vary from \$10,000 and \$1,000,000; d) a methodology to capture new projects (“dealflow”) and/or spread their activities.

Financial help (a non refundable grant) consists of a partial subsidy of up to \$240,000, to be distributed over a maximum term of four years.

Box 17. Example of publication of annual angel activity data

Tech Coast Angels is one of the largest and most active angel organization in the US, with 300 members. Since its formation in 1997, members have invested \$180 million into 300 companies. They receive a large number of applications for funding from across the USA. To help improve the efficacy of their screening and investment process, they publish extensive advice for founders seeking angel funding. This includes detailed instructions on how to complete and use their standard pitch deck – 12 slides for 12 minutes of presentation and 12 minutes of questions.

1. Company Introduction
2. Identification of Problem
3. Solution/Technology
4. Features & Benefits
5. Business Model – Current Situation/your story and how you got here
6. Market Opportunity – Sales & Marketing
7. Competition – Feature Comparison Matrix, Barriers to Entry
8. Financial Projections
9. Management Team
10. Product Development Timeline – Milestones and Use of Funds
11. Market Validation, Testimonials, Press
12. Proposed Deal Terms – Valuation and Exit Strategy

Ensuring applicants hit all the areas considered important by investors significantly increases the applicants’ chances of success¹⁵¹.

¹⁴⁹ For more information, see: <https://www.nacocanada.com/cpages/home>

¹⁵⁰ For more information, see: <https://www.nacocanada.com/cpages/common-docs>

¹⁵¹ The presentation guide is freely available in the group’s web site: <https://www.techcoastangels.com/wp-content/uploads/2016/05/SDTCA-Presentation-Guide-2016.pdf>

Box 18. Example of an investment readiness program in the Western Balkans

A recent World Bank study provides evidence on the effectiveness of investment readiness programs¹⁵². The five-country randomized experiment in the Western Balkans (Croatia, Kosovo, FYR Macedonia, Montenegro, and Serbia) found that firms which participated in an intensive investment readiness program were scored higher in investment readiness by judges during a pitch event (based on team, technology, traction, market, progress and presentation) than firms that received an online program offering simple investment readiness concepts. These scores also predicted positive investment readiness and investment outcomes over the next two years, such as receiving more media mentions, social media attention, and external financing.

The investment readiness program was delivered by Pioneers JFDI GmbH (an Austrian firm experienced in providing personalized training and advice to small businesses in the region) and aimed to help founders become investor-ready (i.e., ready to attract and accept external equity financing) through tailored individual mentoring, master classes, and pitch trainings.

The intervention included:

- Individual mentoring: Firms were asked about customers, the solution/technology, business model, competitor analysis, market size, and financials which were used to match them to suitable mentors. These mentors involved a mix of traditional teachers and mentors (i.e. business consultants, university and business school professors), successful entrepreneurs (i.e. company CEOs), successful young enterprise investors (e.g. business angel investors, venture capitalists etc.), leading public speakers and pitch trainers, with expertise across different sectors and significant business mentoring experience. Mentoring sessions were conducted either by phone, video call, or on-site, lasting about 1.5 hours on average. Entrepreneurs received a total of 30 hours of mentoring.
- Master classes: Master class weekends (for 2.5 days) offered classes and lectures in four locations in key Western Balkan cities. Each master class weekend had a primary theme but also dealt with other topics related to general business education courses (e.g., sales, marketing, finances) as well as soft courses such as team building and body language. Examples of content included “research and networking” for the best business model, “rapid prototyping” (ideation to market validation), and “B2B marketing”.
- Pitch training: These aimed to help entrepreneurs prepare in the two weeks before their pitch day in front of independent judges. The training followed an iterative process: (i) entrepreneurs uploaded pitch decks for review by a mentor; (ii) pitch practice between entrepreneur and mentor through a video call with mentor feedback on pitch deck and initial oral performance; (iii) more pitch practice to review progress; (iv) assigning each entrepreneur two additional mentors to provide more feedback on latest pitch deck version; and (v) assessment of entrepreneurs’ preparedness based on mentors’ feedback. Entrepreneurs could request additional support on body language, slide deck design, and rhetoric with other specialists.

¹⁵² Ana Cusolito, Ernest Dautovic, and David McKenzie, “Can Government Intervention Make Firms More Investment-Ready? A Randomized Experiment in the Western Balkans,” World Bank Policy Research Working Paper 8541 (August 2018).

Activity 2.2: Self certification of business angels

Policy Objective

Increase number and effectiveness of business angels

Priority level

Medium

Implementing partners

Ministry of Finance (or another public financial authority)¹⁵³

A number of countries with developed financial markets seeks to protect inexperienced investors from potentially purchasing financial products / investments that are inappropriate for their circumstances or which they do not fully understand (sometimes referred to as “misselling”). It is often the case that advertisements for investment products (or “financial promotion”) must be reviewed and signed off by a person regulated (or authorized) by the local financial services control authority. That person takes responsibility for effectively “auditing” all claims and statements therein, in a similar manner to, and with the same level of resulting liability, to a formal perspective for the listing of a company on the stock market. Under many jurisdictions, a business plan by a startup is technically a “financial promotion”, which, in the absence of other provisions would need to be reviewed by a regulated person, a process that would likely be prohibitively expensive. This would severely limit the ability of companies seeking angel funding to distribute business plans. Other restrictions can relate to the amount a company can raise from private sources, or the number of investors it may have. Such restrictions can significantly inhibit the operation of an effective angel investment market.

It is appropriate that existing and any future proposed financial regulations within the Czech Republic be reviewed to identify any that may inadvertently be causing unnecessary restrictions on funding new companies. Where it is not possible to modify such regulation and to minimize its negative effect on angel investing, consideration should be given to providing a specific exemption from such regulation to angels meeting certain minimum criterion. Such individuals would be referred to as “certified business angels”.

As an example, the “certified business angels” regulation was introduced by the UK Government in 2000. Recognizing the importance of business angels to the development of the economy, the Government introduced specific provisions within the Financial Services and Markets Act 2000 that specifically enabled the distribution of “unauthorized” business plans to certain categories of investors. As a result of this legislation, the restriction on circulating financial promotions (business plans or business plan presentations / pitch decks) does not apply to those sent to a business angel association, or to a member of such an association. Membership of the association is deemed to provide reasonable grounds to believe that the members are wholly or predominantly certified high net worth individuals, or certified or self-certified “sophisticated” investors.

A certified high net worth individual under UK legislation has signed a declaration stating that s/he understands the risks involved in accepting promotions which are not authorized by the Financial Conduct Authority and that, during the financial year immediately preceding the date in which the certificate is signed, the individual had either (i) an income of not less than £100,000, or (ii) net assets to the value of not less than £250,000 (excluding principal residence and pension provision).

A certified sophisticated investor is an alternative qualification. Under this, the individual must sign an annual declaration stating that s/he understands the risks involved in accepting promotions which are not authorized by the Financial Conduct Authority and that s/he:

- has been a member of a network or syndicate of business angels for at least six months prior to the date of signing; or
- has made more than one investment in an unlisted company in the two years prior to the date of signing; or
- is working (or has worked in the two years prior to the date of signing) in a professional capacity in the private equity sector, or in the provision of finance for small and medium enterprises; or
- is (or has been in the two years prior to the date of signing) a director of a company with an annual turnover of more than £1 million.

¹⁵³ The legislation would need to be put in place by the ministry responsible for managing / controlling financial regulations. Once the legislation is in place, no ministry has to do any work since the process is “self-certification”.

The term “sophisticated investor” therefore relates only to an assessment that the individual is “sufficiently knowledgeable to understand the risks associated with that description of investment”. It is not a test or reflection of the individual’s experience or knowledge of the investment process or ability to make investment decisions. There is no necessity to demonstrate knowledge of valuation, due diligence, or deal structuring. It is a test considered equal to that of “certified high net worth individual”, which requires no experience of investing whatsoever, and is simply intended to allow individuals to receive unauthorized investment promotions. In the case of business angels, they receive business plans.

Thus, becoming a “certified business angel” merely means that they claim to understand that the investment they are going to look at is risky. They can receive financial promotions that have not been approved by a person authorized by the Financial Services Authority, and therefore the content of such financial promotions may not conform to rules issued by the Financial Services Authority. They are accepting that in relation to them “volunteering” to receive such Financial Promotions, they will not have any right to be able to complain to the Financial Services Authority or the Financial Ombudsman Scheme and have no right to seek compensation from the Financial Services Compensation Scheme.

Self-certification is considered adequate as, should they be misrepresenting their circumstances, the only person they are defrauding is themselves. Self-certification also means there is no need for government to be involved in the process. Thus, no cost is involved for the state.

A similar process operates in the US, where angels can declare that they qualify as an “accredited” investor. The thresholds are: (i) individual net worth or joint net worth with that person’s spouse at the time of his investment as an angel exceeds \$1,000,000 excluding the value of the primary residence, or (ii) an individual income in excess of \$200,000 in each of the two most recent years or joint income with that person’s spouse in excess of \$300,000 in each of those years and has a reasonable expectation of reaching the same income level in the current year.

Angel certification needs to only be introduced where the review of financial legislation reveals existing or potential blockages to a well operating angel investment market.

Potential policy measures such as CoFunds and tax relief do not need a certification process for business angels. Rather it is the nature of the activity, for example making an investment in a qualifying company, which triggers the tax benefit, not the nature of the individual making the investment.

It is not recommended that business angels be required to appear on a register. Angel investing is a personal and voluntary activity. Angel investors generally value their privacy and independence. The only country known to operate such a centralized register is Turkey. The requirement to appear on such a register is likely to put individuals off becoming an angel as such individuals often prefer anonymity. An unpublished paper recording the experiences of the ESIL project in developing angel capacity across European countries suggested that the needs for registration in Turkey was an inhibitor to effective market development.

Promotion and market structuring summary

In order to increase both the scale and effectiveness of business angels at the same time, this section recommends the following:

- Launching a Czech NAA (and potentially joining BAE).
- Introducing a self-certification system for business angels in the Czech Republic.



**LONG-TERM
RECOMMENDATION A:
COFUNDS**

Policy Objective

Increase the number of business angels. Encourage them to invest in a broader range of sectors. Increase availability of follow on funding

Priority level

Low - there are important pre-requisites that need to be established first, such as information flow, an existing level of angel activity, and conducive legal framework conditions for equity financing

Implementing partners

Ministry of Finance (or another public financial authority); NAA

There is increasing use of CoFunds by governments to stimulate business angel investing and other forms of early-stage investing. The EBAN 2016 compendium of CoFunds¹⁵⁴ lists details of these funds in 22 European countries.

CoFunds have been described as providing 'stretch funding' to enable more rapid access to larger amounts of funding in conditions where there is an equity gap. Although the specifics will depend upon local circumstances and policy objectives, CoFunds tend to operate by matching funds in deal sizes ranging from €56,000 up to €2.3 million.

CoFunds are also being used to stimulate behavioral changes in current and potential investors. CoFunds are seen as a potential tool to encourage more individuals to become angel investors, and for existing investors to invest more because they lower the risk of investments by allowing more investments to be made and providing portfolio diversification.

A critical characteristic of these funds is that they co-invest at the level of the individual deal, not at the fund level. In this regard, they differ significantly from existing or previously proposed funds in the Czech Republic. Co-investing at the deal level means that the fund and the private sector invest in the same company at the same time. A private sector investment into a fund that was otherwise financed by the public sector (the EIF, for example) would not normally be considered a CoFund¹⁵⁵. The EC identified a key success factor for CoFunds as participation at the 'deal level', not at the 'fund level'¹⁵⁶. Co-financing schemes where private investors can participate only at the 'fund level' have been found to be less attractive for private investors who wished to be actively involved with the companies.

The primary objective of CoFunds depends on the level of development of the local market. In an undeveloped market, the primary objective is likely to be to seek to create an angel investment market where previously there was none¹⁵⁷.

A CoFund for the Czech Republic would likely be targeted at addressing the existing general lack of market capacity and follow on funding and encouraging investments in less-invested sectors or geographic locations. Introducing a CoFund in the Czech Republic can encourage more individuals to become angel investors, and for existing investors to invest more because they lower their risk by allowing more investments to be made and providing portfolio diversification. This is recommended once the earlier short- and medium-term recommendations are implemented and data collected. Based on OECD recommendations, such a CoFund will be appropriate once there is at least a minimal level of existing angel activity¹⁵⁸ for the fund to engage with.

¹⁵⁴ EBAN, "Compendium of Co-investment Funds with Business Angels 2016," (2017).

¹⁵⁵ It is common for EIF and other public sector-financed funds to require an element of private sector matching funding. This matching funding at a fund level would not normally be referred to as a CoFund.

¹⁵⁶ European Union, "Fostering business angel activities in support of SME growth."

¹⁵⁷ If the primary objective is to provide funding to startups it is likely that a simple standard (non-CoFund) structure would be used.

¹⁵⁸ OECD, "Financing High-Growth Firms: The Role Of Angel Investors."

The timing and form of a CoFund for the Czech Republic will also be informed by the outcome of the data collection and mapping process, the ongoing assessment of market development needs, the budget available, and legal framework analyses on equity financing. The CoFund can be introduced once structures are in place (i.e., NAA) to provide wider market development work and support to ensure that the CoFund has suitable partners to co-invest with. It is likely however that the fund structure will be similar to that adopted presently in Northern Ireland, where a professional fund manager is tasked with conducting at least a detailed review of the angel co-investors due diligence and proposed deal structure. It is likely to be some years before there is a sufficient base of lead angel investors or structures angel groups to allow the effective adoption of the delegated Scottish co-fund model. A more detailed description of the operation of CoFunds is provided in **Annex 5. Operation of CoFunds**. Moreover, while not the scope of this report, deeper legal assessment should be conducted and appropriate measures enacted to ensure successful implementation of a CoFund.

Given the existing dominance of individual “super angels” in the Czech market it is likely that the primary purpose of a Czech CoFund could be to stimulate new angel investors to enter the market rather than to provide additional funds to the existing established investors. The intention will be to significantly broaden the base of angel investors in the Czech Republic and encourage increased syndication. For this reason, the structure of funds used by the EIF’s European Angels Fund (EAF)¹⁵⁹ is unlikely to be suitable. The EAF operates in developed investment markets (presently Austria, Denmark, Finland, Germany, Ireland, the Netherlands, and Spain). It co-invests with pre-selected individual angels, who must be able to demonstrate adequate experience and a track record of successful investments. This is difficult to do with new investors, given that it is likely to take up to 8 or more years to archive a demonstrable “success”.

The Northern Ireland model may be an appropriate basis for the Czech Republic fund (see Case Study 4: Invest NI CoFund). Launched by Invest Northern Ireland in June 2011 with initial capital of £7.2 million (increased to £12.5 million in 2014), the NI CoFund is managed by an independent professional fund manager (following tendering processes). The model requires that deals are sourced and structured by business angels and then taken to the fund for co-investment. In a relatively undeveloped local angel market the fund manager provides assistance and support, where required, to help facilitate the investment process but without leading deals and making investment recommendations. Specifically, the fund manager:

- Assists private investors with setting out term sheets, discussing valuation principles, and providing guidance on due diligence and the investment process. The fund does not do its own due diligence, but expects all due diligence done by the angels to be shared. The fund manager will comment on these documents and guide suggested additional work.
- Works with firms and investors post-investment to plan for follow on investment rounds.

This is intended to provide education and encouragement to new business angels, as well as the benefits of additional investment cash. The fund can provide up to 50 percent of the total funding requirement of each round of funding. This therefore requires equal participation from private investors in each deal.

It may be appropriate to focus the Czech fund on sectors other than ICT which appears relatedly well provided for at present. The fund could also be specifically targeted at the earliest stages of funding, particularly the knowledge creation, idea generation, prototype development, and market demonstration stages. Further, it may be appropriate to broaden the scope of investments outside Prague in order to spread the benefits of economic development regionally.

¹⁵⁹ For more information, see: http://www.eif.org/what_we_do/equity/eaf/index.htm



**LONG-TERM
RECOMMENDATION B: TAX
INCENTIVIZATION**

Policy Objective

Increase the number of business angels. Encourage angels to invest in a broader range of sectors

Priority level

Low - there are important pre-requisites that needs to be established first, such as information flow, a conducive risk-taking culture, and conducive legal framework conditions for equity financing

Implementing partners

Ministry of Finance

The tax structure is being used by many countries to encourage individuals to take on the additional investment risks of being a business angel. The EC recently published a report looking at best practices in tax incentive programs for investors in 36 countries¹⁶⁰ from within Europe and the OECD. The report concluded that the tax treatment of capital gains or losses realized on disposal of an investment will influence the risk appetite and decision-making process of a prospective investor. For instance, tax relief for capital gains or the provision of loss relief on a more favorable basis than the baseline tax system could support the de-risking of investments in young, growing, and innovative businesses.

Investment tax incentives typically offer investors some combination of up-front tax benefit, relief on income generated over the life of the investment, and relief on gains realized upon disposal of the investment. However, the specifics of how these schemes operate, and who can access them, vary considerably from country to country.

Introducing a tax incentive scheme targeting angel investors addresses lack of market capacity by encouraging wider participation in angel investing. The objective is to change investor behavior, motivating them to invest in high growth potential companies that may have a disproportionate positive impact on economic growth, as an alternative to relatively safe investments (e.g., stock market, real-estate, etc.).

Tax incentivization is considered an appropriate government policy given the exceptionally high risks involved in early stage investing. Up to 70 percent of angel investments in the US result in a loss to the investor¹⁶¹.

Policies such as tax incentivization can, however, only be fully effective within a functioning investment ecosystem. It is not appropriate to launch a tax incentive program until the foundations of such an ecosystem have been put in place. Thus, it is recommended that this policy be implemented once the necessary data collection and market analysis has been completed. This is to ensure that the tax incentive is structured in an optimum manner to attract a sufficient level of funding to match credible demand, and that it is targeted at the most appropriate industry's sectors (likely to be knowledge-intensive firms) and stages of development (seed and startup).

It is recommended that the introduction of a tax incentive scheme be preceded by a period of preparation. Preparation includes the general promotion of angel investment and the facilitation of education of potential new investors to enable them to make informed investment decisions. It is appropriate to try and ensure that those encouraged by the tax incentive to make investments have some knowledge and understanding of the process. The danger is that without sufficient preparation a tax incentive will encourage "dumb money" to enter the market, resulting in inappropriate investments being made and potentially significantly distorting the market. The result could be a significant level of financial loss by investors, resulting in angel investing in general receiving a bad reputation, setting back efforts to increase its economic impact.

An incentive at the time of initial investment is likely to be the most effective at addressing new investor risk aversion. This is because the amount and timing of the tax credit is more certain for the investor. Tax relief on income generated during the holding period is less relevant in the context of venture capital and business angel investments in startups, which may not generate any income in the earlier stages and so be unable to pay dividends.

¹⁶⁰ PricewaterhouseCoopers LLP (PwC), "Effectiveness of tax incentives for venture capital and business angels to foster the investment of SMEs and start-ups," Institute for Advanced Studies (2017).

¹⁶¹ Robert E. Wiltbank and Wade T. Brooks, "Tracking Angel Returns," Angel Resource Institute (2016), <https://angelresourceinstitute.org/reports/angel-returns-full-version-2016.pdf>.

The primary financial objective of most angel investors is to significantly grow the capital value of a business, which will result in a capital gain on exit. Therefore, the capital gains tax treatment of an investment will influence the risk appetite of a prospective investor. For instance, tax relief for capital gains or the provision of loss relief on a more favorable basis than the baseline tax system can support the de-risking of investments in young, growing, and innovative businesses. Tax incentives reduce the effective marginal cost of investing in smaller companies. As a result, in theory, more investors should be willing to supply more capital to smaller companies. An incentive provided via the tax system may be seen as similar to an incentive provided through a grant program to influence the behavior of companies to invest in activities they might otherwise consider too risky.

Consideration may be given to specifically using a tax incentive to encourage angel investors to diversify their investments into areas other than ICT, and in particular to fund commercialization of institutional research. A model for this would be the UK Government's focus of tax incentives on "knowledge-intensive firms", those which are R&D intensive, defined collectively in terms of the amount spent by the company on R&D, the number of patents held, and the academic qualifications of its staff¹⁶².

The EC report sets out a set of "good practice" design features for tax incentive schemes¹⁶³. These include:

- Upfront (at time of investment) relief granted to eligible investors.
- Relief on capital gains.
- Loss relief granted to eligible investors on more favorable terms than the baseline tax system.
- Targeting genuinely "high risk" high growth potential companies.
- Targeting equity investment.
- Restricting eligibility to the issue of new shares by the company.

