Swiss Angel Investor Handbook

Best Practices for Investing in Swiss Early-Stage Tech Startups

SICTIC
SWISS ICT INVESTOR CLUB

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Preface

Angel investing in technology startups is more of an art than a science. It is the act of recognizing smart and talented entrepreneurs who get things done, and who work on a great product with a high business potential. Once they're chosen, you give them your money, open your business network to potential customers, give them advice and introduce them to experts who can help them make good decisions at the right time. What makes this an art rather than a science is the fact that, at the beginning of a new venture, very little is easily measurable — especially on the customer and revenue side — and a lot of unknowns and nonproven hypotheses are present. There's also a lot of passion and excitement for the new business idea, which sometimes gets in the way of thinking clearly, not so unlike when one falls in love. Most mathematically sound approaches to assess the new business are not yet applicable due to a missing financial history, as the product hasn't yet been built and product-market fit hasn't been proven. Whether the product to be built will actually get traction in the market and how competition will react is often pure guesswork. Nevertheless, great ideas are worth nothing if they don't get implemented and shaped into sustainable products and services that have a positive impact on society and the environment. Helping entrepreneurs with strategy and funding is a life-changing activity for many who do it as angel investors. Even if you only do it in your leisure time like most angel investors, it gives you a new purpose in life and helps create not only new and amazing products, but meaningful jobs as well.

Having been an angel investor in Switzerland for more than a decade, and co-founding and growing the Swiss ICT Investor Club (SICTIC) to the largest and most active business angel club in Switzerland within five years, I decided to share best practices that I've learned on my angel investor journey. These are meant for angel investors who invest in Swiss technology startups, and I hope this guide will help make them successful angel investors whom eager entrepreneurs love to work with. The best practices included in these pages will also help investors avoid costly mistakes and show them how to be a great team player among the other investors and entrepreneurs they work with.

This handbook is a condensed collection of wisdom from many successful angel investors, and will familiarize you with concepts of investing in seed and early-stage technology startups in Switzerland; help you learn the language that you'll encounter in investment term sheets; point out

caveats and provide checklists that you can use when making your own startup investments.

Our official website at www.angelhandbook.ch provides online resources such as a financial plan, a due-diligence checklist and more to make your life as an angel investor easier. If you have input that we should consider for a later version of this handbook, please send us feedback through our website or via email to info@angelhandbook.ch. I hope you'll experience a lot of eye-opening moments when reading these chapters, and I wish you good luck with your future startup investments. Always remember, everything big once started small.

Dr. Thomas Dübendorfer
Editor, Swiss Angel Investor Handbook
President and Co-Founder, Swiss ICT Investor Club (SICTIC)

1 The Angel Investor

Find out if investing into Swiss tech startups resonates with you. Learn how investing directly and indirectly into startups differ, why you will also engage with venture capitalists and which characteristics the asset class of startup shares has that differ a lot from the public stock market.

1.1 Can I be an Angel Investor?

By reading this Swiss Angel Investor Handbook, you will have already done the first important step: getting yourself familiar with angel investing and learning from others with experience. The more you learn, the greater your positive impact as an angel investor will be on a startup's mission and overall success. Let's start with the vital question of whether you're actually a good fit for the role of angel investor.

The typical profile of an **angel investor** (also called a **business angel**) looks like this:

- You are a private individual and invest your money into a startup
- You enjoy helping entrepreneurs start and scale up a business
- You invest as a hobby and don't get paid for making investments
- You can afford to take the loss of your entire startup investment if the startup fails
- You also spend some time with the startups you've invested in — not just money

Mindset and motivation are crucial to becoming an angel investor. You'll have a great time investing if you have a strong desire to:

- connect startups to their first customers
- be a valuable team player on a rollercoaster ride
- foster innovation and shape the future
- take a risk now and then

Can you bring **smart money** to the table? It means more than just money. Smart money is something you already have that you're able to share with startup founders such as your special skills, or your work experience growing a team, scaling an enterprise and building a successful product. This could mean bringing your relevant domain knowledge to define the product, an active network of experts, or a strong business network to potential customers. Almost anyone with five years of full-time work experience has smart money to offer! Having been a founder who has built and sold a product-driven tech startup will give you added credibility among other founders, but having such vast experience isn't required for you to be helpful to the entrepreneurs of startups you invest in.

Anyone in Switzerland with their own funds can **invest *directly*** into a Swiss startup (as long as the startup's business is not primarily to invest). In Switzerland — unlike in other jurisdictions such as the US — an angel investor does not have to be an **accredited investor** or a **qualified investor** or a **high-net-worth individual** (HNWI) who satisfies certain criteria in

terms of income, governance status, professional experience or net worth. In the US, this is at least USD 1M (one million) worth of net financial investments, with certain exclusions such as a house one owns and lives in. Given that Switzerland is the country with the highest density of millionaires globally (in 2018, 7.5 % of Switzerland's population), and given that it's not recommended to invest more than 10 % of your net wealth into startups, many angel investors certainly are HNWIs (in US terms), but not all. To legally qualify as HNWI under Swiss law, at least CHF 2M net financial investments are required or, alternatively, you need a certain knowledge about investing and have assets of at least CHF 500 000.– at your disposal.

For **investing *indirectly*** in startups in Switzerland — for example, through venture funds organized as SICAV, KmGK or SICAF, special purpose vehicles (SPVs), companies that invest their equity into startups (e. g. organized as AG/SA, GmbH/Sàrl), or equity crowdfunding portals that qualify in Switzerland as a collective investment scheme — being a qualified investor is usually required. If any investors involved in a collective investment scheme don't (or no longer) fulfill these criteria, the Swiss Financial Market Supervisory Authority (**FINMA**), which is the Swiss government body responsible for financial regulation, will likely step in. They will then investigate and shut down the investment vehicle, as they have done repeatedly in the past. It's never wrong to ask an indirect investment vehicle offered to investors in Switzerland for a **FINMA letter** showing that the vehicle is set up legally and in full regulatory compliance prior to investing through them. Some angel investors discuss their investment activities in a group of like-minded investors. Such a group is called an "**angel investor club**" (or "business angel club") and often also helps with deal flow and organizing pitching events. Even angel investor clubs can get a letter from FINMA that shows they are operating in line with the financial market laws.

!

When investing indirectly into a startup, be aware that you often have to be a qualified investor. Don't be shy about asking for the FINMA letter before engaging.

In this handbook we focus on **Switzerland-based early-stage technology startups**, which are young companies that develop technology-driven products such as software, new web services, data-driven business intelligence, novel communication systems, smart assistants, artificial intelligence solutions, blockchain applications, online marketplaces, mobile apps, cyber security solutions, fintech solutions, hardware (e.g. 3D printing, drones, sensors, smart building solutions) and more. It doesn't matter whether they sell their product to companies (**B2B**) or directly to consumers (**B2C**). Several successful Swiss tech startups are **spin-offs** from research institutes at ETH Zürich, École polytechnique fédérale de Lausanne (EPFL), University of Zurich (UZH), University of St. Gallen (HSG), University of Geneva (UNIGE), Università della Svizzera italiana (USI) and other Swiss universities, Swiss universities of applied sciences, private companies and other organizations.

In this handbook we won't be discussing life science startups that develop new drugs, diagnostic devices for humans or new cancer treatments. These startups often follow a path of extensive laboratory research, costly and time-consuming clinical studies, require significantly more funding and, finally, need Food and Drug Administration (FDA) approval before the product can be sold. Their investment needs, scale-up phases and exit possibilities are quite different from quickly scalable tech startups and they attract different investors accordingly.

