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Foundations as Promoters of Life Science Start-ups

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Abstract: Because private foundations have only modest financial resources compared to public and private-sector research funding, the only way in which foundations can play a key role is in the initial and risk financing of gap areas. This is generally in what is known as the 'valley of death', but even there an additional focus is needed. One promising field is the very early-stage support for high-risk but high-potential business cases in order to increase the number of start-ups, not only but very often in the field of life sciences. The pre-seed fund venture kick, an initiative by private foundations, is a good example of success. There is still a gap in the innovation chain in Switzerland from the first research results to becoming a successful life science company. However, for the first time promising solutions are on the way, and here too, foundations can play an important role.

Keywords: Asset class · Foundations · Start-up · Valley of death

The Role of Foundations in the Funding Landscape

In comparison with the funding vehicles found in the public sector and private enterprise, private foundations have modest financial resources. Even the Gebert Rüf Stiftung with its support budget of approx. CHF 15 million p.a. – a respectable amount by Swiss standards – is a 'quantité négligeable'. It is the quality of the support that determines the impact a foundation has.

Foundations which adopt obsolete state support models or channel their resources into government initiatives without themselves having any say in how these are structured are reduced to the status of mere stopgaps. If they engage in uninspired scatter support, they have no profile and only modest effect. However, if they themselves act like entrepreneurs, bundling and networking their limited resources, they can achieve significant things in the real world. Having a positive impact on societal changes and developments – this is philanthropy in its original sense.

The experience of the Gebert Rüf Stiftung, one of the largest private science foundations in Switzerland, shows that this claim can be efficiently and effectively implemented. The foundation was established by entrepreneur Heinrich Gebert as an organization for the promotion of the sciences and universities with the objective of enhancing 'Switzerland as a place to live and do business' (purpose article). In implementing the intention and purpose of the founder, Gebert Rüf Stiftung has adopted a position on the research scene within what is known as the 'valley of death', shown in Fig. 1.

The Gebert Rüf Stiftung structures its activities as an entrepreneurial, private funding agency committed to action according to its maxim 'Making science effective'. In all its activities it pursues three strategic target areas to which the operational areas of activity are subordinate and ancillary:

- Target area 'Wissenschaft & Entrepreneurship' (science and entrepreneurship): supporting entrepreneurially based links between science and the real world; how can science become effective in practice?
- Target area 'Wissenschaft & Öffentlichkeit' (public understanding of science): promoting dialogue between science and society. This target area deals with the following question: How can the resonance of science be felt more broadly in society?
- Target area 'Stiftung & Schweiz' (foundations and Switzerland): promoting foundations and their work. How can Switzerland as a foundation location develop robustly under a combination of a liberal legal framework and a focus on achievement?

The Gebert Rüf Stiftung is keen to use its funding activities as a stimulus to achievement. It therefore attaches great

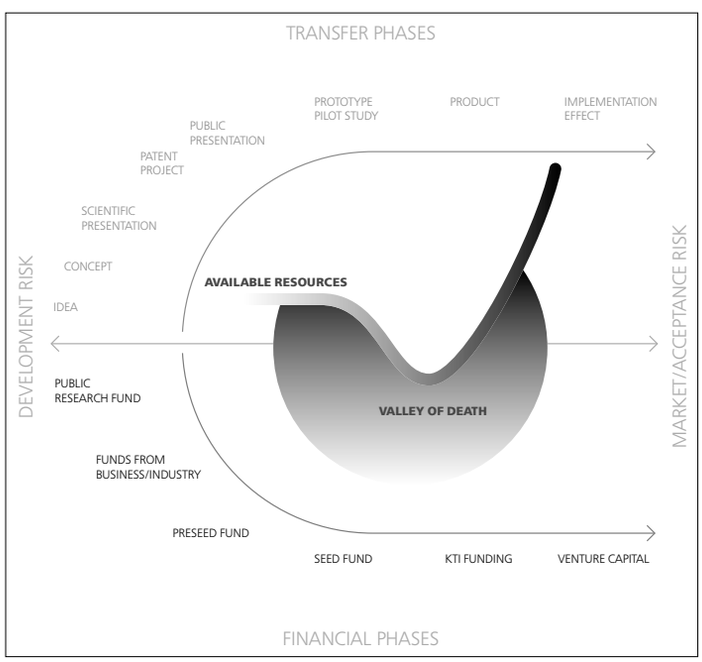

Fig. 1. The 'valley of death'/'vale of tears'. The picture represents a metaphor for the positioning of the Gebert Rüf Stiftung within the research landscape. It does not claim to be an exact statement, but rather a summary.