There are few independent assessments of the impact tax incentives have had on stimulating angel investment. Much seems to depend on the structure of the tax incentive, the nature and form of the local investment environment, the effectiveness of the policy introduction, and the length of time of operation. An assessment of the UK Enterprise Investment Scheme (EIS), a tax incentive ranked in the top five in the EC report, suggested that up to 87 percent of the finance provided through EIS is "additional", i.e. would not have been invested anyway¹⁶⁴. This suggests that, assuming a tax incentive of 30 percent of the amount invested, a tax cost of €30,000 on an investment of €100,000 results in up to €87,000 of investment that would otherwise not have been made, a leverage of 2.90. A more recent study suggested that 60 percent of companies would not have been able to secure funding without the existence of the tax incentive scheme¹⁶⁵.

Whenever tax incentives are considered, there will be concerns regarding their 'cost' to the government, both in terms of the timing of cash receipts and potential overall loss of tax revenues. The specific impact will depend upon the design structure of each individual scheme, and such costs will need to be monitored to ensure the cost / reward is appropriate. A report prepared by accountancy firm Mazars for FNABA, the Portuguese National Angel Association¹⁶⁶ suggests that, depending on the scheme design and the timing of providing the tax credits to investors, cash flow for government could be positively impacted (i.e., by the time the tax credit is taken by the investor, resulting in the investor paying less tax, the Government may have already received a cash inflow from additional payroll and value added tax greater than the value of the tax credit given).

The specifics of how tax incentives are structured and operate, and who can access them, vary considerably from country to country. While the EC report includes a "top five" tax incentive scheme list (see Box 19), it is important that any scheme for the Czech Republic takes account of the existing tax structure and the specific market needs identified following the data collection. The "top five" are dominated by schemes that offer upfront tax relief on the amount invested. This shows the importance of

¹⁶² A description of the UK government's knowledge intensive company policy is provided in *Annex 9. Knowledge-intensive firms*.

¹⁶³ PricewaterhouseCoopers LLP (PwC), "Effectiveness of tax incentives for venture capital and business angels to foster the investment of SMEs and start-ups," Institute for Advanced Studies (2017), page 12.

¹⁶⁴ Nic Boyns, Mark Cox, Rod Spiers and Alan Hughes, "Research into the Enterprise Investment Scheme and Venture Capital Trusts," PACEC (April 2003).

¹⁶⁵ Matt Colahan, et al, "The use and impact of venture capital schemes," Ipsos Mori (February 2016), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/497288/Venture_Capital_Schemes_report_v11_PUBLICATION.pdf.

¹⁶⁶ Mazars, "Study on the impact on the State Fiscal Revenue of tax incentive of 30% granted to Business Angels' investments," FNBA (November 2011), http://www.eban.org/wp-content/uploads/2013/09/Study_Mazars_Tax_Break_30-2011_English_Final.pdf.

subsidizing the cost of initial investment in order to influence investor risk aversion. Conversely, the high probability of failure of such investments, resulting in no capital return, never mind a gain, makes offering tax relief on investment returns much less effective. The “top five” are also mostly schemes that target direct investment in SMEs and startups, rather than indirect investment through a fund structure. This reflects the desirability of encouraging active “hands on” investors able to provide expertise to companies, not just cash (and recognizing that most angel investors want a direct say in making investment decisions, rather than these being left to a fund manager).

The introduction of tax incentives should be seen as part of, and integrated with, the wider policy mix for supporting business angel development.

The specifics of implementing a tax policy should be based upon the outcome of the following preliminary work:

1. Collect data to measure, as much as possible, the funding gap.
2. Use publicity, national angel organizations, and other soft measures to increase investment.
3. Organize angels to invest in groups, as those in groups invest more.
4. Use a national association and others to educate the investors so that they make wise and more effective investment decisions.

5. Once the impact of these soft measures is known, and the remaining gaps in meeting funding demand identified, a tax incentive to address these gaps can be considered and designed.

The existing provisions of the Czech tax system may restrict the options available to provide incentives to invest in targeted high risk companies. For example, capital gains on disposal of any securities are tax-free after the securities have been held more than three years. This removes the option, as used for example in the UK, of promoting investments in high risk companies by providing a tax relief on holding a security for three years only on such high risk companies. A starting point for the Czech Republic could be to consider allowing any capital losses from the sale (or closure) of securities in a high risk company to be offset against income. At the present time, such losses can only be offset against gains from sale of other securities and cannot be carried forward. Given that there is no tax on gains on securities held for more than three years, there seems little opportunity for a business angel investor to offset losses in the Czech Republic.

Finally, the introduction of a tax incentive should be supported with an extensive awareness raising campaign highlighting the existence and benefits of the tax incentives. This should be run in cooperation with the BAA and legal, financial, and accounting professional bodies.

Box 19. European Commission’s top five tax incentives scheme

Rank	Scheme	Country
1	Seed Enterprise Investment Scheme	UK
2	Enterprise Investment scheme	UK
3	“Madelin” tax reductions	France
4	Social Investment Tax Relief	UK
5	Venture Capital Trust	UK
6	“INVEST” - Venture Capital Grant (see Case Study 8)	Germany

Source: PricewaterhouseCoopers LLP (PwC), “Effectiveness of tax incentives for venture capital and business angels to foster the investment of SMEs and start-ups,” Institute for Advanced Studies (2017).

Alternatives to tax incentives

The introduction of any form of tax incentives can be politically difficult. While the ultimate beneficiary of a tax incentive for investment is the economy (as a result of increased numbers of high growth potential startups), this can be difficult to explain to an electorate who may rather perceive a tax benefit for “rich people”. The Government is also likely to resist adding complexity to the tax code. This may be a particular factor in countries such as the Czech Republic which operates a relatively simple flat rate tax structure with minimal allowances. This reluctance to add complexity may at least partially account for the lack of examples of tax incentives within the CEE region. Of the EU-15 Member States¹⁶⁷ nine operate tax incentives, compared to just three of the remaining EU-13 Member States¹⁶⁸ (i.e., Malta, Poland, and Slovenia—none of these were identified in the top five as good practice examples by the EC). It may also be that the EU-13 countries tend to try and support investment in other ways, such as subsidies or loan guarantees (loan guarantees may not however be particularly effective in supporting high growth potential technical companies for whom equity is the more appropriate form of funding).

Using the tax code to provide an investment structure may be considered too complex for public authorities. It is also not a policy lever available to economic development agencies or regional / city government which do not have influence over the tax regulations. An alternative would be to introduce an angel investment grant. This would provide a grant payment to an investor who makes a qualifying investment, rather in the same way as a company might receive a grant in return for incurring certain expenditure, for example on R&D. The grant can be highly targeted, for example only relating to “life science companies based outside Prague” or “only for companies at a pre-revenue stage”. The cost of such a grant program can be controlled by setting an annual budget.

An example of such a grant scheme is the INVEST grant introduced in 2013 by the German Government for business angel capital. This grant is described in Case Study 8: INVEST - Grant for Business Angel Capital. It provides a non-repayable,

tax free grant of 20 percent of the value of an investment into a qualifying company by an angel investor, on investments of a minimum of €10,000 and up to €500,000. The maximum grant per individual per year is €100,000. The investment must be held for a minimum of three years before exiting (otherwise it is repayable). In addition, there is an exit grant, consisting of a non-repayable tax-free grant of 25 percent of the profit earned on an exit. This grant effectively repaid the capital gains tax that would be due under German tax law.

The use of a grant structure may be seen as much simpler to implement and manage. It could be implemented on a trial basis more easily than changes to the tax code, and its budget could be controlled by setting a maximum amount that all angels could claim in a year (allocated on a first come first served basis), although this might discourage investment after the year’s allocation has been paid out and before the beginning of the next year’s allocation. It could be paid for from existing budgets by reallocating existing grant programs that do not achieve the same public / private leverage to companies (if the grant value is set at 20 percent of the investment, every €20,000 of grant would be leveraging in €80,000 of private funding), something not likely achieved by existing conventional grants. Alternatively, it may be possible to provide the grant out of as yet unallocated ERDF.

It is also appropriate to ensure a proper analysis is used to target the most appropriate market failures to be addressed. Tax incentive schemes only provide additional investment when the investment would not have taken place in the absence of the tax relief. It is therefore appropriate for government to analyze which sectors and geographies they particularly wish to target. For example, if the level of investment already going into ICT companies is considered adequate, it would be appropriate to exclude such investment from the tax advantage. Similarly, it may be considered appropriate to provide tax incentives only for those investments happening in geographic regions that are particularly starved of funding. A precedent for this already exists within the Czech Republic, where certain economic development programs are not operated in the city of Prague.

¹⁶⁷ EU-15 refers to the pre-2004 Member States: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, United Kingdom, Austria, Finland, and Sweden.

¹⁶⁸ EU-13 refers to the following 13 Member States that joined the EU after 2004: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia.



Long term recommendation summary

In order to increase the number of business angels and encourage angels to invest in a broader range of sectors, this section recommends the following options for consideration:

- Establishing CoFunds.
- Implementing tax incentivization schemes for angel investors.

ANNEX 1

LITERATURE REVIEW ON BUSINESS ANGEL DEVELOPMENT

The review of published literature revealed much support for governments to introduce policies and incentives to encourage business angel activity. Examples of advocated policies include tax incentives, CoFunds, and financial support for angel networks, although there appears to be little practical advice on how to begin implementation, or the considerations to be made as to the timing, sequencing, and localization of the differing options. As an example, Chapter 4 of the 2011 OECD publication "Financing High-Growth Firms: the Role of Angel Investors" is entitled "The Role of Policy in Facilitating Angel Investment". The chapter describes a number of policy interventions on the supply side (policy interventions (tax incentives, CoFunds support to angel associations, networks, and groups, training and development of angel investors) and the demand side (investment readiness). The report notes (page 120) however that: *"there needs to be some level of organized angel activity, in the form of groups, networks, or very active individual angel investors, before certain policy measures can be a catalyst for further developing the market"*. In relation to specific policies (page 127): *"once a functioning angel market has been established, coinvestment funds can help in leveraging and encouraging more private investment"*.

What appears to be missing from the literature is a "how-to" manual to guide the initial actions to start the process of creating that required "functioning angel market".

There appears also to be very little literature relating specifically to "developing" or "emerging" angel markets. This is perhaps not surprising given that in order for something to be studied it needs to be identifiable and quantifiable. Thus the majority of studies have focused on the UK (Scotland in particular) and the US.

The majority of policies reported in the literature have evolved in what are now developed markets. The OECD paper included interviews with individuals drawn from 32 countries but included no angels from Eastern Europe. The 2016 publication "Angels without Borders" includes entries from 26 countries setting out how policies and programs are supporting angel investing activities within their nations. None were from Eastern Europe. While the book provides descriptions of the angel markets within these countries as they exist today there is no description of how they evolved to their present state or information on how the journey to a developed market was begun or what interventions worked and which did not.

Academic research initially focused on addressing issues such as “how large is the business angel market” and tried to characterize the behaviors of angel investors (attitudes, behavior). Later studies turned to trying to understand how angels make decisions and to assess the impact of specific government interventions (for example, tax policy). There are numerous academic papers reporting on studies of what angels do and how they make decisions. The 2016 publication “Handbook of Research on Business Angels”¹⁶⁹ brings together no less than 14 research papers yet provides little in the way of practical “how to” advice. For example, in the chapter looking specifically at BANs it concludes that “research on BANs is scarce and concentrates on assessing whether the government should support BAN activity (financially)”. There is no guidance as to which BAN structures work most effectively in differing circumstances, how to finance a BAN, operate one effectively, or any other practical information.

The World Bank has produced a practical guide “Creating Your Own Angel Investor Group”¹⁷⁰ aimed at “emerging and frontier markets”. It is based on the Kauffman Foundation’s 2004 publication, “A Guidebook to Developing the Right Angel Organization for Your Community”, which was crafted for a U.S. audience. The World Bank publication is designed to address the additional challenges that angels face outside the U.S., particularly in emerging economies. In this guide, “angel group”, “angel network”, and “angel organization” are used interchangeably. The guide contains many insights into a wide range of practical topics, from carrying out initial community assessments to see if an angel group is appropriate to group structuring and day to day operation.

High level lessons from publications

Need for flexibility

A common theme that emerges from the literature on developing angel activities is that there is no “one-size-fits-all solution” approach or set menu of interventions. The World Bank guide highlights that in establishing angel organizations a diversity of models and structures have been successful worldwide.

It is essential that each intervention into each country is tailored to the specific needs and wishes of that individual group of investors, as well as local regulation, custom, and culture that may influence structure and day-to-day operations.

Attracting and working with the “right” people

There is a trade-off between encouraging the development of the angel market and attracting too many people who are not really angel investors. Angel networks that are not initiated by a credible local champion, who is an investor, are rarely successful. The need for the initiative to be led by the private sector was highlighted in the OECD report: “One of the key success factors for the development of associations, networks, and groups identified during the interviews, was initiation by local private players. It is difficult for the government and also for well-intentioned foreigners from outside a country or region to “create” an angel market without leadership from local private angel investors.”¹⁷¹

A report on a recent EU funded project¹⁷² to develop angel capacity in Europe commented on the existence in a number of countries of what it referred to as “empty networks”. These networks had been started by individuals who themselves were not investors but thought there might be an opportunity to make money running a network or that it might be otherwise beneficial to run a club for “rich people”. These networks often attract service providers and other non-investors as members.

¹⁶⁹ Handbook of Research on Business Angels, Edited by Hans Landstrom and Colin Mason, Edward Elgar publishing, 2016.

¹⁷⁰ Creating Your Own Angel Investor Group: The World Bank, 2014. https://www.infodev.org/infodev-files/angelgroups_guidbook_final_0.pdf

¹⁷¹ OECD (2011), Financing High-Growth Firms: The Role of Angel Investors, OECD Publishing. <http://dx.doi.org/10.1787/9789264118782-en>

¹⁷² ESIL, Unleashing the potential of early stage investing in Europe, Consolidate Lessons Learnt From Existing Research and On the Ground Experiences, Prepared by LINC Scotland Ventures Limited, May 2017.

Some claim the title to be the NAA of a country. Unfortunately, the nature of the membership is off-putting to genuine potential investors, who often not only don't join, but are discouraged from being an angel investor altogether.

The report recommended that before engaging with a local organization to act as the angel development champion in any country, a thorough investigation must be made to ensure that that organization has a good local reputation and does represent actual angel investors. Specific data on number of members, number and nature of investments made, number of active members etc. should be collected.

Format of angel organizations

There seems to be general agreement that angels operating in a collective, organized manner are more effective than those acting as individuals. One study suggests that being a member of an angel community increases the share of wealth invested by between 16 percent and 30 percent¹⁷³. Such organized angels tend to have access to a higher number of better deals, a more efficient deal screening processes, can make a larger number of individual deals so spreading risk, and can learn from experienced angel investors. There are however many different models of angel organization, including:

- One-off syndicates of two or more individuals.
- BANs, some of which are only introduction services, and some of which provide significant additional services to members.
- Business angel groups - private clubs of individuals who repeatedly invest together.

There are advantages and disadvantages to each form of organization, and within each form individual entities can have significant variation in operation. The key is to help local investors find the model that best fits their personal objectives and local conditions. Policy proposals need to be aware of and cater for the different options for angel organizations and be able to assist in selection and establishment of the most appropriate for local circumstance.

Inhibitors to developing angel investment

It is important to consider the specific local environmental factors that may be inhibiting local angel activity before developing policy. These are likely to vary not just from county to country, but between regions within countries. For example, four regional based CoFunds operate within the UK, reflecting the differing levels of angel development in these regions. Potential barriers will include:

- People factors;
- Government and politics;
- Access to opportunities;
- Legal framework;
- Economic situation;
- The entrepreneurial ecosystem.

The importance of each factor will differ in each country. An example of the different rankings of implementation challenges in some Asian countries (taken from a presentation to the World Bank¹⁷⁴) is shown in Figure 10 below.

A holistic approach

It is clear that developing an angel community cannot be done in isolation, but requires the development of entrepreneurial activity, and critically the "right type" of entrepreneurial activity. It also requires the development of the support community (lawyers, accountants, BDOs etc.). This needs to be a coordinated and integrated activity, and it needs to evolve a structure and focus as the local market evolves and develops. Policy implementation must therefore include actions to develop not only angel activity (the supply side) but also the demand side (deal flow) and the support side (particularly those looking to provide support and advice to entrepreneurs).

Problems with the demand side (e.g., availability of quality investable deal flow) is seen as the most significant inhibitor to the development of sustainable angel activity, with concerns over this far exceeding any other issue (such as angel training or network organization).

¹⁷³ Stefano Bonini, Vincenzo Capizzi, Mario Valletta, Paola Zocchi, "Angel Network Affiliation and Business Angels' Investment Practices," *Journal of Corporate Finance* 50 (June 2018): 592-608.

¹⁷⁴ A Journey Of Discovery: Business Angel Investing In Emerging Markets, Professor Richard T Harrison, University of Edinburgh Business School, presentation to World Bank, Washington, May 2016.

Figure 10. Angel program implementation challenges in Asia

Importance	Philippines	Thailand	Malaysia	Vietnam
1	Convince foreigners to invest	Competitive business environment	Weak deal flow	Weak shareholder protection
2	Finding the right people	Unstable political environment	Undeveloped entrepreneurial ecosystem	Government corruption
3	Finding opportunities	High financial risks increase costs	Inexperienced entrepreneurs	Unprofessional entrepreneurs and board members
4	Poor economic performance	Weak legal framework	Weak shareholder protection	Takes time to restructure a business

“The critical make or break issue going forward is that of deal flow quality. While technical skills for the angels and the group managers are important, without a steady flow of interesting investment opportunities the members are likely to become disillusioned and leave the groups. Without exciting investment opportunities no group is sustainable.”¹⁷⁵

Angel investing thus depends on good deal flow. Without interesting companies and exciting investment opportunities, enthusiasm among new angels can quickly dissipate. The lack of proper preparation of entrepreneurs and their inability to effectively engage investors contributes to a perception of poor quality ‘deal flow’, leading to the disengagement of new angel investors. It is appropriate therefore for policy to address issues of deal flow quality and “investor readiness” while simultaneously addressing the supply side issues.

The development of policy

Policy should be focused on the development of the market rather than on the provision of direct funding to companies¹⁷⁶. It is only by encouraging the private sector to enter the market, either as a result of policy interventions showing that the market is viable, or through subsidies, that market failure can be addressed for the long term. The alternative is a permanent need for government intervention, a continuing need to allocate resources to the market. Policies must therefore be designed to “crowd in” the private sector, not crowd it out, and provide government with an “exit” option from permanent market support. Policy needs to focus on creating the right conditions to provide an environment conducive to private investors¹⁷⁷.

¹⁷⁵ Donor report for infoDev’s A2F Business Angel Skills Development Project, December 2015.

¹⁷⁶ Policy Lessons from Financing Young Innovative Firms, OECD, 2015.

¹⁷⁷ European Union, “Fostering business angel activities in support of SME growth,” *Guidebook Series: How to support SME Policy from Structural Funds* (2015).

Need for simultaneous market development

A viable early stage investment market requires a number of constituent parts to be developed together. It is only after they have been operational for some time that investor skills and confidence can be built, financial success demonstrated, and new investors attracted to the market. In addition to a market mechanism to ensure connection between investors and companies, there needs to exist:

- A strong deal flow of investable high growth companies, sufficient to provide critical mass to investor portfolios.
- Informed private investors willing to accept the level of risk associated with early stage investing.
- Private investors organized in such a way as to enable them to collectively have the capital funds and managerial competencies sufficient to make initial and follow on funding to be able to grow companies to a point of profitable exit.
- A network of high quality advisors capable of supporting both the demand and supply side.
- Access to an efficient exit market.

All of these elements need to be developed simultaneously for any one element to survive and be effective¹⁷⁸.

The thin market problem

It has been suggested that concerns over inefficient capital markets should not be seen only in terms of the supply or demand for finance. A key contributor to the problem is likely to be one of 'thin markets'¹⁷⁹. Thin markets are characterized by a limited number of investors with appropriate support skills and a small number of high growth potential businesses having difficulty finding and connecting with each other. This issue is

particularly acute in under-developed angel markets characterized by largely "invisible" private investors with limited ability to spend time and money hunting for investment opportunities, and companies lacking signposting to investors or specific skills in how to engage them. Again, simply increasing the volume of funding available, without providing a structure within which that funding can be easily connected to appropriate investment opportunities, will do little to improve overall investment levels.

