



Current Issues

Digital economy and structural change

Crowdfunding

Does crowd euphoria impair risk consciousness?

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From the standpoint of potential company founders, an inadequate supply of funding is a key issue especially in a start-up's early phases. Therefore, we welcome the efforts of the crowdfunding movement from an economic perspective, particularly with regard to growth. However, there is an urgent need for action aimed at eliminating the existing information asymmetries and conflicts of interest between company founders, funding platforms and investors.

The concept of "crowdfunding" may be broken down into several subcategories, with the classification based on what consideration the investors receive for their participation. Debate is increasingly focusing on crowdinvesting, which is yield-oriented and thus fraught with risk. Crowdinvesting is used to finance start-ups as well as small and medium-sized companies especially in order to plug early-stage funding gaps.

The risks inherent in crowdinvesting are underscored by rising numbers of insolvencies. For an interested investor it is a huge challenge to make a proper assessment of the business model including all of its opportunities and risks. After all, given the only short existence of a start-up there is only a small amount of valuation-relevant data available. A trade-off.

Even though this is a relatively new and little researched type of funding and so far there have been only few known insolvencies, it soon becomes obvious that these are pure-play venture capital investments. The valuation method needed in crowdinvesting for risk assessment can usually be freely selected by the company seeking funding. This can lead to serious conflicts of interest.

So far, the funding volumes raised via crowdfunding platforms are still marginal compared to conventional funding channels. In 2013, crowdinvesting did not even hit 1% of the volume of conventional bank lending to the self-employed or companies. But since traditional sources of financing have shortcomings especially as regards early-stage funding, this alternative instrument has good chances of prevailing and becoming established in the market with higher volumes.

Several countries have already implemented individual regulatory measures. It is to be hoped that not too many isolated national solutions emerge, but rather that regulations and standards are adopted which will apply at the European level or, better yet, beyond Europe. Points for the regulators to address could include investor protection, requirements for drawing up a prospectus and supervision requirements for crowdfunding platforms.

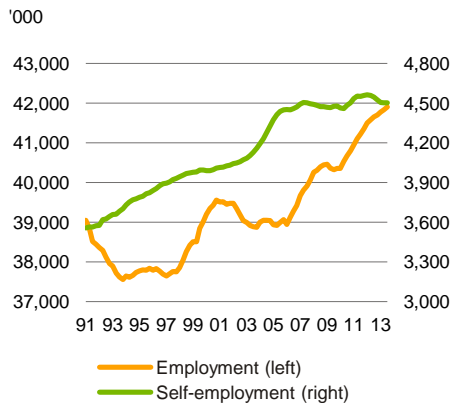


Crowdfunding: Does crowd euphoria impair risk consciousness?

1. Entrepreneurship: An essential prerequisite for growth

Employment and self-employment in Germany

1



Source: Eurostat

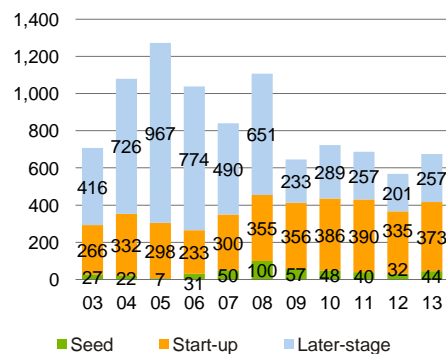
In the debate over the future of Germany as a place for doing business people often speak about "self-employment" and "entrepreneurship". Entrepreneurship delivers a valuable macroeconomic contribution in terms of employment, vocational training and international competitiveness. Especially for the German economy, which is low on natural resources but knowledge intensive, entrepreneurship ensures a steady stream of necessary innovations enabling technological advances and thus the basis for growth and affluence. In the past decade there was a sharp increase both in the number of employees and in the number of the self-employed in Germany. A study conducted by the DIW (German Institute for Economic Research) found that the positive trend in self-employment was due almost exclusively to those who work on their own (the "solo self-employed").¹

Shortage of early-stage financing sources across numerous industries

Venture capital in Germany

2

By funding phase, EUR m



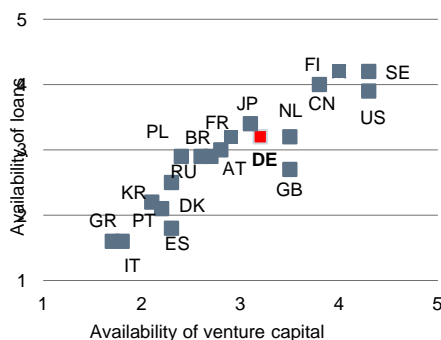
Source: BVK

Becoming one's own boss brings with it considerable economic risks. Liquidity has to be ensured at all times, and revenues have to at least match expenditures in the long run.² In the early stage, above all, the self-employed require start-up capital to turn their plans into reality. Future monetary inflows – and thus the basis for credit repayments – are often difficult to gauge. In addition, many self-employed persons and micro-firms often do not have (sufficient) collateral. Thus, they have little appeal for risk-averse investors. Moreover, self-employed people do not have a steady income and therefore have particular difficulties gaining access to loans. A further problem for the self-employed and micro-firms is small credit volumes: often they require amounts of less than EUR 30,000. Lending volumes of this size are often not attractive to many commercial banks, for example, owing to the administrative costs involved.³

VC and loan availability in an international comparison

3

Assessments (scale: 1 = very low availability; 7 = very high availability)



Source: The Global Competitiveness Report 2013-2014, World Economic Forum, Switzerland, 2013

Not only business angels and public incentive programmes but also venture capital (VC) companies offer the market alternative sources of funding. However, the VC funding volume in Germany has been falling steadily since 2005. In particular, the early-stage funding activity of VC funds has decreased since the beginning of the global financial crisis and has trended more in the lower double-digit millions in relation to later financing phases. Therefore, the start-up scene (not only) in Germany faces major challenges as regards early-stage funding gaps.

A similar picture of company funding requirements can be observed at the international level: a survey conducted by the World Economic Forum (WEF) examines the availability of bank loans and venture capital. The findings show that Germany scores more or less in line with the average. By contrast, more favourable financing conditions are to be found in Scandinavia as well as in the US and China. It is precisely this shortage of, or need for, early-stage funding that affords the crowdfunding movement its niche existence.