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importance to the connectivity potential of individual projects and their classification into areas of activity. In order to have an impact, it deploys its resources in a flexible yet focused manner. Long-term and serial financing of projects is not its task, and its support for specific areas of activity is likewise for a limited time only. In applying its funding strategy, the Foundation draws its projects in general and areas of activity in particular from acknowledged gaps, untapped potential, whereby the transfer of science to the market (application-oriented research, vale of tears) is a key element.

Research Funding in the Life Science Field

In the life science field in particular, this focus for foundations is key in view of resource allocation: in Switzerland, more than CHF 18 billion in total is provided for R&D every year. Non-profit organizations contribute less than 2% of this figure, while the pharmaceuticals industry dominates with 61%; the government also plays a prominent role with 25%, and the remaining 12% or so comes from abroad. Of the various research fields, the life science field receives a good third of this funding, *i.e.* around CHF 6 billion.[1]

If we focus exclusively on public-sector funding, a similar picture appears. As in previous years, the lion's share (40%) of the CHF 819 million provided by the Swiss National Science Foundation (SNSF) went to biology and medicine.

Of the federal contributions made within the context of the Commission for Technology and Innovation's (CTI) R&D project funding, in 2009–2013 the life science field claimed an average of just under 25%.[2,3]

What is the situation in terms of involvement by foundations? In a study conducted by the University of Basel's Center for Philanthropy Studies (CEPS), out of a good 12,000 foundations around 2,300 were identified as having a scientific connection in their purpose statement. The life sciences field (medicine and natural sciences) is a high priority for these foundations, being mentioned by 50% of them; however, precise details on actual funding volumes are not available.[4]

The involvement of scientific foundations is above average in the life sciences field in comparison with other fields. Under the given financial circumstances, however, they can only make an impact when they target their involvement to those areas where a small amount of impetus can lead to big changes. The identification and initial financing of gap areas is an effective mission for the philanthropic sector.

For example, the Gebert Rüf Stiftung established the 'Rare Diseases – New Approaches' area of activity with great success in 2009. With CHF 2 million a year, it financed innovative, high-quality and application-oriented research projects at Swiss universities, which are making a lasting contribution to the diagnosis and treatment of rare diseases. In 2009 Switzerland had neither a competence network nor a national strategy – in contrast to the majority of European countries and the USA. Although the individual diseases involved are rare to very rare, the 7,000 or so rare diseases in total result in around 500,000 patients in Switzerland alone. Rare diseases function as a model. With a rare disease it is often the case that a single mechanism triggers the disease. However, this mechanism also often exists in common diseases. This means that research into rare diseases can also result in insights being gained towards the understanding and treatment of common diseases. For this reason, the pharmaceutical industry is also becoming more and more interested in rare diseases. Since the programme's launch, there has been a buzz of activity in Switzerland – thanks in part to the foundation's networking activities:

- Patient umbrella group ProRaris,[5] founded in 2010, is campaigning for patients' rights.
- The international RE(ACT) Rare Diseases Congress[6] initiated by the Gebert Rüf Stiftung and partners has put Swiss research firmly on the international map.
- The Swiss National Science Foundation is participating in the European research programme E-Rare[7] for the second time in 2014.
- The Geneva Biotech Center[8] – created from Merck-Serono – is working in the rare diseases field and focusing on the transfer of research results to the market.
- The Swiss Federal Office of Public Health is currently working on a national strategy for Switzerland.[9]

This is a quintessential example of successful start-up financing of a neglected area by a private foundation. It should also be mentioned here that some first, promising start-ups, such as GenSight Biologics, Gene Signal, Sompharmaceuticals SA, Calypso Biotech SA, have already emerged, not just within the context of our programme but from other sources of financing too.