High growth firms are heterogeneous in terms of sector

Much public policy is concentrated on stimulating the creation of and investment into 'high tech' firms. This is based on the assumption that it is these companies that will provide the most significant economic growth. Such a focus is misplaced:

- Particularly in emerging investment markets, only a minority of potential angel investors will have a background in "high-tech". Public policy should therefore concentrate on enabling these potential investors to become actual investors, irrespective of the industry sector they choose to initially invest in. The policy objective should be increasing the number of investors rather than dictating the industry sector in which they invest.
- High growth firms are found in all sectors of the economy, not just high-tech sectors¹⁸⁰. Focusing policy on just high-tech will likely potentially deprive innovative businesses in more traditional sectors that have high growth potential of the opportunity to raise finance.

Public policy should therefore focus on stimulating investment in high growth potential companies irrespective of their industry.

A bibliography of references used during the literature review is listed below.

¹⁷⁸ "Bridging The Equity Gap For SMEs In Scotland", Gordon McLaren, Nelson Gray, New Horizons in Graz, Best Practice IV Conference, DG REGIO, 2006.

¹⁷⁹ From Funding Gaps To Thin Markets, NESTA, 2009.

¹⁸⁰ High Growth Firms in Scotland, Colin Mason, Ross Brown, 2010.

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ANNEX 2

PROBLEMS WITH ANGEL DATA

When setting out to develop policy to support angel investment it is appropriate to base it on a measure of existing and potential activity levels.

Having appropriate levels of data will assist both in determining activities within the target geography and within comparative geographies.

Unfortunately, there are no reliable sources of data relating to angel activity. When asked about the level of angel activity in the UK, Jenny Tooth, CEO of the NAA of the most developed angel market in Europe, the UK Business Angels Association (UKBAA) said *"we just don't know"*¹⁸¹.

There are significant difficulties with the data that is reported on business angel activity, creating significant risk when making policy decisions. These problems include:

- **The definition of "angel investor" varies among surveys.** Many surveys do not provide any definition of the nature of the investor for which data is being collected. As a result, it may not be clear that respondents are using the same definition. This makes comparison between countries difficult¹⁸².

- **Most business angels (and most of their investment activity) are invisible and so virtually impossible to identify and track over time**¹⁸³. The ability to discern investment activity on a systematic comparative longitudinal basis is therefore restricted to the "visible market". This tends to comprise angel networks and syndicates and data from surveys of individual business angels who happen to have come to the attention of the survey. Some surveys attempt to compensate for this by making an assumption regarding what is the likely relationship between the visible and invisible components of the market. EBAN for example uses the assumption that the visible market (that which they can identify) represents 10 percent of the total in each country¹⁸⁴. In practice this percentage will be dependent on the level of angel organization and data collection in each country. In developed markets such as the UK, France, and Germany, the visible market is likely to be far higher given the prevalence of visible angel organizations at the regional and national level.

¹⁸¹ Jenny Tooth, CEO of UKBAA at the launch of the Welsh Development Bank Angel Co Fund. May 2018.

¹⁸² "Fools Gold?", The Truth behind Angel Investing in America, Scott Shane, 2009.

¹⁸³ Annual Report On The Business Angel Market In The United Kingdom: 2008/09, Colin M Mason, Richard T Harrison, June 2010.

¹⁸⁴ EBAN Statistics Compendium, European Early Stage Market Statistics, 2016, page 8.

- **Survey data tends to be biased in relation to the nature of investors sampled, simply because they are the angels that can be easily identified.** The fact that they are visible does not mean that they are necessarily the most active or experience investors. Many angels are not members of groups or formal networks¹⁸⁵. An example of this sort of sampling bias is seen in the Business Angel Finding (BAF) report “Understanding the Nature and Impact of the Business Angel in Funding Research and Innovation”¹⁸⁶. This claims to be a study of European angel activity but of the 592 survey responses 29 percent were from France, 18 percent from Germany, and 7 percent from each of Belgium and Portugal. Just 5 percent came from the UK, which has the largest visible angel market in Europe (15 percent), and 6 percent from Spain, which represents 10 percent of the visible market. France represents just 6 percent of the visible market¹⁸⁷.
- **In the US, most angel data comes from angel groups who are members of the ACA.** There is a resultant bias towards the type of angels and the type of investments done by such groups - i.e. “accredited” investors doing equity investment. By other definitions of “angel”, as much as 40 percent of investment may be by way of debt (i.e. simple lending, not convertible debt)¹⁸⁸
- **Many investors simply do not respond to a survey (non-response bias).** Most researchers believe that angels who do respond to surveys have done better than the “average” angel investor¹⁸⁹. Angels who invest in failed projects are unlikely to take the time to publicize the fact to researchers. The response rate of 592 usable answers used to generate the BAF report needs to be considered in relation to EBAN’s estimate of there being 321,500 European angels, a sample size of 0.18 percent.
- **Surveys of angel returns frequently fail to distinguish between equal and value-weighted returns.** Thus if an angel obtains a 2X return on a £10,000 investment in one year (a 100 percent net return) and earns zero on a £100,000 investment that same year (for a 0 percent return) then the equally weighted average is a return of 50 percent, while the value weighted average is only 9 percent.
- **Angel investment research suffers significantly from survivorship bias. Investors who have failed and ceased to be angels are generally not sampled.** Surviving and successful investors are over sampled.
- **Angel investment research suffers from “backfill bias”.** When completing a survey or reporting upon their actions and achievements, many will tend to report only what they want to report and the most likely to report the results that make them look good.
- **Due to the difficulty of identifying individual (solo) angels (as opposed to those in groups), larger deals and deals involving multiple angels are more likely to be reported accurately but are likely to be over represented.** This is likely to bias data regarding the average size of deals done, and probably the industry sectors (as investments in some sectors, particularly those that are IP heavy such as life science tend to require higher levels of funding than for example service companies).
- **One of the most common forms of selection bias in angel investing is the focus on exited investments.** This is because data on exited investments is likely to be much easier to gather (e.g. news releases related to IPOs, sales, etc.). Studies that examine only exited investments are not representative of the overall returns to angel investing.

While therefore it is desirable to use available data to support the development of policy, extreme care is needed to understand the difficulties involved in generating all such data. Before using data to support a proposed policy measure it is appropriate to investigate the specific sampling methods and definitions and response rate and size of each data set.

¹⁸⁵ “Fools Gold?”, The Truth behind Angel Investing in America, Scott Shane, 2009.

¹⁸⁶ Understanding the Nature and Impact of the Business Angel in Funding Research and Innovation, A study for the European Commission, INOVA=, 2018.

¹⁸⁷ EBAN Statistics Compendium, European Early Stage Market Statistics, 2016, page 11.

¹⁸⁸ See “Fools Gold?”, Scott Shane, 2009.

¹⁸⁹ The Oxford Handbook of Entrepreneurial Finance, Douglas Cumming, 2012, page 412.

ANNEX 3

VENTURE CAPITAL DEFINITIONS

When reviewing comparative data and defining policy it is appropriate to ensure clarity when using the various terms private equity, venture capital, corporate venture capital, and business angel funding. Not all “venture capital” is the same, and not all is relevant to the early stage. Although the term “private equity” is used as a general catch all description for forms and stages of funding provided to enterprises not quoted on a stock market (including venture capital, growth capital, replacement capital, rescue/turnaround and buyouts), the term is also, confusingly, used to reference later stage investing (post venture capital).

Private equity

The term private equity is often used to refer to the specific later stage funding involving buyout capital, growth capital, replacement capital, rescue/turnaround and buyouts. “Private equity funds” are often focused on refinancing and restructuring of existing assets (rather than the creation of new assets). Governments very rarely intervene directly to promote or engage in private equity. Private equity investing is largely focused on management buy-outs, buy-ins, and other later stage development finance. The term is primarily used to make a specific comparison with venture capital activity. In the USA, the private equity industry is clearly separated from the venture capital industry. In Europe and elsewhere, venture capital and private equity terms are often used interchangeably, thereby often promoting confusion.

Buyout capital, growth capital, replacement capital, rescue/turnaround, and buyouts represent some 91 percent of all European private equity. Just 9 percent is classified as venture capital.

Box 20. Investment stage definitions

Stage of investment		Venture Capital Transaction	
		Seed	Funding provided before the investee company has started mass production /distribution with the aim to complete research, product definition, or product design, also including market tests and creating prototypes. This funding will not be used to start mass production/distribution.
Venture Capital Transaction	Start-up	Funding provided to companies, once the product or service is fully developed, to start mass production/distribution and to cover initial marketing. Companies may be in the process of being set up or may have been in business for a shorter time but have not sold their product commercially yet. The destination of the capital would be mostly to cover capital expenditures and initial working capital.	
	Later stage venture	Financing provided for an operating company, which may or may not be profitable. Late stage venture tends to be financing into companies already backed by VCs. Typically in C or D rounds.	
	Capital for mature companies Transactions		
Capital for mature companies Transactions	Growth capital	A type of private equity investment (often a minority investment) in relatively mature companies that are looking for primary capital to expand and improve operations or enter new markets to accelerate the growth of the business.	
	Rescue / Turnaround	Financing made available to an existing business, which has experienced financial distress, with a view to re-establishing prosperity.	
	Replacement capital	Minority stake purchase from another private equity investment organization or from another shareholder or shareholders.	
	Buyout	Financing provided to acquire a company. It may use a significant amount of borrowed capital to meet the cost of acquisition. Typically by purchasing majority or controlling stakes.	

Source: Invest Europe.

Venture capital

Venture capital is a subset of private equity. Venture capital refers to equity investments made for launch (seed), early development (start-up), or expansion (later stage venture) of business. The investment can include equity, quasi-equity, mezzanine, unsecured debt, and secured debt.

Invest Europe (formally known as EVCA), reported that private equity investing in Europe¹⁹⁰ amounted to €71.7 billion in 2017. This was split between:

¹⁹⁰ Europe includes: Austria, Baltic countries (Estonia, Latvia, Lithuania), Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, other CEE (Bosnia Herzegovina, Croatia, FYR Macedonia, Moldova, Montenegro, Serbia, Slovenia, Slovakia), Poland, Portugal, Romania, Spain, Sweden, Switzerland, Ukraine, United Kingdom.

Table 14. European private equity investment by stage 2017

Stage of Investment	Value of Investment (€ billion)	% of total Invested	No of Companies	Average investment Size (€million)
Buyout funding	51.2	71.4%	1,171	43.7
Growth capital	11.5	16%	2,107	5.5
Rescue/Turnaround	0.4	0.6%	68	5.9
Replacement capital	2.2	3.1%	94	23.4
Seed venture capital	0.6	0.8%	1,081	0.6
Start up venture capital	3.5	4.9%	2,193	1.6
Later stage venture capital	2.3	3.2%	671	3.4
Total	71.7	100%	7,385	

Within venture capital investments, ICT was the largest sector, receiving 45 percent of the total venture capital investment amount. This was followed by biotech and healthcare (23 percent) and consumer goods and services (8 percent).

Invest Europe analyses investment data according to the location of the portfolio company. At European level, this relates to investments in European companies regardless of the location of the private equity firm. This showed that for the entire CEE region, private equity investment was just €3.4 billion, with venture capital accounting for just €100m.

Table 15. CEE region private equity investment by stage 2017

Stage of Investment	Value of Investment (€ billion)	% of total Invested	No of Companies	Average investment Size (€million)
Buyout funding	2.7	79.4%	33	81.8
Growth capital	0.6	17.6%	50	12
Rescue/Turnaround	0	0%	-	
Replacement capital	0	0%	-	
Seed venture capital			119	
Start up venture capital	0.1	2.9%	46	0.6
Later stage venture capital			9	
Total	3.4	100%	257	

Corporate venture capital

A corporate venture fund is an investment fund formed and funded by a corporation. The purpose is to invest either in companies that the corporation may in the future acquire, or simply in businesses that they think might be interesting investments. Most large corporations, particularly in the tech sector, now have venture capital arms, including the classics such as Google, Microsoft, and similar companies. However other corporations in other industries also have their own venture capital arms, including for example Volvo trucks and Air France. Lockheed Martin recently doubled their corporate venture capital fund to \$200 million¹⁹¹. It is estimated that corporate venture capital, which is growing rapidly, now accounts for around 20 percent of all venture capital globally.

¹⁹¹ <http://www.defensedaily.com/lockheed-martin-doubles-venture-capital-fund-200-million/>

ANNEX 4

PROGRAM INSTRUMENTS: EARLY-STAGE GOVERNMENT SUPPORT

CzechInvest

As a subordinate organization of the MIT, CzechInvest has a business development arm focused on promoting startup development.

Apart from a business development mandate, it is also an investment agency focused on attracting foreign direct investments and promoting the country abroad. It has a total of 13 regional offices focused on enhancing business development in particular regions. Funding comes from the state or from EU structural funds. Startups from the capital city are excluded from accessing the EU funds on the grounds that other regions need to catch up to the frontier (Prague).

Since 2011, CzechInvest has created 6 programs dedicated to startups:

Accelerator for Space Development (since Autumn 2016)

- This program is housed under the ESA Business Incubation Centre Prague¹⁹².
- Type of support: Startups receive up to €50,000 for product development, networking opportunity with the European Space Agency, and support for patent/trademark applications.
- **Achievement to-date:** Supported/currently supporting 10-12 startups.

Czech Starter¹⁹³ (since 2010/2011)

- **Type of startup:** Early stage startups that are registered and have a prototype.
- **Type of support:** 7 months of mentoring and consultancy services, and support to management, patent applications, finance, etc. The best startups are selected for a 2-week mission in Silicon Valley.

¹⁹² <https://www.czechinvest.org/en/Our-services/Start-ups/ESA-BIC-Prague>

¹⁹³ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechStarter>

Czech Accelerator¹⁹⁴ (flagship program since 2010)

- **Type of startup:** Startups which are at least one year on the market.
- **Type of support:** 3-month program in collaboration with business incubators in Silicon Valley, Singapore, or other cities. Support includes free use of space, networking opportunities, workshops, and mentoring. Travel abroad provides startups with experience in foreign markets and aims for these startups to conduct business globally (with no requirement to be Czech-based after the program).
- **Achievement to-date:** 200 companies supported, of which 10 have received funding from local investors. Success stories include STRV, a digital product agency which Czech Accelerator supported into Silicon Valley.
- **Caveat:** Startups from Prague are not eligible given EU funding requirements. It is also not easy to transfer funds from the Prague/local government to CzechInvest. Because of this, CzechInvest plans to implement Prague Vouchers program for a total of 60 Prague-based startups.

Czech Match¹⁹⁵

- **Type of startup:** Startups which are at least one year on the market.
- **Type of support:** Workshops to support enterprises to be 'ready' to pitch to investors, match-making events between startups and potential foreign investors.

Czech Demo¹⁹⁶

- **Type of startup:** Startups operating five years or less, has a prototype, employs 50 or less workers, operates outside Prague, registered, with ambition to operate globally.
- **Type of support:** Travel support to international networking events, with opportunities to demo product or service during these events, assistance for presentation and related promotional preparations.

CzechLink Start¹⁹⁷

- Targets foreign and local investors to invest in startups and raise investment opportunities in the Czech Republic.
- **Type of support for investors:** pre-screening of startups/targets, provide information of potential startups based on investor criteria, provide access to database.

To address a lack of available and coordinated information, CzechInvest also created CzechStartups.org¹⁹⁸ with IBM Czech Republic, Czech ICT Alliance, Association of Small and Medium Enterprise and Crafts of the Czech Republic, and Rockaway Capital. The website seeks to become the one-stop of information related to startups: current startup news, events and competitions, current business support programs and projects, and free-to-access databases for startups, investors, and business incubators, accelerators, and co-working spaces.

Technology Agency of the Czech Republic (TA CR)

The EU points to key challenges in strengthening public-private linkages in the Czech Republic (a major concern of the national innovation system)¹⁹⁹. These challenges include low levels of public research contracted by the private sector (about 3 percent), underutilization of IP rights instruments (in spite of availability of legislation), low applicability of public research, poor commercialization of research outputs, lack of knowledge transfer, weak entrepreneurial culture, and weak interaction between domestic private sector and research entities to create new technologies. Poor commercialization is attributable to low incentives by public sector researchers, as researchers are evaluated primarily on scientific publication outputs with little emphasis on commercialization. In general, constraints to academic entrepreneurship in the Czech Republic are largely institutional: rigid academic labor market, outdated human resources practices in academia, complicated processes in starting university spin-offs, and lack of effectiveness of TTOs²⁰⁰.

¹⁹⁴ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechAccelerator>

¹⁹⁵ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechMatch>

¹⁹⁶ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechDemo>

¹⁹⁷ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechLink-Start>

¹⁹⁸ <https://www.czechinvest.org/en/Our-services/Start-ups/CzechStartups-org>

¹⁹⁹ EU (2018). "Research and Innovation Observatory country report 2017: CR".

²⁰⁰ Machacek, V. and M. Srholec (2016). "Knowledge Transfer through Academic Entrepreneurship in the Czech Republic".

Improving university-industry collaboration through contract research, R&D commercialization, and technology transfer is a key mandate for TA CR.

It provides competitive funding for example to support commercialization of research, development, and innovation projects (and increase the number of spinoffs from universities). TA CR's programs supporting this agenda include the following²⁰¹:

- **ALFA:** Support applied research and experimental development in the following sectors—advanced technologies, materials and systems, energy resources and the protection and creation of the environment, and the sustainable development of transport²⁰².
- **GAMA:** Support practical application and commercialization of R&D²⁰³.
- **DELTA:** Support joint projects between enterprises and TA CR-supported research organizations and foreign technological and innovation agencies (which TACR has/will have established collaboration during the period of public tender)²⁰⁴.
- **EPSILON:** Support applied research and experimental development (especially those which have high application potential in new products, processes, and services) in the following areas—competitive knowledge-based economy, sustainability of energy and material resources, environment for quality of life²⁰⁵.
- **ZETA:** Support cooperation between academia and companies by connecting graduate students and young researchers conducting R&D activities with industry players²⁰⁶.
- **National Competence Centers:** Support long-term cooperation between research and its application and enhance the institutional basis of applied research²⁰⁷.

Ministry of Industry and Trade

The MIT is the central ministry focused on addressing SME issues through support programs.

For example, in collaboration with the EU, it outlined business support activities and objectives to increase SME and startup competitiveness²⁰⁸. Through entrepreneurial support activities from the ESIF, OP EIC 2014-2020 has an allocation of €4.3 billion, of which €434 million (10 percent) are allocated for piloting financial instruments.

The MIT is preparing to roll out funds to support innovative startups.

The MIT and the EIF have established a €50 million fund-of-funds for early stage capital. These funds will be rolled out to three financial intermediaries with experience in incubation/acceleration: two accelerators which can provide up to €200,000 for entrepreneurs who are at the proof-of-concept stage, and one intermediary/venture capital which can provide up to €1 million to series A startups active in the market. This fund intends to initially support spinoffs from university/research organizations, with a primary aim of helping spinoffs get investors at the subsequent stages. The fund also intends to focus on biotechnology (as the MIT identified gaps with early stage funding in this sector).

In 2017, the MIT also joined a regional investment project of the EIF targeting later stage businesses and SMEs' expansion (not startups) through the €80 million Central Europe Fund-of-Funds project²⁰⁹.

The MIT likewise administers policies related to research, development, and innovation. Apart from CzechInvest programs (specifically focused on startups), another current program is TRIO. This 2016-2021 program provides financial aid with the goal of boosting applied research and experimental development in key enabling technologies, such as micro-/nano-electronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technology²¹⁰.

²⁰¹ Other TA CR support programs that are tangential to the university-industry collaboration agenda (not mentioned) can be found here: <https://www.tacr.cz/index.php/en/>

²⁰² <https://www.tacr.cz/index.php/en/programmes/alfa-programme.html>

²⁰³ <https://www.tacr.cz/index.php/en/programmes/gama-programme.html>

²⁰⁴ <https://www.tacr.cz/index.php/en/programmes/delta-programme.html>

²⁰⁵ <https://www.tacr.cz/index.php/en/programmes/epsilon-programme.html>

²⁰⁶ <https://www.tacr.cz/index.php/en/programmes/zeta-programme.html>

²⁰⁷ <https://www.tacr.cz/index.php/en/programmes/national-centres-of-competence-1.html>

²⁰⁸ MIT of the Czech Republic (April 2015). "Operational Programme Enterprise and Innovations for Competitiveness 2014-2020". [Available at: <https://www.mpo.cz/assets/dokumenty/54704/62511/648398/priloha002.pdf>].