After all, anyone requiring funding for his or her start-up in today's modern network economy can, as an alternative, woo the participation of private investors. The previously cited problems in the start-up phase may be solved or mitigated by means of funding via a multitude of smaller creditors – the so-called

¹ Brenke, K. (2013). Allein tätige Selbständige: starkes Beschäftigungswachstum, oft nur geringe
² Not only is it necessary to earn the income required to meet the everyday costs of living, but also to make financial provision for retirement.
³ Dapp, T. and Ehmer, P. (2011). Cultural and creative industries. Growth potential in specific segments. Current Issues. April 29, 2011. Deutsche Bank Research. Frankfurt am Main.



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"crowd". This alternative type of financing has the potential to plug funding gaps in the critical early phase of a start-up company.

Analytical process. After a short introduction in chapter 2 we shall focus in the subsequent chapter on the different funding categories that fall under the umbrella term "crowdfunding". Chapter 4 will provide explanations of national market data on volumes and stakeholders. In chapter 5, furthermore, we will analyse various valuation methods and address the risk aspect – that linked with crowdinvesting in particular. The report ends with concluding remarks in chapter 6.

2. The crowdfunding movement

Besides traditional sources of funding, such as loans, venture capital (VC), business angels and grants, crowdfunding platforms are also increasingly offering an alternative or complementary type of funding for start-ups, freelancers and creative persons (e.g. artists, authors, musicians, journalists, designers etc.) or private borrowers. While the credit volumes are often smaller than in conventional types of financing, crowdfunding platforms are suitable for start-ups notwithstanding. For example, they can prepare for their market entry via microinvestments, while young authors can take this route to finance their first book or film-makers their first film – all on the basis of funding from the "crowd". The project categories for which monies are collected overarch sectors and range from films, music and gaming to design, journalism and fashion right through to web-based technologies or new products for the retail sector.

How conventional crowdfunding functions (or used to)

Crowdfunding on record over 100 years ago

Actually, the idea of crowdfunding is not really new. One well-known, historically documented crowdfunding project is the funding of the pedestal for the Statue of Liberty in New York. The Liberty Lady, designed by Frédéric-Auguste Bartholdi, was a gift to the US from the French government in honour of Independence Day. However, the present only consisted of the statue – an appropriate foundation had to be installed by the US itself. The funding of the pedestal proved to be a difficult proposition at first, however. On account of empty public coffers the work on the foundation nearly had to be discontinued in 1885, if it hadn't been for a donations campaign launched by the then-publisher of the "New York World", Joseph Pulitzer. Pulitzer promised that those willing to participate in the financing of the project with a donation of any amount would get their name published in his newspaper. In the space of five months around USD 100,000 was donated by over 120,000 people, with 80% of the total made up of donations of less than one dollar apiece. The success of this appeal is to be seen in New York harbour, where it continues to attract hordes of visitors.

Modern internet technologies driving the movement

Today, roughly 130 years later, many public coffers are still empty, but funding via the "crowd" functions very much more efficiently and in some cases with larger financing volumes – not only in the area of cultural projects. Thanks to modern web-based technologies more people can be appealed to more quickly and more cheaply on the internet for donations and/or financial backing. Internet technology boosts the dynamics, the "virality", and reduces the information asymmetries between conventional creditors and debtors. Beside the conventional funding sources, crowdfunding platforms act as a project accelerator and hence increasingly offer an alternative or complementary type of financing.



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A good story is half the battle

Basically everyone can appeal for funding for their project using a (public) internet campaign. The rules of crowdfunding are relatively simple. They thus exactly satisfy the currently very widespread desire for "convenience" and "participation" among the tech savvy. First of all, initiators present their project or ideas, in the form of a video for instance, on a given platform. The project needs to inspire as broad a group of people as possible so that network effects set the collective fundraising process in motion. Then there is the definition of the fundraising target, i.e. specifying how much money is meant to be raised for the project. In addition, a cut-off date is set by which the fundraising drive should be completed. Linking with social networks, online forums, blogs and digital pinboards enables the viral – and above all inexpensive – marketing of the project (without intermediaries). If the fundraising target is not met within the allotted time the all-or-nothing principle applies, i.e. all participants receive their funds back, as the deposits are held in trust.

What creditors/investors may expect in return

What is offered in return varies widely

Those who provide funds in a conventional crowdfunding process are not traditional investors in most cases as they do not acquire any shares in the planned project, but they receive alternative compensation. What they receive in return is often intangible or provided in kind (books, music CDs, tickets for the cinema, a mention in the closing credits of a film, a role in a video, private concerts etc.), with the value geared towards the size of the investment.

Crowdfunding offers potential for use of open innovation tools ...

The remuneration for the crowd (investors) in the form of tangible goods also provides the opportunity to integrate creative sponsors interactively in the value creation processes. Idea competitions can be offered using additional feedback or voting tools. The crowd can provide support with ideas about the design, blueprints or naming. Crowdfunding thereby acquires a type of open innovation or crowdsourcing component in order to additionally stimulate the innovation process.⁴

... and also suits as a community funding instrument

Moreover, crowdfunding projects provide a type of grass-roots funding structure along with the purely economic criteria that decide whether a project is implemented or not. So many a project can be implemented despite being rejected by committees of development institutes or traditional financial institutions, because the crowd considers the project to be worth supporting and provides funding. Crowdfunding can thus be used as a community funding instrument to promote, for instance, regional projects that would fail due to lack of support from traditional funding sources or tight public budgets, as evidenced by the example of the Liberty Lady discussed above.⁵

3. These types of funding draw the crowd

Need for differentiation

The concept of "crowdfunding" may be broken down into several subcategories, with the classification normally based on what consideration the investors receive for their participation.⁶ Since the various types of crowdfunding cover relatively new and scientifically still largely unexplored terrain on account of the modern technologies, the breakdown into different categories could change or

⁴ Dapp, T. (2011). The digital society. New ways to more transparency, participation and innovation. Current Issues. Aug 1, 2011. Deutsche Bank Research. Frankfurt am Main.

⁵ Theil, A. (2012). Cofunding zwischen privater und öffentlicher Förderung. In: Das Co:funding Handbuch. 2nd edition May 2012. Published by tyclipso.me in association with Startnext.de.