Providing "smart money" as an angel investor means having entrepreneurial experience and a strong business network to support founders. Basically anyone with money available to invest that she or he can afford to lose can invest directly in a Swiss tech startup, as no formal education or permission is required.

1.2 Positioning of Angel Investors

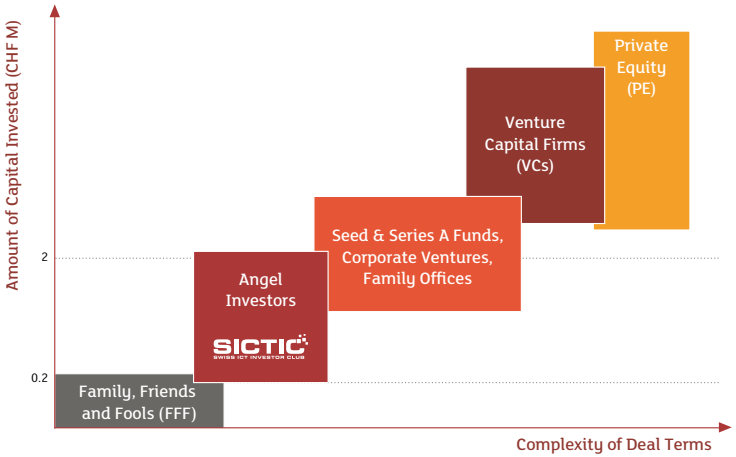


FIGURE 1.2.1 Venture Investor Types

Startup founders usually put some of their own savings into their new venture and then procure their first chunk of outside funding from family, friends and fools — or "**FFF**" — who know them well. The "fools" are people that give some small financial support before the business idea has been fully fledged out because they like what the founders are about to do and want to encourage them to actually do it. When founders want to hire their first employees, they'll need several hundred thousand Swiss Francs to pay those salaries in the coming year. As in most cases, the new venture does not yet have a product launched and therefore has no revenue. Professional investors like **venture capitalists (VCs)** are not yet interested in these companies, as they often invest several million on behalf of their limited partners and expect a proof of product-market fit, which usually includes recurring annual revenues of at least CHF 500 000.

This early-stage financing "gap" is filled by **angel investors**, who invest their own money (as FFFs do) and are often organized into angel investor clubs. As a club, angel investors in Switzerland usually collectively invest anywhere from CHF 200 000 to CHF 2 million (or 2M for short) in technology startups. Coming into play between the VCs and angel investors are the smaller **seed and Series A funds** with less than CHF 100M under management, **corporate ventures** (companies that invest, often strategically, to acquire new and innovative products) and **family offices** (investment professionals who invest on behalf of wealthy families). These groups typically invest between CHF 500 000 and a few million, but usually need to see first revenues before doing so.

As an **angel investor** using just your own rather limited funds, you will be:

- making the investment decision ultimately by yourself (as opposed to through the investment committee of a VC fund) and are thus more prone to biases and overestimation, yet are able to decide much faster than professional investors
- typically investing very early in startups, since at later stages smaller investment tickets (e. g. CHF 20 000 vs. CHF 1M) won't often be accepted anymore; this results in you having fewer validated data points to rely on, meaning you'll have to trust your gut that the founders can actually execute on their business idea and that their product will indeed find a large market

Whereas a **venture capitalist (VC)** with larger funds:

- is a professional investor who gets paid for doing investments
- often invests little to no money of his own, but rather the funds of his clients who are limited partners, wealthy families or companies; each client needs to be an accredited investor and usually provides at least CHF 250 000.– in cash to a VC
- often works full-time as an investor
- often has a strict time limit until when an exit for all the VC's shares must happen, so the time starts ticking once a VC comes in; for funds, it is often 5 years of investing, then 5 years of harvesting, which can be extended by another 2 years at a maximum
- generally has a budget for hiring experts to assess the startup

The paths of angel investors and VCs will most likely cross if your startup is successful and scales up, consequently needing more funding to grow even faster. It's much better to look at VCs as your older brothers who can help the startup succeed rather than see them as your adversaries. Sometimes when VCs come in, they do buy angel investors out or request special rights for themselves. However, once you get more familiar with the VC world, you'll see that many of these rights and methods make sense — even if they at first alienate you as an angel investor who would never have asked for such things.

Let's look at the startup journey through its different funding phases:

Seed/Early-Stage Round (usually up to CHF 2M)

- Development of a first prototype of the product or service, often still defining the concrete business model and, if needed, pivoting to a better model
- Initial funding through friends, family and fools, then angel investors and seed funds
- Establishment of a core team and defining of roles

Series A/B/C (usually CHF 2M – 15M)

- Existing proof of concept of the product or service, but only a partially proven business model
- Some first customers and revenues, but a strong need to finance marketing, further product development and employment (typically software developers, hardware engineers, sales and management staff)
- Funding at this stage comes mainly from venture capital funds, corporate ventures and family offices

Growth Capital (usually CHF 15M – CHF 500M)

- Established company with a proven business model generating profits with attractive margins or strong revenue growth with an outlook of generating profits eventually
- Company often seeks new finances to internationalize business faster, expand the product portfolio and service offerings, and/or acquire competitors through merger and acquisition (M & A) transactions
- Investors are often specialized growth private equity (PE) funds or late-stage VC funds

As an angel investor you get into a startup deal with a small investment ticket very early. It's one of the easiest ways to get into private equity and doesn't require substantial wealth. If you want to invest as a limited partner into a VC fund, the minimum amount is as said often CHF 250 000.–, which is out of scope for many angel investors.

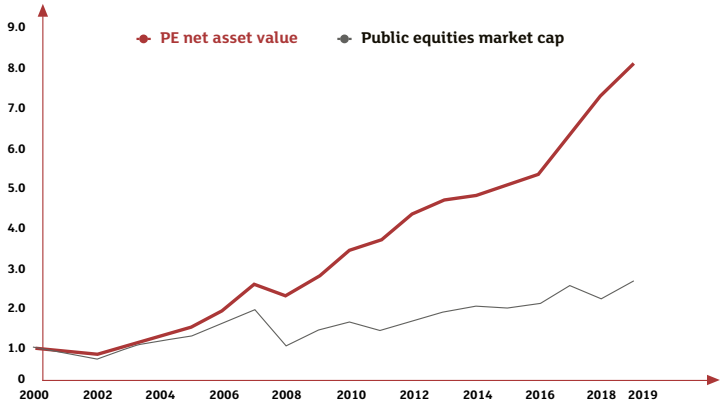
Besides equity financing, there is also debt financing. Read the chapter on financing instruments to learn about additional financing options.

Angel investors jointly provide funding in the startup's earliest development stage, usually totaling in the range between CHF 0.2M and 2M.

1.3 Startup Investments as an Asset Class

The value of private equity companies has grown more than eightfold since the year 2000. Private markets are outgrowing public markets since the year 2002 with increasing speed. If you don't want to miss out on this strong trend, start investing in startups as an angel investor to get access to this private equity asset class.

Global private equity net asset value[1] and public equities market capitalization, indexed to 2000



[1] Net asset value is defined as AUM less dry powder.