²⁰⁹ http://www.eif.org/what_we_do/equity/news/2018/80-million-central-europe-fund-of-funds-to-support-smes-and-small-mid-caps.htm

²¹⁰ <https://www.mpo.cz/en/business/support-for-research-and-development/the-new-program-trio--160149/>

Czech-Moravian Guarantee and Development Bank (CMZRB)

Established in 1992 to support SMEs, CMZRB provides SME access to financial capital through the following instruments: preferential loans, bank guarantees, and subsidies. More recently, there are programs specifically targeted at innovative SMEs (in support of the State's economic goals to boost knowledge-driven sectors). Of eight CMZRB SME support programs²¹¹, there is only one that relates to supporting innovative startups:

INOSTART program

- **Type of startups:** SMEs operating 3 years or less.
- **Funding:** Swiss Government.
- **Type of instrument:** Loan guarantee provided by Česká spořitelna (60 percent or less of the outstanding principal loan; up to 15 million CZK; maturity up to five years from first instalment of loan principal); The program also provides business advisory services for startups in strategy and business plan implementation²¹².
- **Objective:** Support innovative projects through partial payment of consulting costs (projects need to fit criteria on innovation related to R&D spending or patents).
- **Impact to-date:** Given the size of the program (<€10 million per year), the program's impact is likely to be marginal and is more about promoting innovative activities.

CMZRB is also currently in discussion with the Prague City Hall to establish a fund for innovative SMEs.

University incubators and accelerators

xPORT at the University of Economics in Prague²¹³

xPORT was created in 2015 as a university business accelerator to support students and graduates' entrepreneurial ambitions by offering a space to help them turn their business ideas (e.g., ideas from their thesis) into actual products and services. xPORT support activities are as follows:

- iPORT guides students and teams on the ideation stage by helping teams develop the idea towards fundraising. The program runs between one month (trial period) and up to 12 months. Support includes idea validation, business plan creation, prototype development, and access to mentors and investors.
- aPORT helps teams accelerate their current business plans for success. Support provided is tailored to the team and includes incubation of ideas, team formation, market research, support to finding an investor, product launch, and connection to foreign accelerators.
- BusinessPort connects students with companies with the end goal of students creating an innovative product or service for the partner company. Current projects are related to retail analytics, open data, and healthcare.
- ePORT spurs entrepreneurial education for students through lectures, training, and workshops by experienced entrepreneurs.

²¹¹ A full list of SME support to-date can be downloaded from this link: <https://www.cmzrb.cz/sme-assistance>

²¹² OECD (2017) "Financing SMEs and Entrepreneurs: A Scorecard".

²¹³ <https://xport.vse.cz/english/>

²¹⁴ <http://pointone.czu.cz/homepage-en>

Point One at the Czech University of Life Sciences in Prague²¹⁴

Founded in 2014, Point One is a business incubator for students and graduates of the Czech University of Life Sciences. The primary aim of the incubator is to help teams decide whether a business idea is viable or not during the course of incubation period (16 months on average). Members of the incubator gain access to the co-working space, individual mentorship, customized trainings, and pitching events to help teams communicate their business ideas. During the course of the incubation period, specific support activities include:

- Self-education (1-4 months): With the goal of generating business insights- members attend four expert workshops (at least), two member meetings, and four mentor consultations.
- Prototype development (5-8 months): With the aim of creating a prototype and marketing strategy- members attend four professional workshops or individual consultations, two member meetings, and four mentor consultations.
- Market entry (9-16 months): To help members validate their business ideas and become independent- members attend four expert workshops or individual consultations, four member meetings, and eight mentor consultations.

ANNEX 5

OPERATION OF COFUNDS

There is growing use of CoFunds by governments to stimulate business angel and other early stage investing. The EBAN 2016 compendium of CoFunds²¹⁵ lists details of funds in 22 European countries.

For the purpose of this report, CoFunds are defined as commercially-oriented funds backed by public funding dedicated to the provision of (usually) equity finance to SMEs in partnership with investors from the private sector. CoFunds have been described as providing 'stretch funding' to enable more rapid access to larger amounts of funding in an equity gap. Although the specifics will depend upon local circumstance and policy objective, they tend to operate by matching funds in deal sizes ranging from €56,000 up to €2.3 million.

CoFunds are being used to stimulate behavioral changes in current and potential investors. CoFunds are seen as a potential tool to encourage more individuals to become angel investors, and for existing investors to invest more as they lower risk by allowing more investments to be made and providing portfolio diversification. A paper produced for the EC described CoFunds for business angels as representing an added value for public authorities in comparison to grants because their leverage effect is higher²¹⁶.

The timing of the introduction of a CoFund and the nature of its design depends on the stage of local angel market development. The OECD highlighted that for an angel CoFund to succeed there needs to be at least a minimal level of existing angel activity²¹⁷ for the fund to engage with. *"Once a functioning angel market has been established, CoFunds can help in leveraging and encouraging more private investment"*.

A study of the impact of policy incentives for angel investors in Portugal²¹⁸ found that the Portuguese CoFund was most valued by more experienced angels, while less experienced angels gave more importance to the provision of investment training and networking facilities. The initial hurdle to doing a first investment is likely to be accesses to deal flow and the knowledge and confidence of how to do a deal rather than the availability of CoFunds. This supports the view that CoFund introduction should follow a period on initial marked stimulation, education an organisation designed to develop potential CoFund investment partners.

²¹⁵ http://www.eban.org/wp-content/uploads/2017/06/Co-Investment-Funds-2016_EBAN-website.pdf

²¹⁶ Fostering business angel activities in support of SME growth, How to support SME Policy from Structural Funds, European Commission Guidebook Series, 2015.

²¹⁷ Financing High-Growth Firms, The Role Of Angel Investors, OECD, 2011.

²¹⁸ Angel investing in an austerity economy - the take-up of government policies in Portugal, José Bilau, Colin Mason, Tiago Botelho & Soumodip Sarkar, 2017.

Box 21. Swedish co-investment funds

The 12 Swedish funds always invest jointly with private players and on equal terms (*pari passu*) with them. At least half the amount must come from private venture capital while the remainder is shared equally between funds from the ERDF and regional public co-financing. The Swedish Government targets the funds to be market-complementary and revolving. The former means that it must not crowd out existing private investments and the latter that the capital base must not shrink in the long term. Investments are normally between €116,000–€1.16 million.

Case studies are provided on the different CoFund designs found in each of the countries making up the UK, England, Scotland, Northern Ireland, and Wales. The differing designs reflect the different stages of development of the angel markets in each of the host countries, and the differing objectives of the governments who introduced them. These different design elements have been considered necessary to promote angel development regionally even though the UK countries share common legal, regulatory tax and currency. This highlights the need to carefully analyze local circumstances and objectives before concluding a fund design. The Swedish Government operate no less than twelve regional co-investment funds (see Box 21), with a combined value of €279 million²¹⁹.

The risk of having a single co-investment fund is that it will have an uneven impact across regions, favoring the most entrepreneurial regions²²⁰. This has been the experience of the UK Government's angel co-fund (see Case Study 5) with the investments concentrated in London, the Thames Valley, and Cambridge, all areas with high levels of existing entrepreneurial activity²²¹.

CoFunds normally match private sector investment at deal level. The fund and the private sector invest in the same company at the same time. A private sector investment into a fund that was otherwise financed by the public sector (for example the EIF) would not normally be considered a CoFund²²². Normal syndication of an investment, for example between two or more venture capital funds and / or angel investors, would also not be considered under

the heading of co-investment. The EC identified a key success factor for CoFunds as participation at the deal level, not the fund level²²³. Co-financing schemes where private investors can participate only at the level of the fund had been found to be less attractive for private investors who wished to be actively involved with the companies.

CoFunds would not normally be constructed to achieve purely commercial returns. Most CoFunds seek to develop the investment market in some way, addressing perceived market failures. The design and operation of a CoFund will depend upon its primary objective, and the extent to which it addresses supply side or demand side constraints.

Co-Fund objectives

The primary objective of CoFunds depends on the level of development of markets. In an undeveloped market, the primary objective is likely to be to seek to create an angel investment market where previously there was none²²⁴. An example of the focus on supply side support would be the New Zealand Seed Investment Fund (see Case Study 6), a fund with significant supply side development objectives. In a more developed market the primary objective would be to encourage more investments to be made and support the sustainability of investee companies, particular where venture capital follow on funding is limited. An example of such a fund is the Scottish CoFund (see Case Study 3).

²¹⁹ Business Angel, Co-investment Funds and Policy Portfolios, Swedish Agency for Growth Policy Analysis, 2013.

²²⁰ Final Report for Tillväxtnalys (Growth Analysis) on the Recommended Methodologies for an interim Evaluation of the Swedish Regional Co-investment Funds, Professors Gordon Murray, Marc Cowling, Colin Mason and Markku Maula, 2016.

²²¹ The role of government co-investment funds in the supply of entrepreneurial finance: An assessment of the early operation of the UK Angel Co-investment Fund, Robyn Owen, Colin Mason, 2016.

²²² It is common for EIF and other public sector financed funds to require an element of private sector match funding. This match funding at a fund level would not normally be referred to as a CoFund.

²²³ Fostering business angel activities in support of SME growth, How to support SME Policy from Structural Funds, European Commission Guidebook Series, 2015.

²²⁴ If the primary objective were to provide funding to startups it is likely that a simple standard (non CoFund) structure would be used.

Within these high level objectives, the specific design of a CoFund can achieve a number of other objectives:

- Encourage “professionalization” of angel activity by requiring, for example minimum standards for due diligence.
- Improve efficiency of the market by introducing standard legal documentation.
- Encourage best practice, for example through increasing levels of syndication between investors by requiring a minimum number of angel co-investors (primary objective of the Welsh Angel CoFund – see Case Study 2).
- Assist sustainability of angel networks and groups by providing a deal fee (typically 2.5 percent of the public sector funds invested) to the private sector investors on deal completion.
- Act as a demonstrator that angel investing in a particular location is viable, and potentially profitable.
- Encourage investment in particular geographies or industry sectors by only supporting investments in those locations / industries.

Indirect benefits

The impact of a CoFund can be greater than the financial contribution it makes. One fund assessment reported that²²⁵:

- Founders thought funding through the CoFund strengthened their position and credibility with other investors.
- Founders reported that receiving the CoFund funding had put them in a much stronger position to secure follow on funding when required.
- For angels, having an investor the size of the CoFund already in the deal on the same terms as them created a more equal playing field in which to negotiate with follow on venture capital funds.
- The involvement of the CoFund can lend legitimacy to the concept of syndication among private investors.

- Companies can secure funding faster as the CoFunds availability means they need to spend less time finding individual investor willing to syndicate together.
- The involvement of the CoFund accelerated the speed at which follow on funding was available.

Methods of operation

In the most developed markets, where there is an existing track record of well-established angel networks with a history of successful exits, it is possible to adopt a delegated decision making model. This means the CoFund does not itself source and negotiate investment deals but rather has a contractual partnerships with the private sector investors who are responsible for this work. Provided the proposed investment falls within the characteristics specified in the fund mandate the Co-Fund is essentially automatically matched to private sector investment. The fund conducts initial due diligence on the competence of the investor partners, if this is satisfactory the fund undertakes no individual deal due diligence nor does it become involved in the deal negotiations. Such a structure is very efficient in terms of fund operating cost. This is the model adopted by the Scottish CoFunds, the New Zealand Seed Investment Fund, and the EIF’s European Angels Fund²²⁶.

In emerging angel markets, it is unlikely that a CoFund will have access to sufficient numbers of private investors who can demonstrate a successful track record (taking a number of companies from initial investment to successful exit) with whom to partner on a fully delegated basis. In such circumstances a professional fund manager may be appointed to source and negotiate deals which are then introduced to potential private sector investors (some of whom may subsequently become involved as company mentors or advisors). This was the model adopted for the initial phase of the Northern Ireland CoFund.

²²⁵ Review of Co Investment Funds Implementation, Structure and Lessons Learned, A Report for Scottish Investment Bank, Nelson Gray, January 2015

²²⁶ For more information, see: http://www.eif.org/what_we_do/equity/eaf/index.htm

The UK Government's angel CoFund takes a middle ground, reflecting an angel market in England developed and structured to a point somewhere between that in Northern Ireland and Scotland. In this model, business angels bring potential deals to the CoFund which, rather than accepting them automatically as in Scottish CoFund, carries out a thorough review of the due diligence done by the angel investors and the returns of the deal to ensure that sufficient work has been done to verify the deal, and that the terms are reasonable. Although the English market is well established, 85 percent of applications to the fund by angel investors are rejected. This highlights the difficulty of establishing a credible investor base even in well-developed countries. Few angel investors have undergone any training in due diligence (or indeed other aspects of angel investing). The majority of angel investors in the UK have been active for 5 years or less²²⁷, meaning few have taken a company from initial investment to successful exit (a process that typically takes up to 8 or more years). The fund therefore acts as a source of guidance as to what due diligence is appropriate for each case, how to structure and value the deal, and how to best assist the company post investment.

Investment structures

The majority of funds invest on a pari passu basis. Sharing of return on an equal footing is seen as appropriate in order to maintain an alignment of interest between the funds and the private sector. One notable exception is the Portuguese fund (which is in turn modelled on a Dutch structure).

Preferential treatment for the private investors may be justified. Preferential treatment attracts private investors by increasing their chances of a positive investment return where for example it is not considered appropriate or practical to do so via the tax system. Preferential returns to the private sector must be carefully justified as they will restrict the returns available to the fund and therefore its capacity to become sustainable.

Box 22. Example of asymmetric profit shares in a CoFund

The Portuguese COMPETE business angel CoFund, launched in 2009, provides a preferential return to the business angels. Until the total investment of the angel has been returned, the payback is distributed in their favor (angel 80 percent / CoFund: 20 percent). Once the angel has had their full investment returned, distribution is symmetric until the CoFund investment is returned in full (angel 50 percent / CoFund: 50 percent). After the angel and the CoFund have each received back their investments, the balance of any exit proceeds is again distributed asymmetrically proportionate (BA: 80 percent / CoFund: 20 percent).

This model subsidizes the risk of the angels with the intention of encouraging more individuals to invest in high risk companies. It does introduce a greater cost to the government, and it is unlikely that such a structure will be sustainable without continuous state support.

²²⁷ <https://british-business-bank.co.uk/wp-content/uploads/2017/12/Business-Angels-2017-Research-Findings-compressed-FINAL.pdf>

Alternatives to a fund structure

It may not be possible to operate a co-investment facility in a formal fund structure. Possible reasons include:

- The funds available are too limited to establish an equity-based co-investment fund (CoFunds tend to have a minimum size of around €10 million to be viable).
- The time available is limited, such as if a support program must be ended by a specific date (for example before the end of an ERDF funding period). The life-cycle of an early stage investment is long, typically expanding to eight years or more.

An alternative is to provide a co-investment grant.

The founder and the angel investors would jointly apply for a co-investment grant, providing largely the same documentation and evidence of appropriate due diligence, valuation, and structuring as would be the case for a standard equity co-investment. In this case however a non-repayable grant would be provided, matching the private sector up to a predetermined maximum amount (30 percent - 50 percent). While the 'fund' would not benefit from any future profits from the successful exit of the investment, should one occur, the state would have the opportunity to gain from all the other

benefits of a CoFund (supply and demand side market development) without the complexity of a formal fund. The financing may be available from transfers from exiting grant programs not benefiting from private sector leverage. An example of a co-investment grant program introduced to support the development of angel investing is the World Bank's \$1.6 million Caribbean Investment Facilitation Project²²⁸ (CIFP). This provides grant funding to enterprises that are able to secure investment from business angels and other approved investors. The purpose of these grants is to incentivize angels to invest in promising enterprises that they may not otherwise by reducing their investment risk. The intended benefit of the grants is to stimulate angel (and other relevant) investment into the enterprises. The grant contribution is up to 50 percent of the investor's contribution, up to a maximum of \$100,000 per enterprise, and is made once the entrepreneur has secured the investment. Similar to how CoFunds operate in other countries, CIFP co-investment grants rely on angels and private investors to carry out the bulk of the commercial/business due diligence on the enterprise. The CIFP is managed by the Caribbean Export Development Agency, a regional nongovernmental organization that has the institutional ability and experience of assessing SME's for grant purposes.

²²⁸ <http://projects.worldbank.org/P157484?lang=en>

ANNEX 6

INVESTOR READINESS

In many investment markets, including the Czech Republic, “investment readiness” programs are offered by incubators and accelerators that typically cover topics such as business planning, technical development, market analysis and financial forecasting, and have an emphasis on “pitching”. Accelerator programs typically end with a “demo day”, seen as a graduation process, where the companies who have completed the program pitch their newly developed ideas to an audience including investors. Despite this, many investors, including those interviewed for this project, complain that they continually receive proposals that they recognize as having potential but which require significant additional work to get them to the point where they could be invested in.

A key constraint on the level of successful investment transactions completed is the perception by investors that many of the businesses seeking funding are simply not “investor ready” (as opposed to investment ready). The applicants for funding have little understanding of the investment process.

Investor ready shortcomings range from a simple inability on the part of the business to present their case effectively, to those that are judged likely to never be suitable for investment. Those which are judged to be not investable may be due to weaknesses in the skills and composition of the management team, the route to market, the status of their IP, the level of product development, or their engagement with potential customers is considered inadequate. However, the biggest challenge is that many simply do not have the capacity to generate the required rate of return to match the investor’s portfolio risk²²⁹.

Due to the stage of development of the local market, few accelerator managers or entrepreneurs have been through the fundraising process. As such, most programs fail to address the more fundamental and much harder issue of fundamental investability or prepare entrepreneurs for the capital raising process.

²²⁹ Typically expressed as the ability to grow the value of the investor’s ownership stake by 10x over 5 years.

Entrepreneurs are left facing various challenges, including:

- Inability to identify an appropriate source of capital.
- Lack of understanding of common investment instruments.
- Misalignment of priorities between the investor and entrepreneur.
- Limited knowledge on due diligence requirements.
- No focus on the exit event for investors.

A government policy initiative to support the development of BANs can significantly improve the chances of a company receiving funding:

- BAN's that have the resources to provide investment readiness training to applicants put forward a lower proportion of applicant businesses to their investors, but a higher proportion of these applicants end up successfully raising finance²³⁰.
- The BAN's not only have the experience to explain exactly what investors will be looking for, they can tailor this to the specific needs of their own members.
- The networks are able to focus the applicants to address the issues that are of key importance to the investors. This adds value to the process for both the demand and supply side. Applicants gain a better understanding of what really matters to investors and make better presentations as a result. Investors see what they consider to be a higher quality of deal flow and are likely to invest more.

²³⁰ Annual Report On The Business Angel Market In The United Kingdom: 2008/09 Colin M Mason, Richard T Harrison, 2010.

ANNEX 7

BUSINESS ANGEL TRAINING

Table 16 provides an indication of the type of issues that may need to be addressed for each stage of business angel development.

Angels move through differing stages on their journey to full engagement as investors. Angels will be found at these different stages in varying proportions in each market segment. Even in emerging markets there will be individuals who have been conducting “angel type” investing but may not have thought of themselves as angel investors and operate as part of the “invisible” market. The training program should be designed to be flexible in its engagements and training so as to effectively encourage individuals to become an angel investor, to continue the journey to become a skilled and experienced investor, and ultimately to take on the key role of “lead angel investor”, organizing and managing the investment process (particularly the due diligence process) for a syndicate. Table 16 sets out the typical stages angels go through and the general nature of their training needs at each stage.

Interviews with the wider angel practitioner community globally suggest that while these individuals operate in different environments at differing stages of development, there are fairly consistent themes running through all their

responses. They all emphasized the need to adapt training materials to local circumstances (localization) and specifically to seek to use local data in relation to deal size, pre-money valuations, and likely exit routes and valuations. “Standard” training modules, based typically on US data, were consistently criticized. It was generally seen as essential that training, be it online or in person, be delivered by experienced angel investors. Training approaches that were deemed to be effective include:

- General Awareness Training, as a “recruitment” tool.
- “Learning by doing” as a member of an existing group.
- More advanced training within the angel organization as the individual becomes more familiar with the process.
- Training delivered by experienced angels (i.e. have seen a number of deals from initial screening to exit).
- Training supported by (not led by) service providers (lawyers, accountants etc.) with a track record of working with angels.

Table 16. Issues and potential solutions in business angel development stages

	Emerging	Under consolidation	Structured
Issue	<ul style="list-style-type: none"> • Little or no visible angel activity. • May have nascent BAN or association but few members / completed deals. 	<ul style="list-style-type: none"> • Evidence of angel activity, completed deals, regular opportunities for companies to pitch, established and functioning BAN/ associations. 	<ul style="list-style-type: none"> • High level of angel activity, deals completed & positive exits. • BANs, syndicates, and associations visible. • International outreach.
Solution	<ul style="list-style-type: none"> • Finding and convincing people to be angel investors. • Building trust and understanding in the market. • Establishing BANs and finding / training BAN managers. • Finding initial deal flow. • Increasing positive image in media. 	<ul style="list-style-type: none"> • Increasing number of active angels and their skills. • Portfolio management, especially securing follow on funding. • Increasing syndication. • Integration with crowdfunding. • Developing complexity of investment instruments. • Post investment mentoring. 	<ul style="list-style-type: none"> • Keeping existing angels active. • Financial sustainability of BANs. • Sidecar funds and integration with venture capital. • Exit strategies. • Internationalization of companies.