Foundations and Enterprise

In the enterprise sector, too, foundations need to identify gaps with major potential in the innovation chain which are not being filled by either the state or private business. The very early phase of start-up financing has been part of this area for a long time. Transferring scientific innovations into the market economy and thereby creating long-term jobs is the key to social and economic prosperity. Especially in their early stages, start-ups are exposed to substantial financial risks, which are not cushioned by public money – for regulatory reasons – or by private investors – for risk reasons. Closing this gap and supporting start-ups at a very early stage is an important philanthropic duty. This is particularly true for the life science field: here the risks in the start-up phase are generally very substantial, but if they succeed the potential is vast.

Of the 12,000-plus foundations mentioned, only around 100 have a purpose statement allowing them to support start-ups in the wider sense at all.[10] This alone shows that there is no tradition for supporting entrepreneurship in the non-profit sector, and that this can be seen as more of a new trend.

The Gebert Rüf Stiftung has been active in this area since its inception. Shortly after it was founded, a first nationwide entrepreneurship programme – 'New Entrepreneurs in Technology and Science' (NETS) – was initiated. Over the course of a four-week intensive programme in Switzerland and the USA, selected science entrepreneurs were given the necessary tools to take their business idea to market and make it a reality. The programme was run by the Create Switzerland Association under the direction of Jane Royston on the one hand, and by swissnex Boston and Babson College Boston on the other. In 2005, this pilot programme became the catalyst for the national venturelab and venture leaders initiatives run by the CTI, hich is still demonstrably contributing to the establishment of many start-ups today. In 2007, with the launch of the venture kick pre-seed fund in collaboration with the ERNST GÖHNER STIFTUNG, the Gebert Rüf Stiftung turned its attention to a new gap area: early financing of promising business ideas.

venture kick is aimed at identifying, supporting and promoting promising business ideas with a clear vision: to double the number of spin-offs from Swiss universities, to make these projects ready for the market more quickly and to increase the attractiveness of the start-ups to investors. venture kick helps budding entrepreneurs with seed capital of up to CHF 130,000. venture kickers can also access know-how from experienced start-up experts and a national network of investors.

At the heart of the programme stands a three-stage development and financing process, an external jury comprising entrepreneurs and investors, and a commitment to business formation on reaching stage 3 (Fig. 2).

To this day, this philanthropic initiative, run by a broad-based, private consortium of several foundations, one company and one private individual, is a success story, as the figures for 2007–2013 show (Fig. 3).

Foundations and Life Science Start-ups

Selected figures analysing the support provided to life science start-ups along the innovation chain shows a pleasing picture for development up to the Early Stage phase. The contribution of state and private research funding to the success of life science start-ups correlates with the success rate of life science start-ups in the early stages of philanthropic financing, as can be demonstrated using the venture kick initiative as an example:

Of the start-up projects supported up to the end of 2013, 28% belonged to the life science category. In terms of financing volume, life science firms actually account for 35.1%; this can be explained by their greater cash needs. These companies also make a significant contribution to the creation of new jobs (24.7%). The life science field is thus managing to transfer the resources invested in this area at the beginning of the innovation chain successfully into the early start-up phase in every respect.

Foundations can thus make an effective contribution within the 'valley of death' and in the early financing stages of these types of start-up project. In the field of pure research *per se*, it is almost impossible for foundations to make an impact in view of the resource allocation framework described above, as with the state and private enterprise there are sufficient backers in the picture already.