⁶ See: Klöhn, L. and Hornuf, L. (2012). Crowdfunding in Deutschland. Zeitschrift für Bankrecht und Bankwirtschaft 24(4).

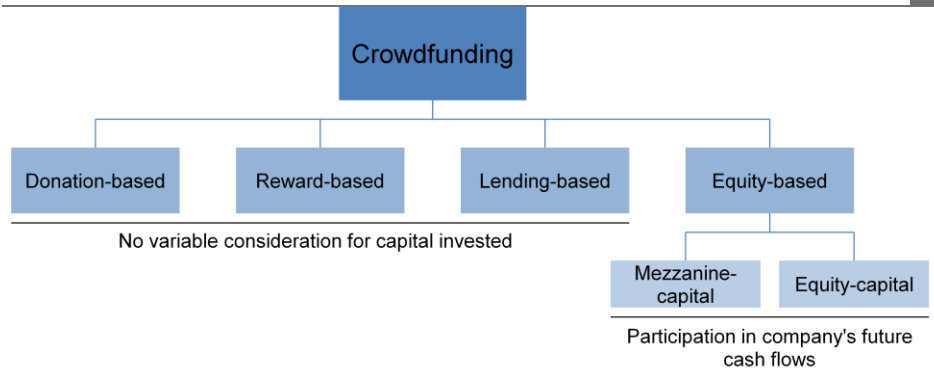


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expand in future. Currently, though, people generally distinguish between the following types of funding:

Crowdfunding categories

4



Source: Deutsche Bank Research depiction modelled on: Klöhn, L. and Hornuf, L. (2012). Crowdfunding in Deutschland. Zeitschrift für Bankrecht und Bankwirtschaft 24(4).

Donation-based crowdfunding

In the donation-based variant of crowdfunding, project initiators appeal to the crowd for donations to enable them to turn their projects into reality. Donors do not receive any sort of consideration for their monetary contribution. This variant is used correspondingly often to finance projects for charity. In Germany, the donor platform called Betterplace⁷ provides an opportunity to support social projects via crowdfunding. Support is provided not only to regional projects in German cities but also to international projects.⁸

Reward-based crowdfunding

A further form of crowdfunding is the collection of funds in return for some type of consideration. Depending on the project to be realised the types of reward can vary considerably, as shown by the examples already discussed. Moreover, the rewards can be graduated according to the amount contributed. One prominent example of a crowdfunding project is a motion picture titled "Stromberg" that was recently released in German cinemas. The project collected EUR 1 m in funds from over 3,000 investors.⁹ Note, however, that the financing of the film involved a mixed form of crowdfunding subcategories, since investors were not solely rewarded in kind with cinema tickets but (will) also participate in the cash flows generated by the number of cinemagoers.¹⁰ Another example is the Jamaican bobsleigh team. The athletes financed their participation in the Olympic Winter Games in Sochi via crowdfunding, offering their sponsors a T-shirt in return.¹¹

Lending-based crowdfunding

The granting of loans by the crowd is referred to as crowdlending. In this case, private individuals, institutions or companies solicit loans in order, for instance, to realise a project or finance goods or services. As an example, consumers can borrow funds from the crowd in order to renovate their home or buy a vehicle. What is typical of crowdlending is that the capital invested by creditors accrues

⁷ <http://www.betterplace.org/de>.

⁸ Current projects are advertising for funds to support initiatives in Syria, Africa and South America, for instance. For more information, see: <http://www.betterplace.org/de>.

⁹ <http://www.brainpool.de/bpo/de/presse/pressemitteilungen/08711.html>.

¹⁰ <http://www.myspass.de/myspass/specials/stromberg-kinofilm/investieren/>.

¹¹ <https://www.crowdfunder.com/campaigns/help-the-jamaican-bobsled-team-get-to-sochi/description>.



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interest on fixed terms and conditions and is paid back if the project is a success. However, there is a genuine risk of default. Depending on how the lending business is arranged by the platforms and how the funds are used, crowdlending can, under certain circumstances, fall under the scrutiny of the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), Germany's financial supervisory authority. BaFin reserves the right to audit the business plans of individual platforms in order to exclude unauthorised banking business.¹² To date, the crowdlending infrastructure in Germany has been dominated by peer-to-peer platforms, that is private individuals providing funds to other private individuals. In April 2014, a peer-to-business platform launched operations in Germany on the basis of a US model. It offers private individuals the possibility of participating in loans made available to small and medium-sized enterprises.¹³ However, peer-to-business funding in Germany is primarily pursued using the crowdinvesting approach.

Crowdinvesting – participation in future cash flows

Types of capital

5

Equity:

Capital accruing to the company via shareholders' stakes or retained earnings, which in the event of insolvency is available in its entirety as the basis for liability. As a rule, shareholders obtain voting rights to participate in decisions on company policy.

Debt:

Borrowed capital, with the company obliged to service the debt with priority in the event of insolvency. Creditors are not assigned any voting rights in respect of company decisions.

Mezzanine:

Hybrid of equity and debt capital components whose features typically rank between senior debt and voting capital. As a rule, the provision of such capital does not include voting entitlement.

For more information (in German):

http://www.bvkap.de/privateequity.php/cat/33/aid/31/title/l_Mezzanine-Finanzierung-Abgrenzung_zu_Eigen_bzw._Fremdkapital

Crowdinvesting describes a further form of crowdfunding, though one which is exclusively geared to generating returns and thus also linked with certain risks. It is used to finance start-ups as well as small and medium-sized enterprises especially in order to plug early-stage funding gaps. As in the case of crowdlending, investors incur risks in crowdinvesting which in some cases are difficult to assess.

Crowdinvesting means that investors participate in a company's future cash flows or in the development of its enterprise value. Investors' hopes of returns being generated are often based on potential exit proceeds deriving from a corporate disposal or takeover. Such an investment can be made via an equity stake or some type of mezzanine capital.¹⁴ Depending on the participation instrument selected and the size of total funding, crowdinvesting scenarios thus fall under BaFin's regulatory remit.¹⁵ This represents a further elementary difference to the types of crowdfunding based on donations and non-monetary consideration. Similar to crowdlending, the crowdinvesting platforms may also fall under BaFin's oversight and regulation. Classification hinges on the services provided by the platform.