The training topics seen to be most popular for active angels were judged to be:

- Preparing for and executing an exit.
- Founder relations / management team issues.
- Follow on funding, syndication, co investment, and realities of working with venture capitalists.
- Valuation.
- Managing underperforming investments - minimizing financial and reputational loss.

The following recommendations and observations were received from practitioners:

- The most in demand 'volume' training is likely to be an introduction to angel investing, giving a general overview. Key is to provide inspiration to commit to becoming an angel. Needs to be relatively short, so as to encourage attendance by busy people.

- Those looking to learn more, possibly with a view to becoming a lead investor, want to master the most relevant items for their immediate needs. They therefore prefer short workshops and/or mentoring from experienced practitioners as opposed to longer courses from academics, agencies, or others (i.e., they wish to learn about due diligence when they have a proposition upon which they need to do due diligence).
- Many people stressed the importance of having experienced angel investors provide the training. This reflects a desire to learn by example, to hear real life "war stories" as opposed to theory.
- To facilitate interaction between the experienced angel instructor and the class (whether at a physical meeting or webinar), it has been found that seminars tend to work best when they are limited to about 20-30 people.

Table 17. Angel training needs

Angel Level	Engagements	Training Needs
<p>Potential but with Capacity (High net worth with little knowledge/ understanding)</p>	<ul style="list-style-type: none"> • Awareness raising information. • Motivational information, e.g. videos on famous persons who are business angels. • Likely to react best to short video sessions. 	<p>Objective:</p> <ul style="list-style-type: none"> • Inspiration to persuade high net worth individuals to consider this new asset class. • Motivate them to join or create local angel groups. • Highlight the benefits of working with others in syndicated deals.
<p>Wants to become an Angel (Have heard of angel investing, wish to try it, but unsure how)</p>	<ul style="list-style-type: none"> • General "Introduction to Angel Investing" information. • Typically covers the key elements of angel investing at a high introductory level. • Intended to encourage those who wish to be angels to continue to the more detailed training sessions. 	<p>Elementary Topics</p> <ul style="list-style-type: none"> • Basic summary introduction to angel investing. • Light touch on all topics, to highlight what a successful angel investor should know. • Steps in the investment process from deal sourcing to exit.
<p>Nascent Angels (Wish to invest, but have not yet done so, little/ no due diligence experience)</p>	<ul style="list-style-type: none"> • More detailed technical trainings, often divided into individual sessions for each topic, building to an overall appreciation of the basic skill sets needed by an active angel investor. • The emphasis is typically on "how to get a deal done". 	<p>Typical Introductory Topics</p> <ul style="list-style-type: none"> • Being an investor, not an executive. • Deal structuring. • Opportunity evaluation (screening). • Due diligence. • Valuation. • Deal structuring. • Exit strategy. • Highlighting need for portfolio approach.
<p>Active Angels (Have made one or two investments, limited experience of the process, no exits)</p>	<ul style="list-style-type: none"> • More detailed technical training, often divided into individual sessions for each topic. • The emphasis is typically on post investment activities. 	<p>Intermediate topics:</p> <ul style="list-style-type: none"> • Portfolio strategy, managing performing and underperforming investments. • Post investment mentoring. • Changing management teams. • Post investment monitoring. • Acting as a non-executive director. • Planning / structuring follow on funding. • Working with other investors, particularly venture capital. • Planning and structuring for exit.
<p>Experienced Angels (Have made several investments, preferably has had a profitable exit, active in the process)</p>	<ul style="list-style-type: none"> • Technical training to equip an experienced angel investor to become a "lead angel", one who will lead the deal making process. • Advanced training to assist in more complex deal structures, typically with other angel networks, venture capital, or international investors. 	<p>Advanced topics:</p> <ul style="list-style-type: none"> • How to be a deal lead. • Acting for others, not just self. • Managing the deal process. • How to organize and manage due diligence teams. • Sharing due diligence with others. • Inter BAN syndication. • Effective engagement with venture capital / corporate partners. • Structuring cross border syndication.

ANNEX 8

BUSINESS ANGELS: MYTHS AND REALITY

"Despite the growing interest in angel investment over the past decades, definitions are neither uniform nor consistently applied."

– OECD 2011²³¹.

Whilst the majority of definitions of business angel exclude investment by "friends and family", there remain substantial inconsistencies between the different definitions. In some ways it is easier to define what a business angel is not, rather than what a business angel is. For example:

- A business angel is "not an institutional investor", defining an institutional investor as a corporate financial institution or other organization that uses money raised from another party to invest.
- A business angel is not a "friend or family" investor, using their own money to provide capital to a business owned and operated by a family member, work colleague, friend, or neighbor.

A classical academic definition of a business angel would be:

*"High net worth individuals who invest their own money, along with their time and expertise, directly in unquoted companies in which they have no family connection, in the hope of financial gain"*²³²

The reality of angel investing is that it operates on a spectrum, occupied at one end by the solo investor who makes his or her own investment decision to invest directly, and at the other end by investors who are part of angel networks who simply say 'yes' or 'no' to the investment opportunities that they are offered and play no hands-on role in the investee company. The hands-off investor who invests in a pooled fund and delegates the decision on which investments to make would not be considered to be a business angel on the basis on the academic definition above.

While angels are often associated with "equity" the form of investment used is varied. Investment means can include equity, convertible debt, debt, revenue share, and guarantees. Typical deal structures vary geographically. Within the USA convertible debt is used in 45 percent of investment in the North West, but in only 22 percent of Mid-Atlantic deals²³³. Convertible debt is effectively unknown in UK angel deals.

Angels invest at all stages of a company's development. These stages range from pre-seed to pre-IPO financing. Angels may invest in a range of stages to mitigate risks in a portfolio.

²³¹ Financing High-Growth Firms: The Role of Angel Investors, OECD 2011.

²³² The Real Venture Capitalists: A Review of Research on Business Angels, Colin M Mason, 2008.

²³³ Angel Resource Institute, HALO Annual Report on Angel Investments 2017.

The size of an angel investment can range from as little as €5,000 or less to several million. Investment size is both at the level of the individual angel's contribution and the total round size contributed by an angel network or syndicate of angel networks.

Although angel investing is characterized as being "hands on" with the provision of mentorship and business advice in addition to funding, passive investing is common among members of angel networks. In a situation where say 10 angels contribute to a single investment, it is not practical or advisable to have all 10 active in that individual deal.

Angels still tend to be male and older. In the USA 22.1 percent are female and 77.9 percent male²³⁴. In the UK just 14 percent were found to be female²³⁵. Angels tend to be older, in the 45-65 year age group. This reflects the length of time required to build significant personal disposable investment funds. The average is falling however as more cashed out technology entrepreneurs turn to angel investing. The availability of networks and groups within which angels can become involved in syndicate deals has also enabled younger, and typically still in employment, individuals to become active angel investors, by reducing the size of investment they need to make.

54.8 percent of US angel investors were previously the founder or CEO of their own startups²³⁶. This suggests that prior experience as an entrepreneur fuels an understanding of startup issues and a network in the entrepreneurial community, resulting in an interest in angel investing. This however means that a significant 45 percent of angel investors were not a founder or CEO of their own startups, but rather have a professional or corporate background.

Motivation for becoming a business angel

Scott Shane reports that while making money is a motivation for most angels, it is not the only motivation, or even the defining motivation for many. He suggests that two thirds of angel investors report that making money isn't their primary motivation²³⁷.

It is important to understand the motivations of business angels in order that appropriate policy can be designed to incentivize more individuals to become business angels and existing business angels to invest more. It is also important to understand why people become business angels in order for entrepreneurs to understand how best to attract this form of investment into their company.

The motivations of individual business angels will include:

- **To make money.** Many observers would argue that there needs to be a primary requirement for angel investors to make a return on their investments, i.e. with the anticipation of receiving a return on investment. Otherwise the provision of funding would appear to be a donation, or "charity"/philanthropy. This requirement however leaves open the extent to which the expected return may be defined as "commercial", which in turn is likely to depend upon individual and personal perceptions of risk.
- **To get involved with private companies:** Some angels are motivated because they enjoy being involved with startup companies for example, but don't wish to start their own company. They simply enjoy the "buzz" of working with potential high growth companies.
- **To learn new things:** be it the investment process or new technologies.
- **As a hobby:** to have fun, meet interesting people, and keep up to date with technologies.
- **To help the community:** "giving something back". Helping a class of population, for example young people, or providing funding to cure a particular disease.

²³⁴ <http://www.theamericanangel.org/>

²³⁵ A Nation of Angels, Assessing the impact of angel investing across the UK, ERC, 2015.

²³⁶ <http://www.theamericanangel.org/>

²³⁷ "Fools Gold?"; The Truth behind Angel Investing in America, Scott Shane, 2009.

Box 23. Example of angel motivations

The complexity and relationship between differing motivations is illustrated by the “four pillars” upon which the Scottish angel group Archangel was founded in 1992, the principles which still guide their approach to investment and the character of the group as a whole. The group sets four technical criteria that potential investee companies must meet to be considered for investment:

- must be based in Scotland;
- must have high growth and international sales potential;
- should have defensible technology, with clear IP;
- should be in a sector which qualifies under the Enterprise Investment (tax incentive) Scheme

At a more philosophical level, the group’s business ethos is underpinned by four fundamental pillars, which are:

- To put something back into Scotland by investing in young people and companies, particularly those in science and emerging technologies.
- To look for investments where they could add value by passing on their own business experience.
- To have fun.
- To make some money.

While financial return is ranked number four, it in effect forms the foundation upon which the other motivations are built.

Barriers to entry

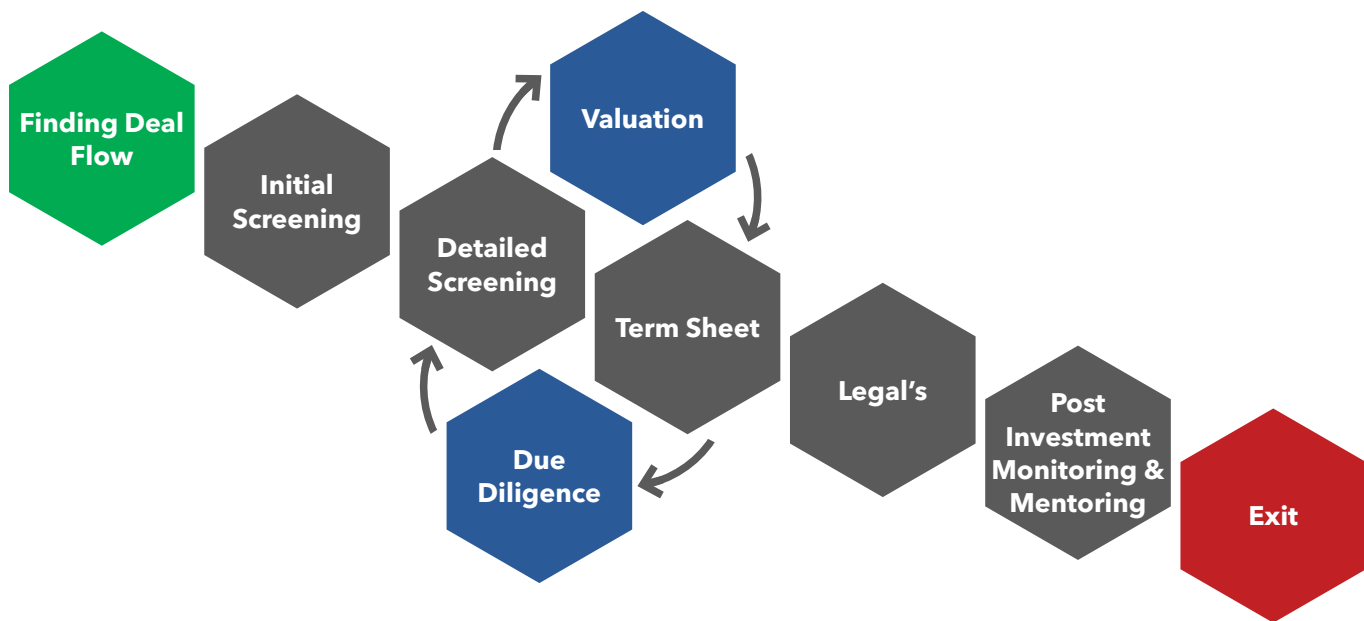
There are considerable disincentives and barriers to entry that are likely to restrict the number of new investors. Business angel investing requires the investor to learn new skills, is potentially extremely time-consuming, and is very risky. Angel investing is an entirely voluntary activity and some considerable effort may be required to persuade those capable of getting involved to do so.

New skills

Capable active business angels tend to have a background in business. They have accumulated wealth available for investment either through working at a high level within corporate industry or being themselves a successful entrepreneur. Neither of these backgrounds however prepares an individual particularly well with the knowledge required to invest in someone else’s business.

There is a steep learning curve required to understand how to source investable businesses, carry out screening and due diligence, and learn the intricacies of valuation and deal structuring. All of this must then be combined with the skills necessary to support a business post-investment with mentoring and advice over the likely 5 to 10 years it will take to achieve a successful exit. Potential angels may be put off continuing to invest once they realize the amount of new knowledge required to be successful, and the few sources from which they can obtain this knowledge. All too often early mistakes lead to the first investments made failing fairly quickly, resulting in the angel withdrawing from the market.

Figure 11. Steps in the Investment Process



Time consuming

A significant amount of time can be spent sourcing appropriate investments to consider, interviewing entrepreneurs, conducting due diligence²³⁸, negotiating valuations, and agreeing legal terms. This is multiplied considerably by the proportion of deals that may be initially considered, but which for whatever reason do not complete. Angels typically report that they only invest in around 3 percent of the deals initially considered. Given the recommendation that an angel should invest in a minimum of 12 to 15 deals²³⁹ would mean having to initially consider some 500 in order to spread risk, it is clear that many who have the financial capacity to make such investment will be put off by the significant time commitment needed to do so.

Even more time will be committed by the business angel to supporting the company post-investment. A study of angel investors in Germany showed that angels typically spent 6.2 days per month on their investments, averaging 1.34 days per month on each investment, with the most time being spent on their most recent investees²⁴⁰. More active investments might involve a day per week.

This time is largely given at no, or minimum, cost to the company. The angel is, after all looking after their own personal investment, and many will believe that taking a fee would merely be paying themselves with their own, invested, money. Angels are often in a position to provide significantly more time to a particular company than would be possible for a professional fund manager whose resources are restricted by the size of their fund management fee.

High risk

Angel investors make decisions to invest under conditions of extreme uncertainty. Angel investors face cases in which uncertainty is so extreme that it qualifies as unknowable: they decide on investments in ideas for markets that often do not yet exist, and they propose new products and services without knowing whether they will work. For experienced angel investors, rather than being undesirable, unknowable risks are deliberately sought, on the basis that it is by investing in companies with unknowable risks that they can find the most attractive and profitable investments.

²³⁸ The NESTA report "Siding with the Angels" suggests angels need to do a minimum of 20 hours just on due diligence on a potential investment before completion.

²³⁹ In any one investment, an angel investor is more likely than not to lose their money, i.e. to earn less than a 1X return. However, once investors had a portfolio of at least six investments, their median return exceeded 1X. A portfolio of 48 investments is 95% likely to deliver 2.5X over-all return. Data from Professor R Wiltbank, www.willamette.edu/~Wiltbank/

²⁴⁰ Malte Brettel, 2003, Business Angels in Germany: a research note, Venture Capital, July 2003, Vol. 5. No. 3

Angels use due diligence to try and assess risk and investment strategy to manage risk. The level of risk associated with any one proposition is not absolute, but a personal perception based on previous experience and industry knowledge.

The 2016 Angel Resource Institute study on angel investing returns in North America²⁴¹ suggests that 70 percent of investments made by angels in the US failed to return capital to investors (they were losses). Just 10 percent of all exits generate 85 percent of all cash returned. Angel investing is a “big win” (or “homerun”) game where many investments result in losses, but the occurrence of large outlier exits are the key drivers of the return rate. The returns distribution is highly skewed, with the median investment return being a loss, while the mean, in this study, being a 2.5x multiple return (for every \$1 invested \$2.5 were received back). For the study, the gross internal rate of return (IRR) was 22 percent. The study was based on 245 exits (liquidity events or closures, no estimated carried value). Thus out of 245 potential investments 171 resulted in loss, while just 24 provided 85 percent of the cash returned. This suggests a 1 in 10 success rate, where if an investor has a portfolio of 10 investments they will have one “good win”, but that would be to assume that the

“winners” are equally distributed within the deals an angel selects. In practice it would be perfectly possible for an angel to select 10, or indeed more, losers from a set of 245 possibles. A previous study of angel returns in the UK found a similar skewed return pattern, with 97 exits out of 1080 producing 80 percent of all returns²⁴².

To address this extreme risk, experienced angels do not seek to maximize each decision but instead seek a high return at the portfolio level, building a large portfolio to spread risk. Monte Carlo simulation of the Wiltbank data²⁴³ suggests that if an angel has a portfolio of 6 investments they have a 50 percent probability of obtaining their investment capital back (1x) (and therefore a 50 percent chance of just losing money also). If they increase their number of investments to 12 however they have a 75 percent chance of hitting a 2.6x return (for every \$1 invested they get \$2.6 back). It is possibly concerning that a UKBAA study showed that 64 percent of UK angels surveyed had 10 or fewer investments in their portfolios, 42 percent with 5 or fewer²⁴⁴. Angels operating within structured groups or syndicates tend to have larger portfolios. It is thus desirable to implement policy that encourages syndication.

Box 24. Using syndication to build investment portfolios

Successful angel investing appears to be based on using syndication to build large investment portfolios.

Archangel²⁴⁵, the Scottish investment group established in 1992, has completed investments in 80 companies of which 22 are still in the portfolio, 39 have failed, and 20 have resulted in positive returns, resulting in an IRR of 20.9 percent²⁴⁶.

Tech Coast Angels²⁴⁷, formed in 1997, has invested in 351 companies of which 190 are still in the portfolio. 91 have been completely written off (zero return). 50 have managed to return capital (zero profit / zero loss), 20 have returned between 5X and 263x, resulting in a 3.2x portfolio return, an IRR of 26 percent²⁴⁸.

²⁴¹ The study was funded by Ewing Marion Kauffman Foundation and the NASDAQ OMX Education Foundation and was based on exit data primarily from the period 2010 - 2016. <https://angelresourceinstitute.org/research/report.php?report=101&name=2016%20Angel%20Returns%20Study>

²⁴² Siding with the Angels, Business angel investing - promising outcomes and effective strategies, Robert E. Wiltbank, NESTA, 2009.

²⁴³ <http://archangelsonline.com/> <http://www.angelcapitalassociation.org/data/Webinars/2015%20Slide%20Presentations/PortfolioStrategyWebinarPPTFINAL.pdf>

²⁴⁴ Business Angel Spotlight, Research by IFF Research and RAND for BBB together with UK Business Angels Association, 2017. <https://british-business-bank.co.uk/wp-content/uploads/2017/12/Business-Angels-2017-Research-Findings-compressed-FINAL.pdf>

²⁴⁵ <http://archangelsonline.com/>

²⁴⁶ Archangels: Impact evaluation of activities, 1992-2015, University of Strathclyde. <http://online.fliphtml5.com/fgcw/xkov/#p=1>

²⁴⁷ <https://www.techcoastangels.com/>

²⁴⁸ <https://www.techcoastangels.com/performance/>

Few individuals have either the time or financial resources to build angel investment portfolios of the required size for risk mitigation by themselves.

This is best achieved by being part of a BAN or organized group or syndicate. Recognizing that observing others reap successful financial returns from being an angel investor is likely to attract new individuals to become angels themselves (as seeing individuals lose money will likely put new entrants off) and that increasing the pool of capital available to drive the economic development benefits derived from startup stimulation, many government agencies have adopted policies to support the establishment and operation of BANs.

Need for government intervention

It has become generally recognized that public sector intervention is necessary to encourage individuals to become angels and provide the essential financial and business support needed by high growth potential startups. This is because of the effort required by potential new angels to learn the necessary skills, the significant time involved in finding and making investments, the commitment needed to support a company for many years before an investment return is likely²⁴⁹, and the high probability of the investment failing to produce any return at all.

Organizing angels

The angel market place is evolving from a largely invisible, atomistic market dominated by individual and small ad hoc groups of investors who strive to keep a low profile to a more organized and professional market place in which angel syndicates (sometimes termed 'structured angel groups') are becoming increasingly significant. In developed markets new angels are now most likely to get involved through angel groups rather than via the influence of informal relationships, individual endeavor, or emerging online vehicles. 89 percent of US angel investors identify prospective investments through angel groups²⁵⁰. The reliance on

angel groups to discover investment opportunities is particularly prominent among angels who have less than two years of investing experience.