FIGURE 1.3.1 Total private equity (PE) asset value versus public equities market capitalization. Source: World Bank, Prequin

You might be familiar with investing in company shares in a public stock market. However, investing into privately traded startup companies — even if you also receive company shares — is quite different as an asset class! Some points to keep in mind:

- **Low liquidity**
  It can easily take more than just a few years before the startup makes an exit and you get any money back; selling early is often very difficult as the market for it is still tiny or non-existent; given that it takes a while to see first returns, you'd better begin your angel investing now;-)
- **High risk**
  You may lose your entire investment if the startup goes bankrupt. On average, only one in two Swiss startups will survive the first five years according to the Swiss Federal Statistical Office. For ETH spin-offs that were founded from 2003 to 2007, the 5-year survival rate was much higher: an astounding 92 %.
- **High returns**
  Here, we're talking about multiples of your investment amount (for seed investments in a young startup) and not just one- or two-digit percentages on your investment. A 2016 study done in the US by Wiltbank and the Kauffman Foundation found a 2.5× average return for several thousand angel investors with diversified startup investment portfolios and an internal revenue rate (IRR) of ~22 %. IRR can be seen as the interest you would need to get on a savings account with compound interest to achieve the same return.
- **"Smart money" is a game changer**
  As an angel investor you are close to the founders and may be in a position to help them find first customers, avoid costly mistakes, scale faster with less money (thanks to your business network), and refer to them excellent new hires to complement the skills of the executive team assembled earlier.

Angel investors are not investment professionals like venture capitalists. Angel investments into startups are risky and illiquid — but they offer great return potential and the pleasure to engage with highly motivated entrepreneurs.

1.4 Best Practices for Angel Investors

Here's a list of best practices from experienced angel investors.

- **Add value beyond your investment.** Engage with the entrepreneurs and try to add more value than just someone providing capital – already before you invest. Enjoy coaching smart entrepreneurs and get satisfaction out of it.
- **Never invest alone** in a startup. Co-invest with more experienced investors.
- **Don't invest more money than you can afford to lose**. Always know how much you can still invest.
- **Never skip due diligence** and don't rush to get into a deal. Always conduct proper due diligence before you invest. It's a long term commitment.
- **It's all about a great team.** An amazing team (entrepreneurs and investors) with an average technology is way better than an amazing technology with an average team.
- **Beware of the scientist/engineer – manager/sales dilemma.** A young technology startup needs scientists and engineers much more than managers and salespeople. A more mature startup needs managers and salespeople much more. Founders that are great engineers often don't automatically transition into great managers as the company grows.
- **Don't invest if you don't understand it.** It might sound amazing but if you don't understand it, don't invest in it.
- **Get used to failure early.** Startups are more likely to fail early than to succeed. It is in the nature of companies that they will all shut down someday in the future. The question is whether an investor can make money with it before it shuts down.
- **Don't decide for the founders** but help them to prepare their decisions well.
- **Be proud to create jobs and to shape the future** with innovative products.

You have made it in life – now it's payback time! Switzerland needs more angel investors.

2 Sourcing Deals

Getting access to the best startup deal flow is essential to finding good matching startup investments. The broader your funnel of startup deals and the more comprehensive the quality checks done before an investment, the happier you will be with your startup investment portfolio.

In this chapter, you learn how to find great startup deals, how to properly screen the pitch decks that startups share with investors, and how to engage with other investors who can help you select the most promising startup deals to invest in.

2.1 Getting Startup Deal Flow

Even if you have never invested in a startup and have never told anyone of your interest in investing, you might still get random inquiries as to whether you'd like to invest in a startup — just because you have a well-paying job. It can be tempting to say yes to random deals that you're offered. However, the most important rule about deal flow is that you need to **look at a large number of startups** before you decide on the most promising one to invest in. It's similar to the challenge of finding a big gold nugget in a mountain river: you'll have to sift through a lot of gravel and sand before eventually finding the treasure. Keep in mind that you're not just looking for the best business potential when selecting startups at an early stage; you're also looking for a personal match with the startup founders as you will go on the startup journey together with them.

If you want to find an excellent startup deal, expect that you will have to look at many deals before eventually investing.

2.2 Personal Dealflow

Personal deal flow from successful angel investors

The best deal source for angel investors is the one used by successful angel investors. They've already built a personal reputation and credibility over several years by investing in startups, helping them on their journey, and enjoying successful exits. Other founders want to work with these angel investors, too, to improve their chances for the same success. These angel investors often have a lot of deal flow and the experience needed to cherry-pick the best deals from it. Unfortunately, it's not easy for less-experienced investors to get access to that deal flow. Being part of an angel investor club can help, as promising startups are often advised to pitch to these.

Suppose you want to build your own direct deal flow as an angel investor. In that case, you'll have to first build your reputation by being very helpful to startup founders, and by making your portfolio startups highly successful. Don't forget to let other founders and investors know which

startups you have invested in, so they can see and judge on their own how well your portfolio develops.

Personal deal flow from successful founders

You will find the second-best deal source in successful founders who have had a large exit. Many other founders want to have them as investors and learn from their experience. They might have great insights on what works, what doesn't, and the challenges to expect when scaling up a company. When they decide to go in, getting deals recommended by these investors is a privilege; this deal flow is hard to access, as successful founders are often very particular about whom they want co-investing with them. Great founders tend to be very conscious and selective about which investors they contact when starting their new company, as they do their own due diligence when deciding which angel investors to get on board early, making it even harder for novice angel investors to gain access to the best deals.

While personal dealflow from successful angel investors and founders is a good source, past success can't guarantee future success and you should still look at these deals carefully yourself to form your own opinion before you decide to invest.

Your personal deal flow

Once your friends, work colleagues and acquaintances learn that you invest in startups, it is likely that you will also get your own personal deal flow. Expats usually have connections to people in their home country, and some people are connected to diasporas through people they used to study or work with. It is of course tempting to invest in deals that come through your own network.

As a rule of thumb, it is best to never invest alone in a startup deal, and instead get used to always asking other investors for their views on the business potential. Have them assess the founders, too, and discuss with them the risks of an investment deal before investing.

2.3 Angel Investor Clubs

Because getting access to personal deal flow of successful angel investors and founders is hard and building a reputation as an angel investor takes a lot of time, and because investing alone isn't very wise and not much fun, many aspiring — and seasoned — angel investors join an angel investor club.

Most angel investor clubs offer at least these basic services:

- Startup deal flow: pitches by startup founders looking for investors
- Networking and matchmaking of investors with startup founders
- Better and faster due diligence of startups by a group of investors
- Newsletters for investors
- Document-sharing with investors (startup factsheets, pitch decks, financials, business plans, etc.)

Some angel investor clubs also offer additional services:

- Quality control of the startup deal flow with hard criteria (e. g. domicile in Switzerland, maximum funding amount, maximum company age) and soft criteria (e. g. business potential, team potential, etc.)
- Quality control in selecting among investors who want to join the club
- Training angel investors
- Deal-sharing among investors
- Document templates for investors
- Investor tools to facilitate communication, collaboration and deal coordination
- Introductions to venture capitalists for filling up early-stage rounds or leading the next round
- Investment portfolio management to keep track of startup investments
- Investment reports with statistics about the startup portfolios of angel investors

When referred to an angel investor club by a current member, it's often possible to participate in one pitching event for free, to see if one likes the club, the deal flow and the investor community before joining.

Beyond their similarities, clubs also differ significantly in other aspects:

Investor community size, geographical presence and quality
The quality of angel investors is high if they can bring a lot of "smart money" to a deal with their business network and experience as investors and entrepreneurs, if they have had many successful startup exits, and if there are at least several lead investors among them who can negotiate a deal. Some clubs have investors in only a couple of cities, while others might be spread across several countries. For angel investors, collaboration on assessing deals is easier when there are plenty of other investors in the same vicinity.

Quantity and quality of the startup deal flow
Startup deal quality is best judged by

- the number of successful startup exits done,
- the number of startups that have successfully raised Series A or later stage financing,
- the number of startups that have hired a sizable number of employees, and
- which prestigious awards have been won by portfolio startups.

To find a good match, the number of pitching startups needs to be large enough. However, quality should always come before quantity. If an angel club doesn't filter startup pitching applicants diligently enough, investors will waste a lot of time looking at deals that they won't ultimately invest in.