If, for example, investment broking¹⁶ or payment services are performed, authorisation must be obtained from BaFin. However, as a rule, existing platform models do not fulfil these criteria yet.¹⁷

Two successful crowdinvesting projects could be mentioned at this juncture as examples that caused a stir in the media in 2013: a relative newcomer to the market, online platform Bergfürst¹⁸ recently collected capital funding for Urbanara AG¹⁹ that added up to EUR 3 m. Approximately 1,000 investors participated in the funding drive, with the average stake totalling about EUR 3,000. In this case, the company offered pure-play equity capital in the form of shares, which was a first for the German market.²⁰ A further funding success

¹² See: BaFin (2007). "Kreditauctionen" im Internet und die bankaufsichtsrechtliche Erlaubnispflicht der Beteiligten. BaFinJournal 05/07.

¹³ Peer-to-peer platforms in Germany include, for example: "Auxmoney" and "Smava"; peer-to-business platforms include: "Funding Community" from the US and "Zencap" from Germany.

¹⁴ See: Klöhn, L. and Hornuf, L. (2012). Crowdinvesting in Deutschland. Zeitschrift für Bankrecht und Bankwirtschaft 24(4).

¹⁵ See: BaFin (2012). Crowdfunding and supervisory laws. BaFinJournal 09/12.

¹⁶ See BaFin (2012). "Investment broking is provided by anyone who as agent of the investor transmits the investor's declaration of intent to buy or sell financial instruments to the entity with whom the investor wishes to conclude the transaction."

¹⁷ See: BaFin (2012). Crowdfunding and supervisory laws. BaFinJournal 09/12.

¹⁸ www.bergfuerst.com.

¹⁹ www.urbanara-ag.de.

²⁰ <http://www.vc-magazin.de/news/deals/item/2569-3-mio-eur-emissionsvolumen-für-urbanara>.

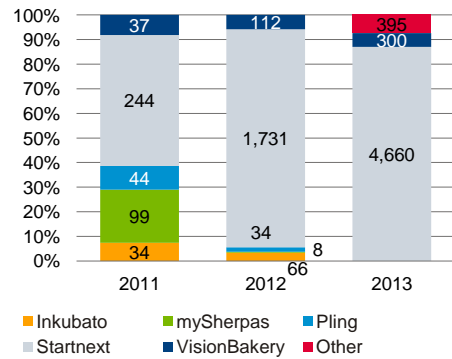


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Market shares in not-for-profit crowdfunding in Germany

6

EUR '000

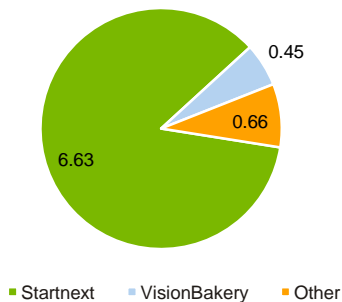


Sources: für-Gründer, Deutsche Bank Research

Capital accumulated up to end-2013

7

By platform, EUR m

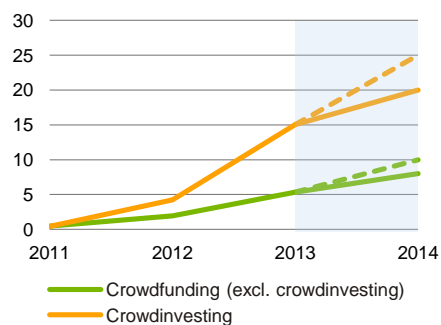


Source: für-Gründer

Movements by market volume

8

EUR m



Sources: für-Gründer, Deutsche Bank Research

was reported by e-volo GmbH²¹, which attracted a total of EUR 1.2 m from 751 investors, with funding participation secured by mezzanine capital.²²

4. Platforms and volumes in the crowdfunding market

Not-for profit crowdfunding in Germany

Germany's first crowdfunding projects, geared to the US model, were initiated in 2010. However, with a volume of EUR 1.3 m the crowdfunding model was (still) rather modest in relation to conventional funding sources. In subsequent years the crowdfunding market picked up rapidly, though. In 2012 and 2013 there were reports of triple-digit growth rates, so last year the volume in Germany totalled roughly EUR 5.4 m. In the donation and reward-based crowdfunding areas the projects were spread over five platforms. However, first signs of market consolidation have already been observed over the past few years. The few German platforms are competing in a relatively modest national market, commission fees are at risk of shrinking further and the competitors from the US (e.g. Kickstarter) are benefiting from an active and expanding global community.

With a share of around 87% of total funds collected, a single platform (Startnext) dominates the German market for conventional – that is, not-for-profit – crowdfunding. Experts put the market volume in the current year at a total ranging from EUR 8-10 m. Furthermore, it looks as if the number of projects and the average project size are going to grow.²³

For-profit crowdfunding in Germany

As a subcategory of crowdfunding, the German crowdinvesting movement harks back to the year 2011. At the time, though, only four projects with a total volume of about EUR 0.5 m were successful in collecting capital. Just like the area of non-return-oriented crowdfunding, crowdinvesting also boomed over the past few years (2013: +253%). In 2013 the crowd generated an investment volume of about EUR 15 m. So far there have been no statistical surveys on market volumes in lending-based crowdfunding. However, estimates suggest that the total funding volume had totalled about EUR 45 m by 2013.²⁴

The volume in the crowdinvesting area was mainly spread across four funding platforms. The Seedmatch and Bergfürst platforms merit special attention. Seedmatch achieved a market share of 32% of the successfully funded projects and thus generated 49% of the total raised capital on its own platform. Bergfürst entered the crowdfunding market in 2013 and has so far funded one project with a volume of roughly EUR 3 m. There is a corresponding divergence in market shares between the number of successful projects (2%) and the capital raised (20%).

In the first quarter of 2014 the platform had already managed to collect close to EUR 3 m in a total of 15 funding rounds. This corresponds to roughly 65% growth over the year-earlier quarter. For 2014 as a whole, experts forecast a crowdinvesting market volume of about EUR 20-25 m and expect the uptrend to continue over the medium term.²⁵

²¹ <http://www.e-volo.com/de/>.

²² <https://www.seedmatch.de/startups/e-volo/>.

²³ See: Für-Gründer (2014). Crowdfunding-Monitor 2013.

²⁴ See: Grimme-Institut (2013). Social Finance.