Angel networks have emerged because individual angels find advantages in working together, in terms of better deal flow, superior evaluation and due diligence of investment opportunities, and the ability to make more and bigger investments, as well as social attractions. Groups typically range from 25 to 75 members. They take various forms but, in most cases, a manager or a core group of members will screen the deal flow and select the companies which are invited to pitch to members. Members then vote whether to pursue an interest in the business. If the vote is in favor a sub-group will be appointed to undertake the due diligence and report back to the full membership. If the recommendation is positive, individual members make their own decisions on whether or not to invest and the group will combine all investing members into a single investment.

The emergence of angel groups is significant for the development of an entrepreneurial ecosystem:

- They reduce inefficiency in the angel market by making angels more visible and easier for entrepreneurs to approach.
- They stimulate the supply-side of the market.
- They enable risk reduction diversification.
- They offer the opportunity to learn from more experienced investors.
- They enable larger investments and more follow on.
- They can provide a broader and deeper level of mentoring and support by calling upon the skills of multiple investors rather than just one.

Business angel networks, groups, syndicates, federations, and associations

These terms are often used interchangeably and are applied with different meaning in different countries. It is appropriate to provide definitions to ensure clarity of understanding and the place each has in a developing market.

²⁴⁹ Time to exit in the UK has been reported to be extending out to 9 to 10 years - The Risk Capital Market in Scotland, 2009- 2010, Scottish Enterprise, 2012, page 5.

²⁵⁰ <http://www.theamericanangel.org/access-full-report>

Angel associations

Angel associations or federations are trade bodies established to support the development of the angel capital market and to provide a collective voice for angel investors to policy makers and others. They may represent countries (e.g., LINC, UKBAA, France Angels, ACA), regions (e.g., BAE, EBAN, African Business Angel Network), or be global (e.g., Global Business Angels Network). These organizations play an important role in raising awareness about the industry, sharing best practices, developing local angel groups/networks, providing networking opportunities, and collecting data. The role of angel associations is to provide support to the angel industry as a trade body, which means they themselves usually do not invest nor play a match making role.

Business angel networks

BANs are formed as a way to facilitate match making between potential angel investors and entrepreneurs. The BAN itself does not make any investments or investment decisions. BANs tend to remain neutral and generally refrain from formally evaluating business plans or angels. Angels continue

to make their own individual investment decision, and the BAN does not decide which investors will invest in a deal. BANs also often provide a number of added value services to both angels and entrepreneurs, such as investor/investment readiness. While the majority of BANs are set up as not for profit organizations, some such as Keiretsu Forum²⁵¹ are commercial organizations, seeking to make profit from the investment process.

Angel groups

Angel groups are “clubs” of angels who invest together repeatedly. They are often “closed” groups, with membership only open to those who are known to or recommended by existing members. A group tends to be relatively formal, often structured as a not for profit company, but with investments being made directly by the individual members (not in the name of the group). Groups may be “member led”, with the work of deal sourcing and deal completion being done by individual members, or “manager lead” with much of the work (but not the investment decision) being made by a manager appointed by the members. The Angel Group structure is the most common angel organization structure in the US, Canada, New Zealand, and Scotland.

Box 25. Examples of BANs

Examples of BANs include:

- Angels Santé /Angels for Health (France): was founded in 2008. It has 90+ members. Most members are based in France but is expanding to Europe and welcomes investors from other countries interested in healthcare. Angels Santé is exclusively investing in high-growth companies focused on healthcare (Biotech, Medtech companies, Diagnostics, e-Health.)
- BAN Vlaanderen (Belgium): is the Flemish business angel network, founded in 1999 with currently 225 members/business angels. Its goal is to stimulate economic growth in Belgium by developing, guiding, and promoting entrepreneurship through bringing together capital-seeking entrepreneurs and private investors (business angels).
- IAG (Italy): was founded in 2007 and currently brings together 120+ investors. It is the main angel group in Italy and constantly ranks as one of the most active early stage investors in the country. Its members have invested in excess of €12 million in deals in Italy, Europe, the US, and Israel. The group is strongly committed to promoting entrepreneurship as an engine for growth in Italy as well as in Europe.

²⁵¹ <http://www.keiretsuforum.com/>

Angel syndicate

An angel syndicate is a gathering of two or more angels into an informal consortium for the purpose of creating a critical mass of funds for investment into a company. Syndicates are often created to fund a one off transaction. They may be formed from investor members with a network or may be brought together in other ways, including by the investee company. The formation of informal syndicates by members of a BAN to do deals is increasingly common. For example, the Estonian BAN (EstBan) reports that for 2017, 87 percent of their deals were by syndicates of its members²⁵².

Syndication may also refer to the circumstances where two or more angel groups come together to invest in a company. Angel groups often enter into memorandum of understanding in advance of such arrangements, setting out rules for the sharing of due diligence, the establishment of a “lead” angel group, and other matters relating to the processing and administration of a “shared” deal. The Angel Resource Institute, in its 2017 Annual HALO report on angel investing in the US²⁵³, notes that while the median value of funding provided by an individual angel group in the US was \$200,000, the median value of funding rounds was higher, at \$270,000. This means it is now normal for it to take multiple angel groups to fund a deal.

Box 26. Examples of Angel Groups

Examples of Angel Groups include:

- Archangel Informal Investment: a Scotland-based business angel group. Originally formed in 1992, the syndicate now comprises around 100 investor members and is investing c.a. £10 million per year in early stage Scottish companies, including leverage from partners, the largest being the Scottish Enterprise CoFund.
- Bloom Equity: an Irish group of experienced entrepreneurs who have successfully built technology led companies in software, online services, e-commerce, and telecoms. As many of the members are industry veterans that have successfully set up and sold technology companies previously, they have a unique set of skills, experience, and contacts. They generally invest €150,000 – €250,000 in return for a significant minority shareholding generally in the region of 15-25 percent.

²⁵² <http://www.estban.ee/about/2017>

²⁵³ The HALO Report is a collaborative effort of the Angel Resource Institute, Florida Atlantic University, and Pitchbook intended to raise awareness of early stage investment activities and trends. <https://angelresourceinstitute.org/research/report.php?report=111&name=2017%20Annual%20ARI%20HALO%20Report>

ANNEX 9

KNOWLEDGE-INTENSIVE FIRMS

In 2017 the UK Government initiated the Patient Capital Review (PCR)²⁵⁴ intended to explore ways to improve the flow of long term risk capital²⁵⁵ for knowledge-intensive firms looking to scale up.

External equity finance is used by only around 1 percent of UK small business²⁵⁶. Use of equity finance by UK firms that fit into the standard policy definition of 'high-growth' has been estimated to be between 4 percent and 14 percent²⁵⁷.

Equity finance is however critical for firms focusing on the commercialization of technology, firms where revenues typically lag investment significantly, or firms without existing revenues looking to commercialize R&D. As a result, nearly

half of high-growth technology firms use external equity finance²⁵⁸. These innovative firms have a disproportionate impact on productivity through the new ideas that they commercialize and bring to market. It is patient capital that supports such firms.

The UK Government identified knowledge-intensive firms, those with high growth potential but which are R&D and capital intensive, as having the most difficulty obtaining the capital they need to scale up. As a result, the Finance Budget 2017 introduced increased tax incentives for investment into such firms and a further consultation is underway on the possibility of introducing specific tax advantaged investment funds²⁵⁹.

²⁵⁴ <https://www.gov.uk/government/consultations/financing-growth-in-innovative-firms>

²⁵⁵ The consultation defined patient capital as "long-term investment in innovative firms led by ambitious entrepreneurs who want to build large-scale businesses". It noted that only some firms need patient capital to grow to scale.

²⁵⁶ BDRC continental, "SME Finance Monitor Q4 2017", March 2018, found that 1% of SMEs had 'applied' for external equity investment in the last 12 months (available at: http://www.bva-bdrc.com/wp-content/uploads/2018/03/RES_BDRC_SME_Finance_Monitor_Q4_2017.pdf)

²⁵⁷ 'BERR economics paper No.3: High growth firms in the UK: lessons from an analysis of comparative UK performance', November 2008 (available at: <http://webarchive.nationalarchives.gov.uk/+/http://www.bis.gov.uk/files/file49042.pdf>)['Myth-busting and entrepreneurship policy: the case of high growth firms', Ross Brown, Suzanne Mawson & Colin Mason, Entrepreneurship & Regional Development, 2017, Volume 29, Issue 5-6 (available at: <http://www.tandfonline.com/doi/abs/10.1080/08985626.2017.1291762?journalCode=tepn20>)

²⁵⁸ For more information, please see: <http://www.fasttrack.co.uk/league-tables/tech-track-100>

²⁵⁹ <https://www.gov.uk/government/consultations/financing-growth-in-innovative-firms-enterprise-investment-scheme-knowledge-intensive-fund-consultation>

Box 27. UK definition of knowledge-intensive firm

The UK Government has determined that to qualify as “knowledge-intensive”, a firm must meet one or both of two operating cost conditions:

- Must have spent at least 15 percent of operating costs on R&D or innovation in one of the three years preceding investment.
- Must have spent at least 10 percent of operating costs on R&D or innovation in each of the preceding three years.

A company must also meet either the **innovation condition** or the **skilled employees’ condition**.

To meet the innovation condition the company must be creating or have recently created IP, which will be used in future for its main business activities. This can be proven by:

- Producing patents or licenses, or
- Having an independent expert (e.g. a university professor in a relevant field) verify it is producing IP

To meet the skilled employees’ condition at the time of investment and for the following three years, at least 20 percent of the company’s full-time equivalent employees must be skilled employees with a relevant Master’s (or higher) degree carrying out R&D or innovation activities.

ANNEX 10

TAX INCENTIVES TO PROMOTE ANGEL INVESTING

The EC recently published a report looking at best practices in tax incentive programs for investors in 36 countries²⁶⁰ from within Europe and the OECD. The tax structure is being used by many countries to encourage the desired change in behavior for individuals to take on extra investment risks. This report includes case studies on a tax incentive structure operated by the State of Delaware (see Case Study 7) and a grant structure operated in Germany that provides the same stimulus to Angel investors as a tax incentive, but without involving legislative change to the tax code (see Case Study 8).

Tax credits can be given in a number of ways:

- Income tax relief on dividends received.
- Exemption from capital gains tax on exit.
- Loss offset against other taxable income.
- Tax credits at the time of initial investment.

It is suggested that the provision of income tax relief on dividends received from investments made is not appropriate in stimulating early stage investment. This is because young startup companies are usually not in a position to pay dividends. Such a tax policy would therefore likely encourage investment in later stage businesses, possibly further reducing the capital available for startups.

Capital gains tax exemption can be effective.

However, given the high number of companies that fail to return capital (and therefore do not produce a capital gain upon which tax would be payable) and the extended time it takes to achieve an exit (typically eight years or more for knowledge intensive companies), provision of capital gains tax relief is less effective than providing an immediate tax benefit at the time of investment. However, it should be noted that it is common for schemes to use multiple forms of incentive (the UK Seed Investment Scheme utilizes tax relief at time of investment, loss relief, and capital gains tax relief).

²⁶⁰ Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

Tax credits at the time of initial investment are likely to be the most effective at addressing investor risk aversion.

The amount and timing of the tax credit are more certain for the investor. Tax credits at the time of investment may take the form of a deduction of the investment amount (or a percentage thereof) from income tax that would otherwise be paid. An alternative is to provide a tax relief on capital gains from the disposal of other assets (property, bonds, etc.) on amounts that are invested in qualifying startups. For example, if the sale of a property made a gain of €10,000 no tax would be paid on that gain if the investor made a €10,000 investment into a qualifying startup. The UK Seed Enterprise Investment Scheme (SEIS) includes such a measure, effectively providing a write off of 50 percent of capital gains tax that would otherwise be paid²⁶¹. Such a scheme may encourage the gains from the sale of relatively safe investments to be invested in riskier startups.

For tax incentives to be effective, however, there needs to be a culture of risk-taking and investment.

In the Czech Republic, interviews suggest that rich private individuals who are willing to invest their capital (whether in the early or latter stages) tend to be risk-averse, impatient (seeking short term investments and quick returns), and lacking in deal flow experience. It is therefore appropriate for the introduction of a tax incentive scheme to be preceded by a period of preparation including the general promotion of angel investment and the facilitation of education of potential new investors to enable them to make informed investment decisions. It is appropriate to try and ensure that those encouraged by the tax incentive to make investments have some knowledge and understanding of the process. The danger is that a tax incentive will encourage “dumb money” to enter the market, resulting in inappropriate investments being made and potentially significantly distorting the market. The result could be a significant level of financial loss by investors, resulting in angel investing in general receiving a bad reputation, setting back efforts to increase its economic impact.

Effective targeting

The objective of a tax incentive is to encourage a behavioral change in a target set of investors to invest in a target set of companies that are perceived to offer economic benefit to the state.

It is therefore necessary to design the scheme in a way that it achieves its objective of creating increased risk taking in relation to the target set of companies. Schemes typically have a set of criteria that the company and the investor must meet in order to qualify. This may include:

- **The company** can be targeted in terms of age, size, sector, and location.
- **The investor** can be targeted in terms of status (for example targeting experience investors who may give added value to the company through mentoring etc.) and connection with the recipient of investment (e.g. to exclude founder family members, existing employees, or directors).
- **The investment** can be targeted in terms of size or investment structure (equity is often preferred as it is seen as full risk bearing and long term support for the company). Typically, only new issues of shares by the company qualify, not shares bought from the founders or previous investors (to ensure the funding goes into the company to promote growth).
- The minimum length of time qualifying investments must be held in order to attract tax relief (to encourage long term company support).

²⁶¹ The United Kingdom's SEIS was the highest ranked tax incentive by the EC report Effectiveness of Tax Incentives for Venture Capital and Business Angels to Foster the Investment of SMES and Start-Ups, 2017.

Potential tax avoidance issues

As with all tax regulations, individuals will look for advantages that may be out of the spirit of the legislation's intention. It is therefore appropriate when designing a new scheme to consider lessons learnt from previous programs. A number of lessons can be drawn from the long history of the UK Government's EIS scheme, initiated in 1994. The UK Government has, for example, particularly tackled potential abuse through "capital preservation" investments. These are investments which are in practice inherently lower risk, and often asset backed, that can generate stable returns without aiming for significant growth or incurring the requisite level of risk to justify a tax incentive. Examples of such investments in the UK include a company set up to provide preschool nursery education. Typically, the investment was used to purchase a building in which the nursery operated for the minimum required time under the tax legislation. The company was then liquidated and the property assets sold. With a 30 percent income tax deduction, an investment could even be sold at a loss, say at 90 percent of the original investment value, and still return a profit to the investor, tax free, of 20 percent over the three year minimum period. To combat such abuse a specific 'capital preservation purpose test' has been introduced to ensure that adequate risk is being taken within any individual investment. The principles-based "risk to capital" test is designed to ensure that the propositions only invest in those businesses which are deemed to be "knowledge intensive"²⁶², have the capacity to grow quickly, and are not simply low-risk tax shelters²⁶³.

While adding a degree of complication, the adoption of appropriate definitions and rules will ensure that the increase in available investment from the introduction of a tax incentive scheme is targeted at the companies and regions considered to be of key priority to the Government. There is now sufficient experience in the operation of such schemes, particularly in the UK, to provide guidance as to the most appropriate structures to adopt.

Potential impact and cost issues

For tax programs, the direct cost of the schemes is the level of tax foregone. This may not be easy to calculate in advance as, depending upon the nature of the scheme, it may include forgone tax on as yet unknown capital gains or losses. The overall tax "loss" will depend upon the level of credit granted and the amounts of investment permitted. Some US states limit the potential loss by setting a maximum annual budget that can be claimed by investors, after which no additional applications will be accepted for that year.

The UK Treasury estimate that the cost of their principal angel tax credit scheme, the EIS, costs between £0.57 and £0.73 per £1 of investment made²⁶⁴. One interpretation is that the state saved between £0.43 and £ 0.27 by encouraging this funding to be provided by the private sector rather than by the state. These costs should be considered against the overall economic benefits unlocked by additional investment, for example the benefits created through growth, innovation, and increasing national income. The UK Government has been operating EIS since 1994. In an assessment of EIS published by HM Treasury in 2016²⁶⁵ it was found that 60 percent of companies receiving investment supported by the EIS scheme believed investment would either definitely or probably not have taken place without the scheme. 79 percent of investors stated that the income tax relief was either very important or essential for the investment proceeding. A study of Irish angels found that almost half of those surveyed reported that they would stop making business angel investments if all tax incentives were removed, and a third reported that they would scale back their investing²⁶⁶.

Significant claims have been made for the impact of tax incentives. The Arizona Angel Investment Tax Credit initiated in 2005 provided a tax credit of 30 percent made into qualifying businesses, a rate that increased to 35 percent for investments in bioscience or rural companies. The tax credit had a total budget limit of €20 million but has been credited with creating an estimated combined economic impact to Arizona since the program's inception of \$1.3 billion²⁶⁷.

²⁶² See Annex 9. Knowledge-intensive firms for the definition of knowledge intensive.


²⁶³ <https://www.gov.uk/government/publications/income-tax-venture-capital-schemes-risk-to-capital-condition/income-tax-venture-capital-schemes-risk-to-capital-condition>

²⁶⁴ Financing growth in innovative firms: consultation, HM Treasury, 2017, page 49.

²⁶⁵ The use and impact of venture capital schemes, HMRC Research Report, 2016, 355 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/497288/Venture_Capital_Schemes_report_v11_PUBLICATION.pdf

²⁶⁶ Funding For Growth: The Business Angels Market On The Island Of Ireland, InterTradeIreland, 2016

²⁶⁷ <https://azcapitoltimes.com/news/2017/03/28/angel-investment-tax-credit-too-much-of-a-good-thing-isnt-nearly-enough/>



Need for preparatory work prior to implantation of tax incentives

To maximize the impact of a tax credit in broadening the overall base of investors, it is important that the benefits are widely communicated to potential new investors and companies. It is not sufficient to reward only existing investors with the incentive. One study suggests that take up of a tax credit offered by the state of Vermont was low because it was not sufficiently championed and widely publicized²⁶⁸, concluding: *“so even though a state can construct a properly targeted angel investment credit program, the best practice that the state can put forth is one where building relationships and communication among entrepreneurs and angels can thrive”*. An article in the UK’s What Investment suggested that despite the scheme running since 1994 many investors were simply unaware of it²⁶⁹.

Policies such as tax incentivization can only be fully effective within a functioning ecosystem built upon a free flow of information. It is not appropriate to launch a tax incentive program until the foundations of such an ecosystem have been put in place.

²⁶⁸ Tax credits and government incentives for angel investing in various states. Angel Capital Education Foundation. Williams, J., 2008, www.angelcapitalassociation.org/data/Documents/Public%20Policy/State/Tax%20Credits%20-%20Jeffrey%20Williams.pdf

²⁶⁹ <http://www.whatinvestment.co.uk/eis-why-isnt-it-more-popular-2554597/>

ANNEX 11

CZECH ENTREPRENEURIAL LANDSCAPE

During the preparation of this report, the team collected data on the actors operating within the early stage environment in the Czech Republic. This is not intended to represent a complete mapping, and it may be that some disagree with our descriptions and allocations of functions. In the context of this report, the lack of a comprehensive source of information on industry actors accessible by company founders or investors was highlighted. This informed the recommendations regarding the need for comprehensive and continuous data collection and dissemination. It is likely that individual actors will come and go continuously, and that the roles and offerings of those listed will change and develop over time. For example, new sources of funding will emerge, while others will close. The intention in presenting the data generated is to illustrate the complexity of the existing landscape and the potential difficulties actors may have in connecting to the most appropriate organizations and individuals to meet their needs.

Supply side

Credo Ventures Inc.

- **Company:** Credo was founded in 2009 in Prague where it currently resides. It has a team of 11 people. Its advisory board comprises of five foreign entrepreneurs/investors.
- **Investment focus:** Credo supports investments in Central Europe in the field of AI, machine learning, IT, cognitive security, business automation.
- **Investment portfolio:** Credo focuses on seed, venture, and series A investments between €50,000 and €6 million, and convertible notes (it has made one so far at the amount of €50,000 in online security). Its total assets under management are €71 million (50 percent seed investments, 30 percent series A investments, 20 percent series B investments). It has invested in 42 startups/ventures, and is a leading investor in about 50 percent of them.

SUPPLY SIDE

Private equity funds

Venture capital

Credo.