Dealflow scope and investment round sizes
This refers to which types of startups are pitching (e. g. technology and / or life science), in which jurisdiction they are incorporated (e. g. company domicile in Switzerland or abroad), and in which maturity stages they are (before-incorporation, seed, early-stage, later-stage, etc.) when they pitch. The more mature a startup is, the higher the startup valuation becomes and the higher the investment rounds will be. Many angel investor clubs focus on early-stage rounds up to Series A, but don't facilitate later-stage growth rounds.

Minimum investment ticket size
Often there is a minimum investment amount per startup deal that you must meet — for example, CHF 20 000. It is advisable for angel investors to build a portfolio of 10 to 20 startup investments over several years to balance the risk. The minimum investment ticket size therefore gives an indication of how much capital an angel investor will need at a minimum to build a risk-balanced portfolio. Rather low minimum investment ticket sizes also mean that there will be (too) many investors on the same deal, which often leads to no investor having a large enough stake to make spending considerable time with the startup worthwhile. More "skin in the game" and fewer investors on the same deal often makes it much easier to activate the investors' network and their know-how for the benefit of the startup.

Fee model
Many clubs have a flat fee for the basic services (often referred to as "membership", which includes attendance at pitching events). Others also charge an additional percentage commission for each investment, an

annual portfolio maintenance fee or a carry on the exit proceeds. These fees can become quite sizeable for larger investments and successful exits. Always read the fine print before joining an angel investment club or an online investment service. Some clubs and services are not exactly transparent about what they really charge to startups and investors. To avoid surprises, always ask which one-time and recurring costs will be charged to you or the startups you invest in before you join.

Investor pooling model
Some angel investor clubs require that all or most investors are part of a pool, or go through a trustee for each startup investment. Others leave that decision to the angel investors. Investor "pooling" constructs often come linked to hidden tax disadvantages, regulatory issues or setup costs, annual maintenance fees and exit carries. Several investor pooling models were found to be illegal by the Swiss Financial Market Supervisory Authority (FINMA) and consequently were liquidated, resulting in a large loss for the investors. To be on the safe side, before joining a pooling model, ask for a tax assessment on both cantonal and federal levels as well as for an assessment letter by FINMA regarding regulatory compliance. Be aware that this will take quite some time. In an effort to provide a solid agreement for pooling angel investors, a group of angel investor clubs, law firms and venture capitalists have created the free Swiss Investment Syndicate Agreement Template (SISAT) to set up a syndicate in the form of a simple partnership. Commercial pooling providers offer more sophisticated syndicate models involving a fiduciary. Some also facilitate payments and onboarding investors.

Exclusivity
Some angel investor clubs require exclusivity from the startups that pitch to them, meaning that only investors of their club are allowed to invest during an exclusivity period of usually one to several months. This also means that bringing in external investors can be difficult, or even impossible, unless they join the angel club. If the round does not go through, the startup will have lost several months that it could have used to find more investors. This is why exclusivity in early-stage rounds with angel investors is detrimental to the startup (as it blocks them from finding the best matching investors faster) and bad for investors (as the chance to fill up the round is artificially reduced). Exclusivity is most often seen with angel clubs and investor platforms that charge investment fees; they prohibit "free rider" investors from joining in order to protect their fee income streams. Strong founders with high-potential startups usually don't accept exclusivity periods at all from angel clubs, and avoid pitching to them.

Partners
Look at the reputations of corporates (e.g. law firms, corporate ventures) and VC funds that an angel club has partnered with. This helps you get a sense of the league in which a club is playing. Some clubs do not have partners at all — which often also means they don't aim to build an ecosystem around the club.

Code of ethics
Some angel clubs have a code of ethics that outlines the behaviour expected of investors, intending to make investment terms transparent and deals fair for all involved in the same investment round.

"Try before you buy" is also true when joining an angel investor club. Take your time to get to know the investor community, the startup deal flow quality and the track record of a club before you join. Always read the fine print and ask which fees will have to be paid by you and the startups you will invest in.

2.4 Startup Pitching Events and Startup Fairs

There are several large startup pitching events and startup fairs, some stretching across multiple days, where startups set up booths, give talks and present their products. The upside is that one can see a lot of startups in a short period of time, attend inspiring talks, meet a lot of people in the startup ecosystem and learn which forms of startup support programs exist. However, they can also be overwhelming and exhausting. Some event organizers value the quantity of attending startups over their quality, as they earn more from sponsors and startups if the event is heavily attended. Often, there are also many service providers, startup supporters and aspiring entrepreneurs circulating at these large pitching events and startup fairs. As an angel investor, it's good to attend at least one such event to get a feeling for the ecosystem. That said, finding a great investment at large events can become a search for the needle in a haystack, and such events are not the most promising source for finding the best early-stage deals. The best deals more often come through personal introductions from investors and founders with a track record.

2.5 Startup Awards

Startup awards come with cash prizes, support offerings, others just with honours and publicity. Several award ceremonies are primarily networking events. Winning awards as a startup cannot compensate for not winning enough investors, as most cash prizes won't even pay the salary of a single employee for a year. Startups typically need to have a product and first revenues before being considered for awards. However, customers and most investors don't consider the awards themselves to matter much; for them, it's much more important that startups have a great product, happy customers and revenue growth. Besides, applying for too many awards takes a lot of time away from growing the core business. While high-potential startups with great founders are often present at reputable (highly selective) award ceremonies, it's often too late for angel investors to get in at a good valuation once a startup has won a prestigious award.

FIGURE 2.5.1 Some well-known Swiss startup awards: "venture" by ETH/McKinsey, De Vigier award by W. A. De Vigier Foundation, TOP 100 Swiss Startups Award by Venturelab, Swiss Fintech Award by Finanz und Wirtschaft Forum, Swiss Economic (SEF) Award by Swiss Economic Forum

2.6 Problematic Deal Sources

The following deal sources are very often a bad choice, as the deals are frequently of low quality and have a low potential for returns.

Relatives and acquaintances
A relative of yours (or of a close acquaintance) wants to start a business and asks you for an investment in his/her startup.

Why you should be especially careful with deals like these: If you invest in the business of a relative or the relative of a friend, it is very hard to

separate between business and the existing relationship. This often means that deals are not checked properly before investing, as one is investing in an already-known person one is emotionally attached to or in a person who was referred by a non-investor. Too often, such investments are done just to grant a favor or to avoid having to say no. Furthermore, one tends to be reluctant to question whether this person fits the profile of a successful founder, and it becomes difficult to ask the challenging questions necessary to really understand the business case before investing. If it goes wrong, and all money is lost and promises are not fulfilled, the disappointment can be strong enough to make it difficult when meeting these founders again through family interaction or mutual friends. Having invested in a relative's startup that failed, can badly hurt the existing relationship. On the other hand, because relatives can't just walk away from you easily, they might fight harder for success.

Don't be afraid to say "no" when you are asked to invest by a relative or an acquaintance. Already knowing the person does not automatically make a high-quality startup deal. Never skip due diligence of ANY startup before you invest. It's much easier to say no when first approached than to face a lost investment and a troubled relationship later.

Cold investment offers

A person you don't know gives you a phone call, sends you a cold email, writes you a letter or messages you through social media about a "hot" startup that you should invest in. Quite often, the share price is "sure to go up very soon", and one has to hurry to catch the opportunity, as only a small quantity of shares is still up for subscription or purchase.