²⁵ See: Für-Gründer (2014). Crowdinvesting-Monitor 2013.

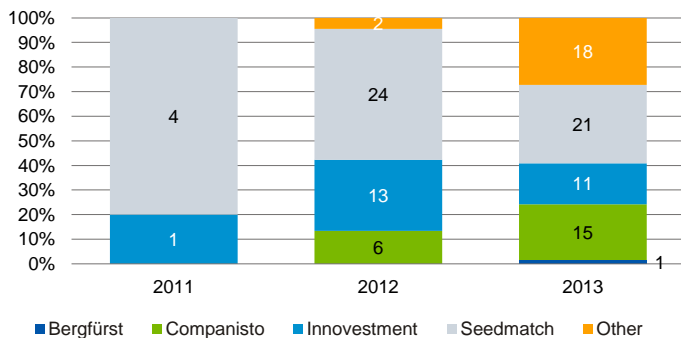


Crowdfunding: Does crowd euphoria impair risk consciousness?

Crowdfunding market shares by funding success

9

Number of successful projects

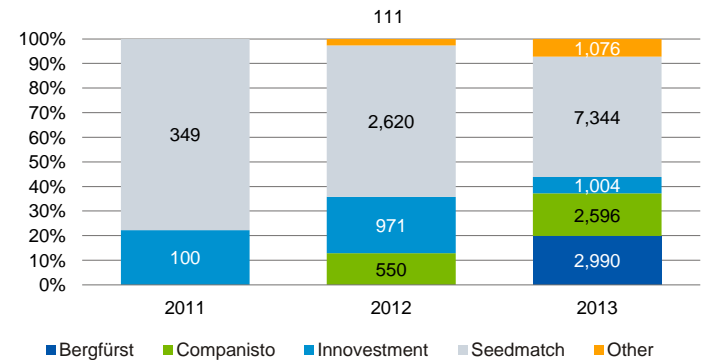


Sources: für-Gründer, Deutsche Bank Research

Crowdfunding market shares by capital raised

10

EUR '000



Sources: für-Gründer, Deutsche Bank Research

5. Enterprise valuation and crowdfunding

Risk-fraught crowdfunding can result in total loss

In crowdfunding, investors are faced with the question of what is being pledged in return for their capital input. While there is no equivalent value or else it is specified in advance in the case of donation-based, reward-based and lending-based crowdfunding, the consideration in crowdfunding (or equity-based crowdfunding), by contrast, is much more abstract. In this case, the investor expects consideration in monetary form. This requires a valuation of the enterprise which may, depending on the form of participation, be prescribed by law, in fact.

Crowdfunding is used as a funding option primarily for start-ups. For an interested investor it is a huge challenge to gain a proper assessment of the business model including all of its opportunities and risks. After all, given the only short existence of a start-up as a company there is only a small amount of valuation-relevant data available.²⁶ However, for an investment decision it is precisely the communicated valuation that plays a key role as an indicator of the start-up's prospective returns and risk profile. This trade-off is typical of start-up companies' funding situation. Unlike VC funding, where investors regularly open the door to business networks and management consulting services, crowdfunding is unable to provide start-ups with recourse to these additional services. This is not really surprising, though, since the platform providers are not shareholders in the companies and have no decision-making powers in the business, accordingly, so they also do not participate directly in a company's success the way VC investors do.

Valuations tie up financial resources

As long as the crowdfunding platform does not implement any internal valuation process the company has to conduct its own enterprise valuation or rely on an external service provider to handle the job. This ties up financial resources and management capacities. Besides chartered accountants or public auditors who offer business valuations according to accepted standards and often on a very cost-intensive basis²⁷, there is also the alternative of using online valuation tools that are available for free or for a fee.²⁸ While turning to an audit firm means that individual components of the company valuation can be communicated transparently to potential investors, this is not possible as a rule with online tools on account of their sometimes intransparent procedures.

²⁶ See: Klöhn, L. and Hornuf, L. (2012). Crowdfunding in Deutschland. Zeitschrift für Bankrecht und Bankwirtschaft 24(4).

²⁷ In Germany, audit firms are required to perform a company valuation using the discounted cash flow (DCF) method and according to a standard (IDW S1) set by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany].

²⁸ Examples in this regard include the service offers of "Bewertungspilot" and "EquityNet".



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However, the companies and the crowdinvesting platforms do have the possibility of circumventing the resources-consuming valuation issue: if they offer participation forms such as participatory rights or profit-participating loans²⁹, whereby investors obtain no shares in the company, this obviates the need for a direct company valuation. As a result, though, these forms of participation do not allow investors any right to a say in any business decisions. The still does not reduce the degree of the investment's complexity, however.

Moreover, if such a contract involves participation in the growth of enterprise value, a valuation of the company becomes necessary at least upon termination of the investment, with a valuation method for this juncture set out, as a rule, in the contract. The method established is used to determine the repayment amount on expiry of the minimum contract period or on notice of a later termination date. To give an example, we refer to the standardised contractual arrangement offered on the "Seedmatch" platform which provides for a multiples-based valuation using an earnings or sales multiple.³⁰

Various valuation methods for start-ups

Company valuations may trigger conflicts of interest

In most cases, the valuation method used in crowdinvesting can be chosen at liberty by the company seeking funding and can therefore lead to conflicts of interest. A majority of the crowdinvesting platforms merely point out that the company valuation should be conducted using methods commonly applied in practice. Only a small number of the active crowdinvesting platforms have implemented their own standardised valuation process. In some cases, though, proprietary platform valuation tools or a company valuation by the platform itself are a prerequisite for its use. Generally, the following methods are available to perform a valuation of a start-up:

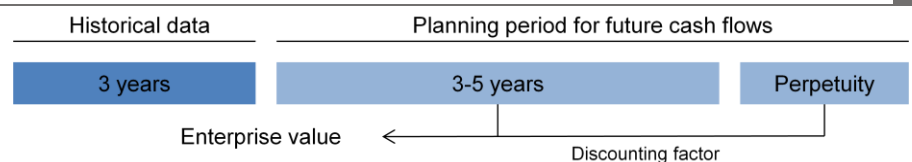
- Discounted cash flow (DCF) procedure,
- Multiples valuation procedure, and
- Venture capital procedure.³¹

The methods stated differ in terms of their strategy and their underlying database. They will be explained briefly in the following:

In the **DCF procedure**, enterprise value is calculated as being the present value of future cash flows discounted at a company-specific adjusted rate. In the process, the cash flows are estimated in a detailed planning period and in a period with a perpetual annuity on the basis of historical company data.³² The relative lack of data available at start-ups makes it more difficult to estimate future cash flows and set an appropriate discount rate, and correspondingly increases the complexity of the valuation procedure.³³

Discounted cash flow (DCF) method

11



Sources: Ernst & Young, Deutsche Bank Research

²⁹ Profit-participating subordinated loans pay interest as a function of profit, play a subordinated role in the event of insolvency and do not require a prospectus to be drawn up.