J&T VENTURES

INVEIN
CAPITAL
CEZ GROUP

Jam
V|E|I|N|T|U|R|E|S

YSOFT

rockaway
SAN FRANCISCO · PRAGUE · SÃO PAULO

Symfonie

Later stage funding

Advent International
GLOBAL PRIVATE EQUITY

GENESIS CAPITAL

CONSILLIUM
PRIVATE INVESTMENT

SKYLIMIT
- INVESTMENTS -

3TS CAPITAL PARTNERS

CEE EQUITY
PARTNERS

ARX

ESPIRA
INVESTMENTS

Angel network

KEIRETSU



FORUM

The stock exchange



PRAGUE STOCK EXCHANGE
BURZA CENNÝCH PAPIŘŮ PRAHA

Public organizations



ČESKOMORAVSKÁ
ZÁRUČNÍ A ROZVOJOVÁ
BANKA, a.s.

Crowdfunding (equity, debt, sales)

fundlift

půjč mě firmě

zonky.cz

SymCredit



startovač
vypusťte to do světa

HITHIT

Rockaway Capital

- **Company:** Rockaway resides in Prague. It has a team of 32 people.
- **Investment focus:** Rockaway's focus is on building the internet economy in emerging markets. It invests in e-commerce/e-shops and surrounding services, IT and cloud-based technology, 3D technology, digital business, gaming, and lending platforms.
- **Investment portfolio:** Rockaway focuses on seed, venture, and series A investments between €200,000 and €5 million, and convertible notes (it has made one so far in a software-as-a-service (SaaS) platform development at the amount of \$400,000). It has invested in 22 startups/ventures, and is a leading investor in about four of them.

Miton

- **Company:** Miton was established in 2000 and currently resides in Prague. It has a team of 11 people of which seven are investment partners.
- **Investment focus:** Miton's focus is on SaaS and AI.
- **Investment portfolio:** Miton focuses on seed and venture investments in the field of SaaS, AI, and fintech. It has made six investments, and in two of the six investments it is a leading investor.

YSoft Ventures

- **Company:** YSoft Ventures was established in 2014 and it resides in Brno. YSoft Ventures is the investment arm of YSoft, a successful global software and hardware startup using access to local engineering and IT talent. It provides startups with support in marketing, financial management, management, R&D, global presence, and sales support. YSoft Ventures' management team is four people.
- **Investment focus:** YSoft focuses on the CEE region. Because YSoft also produces its own hardware and software, they choose to invest in companies with the same focus and passion. It focuses on building intelligent enterprise office solutions that build smart business (waste management solutions, network security, performance monitoring, hardware in projection and video-mapping, digitization of movement in Industry 4.0, storage, and video compression solutions).
- **Investment portfolio:** It focuses on seed and venture round investments. It has made eight investments of value around \$4 million, four of them as a leading investor.

J&T Ventures

- **Company:** The J&T team consists of three people as a management team, three people as an investment committee (IC), and an advisory board that consists of three foreign investors.
- **Investment focus:** J&T has made investments in the Czech Republic, the UK, Slovakia, Finland, and Germany. Hardware (machine to machine (M2M) infrastructure) and software technology in sound, air quality, and healthcare. Also, SaaS and IT (connecting platforms, crowdsourcing platforms, customer experience software, gaming apps, and data-driven marketing).
- **Investment portfolio:** J&T focuses on seed and venture round investments. It has made nine investments, two of them as a leading investor, of a value about \$2 million.

Consilium Private Investment

- **Company:** Consilium is a family office (private wealth management firm) with a vision to become an active equity partner and an entrepreneurial investor. Its management team consists of four people.
- **Investment focus:** Consilium invests in companies in the EU and CEE as well as North America. It invests in traditional sectors such as manufacturing (components of machines for agriculture, industry, and construction), and the design and manufacturing of sports goods and equipment. It also invests in early-stage businesses with global potential in applied biotech, new materials, energy storage, and additive manufacturing.
- **Investment portfolio:** Its preferred equity value range is €20-50 million.

Symfonie Capital

- **Company:** Symfonie was established in 2014 in the UK. It has a management team of 4 partners. It offers startups and companies its expertise in finance and investment management.
- **Investment focus:** It invests in SMEs in the UK, Czech Republic, and Poland. Its portfolio consists of: (a) angel venture fund (focus on innovative high-growth companies in IT, IoT, financial and business services, mobile, efficient energy, and healthcare), (b) high income debt investments (high-yield instruments), (c) tailored investments (hand-picked quality investments).
- **Investment portfolio:** Symfonie focuses on seed and early stage investments between €50,000 and €250,000.

JAM Ventures

- **Company:** A newly established venture capital fund in Prague.
- **Investment focus:** Its focus is on post-acceleration seed investments. It screens for €300,000 - €1 million seed investments that have the potential to grow 10 times in the next five years. The investment structure they use is quasi equity. It also perceives itself as a bridge between startups in Prague and investors in Berlin.
- **Investment portfolio:** It aims at the investment of €35-50 million under management.

Keiretsu Forum

- **Organization:** It has about 25 members, four or five of whom are active investors in projects in the Czech Republic and abroad. It has established a mentoring project called Angel Academy where it provides investors with seminars and coaching on risk and early stage investing. It provides investors with administrative help post-investment. Works with an annual membership fee.

Fundlift

- **Company:** Investment-crowdfunding platform in Prague that links investors to projects. Currently has 8,000 registered members, 2,500 of them are active.
- **Investment focus:** Fundlift focuses on passive investors who invest online in bonds, convertible debt, and equity, mainly in the food & gastro industry. The model is '1-firm, 1-year, €1-million'.

Prague Stock Exchange

- **Organization:** The Prague Stock Exchange was established right after the fall of the communist regime in the Czech Republic in 1990. A very recent innovation is the START program, which is an IPO market for SMEs. It is branded as a "market for smaller businesses" with a valuation of between €1 million to €80 million²⁷⁰. The market allows a minimum investment of about €19,000. Trading on the START market is not continuous as on other markets of the Prague Stock Exchange, but it is an auction that takes place for 20 minutes four times a year, on predetermined days, called START Days. The first two companies were placed into the market on 15 May 2018 and an additional

two will offer shares on the market on 2nd October 2018. No new companies offered shares on the START day in June 2018.

- **Focus:** It focuses on companies who have completed proof of concept. Typically, it has private banking clients, and it requires minimum capital of €14,000 in order to filter out micro retail investors (those who invest about €500).

Support side

Opero

- **Organization:** Opero is a membership-based and commercial rental co-working space. It offers its members closed offices, fixed desks, flexible memberships, and club membership.
- **Focus:** Within the B2C space, Opero focuses on more mature companies. It also offers B2B mentoring in collaboration with the British Chamber of Commerce.

TACR (Technological Agency of the Czech Republic)

- **Organization & focus:** TACR is a Government-backed agency that supports applied research and experimental development in the field of advanced technologies, materials, systems, energy, and the environment. Its goal is technology transfers from universities to the private sector.

Unico.ai

- **Start-up:** Unico focuses on technology transfers. It helps universities and research organizations to commercialize their research and ideas. It also helps the private sector to find expertise and technology for their innovation, and it helps investors to find early-stage promising projects for investment. It uses AI and data processing skills. Its unique market offering is its ability to tap into non-public databases.
- **Focus:** It has facilitated projects in marine techniques, biomedical engineering/life sciences, nanotechnology, chemistry, electronic microscopy, efficient energy and housing, infrastructure, and virtual reality.

²⁷⁰ For more information, see: <https://www.pse.cz/en/trading/markets/start-market/>

SUPPORT SIDE

Incubators



JIC STARCUBE

Fund-backed accelerators



Public sector facilitators



Private sector facilitators



Foreign government facilitators



Confederation of Industries

- **Organization:** It is a business lobbying organization. It acts as an umbrella for 33 associations together with 141 direct members. The overall number of its members reaches 11,000.
- **Focus:** It focuses on cohesion policy, digitalization of the economy, energy, environment, EU affairs, export, human resources, Industry 4.0, labor market, R&D, labor and tax legislation, and transportation infrastructure.

C-Corpfm

- **Company:** C-Corpfm is a financial advisory company. It offers M&A advisory services around raising debt and equity capital, company valuations, and on value creation.
- **Focus:** Mid-market transactions. Its clients span from government enterprises (railway state company) to pharmaceuticals, energy, TV and entertainment, manufacturing, and the banking sector.

Depo Ventures

- **Company:** Depo was established in 2016 in Prague. It is an investment platform, which connects investors and startups ('venture by service' model). It aims to move into private equity (fee-based business model). It offers corporate finance and business law consulting. It also makes some investments. Currently it has six staffs of which one is a partner.
- **Investment portfolio:** Depo has mobilized €2.5 million within three projects.

Busyman

- **Company:** Peer to peer (P2P) crowdfunding platform, established in 2010 in Prague.
- **Investment focus:** Pre-seed, early stage projects of \$100,000-\$200,000.

CMZRB

- **Bank:** is the development bank of the Czech Republic. It supports, in accordance with the economic policy intentions of the Government of the Czech Republic and the regions, the development of SMEs, infrastructure, and other sectors of the economy requiring public support.

- **Investment focus:** Loans and guarantees to SMEs with the goal to finance more risky projects by providing collateral and interest rates relief.

CzechInvest (Czech Accelerator)

- **Organization:** Investment and business development agency backed by the Government (reporting to MIT). It provides starting companies with mentoring, funded acceleration, and networking. It has mentored almost 200 companies since 2010, and 10 of those have received funding from local investors.
- **Focus:** It focuses on projects only outside Prague. Its sectoral focus is on aerospace (space program supported by the European Space Agency), automotive, business services, electrical engineering and electronics, advanced engineering, ICT and data centers (90 percent of companies in the Czech Republic are in ICT), life sciences, and nanotechnology.

StartUp Yard

- **Organization:** Fund-backed accelerator, deal-flow generator for the investment community in the Czech Republic. Every eight months it takes a batch of three startups on board for a three month acceleration program. Currently it has nine startups on board. Out of an average of 150 applications, it takes in 10 startups that have at least two founders. It offers a pool of 157 pro-bono mentors.
- **Focus:** It focuses on tech startups with global ambition. It offers €30,000 for the acceleration in exchange for 5 percent equity.

UP21

- **Organization:** UP21 is a Prague-based incubator backed by a seed fund. It has incubated 17 startups in the past two years, four of which have raised venture capital funding. Startups in UP21 are provided with key performance indicators (KPIs) - only if they reach their KPI goals, can they access more seed funds. The membership fee is 5,000 CZK (about \$220). Typically, it offers €20-50,000 per startup and asks for 15 percent of equity if a series A investment happens.
- **Focus:** It focuses on B2B startups that are not necessarily in the tech industry. It also focuses on early-stage startups, typically at the ideation or minimal value proposition stage.

ANNEX 12

INTERVIEWED STAKEHOLDERS

The team met with the following stakeholders:

Business Angels/Business Angel Network

- Karel Obluk
- Keiretsu Forum

Venture capital/Crowdfunding platforms

- Symfonie Capital
- Equus Ventures
- Miton Ventures
- Depo Ventures
- Ysoft Ventures
- J&T Ventures
- Credo Ventures
- Fundlift

M&A/Private offices/Others

- C-Corpin
- Consilium
- Medesa

Entrepreneurs

- Vojta Nosek, Unico.ai
- Jan Rehak, NETIOproducts
- Pavel Jurus, Big Terra

- David Dostal, Fetview
- Alejandra Mendoza, ImpromptMe
- Michael Fehn, E.ON
- Lukas Sedlacek, ELAI & Poetizer
- Jakub Elias, Shipvio
- Bruce Pales, 360cities
- David Vitek, NWT

Incubator/Accelerator/Co-working Space

- OPERO
- CzechInvest (government)
- Startup Yard
- Busyman
- UP21

Government Agencies

- Ministry of Finance (client)
- MIT
- MPO
- CzechInvest
- Technological Agency
- Confederation of Industry
- CMZRB
- Prague Stock Exchange



CASE STUDY 1

HBAN BUSINESS ANGEL NETWORK IRELAND

The HBAN was established by Enterprise Ireland and InterTradeIreland in 2009²⁷¹ and managed on their behalf by a competitively tendered private sector service provider on a three year rolling contract.

The primary strategic aim of HBAN is to facilitate investment by business angel investor syndicate groups in early stage companies on the island of Ireland. This is achieved through the establishment, support, development, and promotion of business angel investment, and specifically investment by syndicates of angels, and by facilitating and encouraging referrals of investment opportunities to angel investors.

The main objectives of the program are specifically:

- to develop business angel syndicates i.e. groups of more than one business angel who work as a partnership to fund businesses;
- to act as the lead representative body for business angel investing on the island;
- to lobby Government on behalf of BANs on the island;
- to provide training for investors on business angel investing;

- to ensure international best practice is implemented;
- to standardize legal documents for business angels and syndicates;
- to work in co-operation with all angels on the island.

The service provider operating HBAN on behalf of Enterprise Ireland is expected to be independent of existing and new angel networks and funds. As such they are not permitted to operate another BAN or syndicate group or provide business angel services whilst delivering the HBAN program.

HBAN has an advisory group made up of representatives of business angel syndicates and high profile entrepreneurs. The role of the advisory group is to provide further direction and advice to the HBAN initiative and to enable HBAN to get feedback and support from both representative groups.

HBAN's key deliverables are:

- (a) Securing the participation of high-net-worth investors to build syndicates through the HBAN Network, i.e. individuals with investable assets;

²⁷¹ <http://www.hban.org/>

- (b) Establishing a network of contacts to facilitate company referrals to syndicates from national and regional economic development agencies, primarily Enterprise Ireland, Invest NI and InterTradeIreland, and also from other BANs, corporate finance houses, legal and accountancy practices, incubators, accelerators, commercialization, and offices.
- (c) Facilitating introductions between individual business angels in syndicated deals and syndicate/investor groups to companies seeking investment;
- (d) Establishing, supporting, and developing a minimum of seven new syndicate groups over the 3 year period of the contract;
- (e) Position itself as the lead angel representative body to Government, stakeholders, business, and the media for business angel investing on the island of Ireland. This will include a lobbying role where appropriate;
- (f) Providing advice and training to business angels on business angel investing and syndicate development. HBAN has responsibility for introducing standardized legal documents/agreements for business angel investment deals to help reduce the administrative and cost burden to both angels and companies;
- (g) Coordinating and managing public relations events and activity - HBAN is required to implement a comprehensive marketing and promotional plan for the program, to raise the profile of the HBAN brand. Activities are expected to include HBAN involvement in conferences and events associated with raising finance aimed at early stage companies and investors, a monthly HBAN newsletter, press releases on Angel investments, and regular social networking postings;
- (h) Developing and managing the HBAN website including publishing all deal opportunities on its website;
- (i) Seeking to introduce standards and international best practice into the angel market on the island;
- (j) Facilitating the introduction of international business angels to the network including the establishment of linkages with international angel groups;
- (k) Hosting and management of an annual business angel conference.

Outcomes

Visible angel investment in Ireland has increased from €4.6 million into 28 investments in 2009 to €12.8 million into 45 investments in 2017. HBAN is forecasting angel investing will reach €25 million per year by 2020.

From there being no visible angel networks in 2009, there is now a network of HBAN-supported syndicates across the Republic of Ireland. These include technology syndicates in Dublin (Bloom Equity) and Cork (Boole Investment Syndicate), all-island Medtech and Food syndicates, the Ireland-wide Irrus Investments Syndicate (investing in a broad range of life science, medical technology, and other IP based companies), and regionally based syndicates such as the West by North West Syndicate and South East Business Angel Network. HBAN also supports networks of individual business angels.

CASE STUDY 2

WELSH DEVELOPMENT BANK ANGEL COFUND

The Welsh Angel CoFund is a £8m fund which aims to boost angel activity in Wales. Launched by the Development Bank of Wales (DBW) in May 2018, it is available to syndicates of investors (a minimum of 3 individual angels) looking to co-invest in Wales based SMEs. Each syndicate must be led by an experienced angel investor investing their own money in the deal. Lead investors are pre-approved by Angels Invest Wales, the NAA for Wales established by the DBW, based upon the individual's experience and track record of angel investing. The lead investor and the other syndicate members may be not based in Wales, but all companies invested in need to be Welsh.

Fund operation

- Lead investors apply directly to the DBW for approval. There are currently two intakes per year for lead investor applications.
- Upon successful application, the lead investor forms a syndicate with a minimum of two other experienced investors. Once a syndicate has been formed they can apply for co-investment.

- The lead investor and company will complete a simple application form (and relevant search documentation) for submission.
- The syndicate carry out all due diligence on the company/project before presenting it to the fund for final approval.

Investment criteria

- Equity and loans from £25,000 - £250,000.
- Maximum exposure to any individual syndicate is £700,000.
- Syndicate members must not have existing investments in the company/project.
- Syndicate member family or friends who are involved in companies/projects will be deemed a conflict of interest.
- The Fund will contribute up to a maximum of 50 percent of the total deal.



CASE STUDY 3

SCOTTISH COFUND (TO MAY 2015)

The Scottish CoFund (SCF) was established in 2003 and has been capitalized twice, initially £60m and then a further £67m. The operation of the fund (though not its legal status) was changed in 2015 to reflect continuing market development and maturity in Scotland. This case study describes the operational structure up to 2015.

It is managed by the Scottish Investment Bank (SIB), part of Scottish Enterprise. The co-investment model was designed to increase capacity within the Scottish investment market. The fund directly encouraged more investors into the Scottish market and increased the incentives for investors and angels to operate within syndicates. The design of SIB's CoFund allowed experienced investors to lead more and larger deals and attracted investors from outside Scotland, providing valuable expertise and greater scale capital. The model provided for efficient and effective delivery of investment capital into high growth businesses.

Fund objectives

Its original business plan set out a number of objectives:

- Increasing the amount of “equity gap” venture capital available to SMEs in a way that did not displace existing investment activity;
- Demonstrating to potential investors that returns could be made by investing in the “equity gap” thereby stimulating the growth of the venture capital industry;
- Increasing the number of fund managers operating in the “equity gap”; and
- Attracting new investors who had not previously invested in this sector of the venture capital market.

The fund was to overcome these market imperfections by acting as a catalyst in encouraging additional players to enter the market, both by attracting investors from outside Scotland and by encouraging the growth of new angel syndicates. In its turn this would increase both capacity and capability in the market.

Investment size

The SCF provided equity financing (very occasionally convertible loans) of between £100,000 and £1 million into company financing deals of up to £2 million. The total amount could be allocated in multiple tranches.

Fund operation

- The SCF did not find and negotiate investment deals on its own. Instead it formed contractual partnerships with active venture capital fund managers, business angels, and business angel groups (the SCF partners).
- Applicants to be partners were subject to due diligence by SIB to ensure they had the experience and credibility to make investments in early stage businesses and that the source of their funds was legitimate. This assessment also considered the capacity of the partner, in terms of the staff they employed, to scrutinize investment propositions, undertake due diligence, support the company post investment, and provide the necessary reporting to the Scottish Enterprise.
- Once the SCF partner went through a formal application process they led all investments and were paid a flat arrangement fee per investment at completion of 2.5 percent of the SCF funds invested.
- The partner investors were also permitted to charge the company receiving investment "reasonable" legal and due diligence fees.
- The SCF partner found the investment opportunity, negotiated the terms of the deal, and offered to invest its own equity cash. If the opportunity needed more money than the partner could provide, it could then approach the SCF to co-invest on equal terms.
- The SCF partner determined how much the SCF could invest in any new deal. The SCF was therefore genuine "gap funding". No private sector funding was displaced.
- Companies approached partners directly meaning that SCF had no influence on the deal selection of the private sector. This ensured that deals were undertaken on a fully commercial basis.

Eligibility of investee

The investee company had to conform to the EU definition of a SME, be centered in Scotland, and not be within one of the following restricted sectors:

- Real estate/property development;
- Social and personal services;
- Pubs, clubs and restaurants;
- Local services;
- Banking and insurance;
- Motor vehicles;
- Nuclear decommissioning;
- Professional services;
- Retail.

Investment process

All deals were sourced by SCF co-investment partners. Companies seeking investment were signposted to a list of SCF partners on the Scottish Enterprise web site. These partners were tasked with finding investment opportunities and negotiating the terms of the deal.