Why you should avoid deals like these:

Accepting startup deals from unknown people who aren't founders of the startup in question, and who did not come to you through a proper introduction carries a high risk that the deal is either fraudulent or primarily good only for the share seller. Quite often, people who cold-call, message or email potential investors are paid fundraisers who sell other people's startup shares but do not invest themselves, do not carry any entrepreneurial risk, and often get a high commission or a sizable kickback payment on

shares they sell. You may well find that they haven't done any due diligence on the startup whose shares they're selling, nor can they really explain how the startup makes money or why it is better than its competitors. If they can't answer such core questions, it's high time to turn down the investment offer—and stop communicating with them.

Don't listen to startup deal recommendations from self-proclaimed experts, shady deal-brokers and unknown fundraisers who don't invest their own money into the startups they highly recommend to you.

2.7 Startup Pitch Decks

Startups usually present their business idea and their team in a short presentation to investors — a so-called "pitch". The idea of the pitch is to give an overview of what the startup is all about and pique your interest as an investor to learn more about the investment opportunity. After a presentation, startups usually share the slides from their pitch deck with investors.

Contents of good pitch decks
When reading a pitch deck or watching a presentation, always be on the lookout for what is missing. Don't pay too much attention to the eye-candy of nicely designed slides; focus on the content of the business case and on the founders who present it. Based on the recommendations of Guy Kawasaki, the essential points that a pitch deck should cover are as follows:

- **Title and contacts**
  Name and domicile of the startup, contacts of the founders
- **Problem or opportunity addressed**
  The core pain that the startup is addressing or the major opportunity it seizes
- **Value proposition to the customer**
  The painkiller or gain-creator provided and how strong it is

- **Underlying magic**
  Technology, secret sauce, or magic of the core product and prototype demo (if available)
- **Business model**
  How does the startup make money? Who are the paying customers, when will they pay, and how much?
- **Go-to-market plan**
  How the startup will reach the customer with reasonable customer acquisition cost
- **Competitor analysis**
  How the competitive landscape looks. Where the startup is strongest and how it differentiates itself from the pack
- **Team**
  The people who are in the management, on the board of directors, on the board of advisors, or among the major investors. Who are they, and what makes that team strong? What's the team culture? How do you set, achieve and measure goals? Are you an agile team, do you use objectives and key results (OKRs)?
- **Financial projections and key metrics**
  A three-year to five-year forecast of revenues and expenses, including key metrics (such as number of employees, number of customers, lead-to-customer conversion rates, revenue growth rates and customer acquisition cost). A bottom-up forecast is preferable to a top-down estimate.
- **Current status and accomplishments to date**
  What the current product status is, and which future milestones are planned
- **Use of funds and future milestones**
  How the investment raised will be spent and which milestones will be reached thanks to that investment

If a startup pitch deck says nothing or very little about the core team, that's a bad sign. If founders are not already spending the majority of their time on the startup when they approach you as an investor, they are most likely not believing strongly in their business idea, nor are they willing to take a risk themselves — a prerequisite for becoming a successful entrepreneur.

2.8 Assessing Startup Deals

A startup should be assessed along multiple dimensions; at the very least, we suggest looking closely at the following aspects of a startup:

Team potential

- Do they have the right mix of skills, knowledge, experience and leadership in the management team and on the board that will allow the startup to execute well on the business idea?
- Are the team members "all in", ready to take an entrepreneurial risk and work full-time on the startup?
- Are they good team players, or rather individualists?
- Which people will actually be driving the strategy and/or the execution of the startup? Which people are less essential to the success of the startup?
- Are there clear signs of excellence and great entrepreneurship?
- Do they have the right mindset and character that helps them go through a personal growth path while leading a fast growing startup and expanding internationally?
- Is the team open to constructive criticism and advice from angel investors?
- Where do the team members work from?
- How does the team interact and make decisions?
- What is the team's culture and work philosophy?
- Which motivations drive each founder and are these motivations compatible with each other?

- Is their personal environment helpful and supportive of them being startup founders (e. g. partners, parents, family members, long-term friends)?

Business potential

- Is there a unique and strong value proposition (e. g. being a much cheaper, much faster or much higher quality solution to a real problem of a customer)?
- Is the startup's product or service able to generate CHF 5M in revenues within five years?
- Is their addressable market at least CHF 100M in size?
- Are the customer acquisition costs (often abbreviated as CAC or CAQ) significantly lower than the customer's lifetime value (LTV) and comparable to the industry in which they operate?
- Is the startup in a growing market?
- Is the startup in a saturated market?
- Are there any strong market entry barriers?

Degree of innovation

- Does the product or service offer something unique and innovative that sets them apart from competitors for longer, and that is hard for others to copy?
- What do experts think that have tried, touched or used the product?

Quality of documents

- Did the team prepare the documents carefully?
- Are the documents consistent and do they give a complete picture?
- Did they think it through thoroughly?
- Do they explain their reasoning well? Are their claims substantiated and fact-based?
- Are the documents also understandable by investors who are not experts on the subject matter?
- Did they leave out any important information?

Red flags

- Some facts disqualify an investment opportunity. E. g. founders with criminal records, illegal business, missing necessary permits or required regulatory approvals and the like. See the chapter on due diligence to learn more about risks, some of which could be seen as red flags.

How does one come up with a single score per startup?
You can calculate a single "overall" score for a startup by adding up the individual ratings for each of the four dimensions: team potential, business potential, degree of innovation and quality of documents. You might give anywhere from 1 (worst) to 10 (best) points per dimension. We recommend weighting the team and business potential more heavily than the other two dimensions. Even with high scores elsewhere, any red flag listed above has the potential to kill an investment deal.

Overall startup rating = (2 × team potential + 1.5 × business potential + degree of innovation + quality of documents) / 5.5

A great team can compensate if the innovation is average and the document quality has some issues, as they can learn on their startup journey and improve. However, if the team isn't great and the business potential is low, then a seemingly high degree of innovation and high-quality documentation are still not enough to make up for it.

Is there really *no* competition?
It happens that innovative startups claim that there is no competition, as they consider themselves unique and don't know any substitute products or alternative solutions to the problem they are solving. There is almost always competition, but it may not be local to the startup or may be using different technologies to solve the same problem. If there really is no competition, there is usually also no market — or it truly is a major breakthrough that makes something novel possible for the first time ever or that finally solves a long-unsolved major problem. This is extremely rare. Don't get so caught up in the founders' "breakthrough" hopes that you miss something obvious, like there being no market!

If a startup has no competition at all, not even indirect competition with substitute products, there is most likely also no market for that startup.

2.9 Startup Deals in Switzerland

The Swiss Venture Capital Report 2020 published by startupticker.ch contains insightful statistics on yearly investments into Switzerland-based startups. All charts in this section are based on data from this report. The data used is primarily based on data that is self-declared by the startup founders, angel investors and angel investor clubs.

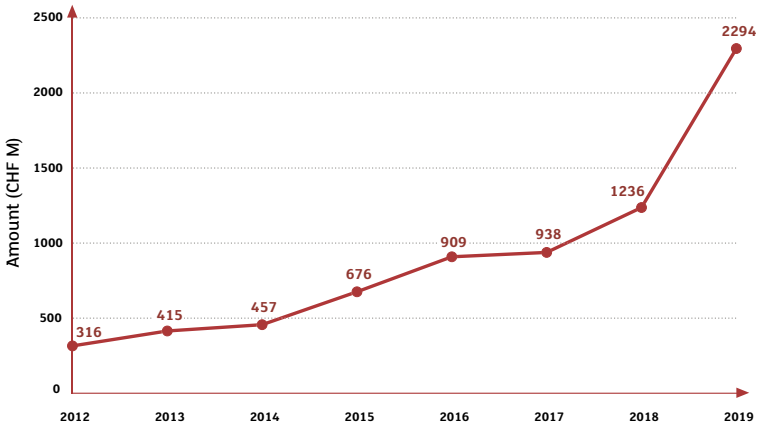


FIGURE 2.9.1 Capital invested in Swiss startups/year 2012 – 2019 (CHF M)
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA

The core reason for the massive increase in funding in year 2019 compared to year 2018 is that several Swiss startups completed large growth financing rounds, among them the tech startups Beekeeper (45M), Sophia Genetics (76M), wefox by FinanceApp AG (234M), and GetYourGuide (489M), cleantech startup Energy Vault (107M), and biotech startups ADC Therapeutics (100M) and Arvelle Therapeutics (209M). These growth rounds underline the maturity of Swiss startups, several of which have become strong global players.