³⁰ <http://blog.seedmatch.de/2013/03/28/exitbeteiligung-wie-sie-als-crowdinvestor-langfristig-amerfolg-eines-startups-partizipieren/>.

³¹ See: Ernst & Young (2013). Bewertungsmethoden von Start-Up Unternehmen.

³² At this juncture we shall refrain from differentiating between an entity and an equity approach.

³³ See: Ernst & Young (2013). Bewertungsmethoden von Start-Up Unternehmen.

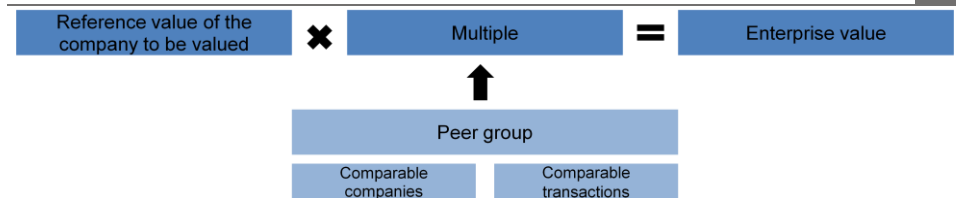


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In the multiples valuation procedure, enterprise value is determined by using sector or company-relevant indicators of comparable companies (peers) or by using transactions of similar types of enterprise.³⁴ Since start-ups often have an innovative or individual business model it remains a challenge to find a suitable peer group. Equally, operating indicators are only partly meaningful for the valuation of a start-up since the company is usually still in the early stage of its existence.³⁵

Multiples method

12

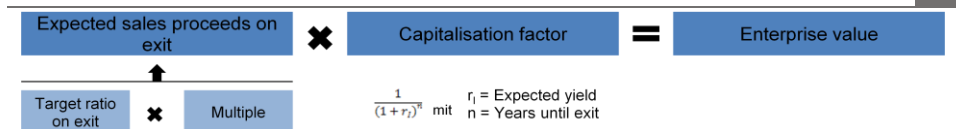


Sources: Ernst & Young, Deutsche Bank Research

The venture capital procedure used primarily in practice by VC companies is a combination of the DCF method and the multiples method and seeks to eliminate the problems described in valuing start-up companies. Major factors of influence in this method are the start-ups' liquidity requirements, the time remaining up to the disposal of the stake (exit), the investors' yield expectations and the anticipated enterprise value at the time of exit. Since the VC procedure similarly has to rely on estimates of future company developments, it remains just as fraught with assumption risks as the DCF or the multiples procedure.³⁶

Venture capital method

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Sources: Ernst & Young, Deutsche Bank Research

Risk: Companies communicate excessively high enterprise values

Given the many theoretical assumptions made in the different valuation methods, it is impossible to rule out conflicts of interest in a valuation performed by the company itself. So there is indeed a danger that an excessively high enterprise value will be communicated to potential investors in order to suggest promising investment prospects and to be able to generate higher funding volumes.³⁷ To guard against this possibility the investor or the crowdinvesting platform itself should perform an intensive analysis of the enterprise value. The question remains as to how such information asymmetries can be eliminated in company valuations. Perhaps an internationally valid quality label could deliver the necessary confidence-building signals.

Investors and individual perceptions of risk

Lack of risk awareness

An evaluation of enterprise values is performed actively by only a few crowd-investing platforms because they assume that valuation already takes place via public debate among the "crowd" (e.g. in fora). The platform operators point out accordingly in their general terms and conditions that no comprehensive review

³⁴ We shall refrain at this juncture from differentiating by multiples for various sectors as well as for equity and entity multiples.

³⁵ See: Ernst & Young (2013). Bewertungsmethoden von Start-Up Unternehmen.

³⁶ See: Ernst & Young (2013). Bewertungsmethoden von Start-Up Unternehmen.

³⁷ See: Meschkowski, A. and Wilhelmi, F. (2013). Investorenschutz im Crowdinvesting. Betriebs-Berater 24.2013.



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Many investors are not professionals

of company information is conducted.³⁸ Whether the crowd or an individual interested investor is able to fully grasp all the aspects of the company valuation as well as the opportunities, risks and complexity related to an investment remains dubious.

For one thing, investors in Germany's relatively new crowdinvesting market are in most cases not professionals, which is why they could tend to assess available information the wrong way.³⁹ For another thing, a current funding record in which EUR 250,000 was raised in only 7 hours and 18 minutes shows that investment decisions in crowdinvesting are taken in an extremely short space of time. In fact, the first EUR 50,000 was collected in only 38 minutes.⁴⁰ This raises the question of the extent to which it is at all possible to perform an appropriate valuation and calculate all the related opportunities and risks in this short timespan. Funding issues are usually fraught with complexity, risks and uncertainty. It is no doubt possible to estimate and calculate risks with a certain degree of probability following due diligence. By contrast, the black swans will remain unpredictable.

Investment evaluations remain a challenge

It is virtually impossible for the conscientious investor to perform a detailed evaluation of the investment opportunity in this short time. Actually, it is still too early for a proper awareness of the high risks to have taken shape since so far in the short history of crowdinvesting in Germany there have been only seven cases of crowdfunded companies becoming insolvent. An increasing number of insolvencies has been registered since the start of this year.⁴¹

Given 116 successful crowdinvesting projects (as at end-2013), this comes to a default rate of 6%. According to the KfW/ZEW Start-up Panel, though, nearly one in three start-ups fails within the first four years in business⁴², which is why the risk of insolvency during usual crowdinvesting timespans of three to ten years⁴³ of participation is not to be underestimated.⁴⁴ Moreover, premature notice of termination or outright disposal is not possible, as a rule.