What SIB expects from its co-investors

SIB specific expectations of their partner investors include:

- SIB expects its co-investors to act in a professional manner and in good faith towards Scottish Enterprise/SIB at all times, and use such skill and care as would generally be expected of an investor engaging in risk investments;
- SIB expects certain standards of fair dealing, transparency, and alignment of interests with its accredited partners and co-investors e.g. while SIB accepts that an investor has the right to charge fees to an investee company, it expects these fees to be reasonable in the circumstances and in line with the current market rate;
- SIB expects an investor to be free of conflicting interests with a company. If an investor does have any conflicts, actual or potential, these should be

disclosed to SIB and the company and managed appropriately. This includes conflicts where an individual within a partner organization is also acting in a consultancy or other role;

- Accredited partners (in SCF investments) are expected to undertake appropriate levels of diligence on the investment opportunities presented to SIB;
- The co-investor or accredited partner's legal representatives are responsible for preparing the legal documentation, which should include SIB's legal requirements, to execute a transaction;
- SIB expects that investee companies will be managed in accordance with good corporate governance and its accredited partners and/or co-investors to support this;
- Each investee company will be allocated a portfolio manager (a Scottish Enterprise employee) to manage the SIB investment. SIB expects its co-investor to engage with the portfolio manager as appropriate and share information and views on the company and investment;
- SIB expects to be kept up to date with any changes in personnel of its accredited partners and co-investors.

Post 2015 operation

SCF is partially funded under the ERDF Program, which operates on a five year cycle. At the end of the cycle completed in 2015 SIB carried out an assessment of operations and delivery in response to changing market needs. This resulted in changes in operation including lowering the minimum and increasing the maximum amounts that can be invested by the fund, and increasing the overall deal size. The minimum fund investment was reduced from £100,000 to £10,000 and the maximum cumulative investments into any one company led by accredited partners increased from £1 million to up to £1.5 million on a cumulative basis. The maximum deal size for SCF investments has risen from £2 million to £10 million. This reflects an increasing focus on 'scale up' companies rather than startups, and a wish to address the relative lack of formal follow on venture capital funding available in Scotland.

CASE STUDY 4

INVEST NI COFUND

A Northern Ireland (NI) Co-Fund was launched in June 2011 with initial capital of £7.2 million (increased to £12.5 million in 2014) by Invest Northern Ireland funded through the ERDF. It is managed (following tendering) by independent professional fund manager Clarendon Fund Managers Ltd (CFM) through a management services agreement. CFM is responsible for facilitating investments and identifying potential companies and investors.

Aim of the fund

The May 2010 economic appraisal, which made the case for roll out of the CoFund in 2011 for six years²⁷², identified the following objectives:

- To strengthen the capability of NI to develop and commercialize new technologies and break into growing sectors and markets;
- To address imminent gaps in the availability of venture capital in NI by providing a continuum of funds and a deal flow chain across seed, early stage and development capital.

Unlike other CoFunds models, the NI fund does not have any specific objectives around the development of the supply side of the investment market. Invest NI however separately fund the HBAN angel network which is tasked with angel market development.

Fund terms

The fund invests in rounds of between £250,000 and £450,000, at a ratio of up to 45 percent of the investment round on *pari passu* investment terms.

The Fund will only consider 'new investments' from the private investors where they can demonstrate that they have carried out their own due diligence and independent assessment of the investment opportunity.

²⁷² Following a review of the Funds operations completed in 2016 Invest Northern Ireland provided £17.7 million to a second fund, Co-Fund NI II. This is managed by the same fund managers.

Fund operation

The fund was established with the intention of deals being private investor led with relatively passive involvement from the managers. It was anticipated that initially the NI CoFund would assess private investor syndicates and specific investments on a deal by deal basis but over time expected to move to a position where the fund has a number of “pre-qualified” partner syndicates. The fund documentation specifically states that the desire is to move towards the Scottish co-investment model. Initially the fund would “provide assistance and support, where required, to help facilitate the investment process, without leading deals and making investment recommendations”. Even in the relatively passive role the fund managers were expected to have to:

- Assist the private investors with setting out term sheets, discussing valuation principles, and providing guidance on due diligence and the investment process (the fund does not do its own due diligence, but expects all due diligence done by the angels to be shared and will comment on it and guide suggested additional work).
- Work with investee companies and investors post investment to plan for follow on investment rounds.

Angel activity in Northern Ireland is however at a very early stage of development, with few angels and very few potential lead angels. This has resulted in the fund managers having to take a more active role than anticipated.

Development of angel investment skills & networks

An interim evaluation of Invest Northern Ireland's Fund of Funds in 2014²⁷³ identified that work to form angel syndicates (they specifically refer to the work done by Scottish Enterprise) is something that would have been of value in Northern Ireland prior to the launch of the NI CoFund.

The interim evaluation of the Co-Investment fund in 2016²⁷⁴ concluded that the relative immaturity of the Northern Ireland equity market, both from a company and from an investor perspective, has had a significant impact on the expected operation of the fund. The intention had been to have a delivery model based on the principle of passive involvement and the provision of a facilitator role in the completion of investments. Given the immaturity of the market and the varying levels of sophistication among investors, the fund is unable to remain as passive in the investment process as the model would ideally wish. Indeed, without a proactive approach and additional effort, the number of completed deals would be much reduced.

Fund managers are having to take a more hands-on and involved approach to facilitating the investment being completed. This includes more involvement than planned in sourcing matched funding, providing additional support around the due diligence and legal aspects, and post completion of the investment in the monitoring and mentoring of the company.

Operational performance of the Co-Fund

At the time of its last formal evaluation in June 2015, £8 million had been invested into 28 companies via 53 investment transactions.

²⁷³ Interim evaluation of Invest NI Fund of Funds, Urbis Regeneration, 2014 <https://secure.investni.com/static/library/invest-ni/documents/fund-of-funds-interim-evaluation.pdf>

²⁷⁴ Co-Investment Fund Interim Evaluation - Final Report, Capaxo Ltd, Nelson Gray, December 2016. <https://secure.investni.com/static/library/invest-ni/documents/co-investment-fund-interim-evaluation-report.pdf>



CASE STUDY 5

UK BUSINESS ANGELS COFUND

The fund was launched in November 2011, financed by a loan from the UK Government Regional Growth Fund (15 year term non-subordinated loan). It was set up with the Government's arm's length development agency, the British Business Bank (BBB) acting as the fund manager. Initially capitalized at £50m, this was increased to £100m in 2014. In order to be eligible for the endowment from government, the fund was constituted as a company limited by guarantee and classified as a private sector company. The Board comprises members independent of the Government and Government are not involved in investment decisions. The fund is managed within the BBB by four staff with the assistance of an external law firm for legal document review²⁷⁵.

return (although no specific IRR target has been set) in order to demonstrate to potential new private sector investors that it is possible to achieve attractive financial returns acting as a business angel. It is believed that this will encourage more individuals to become angels, thus increasing the supply of private sector funding.

Fund objectives

The CoFund has a specific headline objective to seek to increase the quality and quantity of business angel investing in the UK. A focus of the fund is to ensure it achieves a commercial rate of financial

Investment size and stage

The fund invests amounts between £100,000 and £1 million in SMEs alongside syndicates of business angels, on an up to 50:50 ratio. The fund may not hold more than 30 percent of a company's equity.

Follow on reserve

The fund reserves 100 percent of the fund value for follow on investments in its own portfolio.

²⁷⁵ In 2018 the fund management structure was changed so that it is now managed by a newly created fund management company Akero Capital Partners. The personnel previously operating the fund within BBB have transferred to carry out the same functions within this new entity. The operation of the fund remains the same.

Operation

Businesses cannot approach the fund directly. This has to take place through an angel syndicate. All subsequent interaction is with the angel syndicate, not the company. This reflects the fund's motivation to increase the number of business angel syndicates in the UK and to promote best investment practice in the angel community.

The lack of established and experienced angel groups in England was a reflection of the emphasis on angel networks²⁷⁶ as the primary form of angel organization in the country. This means that the Scottish approach delegating investment decision making to the investing angels, with the fund doing no due diligence or deal structuring was not appropriate. This results in the significant difference between the model used for the Angel Co-Fund and that used in Scotland for SCF. The BBB have to be active investors with full discretion over investment decisions. Investment decisions are made on a deal by deal basis (as opposed to allocating funds to angel groups for them to make the investment decisions). The lead angel investor is also approved on a deal by deal basis, even where they have successfully co-invested with the fund previously.

The BBB will carry out an initial review of the proposal to ensure that it appears to qualify and is likely to be a suitable investment candidate, as well as giving advice and guidance on the qualification process for the syndicate and lead angels and other requirements of the fund.

For businesses that pass an initial review, the angel syndicate (not the company) will be asked to submit an investment paper template provided by BBB which provides an overview of the business. It should cover the following:

- management team and key personnel;
- market, market opportunity;
- business model;
- financials;
- investment structure;
- post-investment funding need;
- exit strategy;

- data sheet;
- commercial due diligence;
- references for management and key personnel;
- financial due diligence;
- legal due diligence;
- technical due diligence;
- planning reports and patent documents.

The BBB provide feedback to syndicates on any papers that are rejected (4 out of 5 are). Rejection, or a suggestion to withdraw, is communicated as early as possible.

Investment decisions are made by an independent IC on the basis of satisfactory due diligence and a compelling commercial investment case. Proposals are not put forward where the BBB are doubtful of seeing a proposal being approved. The IC is independent of the Fund Board and the BBB and is made up of 15 experienced investors, all of whom have either entrepreneurial or institutional investment backgrounds (or both). Half are business angels and half fund managers (i.e. from an institutional investment background).

The IC considers all propositions on a fully commercial basis, "from the perspective of an angel investor". They are tasked with looking at deals on an individual and stand loan basis, not, as would be the case in a formal venture capital fund, on a portfolio basis. They are not, for example, tasked with balancing portfolio risk.

Questioning tends to focus on whether there is evidence that:

- An appropriate level of due diligence has been carried out by the lead angel.
- The lead angel has a detailed understanding of the business.
- The lead angel can convincingly explain why it represents a good investment.

The IC is primarily assessing the lead angel's competence, as an investor and as a partner to the fund.

²⁷⁶ Angel networks work in similar fashion to dating agencies. They provide channels of communication (web site, presentations) which enable angel investors to examine investment opportunities from entrepreneurs seeking finance. They do not play any role in the investment process beyond this facilitation function. Most English networks relied on public sector financial support and have ceased operation since the closure of the Regional Development Agencies.

They are required to address three specific questions for each investment (both for initial and follow on investments):

- Does the investment opportunity appear to offer a commercial return, relative to the risk, that a wealthy private investor (reasonable and experienced) might consider reasonable;
- Has an appropriate level of due diligence, based on the evidence provided, been carried out for the specific investment proposed; and
- Are the terms and structure of the investment proposed appropriate and does the CoFund have alignment of interest with the angel.

Fees and costs

The fund charges no fees to the company on the public element of the money. The fund pays the angel syndicate a 2.5 percent fee for the upfront work they undertake forming the deal.

Angel partner eligibility

Angel syndicates become partners of the fund by having a deal approved. They are not “pre-approved” or pre-qualified as is the case with the Scottish SCF. Angel Syndicates must be:

- Groups of three or more active investors, investing at their own discretion;
- Independent of the businesses and investing in it for the first time; and
- Putting a meaningful, to them, amount of cash into the business.
- Submitting a proposal to the fund where it has made the decision to invest but is unable to raise sufficient equity to meet the requirement of the investee business.
- Syndicates do not need to be formally constituted and currently tend to form around a single transaction where the members have agreed to invest. Syndicate members are expected to be actively engaged with each other during the investment and work together in terms of sharing due diligence and negotiating terms.

Lead angel investor

Within the syndicate there must be an identified ‘lead angel’, and that lead angel must be separately approved by the fund. In approving lead angels the fund will consider if they have the willingness, knowledge, and time to fill the role. It is the responsibility of the lead angel to:

- Identify high potential SMEs who are looking for investment;
- Negotiate terms / perform due diligence / drive the transaction; and
- Be able to monitor and support the investees post investment.

The criteria used in selecting lead angels include:

- Evidence of a significant (relative to the individual wealth) new investment into the company;
- Is contributing a minimum of £35,000 to £45,000 (rule of thumb);
- Evidence of due diligence ability;
- Evidence of robust investment appraisal ability (ideally using sector expertise);
- Evidence of available time to undertake the role;
- Has interests aligned with the fund;
- Has some follow on capacity.



CASE STUDY 6

NEW ZEALAND SEED COFUND

The Seed Co-investment Fund (SCIF) was established in May 2005 by the New Zealand Cabinet Economic Development Committee to assist in the development of the market for angel equity finance. The program commenced operations in July 2005 and the first co-investment partnerships and first investment were announced in January 2007. It is a 40 million New Zealand dollars (\$NZ) (€20 million) fund operated by New Zealand Venture Investment Fund (NZVIF), a government entity.

- Increase the scale and enhance developed networks for early stage investment;
- Catalyze investment that would not have occurred without the program, and;
- Minimize fiscal risk and cover costs (the fund does not have a specific financial return (e.g. IRR) target).

The core focus and aim of the fund is the development of investors and their capabilities in the New Zealand market. The cash investment in the companies is a by-product of this.

The fund believes that the competencies of angel investors can be developed:

- through the competency of angel investment networks (i.e., in terms of better investment selection strategies, mentoring practices, investment management, and investment execution);
- through the competency of individual angel investors within a network (i.e., through their exposure to network practices);
- through the competencies of individual angel investors outside a network (i.e., by adopting best practice in the marketplace).

Fund objectives

The overall objective of the fund is to support the development of New Zealand's market for angel equity finance. This is set out in the policy documents underpinning the fund:

- Develop greater professional capacity in the market for intermediating funds between investors and newer technology-based firms;
- Increase the depth in the specialist skills needed to assess and manage early-stage technology-based investment;

Fund structure

The overall objective of the fund is to help develop New Zealand's angel investment market and, in doing so, catalyze investment by angel investors that would not occur otherwise. As a result there are two program mechanisms:

- an annual budget of \$NZ 100,000 for market development initiatives;
- up to \$NZ 8 million per annum for passive investment in seed and startup investments alongside pre-qualified angel investment partners.

Operation

The structure and operation (though not the definition of objectives) was significantly based on the Scottish Co-Fund model.

The fund can invest up to \$NZ 250,000 (€145,000) into a new investment proposed by an investment partner, on an up to 1:1 match funding basis. SCIF has the ability to participate in "follow on" investments in the same investee company for a further \$NZ 250,000 - up to a total investment limit of \$NZ 750,000 per company. Only 4 companies have received more than \$NZ 500,000.

The SCIF does not conduct deals with individual investors. Instead investment partners, who may be angel networks, angel funds, etc., are "pre-qualified" by NZVIF. The fund then relies on the partner's investment skills and judgement for individual investments.

While the fund is passive in the process it requires that partners use standard documents. This is credited with significantly lowering the legal costs to \$NZ 5-10,000 (€2,500 - €5,000) per deal.

Investment committee

The SCIF is set up to follow the investment decisions of its pre-selected partners. The IC does not therefore consider the quality of the underlying investment, or the qualification of the partner bringing it forward (unlike for example the UK Co Fund IC).

The key points being looked at by the NZVIF IC are as follows:

- **Stage:** The company is at the seed or startup stage;
- **Conflicts:** That there are no conflicts of interest; and/or that any potential conflicts of interest have been fully disclosed and appropriately dealt with. Examples of conflicts of interest include:
 - Fees/other payments to shareholders or advisers;
 - Any other investment terms that do not apply to all investors;
 - Existing shareholdings or other interests in the company, including current debt outstanding to any source;
 - The proposed investor representative for the deal is not sufficiently qualified and/or aligned with SCIF's interests as an investor;
 - The proposed investment is into a company that is an associate or related company to one that SCIF has already invested into;
- **New Zealand nexus:** The investment has a New Zealand nexus because the company has the majority of its employees (by number) and assets (by value) in New Zealand at the time of initial investment;
- **Eligible industry:** The investment is in an eligible industry.

Co-investment partners

The fund has 12 active angel partnerships (out of 15 approved from 37 applications). The size of SCIF partnerships ranges from 12 to over 110 individuals.

Co-investment partners are pre-qualified on the basis of:

- investment and commercialization skills, including experience in identifying investment opportunities and contributing to their commercialization;
- a credible strategy for identifying and selecting early-stage investment opportunities;
- the availability of at least €4 million of private sector capital over the course of the three to four year investment period;
- a credible syndicate or investor network and investment structure.

Potential partners submit a 10-20 page application which articulates:

- legal framework & governance;
- commercial sustainability;
- processes and systems for
 - sourcing deals
 - due diligence
 - negotiating of terms
 - managing investments;
- explanation of the investment decision making process;
- key personnel, IC.

CASE STUDY 7

TARGETED TAX INCENTIVES IN DELAWARE

In May 2018, the Delaware state government introduced a new tax incentive²⁷⁷ to encourage investment in a specific kind of Delaware tech startup that is committed to innovating in the state. The Angel Investor Job Creation and Innovation Act for Small Technology Companies gives angel investors a tax credit of up to 25 percent of their investment, provided they make a minimum investment of \$10,000. The maximum tax credit available for each individual is €125,000.

Businesses have to get certified by the state as a qualified business before the investment is made, meeting the following conditions:

- Must be based in Delaware;
- Must be engaged in innovation:
 - Using proprietary technology to add value to a product, process, or service in a qualified high-technology field;
 - Researching or developing a proprietary product, process, or service in a qualified high-technology field;
 - Researching, developing, or producing a proprietary technology, product, process, or service in the fields of agriculture, manufacturing, wildlife preservation, environmental science, financial technology, or transportation;
- At least 51 percent of employees are in Delaware;
- Fewer than 25 employees;
- A tech company with a proprietary product in a qualified high-technology field (including agriculture, manufacturing, wildlife preservation, environmental science, financial technology and transportation);
- Employees' annual wages must be at least 175 percent of the federal poverty guideline for a family of 4 and intern wages must be at least 175 percent of the federal minimum wage;
- The business has not been in business longer than 10 years, unless it's a medical/pharmaceutical company where FDA approval is required;
- Not previously received private equity investments of more than \$4,000,000;
- Has not issued securities that are traded on a public exchange.

This tax credit is aimed at promoting local high quality job creation in early stage companies from fairly serious angel investors (the \$10,000 minimum threshold pushes this beyond the investment capacity of the typical crowdfunding investor). It must be a company involved in innovation in specific sectors. Retail, property development, and similar would not qualify. It must be supporting tax paying jobs (a high percentage of the tax credit to investors is likely recovered from additional payroll tax).

²⁷⁷ <http://legis.delaware.gov/BillDetail?legislationId=25737>

CASE STUDY 8

INVEST – GRANT FOR BUSINESS ANGEL CAPITAL²⁷⁸

Launched by the German Government in 2013, the INVEST grant for business angel capital is designed to stimulate more angel investing in Germany. It comprises a grant at the time of investment and a grant at time of equity to eliminate the cost of capital gains tax.

Initial grant (acquisition grant)

Angel investors receive a non-repayable, tax free grant of 20 percent of their investment on investments of a minimum of €10,000 and up to €500,000. The maximum grant per individual per year is €100,000. The investment must be held for a minimum of three years before exiting (otherwise it is repayable).

In addition, there is an exit grant consisting of a non-repayable, tax free grant of 25 percent of the profit earned on an exit.

Individual companies can raise a maximum of €3 million of investment using this grant.

Companies who wish to offer this investment benefit to potential investors must apply and be approved for eligibility by the supervising authority, the Federal Office of Economics and Export Control. To qualify the company must:

- Not be older than 7 years;
- Be an SME by the EU definition: less than 50 employees, maximum revenue or gross assets of €10 million;
- Not be listed on the stock exchange;
- Have a head office within the European Economic Area (EEA), with at least one branch in Germany;
- Carry on an innovative trade as defined by a list of the Federal Office of Statistics or prove to be innovative - through a patent of central importance to the business (max. 15 years old), the receipt of public funding for research and innovation up to two years prior, or by an independent assessment;
- Not be dominated by another company.

Having received approval, the companies can place the eligibility logo on their website and use it for presentations. This indicates their eligibility to potential investors and increases their chances of obtaining financing.

²⁷⁸ https://www.existenzgruender.de/SharedDocs/Downloads/EN/Broschueren/Flyer-INVEST-Venture-capital-grant.pdf?__blob=publicationFile2016.

In addition to qualify the investor must:

- Be a natural person with permanent residence in the EEA, or a GmbH (company with limited liability), or UG (entrepreneurial company) with up to six shareholders.
- The investment must be made on a personal basis (not on behalf of another).
- The investment must not be funded by way of a loan, but out of the investors own capital.
- The investor cannot be an existing shareholder of the investee company.
- The investor cannot be associated with the company, for example as an employee or director.

Payment of the grant is made after the government agency has confirmed the investment into the company.

The investment must be made by way of an equity instrument. Where a convertible note is used the grant is available from the time of conversion to equity.

Exit grant

In case of profitable disposal of the shares the exit grant is a lump sum compensation for a tax on capital gains and equivalent to an exemption from the capital gains tax.



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