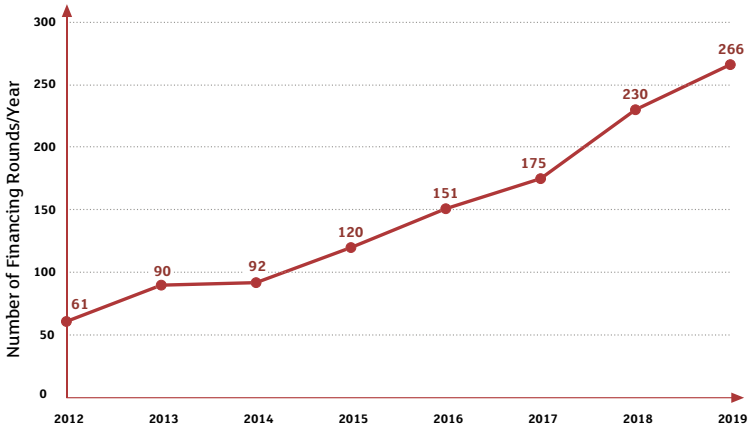


FIGURE 2.9.2 Swiss startup financing rounds / year 2012 – 2019
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA

The majority of the nearly CHF 2.3 billion in startup funding for the year 2019 (invested over 266 rounds) came from professional investors abroad and was invested in growth rounds. The figures below are lower limits, as not all financing rounds were disclosed and some startups did report a round, but not the size of that round. Startups and angel investors in Switzerland don't have a legal duty to report financing rounds publicly; therefore several financing rounds are missing from the calculation, and actual financing activity and volume is higher than reported. However, there are clearly visible investment trends that paint some interesting pictures.

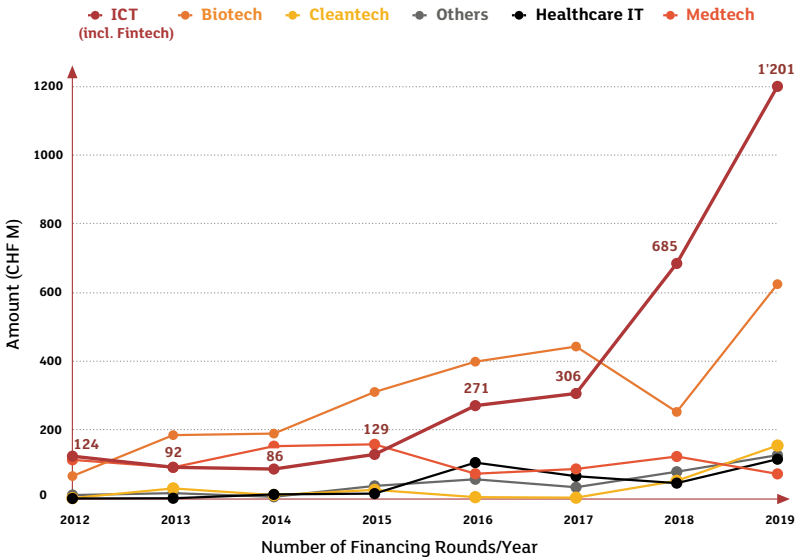


FIGURE 2.9.3 Invested capital 2012–2019 by startup sector (CHF M)
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA.

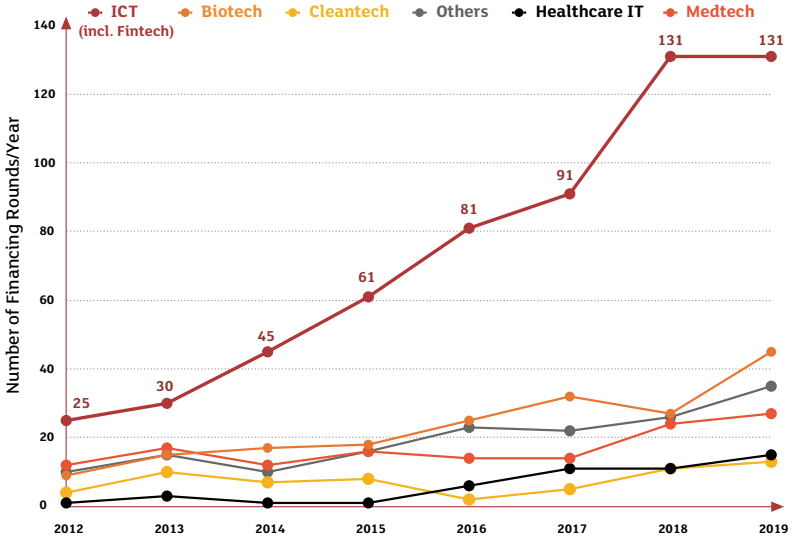


FIGURE 2.9.4 Number of Swiss startup financing rounds 2012–2019 by sector
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA.

"ICT" indicates startups making use of "information and communication technologies" (e. g. Internet, big data, artificial intelligence, machine learning, virtual reality or cyber security) to provide a solution. "Fintech" refers to startups providing a technical product to enable or support banking and financial services (e. g. payments, deposits and lending, risk management, insurance, asset management, wealth management and financial market research).

One interesting development is that, starting in 2018, more investment capital was deployed into ICT (including fintech) startups than into the biotech startups Switzerland has traditionally been known for.

A breakdown of invested capital and rounds in the startup sector shows increasing year over year figures both in the overall size of invested capital and in the number of funding rounds for ICT startups. One reason for the higher number of rounds is that ICT startups tend to do smaller investment rounds than biotech and medtech startups. The latter require more funding, as their products often require expensive and time-consuming research, clinical studies and regulatory approval before market entry.

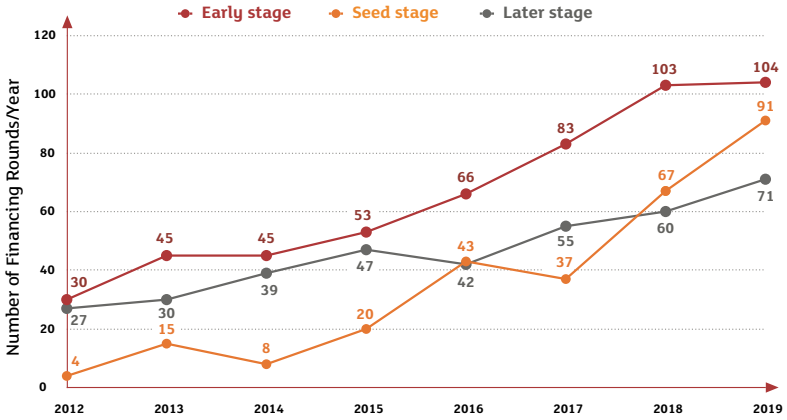


FIGURE 2.9.5 Swiss startup financing rounds by phase (startups in all sectors)
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA.

Angel investors focus on seed and early-stage financing rounds. The chart above shows, by phase and in all sectors, how the number of Swiss startup investment rounds have developed over the years.