Country-specific regulatory demands on investors

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US:

In a 12-month period the amount raised must not exceed:

the greater of USD 2,000 or 5% of annual income or net worth (if either <USD 100,000); and

USD 100,000 or 10% of annual income or net worth (if either ≥USD 100,000).

In addition, an investor must affirm when committing funds that he or she is aware of the risks involved and could suffer a total loss on said investment.

UK:

Crowdinvesting promotions may only be offered to certified investors or to those who self-certify as sophisticated investors, as well as to retail clients who are advised, certified as high net worth investors or do not invest more than 10% of their net investable assets.

Germany:

Any private individual having unlimited legal capacity may participate in crowdinvesting.

Sources: SEC, FCA, Deutsche Bank Research

Valuation complexities and investor protection issues remain a challenge

Given the already discussed complexities of crowdinvesting and current practices, the question emerges as to whether the investors from the "crowd" are always able to correctly assess, and bear the impact of, the underlying risk of such an investment on the basis of the company valuation and other information communicated. These issues are addressed in various ways at the international level. While every private individual of full legal capacity in Germany may participate in the funding of start-ups via crowdinvesting, there are limits on such access and/or degree of participation in other countries for reasons of investor protection.

In the *United States*, for example, crowdinvesting is regulated by the "Jumpstart Our Business Startups Act" under a separate title called "Capital Raising Online While Deterring Fraud and Unethical Non-Disclosure Act" (CROWDFUND Act), which came into force in 2012. It falls under the supervision of the Securities and Exchange Commission (SEC). The regulation states that the aggregate

³⁸ For more on this subject see, for example: <https://www.seedmatch.de/agb> Rn 3.2.

³⁹ See: Klöhn, L. and Hornuf, L. (2012). Crowdinvesting in Deutschland. *Zeitschrift für Bankrecht und Bankwirtschaft* 24(4).

⁴⁰ <http://www.vc-magazin.de/news/maerkte-zahlen/item/2564-crowdfunding-in-rekordzeit-bei-secucloud>.

⁴¹ See: *Süddeutsche Zeitung* (2014). *Das Geld der Menge*, March 11, 2014, and <https://www.seedmatch.de/startups/foodiesquare>.

⁴² See: W/ZEW (2013). *Gründungspanel* Jg. 6.

⁴³ See: Cassala, C. (2013). *Faktencheck Crowdinvesting*. *VentureCapital Magazin Sonderausgabe* Jg. 9.

⁴⁴ Examples of reasons for a start-up to fail may include bad management, poor liquidity planning, a technically immature business plan and the failure of the business model.



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amount which investors may commit to highly risky crowdinvesting projects is to be linked to annual income on a percentage basis and is meant to protect investors from excessive risk. Furthermore, the funds are to be gathered exclusively via registered brokers or funding portals (platforms). This should safeguard investors against any fraudulent activities on the part of a platform. Before any potential investment, brokers and funding portals must ensure that investors positively affirm that they understand the risks of such an investment (liquidity of the shares, business risk with start-ups and, in particular, the risk of the loss of the entire investment). Amending the regulations governing crowdinvesting infrastructure with the aim of easing small companies' and start-ups' access to capital is an issue recently proposed for comment by the SEC. However, the proposed amendments primarily focus on regulation of the funding portals and do not entail any change in the demands on investors.⁴⁵

UK: Only professional, experienced and high net worth investors

In the *United Kingdom*, by contrast, the Financial Conduct Authority (FCA) has restricted access to crowdinvesting to professional clients, retail clients who are advised, retail clients classified as corporate finance contacts or venture capital contacts, sophisticated or high net worth retail clients and retail clients who confirm not to invest more than 10% of their net investible assets in equity-crowdfunding or crowdinvesting respectively. Similarly, crowdinvesting platforms may only offer investment opportunities exclusively to investors who meet the corresponding criteria. The crowdfunding regulatory entered into force just recently,⁴⁶ but some platforms had adopted similar criteria in order to protect investors already before the FCA approach became mandatory.⁴⁷ Both country-specific rules show an acknowledgement of (excessively) high risks for investments made by individuals and that regulatory efforts are afoot to protect investors. We would welcome a heated debate on this issue between the affected stakeholders and the competent authorities. Up to now there has been a regulatory imbalance between some types of investment and crowdinvesting. Today's economic literature already offers proposals on how to improve investor protection. The discussions focus partly on the introduction of an investor appropriateness test and more extensive disclosure requirements for companies.⁴⁸

Regulatory imbalance between investment forms in Germany

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Stockmarket listing and equity investment	Crowdfunding
<p><u>Company (Prime Standard listing):</u></p> <ul style="list-style-type: none"> - If shares are issued in an IPO or a capital increase the company is required to draw up a prospectus (Section 1 (1) of the WpPG*) - As they are geared to the capital market, companies must publish annual reports according to IFRS guidelines (Section 315a of the HGB**) - Deutsche Börse and regulatory demands on listing significantly tighten the disclosure requirements (e.g. ad hoc disclosures, company calendar and quarterly reports) 	<p><u>Company (sourcing funds):</u></p> <ul style="list-style-type: none"> - Provision of project and/or company information (financial data, presentation video etc.) - As a rule, no requirement to draw up prospectus (depending on form of participation) - Contractual requirement to provide information to investors (often: earnings disclosures and annual report from the Federal Gazette)
<p><u>Investment advice and/or broking:</u></p> <ul style="list-style-type: none"> - Only competent staff members are allowed to provide advisory and broking services (Section 1 (1) of the WpHGMAAnzV***) - In the case of advisory services, records must be kept detailing the advice provided (Section 34 (1) of the WpHG****) - The rules of conduct are set out in law and provide that employees must always act in the best interest of clients and inform them as appropriate (Section 31 of the WpHG*) 	<p><u>Crowdfunding platform:</u></p> <p>Crowdfunding platforms explicitly state that they do not provide any investment advice or brokerage service. Therefore, the platforms are under no obligation to provide any documentation in terms of advisory records or to act in the interest of the investor.</p> <p><small>* Wertpapierprospektgesetz (German Securities Prospectus Act) ** Handelsgesetzbuch (German Commercial Code) *** Regulation on staff providing investment advice, working as sales representatives or as compliance officers and on notification requirements pursuant to Section 34d of the WpHG **** Wertpapierhandelsgesetz (German Securities Trading Act)</small></p>

Source: Deutsche Bank Research

⁴⁵ See: Securities Exchange Commission (2013). Jumpstart Our Business Startups Act – Crowdfunding Rules Proposal.