Gaps and Opportunities

Life science firms need substantial amounts of financing not only in the early stages, but also in the later development phase. In this phase there is also an active public and private investor base available to them. Nonetheless, investor confidence

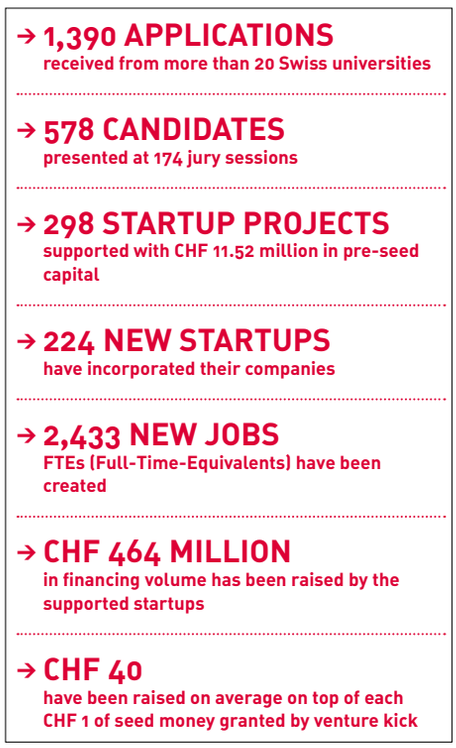

Fig. 2. venture kick support model.

in life science firms has only strengthened again recently (in early 2013) after a relatively long difficult patch caused by the financial crisis. However, there is always the possibility that this upswing could be followed by a further period of disillusionment caused by a general slow-down in the markets or an increase in failures.[11]

Nevertheless, there is currently an almost unparalleled opportunity to translate a long-held desideratum into practice. Up until now, start-ups have not been an asset class for institutional investors such as pension funds or indeed foundations. In the political sphere, thanks to the Graber motion[12] the starting position for the realization of a specific fund for institutional investors in promising, innovative companies has now reached an advanced stage. On the private sector side, a broad-based fund set up in accordance with market-based criteria is already at the ready in the form of the Swiss Investment Fund, an initiative of the Swiss Private Equity and Corporate Finance Association (SECA) in collaboration with investor association CTI Invest. An institutional fund such as this could play a central role also and especially for life science start-ups if it were to provide capital with a certain consistency and over a long period. Foundations could also play an important role here. They essentially invest their capital with a long-term perspective. With the current trend towards mission-based investment, they are also increasingly selecting investments which are closely related to the funding objectives of the foundation, or which best contribute to the fulfilment of the foundation's purpose. The Swiss Investment Fund would therefore also and especially offer the foundations a good investment opportunity while at the same time allowing them to promote Switzerland as a business location. Based on foundation assets of around CHF 70 billion in Switzerland, the potential for the Swiss Investment Fund and the life science start-ups is tremendous. The Swiss life science start-ups, which will continue to play a key role in the sustainable development of Switzerland as a country of innovation in future, could be systematically strengthened and brought forward in their development.

With the Swiss Start-up Monitor,[13] an initiative provided with start-up financing by private foundations and the CTI, a unique database has recently become available at both national and European level, allowing users not only to map the Swiss start-up scene, but also to continuously track the key figures for individual start-ups. This monitor thus not only provides sponsors and investors with a valuable tool, but also gives the start-ups themselves some helpful reporting models.

The outlook is thus promising in every sense.

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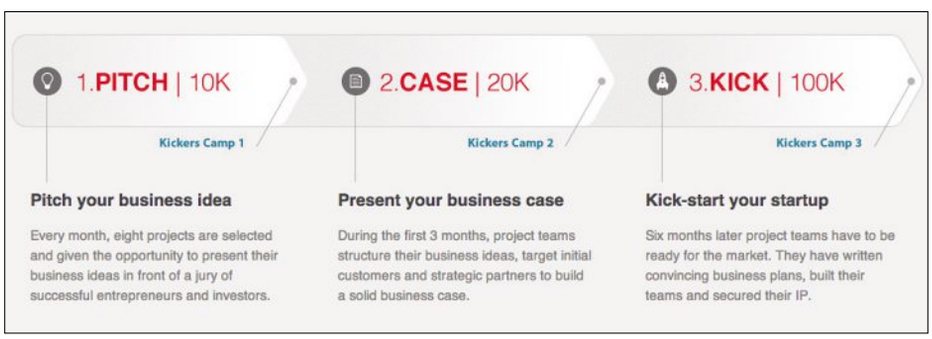

Fig. 3. Key figures for venture kick, 2007–2013 (*www.venturekick.ch*).

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