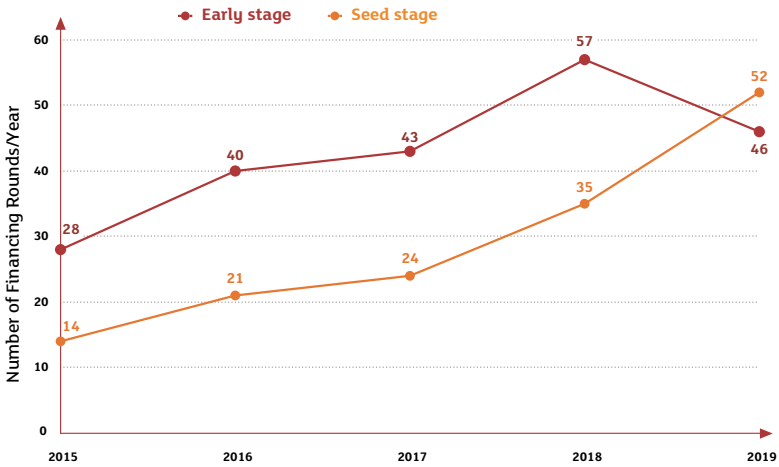


FIGURE 2.9.6 Number of investment rounds of Swiss tech startups by stage/year
Source: Swiss Venture Capital Report 2020 by startupticker.ch and SECA.

Looking only at ICT (including fintech) startup investment rounds, there is a strong increase in the number of yearly rounds for both seed and early-stage since 2015 due to higher activity of angel investors.

Investment figures show that Swiss tech startups are an extremely active, growing and very promising investment sector in Switzerland.

2.10 Deals of Swiss ICT Investor Club (SICTIC)

The Swiss ICT Investor Club (SICTIC) has a focus on seed and early-stage technology startups domiciled in Switzerland. In the year 2018 it became the most active angel investor club in Switzerland by number of funded deals — just four years after its inception. SICTIC operates as a non-profit association, has a small yearly flat fee for investors and offers free pitching opportunities for startups that qualify.

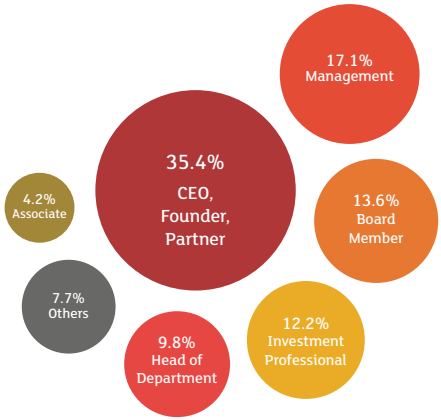


FIGURE 2.10.1 Job profiles of the 427 SICTIC Investors by the end of the year 2020

The investor community of SICTIC has a strong entrepreneurial background as the chart above clearly shows. It's basically a community of entrepreneurs who have been successful in life, now helping other entrepreneurs with funding, coaching and access to SICTIC's strong business network.

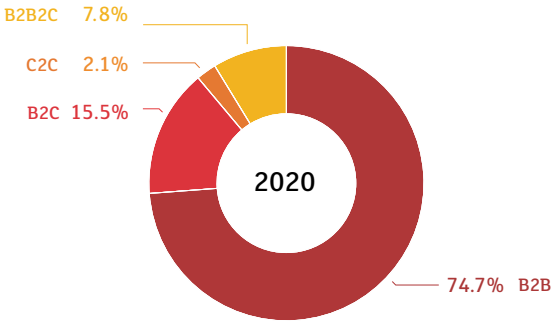


FIGURE 2.10.2 Business model types of 142 SICTIC Portfolio startups as of the year 2020

The large majority of Switzerland-based technology startups funded by SICTIC investors sell to companies and hence are called B2B (business-to-business) startups. Some sell to consumers (B2C) and occasionally a few are consumer-to-consumer marketplaces (C2C). B2B startups have the advantage over B2C startups in that they tend to need fewer employees and serve fewer customers who pay higher fees, and therefore don't need

a large salesforce, a large marketing and support teams. B2B startups also typically have lower marketing expenses, as they don't need to go into mass media to advertise their product.

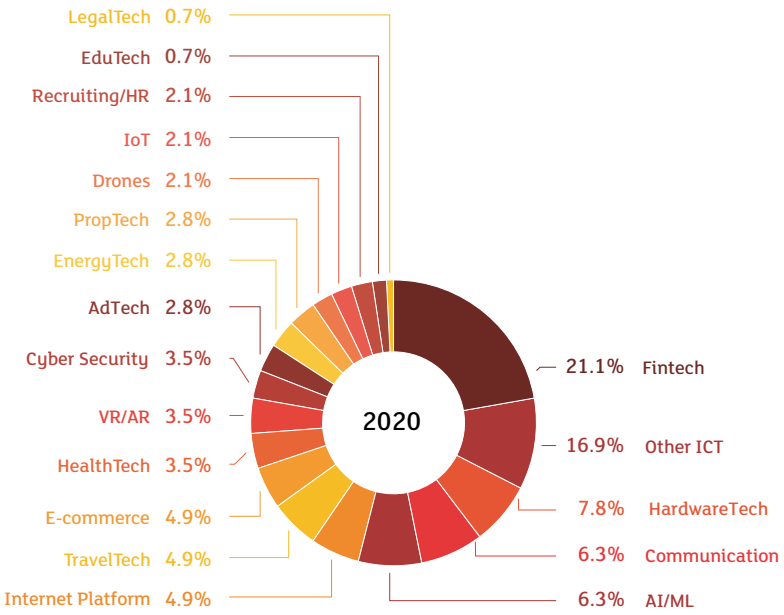


FIGURE 2.10.3 Core technologies used in the products of the 142 SICTIC Portfolio startups as of year 2020

Switzerland has startups that deploy a wide variety of software and hardware technologies, as the technology chart above clearly shows. The reason is that Switzerland is home to very reputable universities such as University of Zurich and University of St. Gallen (HSG), and two world-class institutes of technology with ETH Zürich (recognized as "Best School for Computer Science" in 2016 by *Times Higher Education*) and École polytechnique fédérale de Lausanne (EPFL), along with many universities of applied sciences and several specialized industry and state-sponsored research labs (e. g. IBM Research, Disney Research, CERN, CSEM, CSCS Swiss National Supercomputing Centre) — all of which make Switzerland a global innovation leader. Furthermore, Switzerland also hosts subsidiaries of leading international technology companies such as Google, IBM, Microsoft, Facebook's Oculus, Hewlett-Packard (HP), Niantic and many more.

Angel investors in Switzerland can choose from a large variety of innovative technology startups. Spin-offs of universities and research institutes often base their products on intellectual property recently developed in multi-year, usually state-funded research projects of PhD students and world-class researchers, giving Swiss angel investors' portfolio startups a strong competitive advantage.

Switzerland offers a large variety of innovative startups that use very different technologies. A majority of them are selling their products and services to companies (B2B) rather than directly to consumers (B2C).

3 Business Model

The business model describes how a startup plans to earn money. An integral part of this model is the business plan, a financial planning instrument that the founders, management and the board use to analyze the target market and resources needed to fulfill the commercial potential of a business idea in a structured way.

3.1 Business Model Canvas

The Business Model Canvas relies on a systematic simplicity to describe, design and challenge a business model using just a one-pager guided by the same principles as the business plan document (detailed in section 3.6). The concept for this tool was developed and made widely known by Alexander Osterwalder, founder of the Swiss company Strategyzer.