⁴⁶ See: Financial Conduct Authority (2014). The FCA's regulatory approach to crowdfunding over the internet, and the promotion of non-readily realisable securities by other media.

⁴⁷ The equity crowdfunding platform Seedrs for example adopted investor protection measures that are fully compliant to the FCA's regulatory already at its start and has been the first platform to receive FCA approval.

⁴⁸ See: Meschkowski, A. and Wilhelm, F. (2013). Investorenschutz im Crowdinvesting. Betriebs-Berater 24.2013.



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6. Concluding remarks

Trend, not hype

Crowdfunding is not just the latest hype, but instead a trend that is still in its infancy. Many aspects not only of its ways of functioning, its opportunities and risks, but also of its supervision and regulation have not (yet) been properly investigated owing to a lack of empirical evidence, statistics and historical records. Despite the (still) modest crowdfunding volumes this also applies to its role in the (international) financial system, which requires further analysis.

Digital structural change is a driver of the movement

Nonetheless, the alternatives for funding projects and companies via and with the aid of modern internet technologies will increasingly go viral and become established. Above all, the movement is being driven by the accelerating penetration of the digital economy in all aspects of life and by the growing desire of many people for (greater) mobility, participation and interaction.

Crowdfunding used as an alternative and/or complementary type of financing

Last but not least, the crowdfunding movement will also help to eliminate a bottleneck found not only at the national level: the scarcity of liquidity available to entrepreneurs for early-stage funding.

Aiming to plug existing funding gaps especially in the early phases of a start-up business, crowdfunding platforms offer additional, attractive sources of finance. The collection of liquidity via the crowd is used either as an alternative or as a complementary type of funding to traditional sources of capital. A further indication of crowdfunding's increasing popularity with both investors and project initiators or companies is offered by the recently published growth figures for the total market, though especially in the subcategory "crowdinvesting".

US success story on the crowd movement 16

One example documenting how, from the company's viewpoint, seed funding can be secured with the help of crowdfunding is Oculus Rift.

The start-up was financed as follows:

1st funding round (2012): USD 2.4 m via reward-based crowdfunding (T-shirts and virtual reality headsets)

2nd funding round (2013): USD 16 m via investors

3rd funding round (2013): USD 75 m via a VC fund

Finally, in March 2014, the start-up was taken over by Facebook for a reported USD 2 bn. The crowd received none of the spoils, though, and subsequent comments on the transaction were correspondingly critical.

Since the funding provided by the crowd was based on remuneration in kind, the early-phase investors did not participate in the lucrative takeover by a major digital ecosystem. Therefore, the question arises whether these investors would be willing to participate in another start-up without the aim of gaining financial yields.

*<https://www.kickstarter.com/projects/1523379957/oculus-rift-step-into-the-game/comments>

For this reason, it is absolutely imperative to differentiate more clearly when discussing the term crowdfunding. The heterogeneity of the movement emerges particularly in the diverse user groups, the sometimes multi-layered risks, the degrees of complexity and the purposes of the funding. Above all, it is necessary to distinguish between types of funding that target financial returns and those that do not and thus carry less risk when capital is collected by the crowd.

Besides the often (overly) strong focus in the media on the positive arguments of this capital-raising alternative, there is a need especially in the area of crowdinvesting for a balanced and, above all, transparent debate. Aspects to emphasise here in particular are the risks, the complex forms of participation and the company valuations which are heavily based on theoretical and often simplified assumptions.

In crowdinvesting, in particular, the question remains as to whether in current practice investors can develop a proper awareness of the existing risks of a participatory stake. Given the long participation periods and this largely still new and unexplored form of investment it is still not possible to see whether the companies funded via crowdinvesting will be able to generate sufficient liquidity to cover their debts under their own steam in the medium to long term. There are still not enough actual (successful) cases for a balanced analysis. Germany does not have any genuine success stories on the investor side on record yet.⁴⁹

Indeed, the debate and observations to date are confined to the successful collection of liquidity for the given businesses. Moreover, it remains to be seen whether crowdfunding will achieve a scale that results in positive macro-economic spillover effects, such as a rising number of company start-ups and an attendant increase in positive employment effects.

Generally, efforts towards improving the early-stage financing market for start-ups and entrepreneurs are to be welcomed. However, this trend must not be promoted without reflecting on the inherent risks and still short history of the

⁴⁹ The US example of Oculus Rift could, however, raise the hopes of German crowdinvestors and give the movement an additional fillip.



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movement. Certain aspects of the regulatory framework in the US could also prove promising for Germany. The European Banking Authority intends to team up with the European Securities and Markets Authority this year to examine whether it appears necessary to regulate crowdfunding activities at the European level.

Further regulations will follow

A consultation recently conducted by the European Commission found that the majority of respondents think it is necessary to have an appropriate degree of investor protection. Whether the consultation will be followed by regulatory action remains to be seen. For the time being, the Commission has proposed to establish an expert group to map the development of crowdfunding, assess if regulatory intervention is necessary, provide advice to the Commission to explore the potential of establishing a "quality label" and provide expertise.⁵⁰ Several countries have already implemented individual regulatory measures. Therefore, it can only be hoped that there will not be too many isolated national solutions, but rather that regulations and standards will be adopted that apply at the European level or, better yet, beyond Europe. After all, the crowdfunding movement and modern internet technologies do not recognise any national boundaries.

Inadequate supply of early-stage funding is an economic problem

From the standpoint of (potential) company founders and the self-employed, the inadequate supply of funding is a key (economic) problem and can – particularly for entrepreneurs with limited financial resources – lead to projects being cancelled at an early stage. Also, the lack of expansion and growth financing leads under certain circumstances to the termination of existing projects and companies. Therefore, the efforts of the crowdfunding movement are certainly to be welcomed from an economic perspective, particularly with regard to growth.

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⁵⁰ http://ec.europa.eu/internal_market/finances/docs/crowdfunding/140327-communication_de.pdf.



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