The Business Model Canvas defines nine business building blocks:

- Product/service *offering* as defined by
  (1) value propositions for meeting needs of customers
- *Infrastructure* to create and provide the offering as defined by
  (2) key partners, (3) key activities and (4) key resources
- *Customers* to whom the offering will be sold as defined by
  (5) customer relationships, (6) channels to customers and (7) customer segments
- *Financials* as defined by
  (8) revenue streams and (9) cost structure, where revenue streams are closely tied to the offering and customers as "output" and where cost structure is closely tied to the infrastructure as "input".

When discussing the business model with a startup, using the Business Model Canvas can be very helpful as it shows all essential cornerstones of the planned venture on a single page (or whiteboard). It's also a good starting point when preparing to write a business plan.

A different adaptation from the original Business Model Canvas is called *Lean Canvas* and was developed by Ash Maurya. The goal of it was to make it as actionable as possible while staying entrepreneur-focused.

The Business Model Canvas is a useful instrument for quickly getting an overview of the most essential cornerstones of a business model, as well as detecting «blind spots» or other issues that need attention.

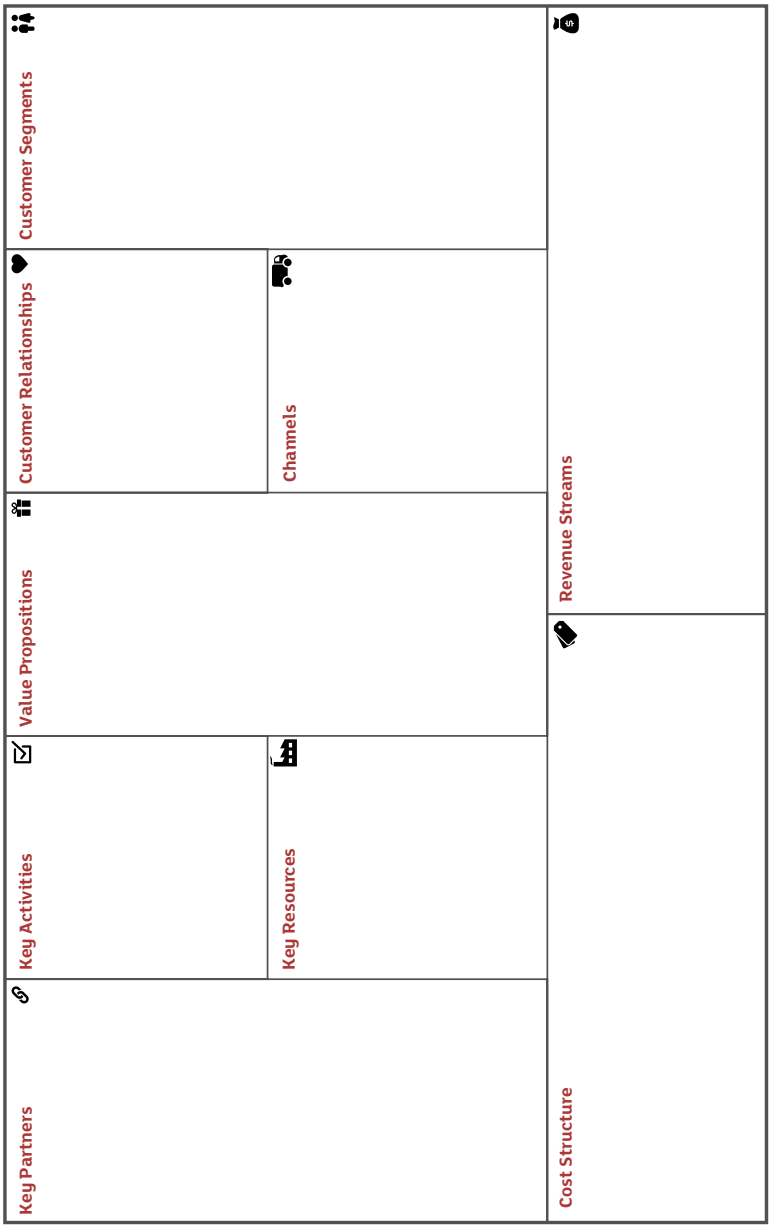


FIGURE 3.1.1 Empty Business Model Canvas by Business Model Foundry AG, the makers of Business Model Generation and Strategyzer, under Creative Commons; with some changes by SICTIC

FIGURE 3.1.2 Business Model Canvas with Guiding Questions: 9 Building blocks by Business Model Foundry AG, the makers of Business Model Generation and Strategyzer, under Creative Commons; with some changes by SICTIC

3.2 Lean Startup

The principle of developing a business idea as quickly as possible, challenging and adapting it within a repeating, evolving cycle is systematically defined in the "Lean Startup" method developed by Eric Ries. The aim is to be able to draw conclusions for further development and, if necessary, redesign the product based on customer feedback as early as possible in order to save time and cost. This is done by targeted, iterative testing of important aspects of the product, such as pricing, distribution channels and design features. This process is repeated continuously in a build-measure-learn feedback loop.

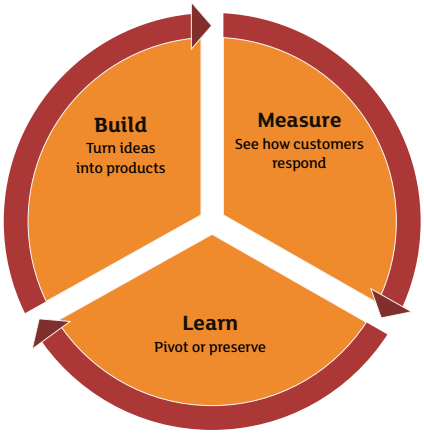


FIGURE 3.2.1 Lean Startup Method: Build-Measure-Learn Feedback Loop, Eric Ries "The Lean Start-up", 2011

Minimum Viable Product

Eric Ries defines a minimum viable product (MVP) as that version of a new product, which allows a team to collect the maximum amount of validated learning about customers with the least effort. When talking to startups, asking which part of the solution can be built and released as an MVP to facilitate early product exposure to customers is often very telling; the response will show if the founders can focus on just the essential, can break down the solution to reduce complexity, whether or not they have a clear product development strategy and if they're able to measure how well the product fits the target market.

Advice from investors, for investors
Beginning investors (and startups) take note: Explaining *how* to make money is much more important than speculating on *how much* can be made. Communicating the logic of the business plan is far more useful and compelling than attempting to sell detailed financial projections that will likely turn out to be inaccurate and will require adjustments. That said, the financial plan is part of the business plan and does reflect all relevant assumptions in the form of financial statements and planning scenarios. We will look into financial planning in a separate chapter.

Running a startup in lean fashion, learning from customers early through many product iteration feedback cycles, can save a lot of cost and help to get a better product-market fit faster.

3.3 Business Model Types B2B, B2C, and B2B2C

When investing in tech startups, you'll most likely hear these cryptic terms a lot. Here's what they mean.

Business to Business (B2B)
The B2B startup sells its product and services to other companies, directly or through partners. It does not sell to private consumers. Startups that do B2B typically have fewer customers, and charge significantly more per customer than in a B2C sales model. They don't need a widely known brand to sell, but rather a few happy reference customers, a reliable high-quality solution and a competent team.

Key challenges of the B2B business model are long **sales cycles**, i. e. the time it takes from first contact until winning an enterprise as a new paying business customer. The sales cycles are typically 9 – 12 months for big corporate customers, which implies high **customer acquisition cost** (CAC). It's more important than in B2C to keep customers loyal for a long time which is expressed in a low annual churn rate, which ideally should be less than 10 %, meaning that less than 10 % of the customers stop using the product each year.

An important factor is also the gross margin that such businesses can generate. In case there are extensive resources needed to customize the software to each new customer's needs to integrate it in their organization, the margin will decline significantly. It is worth noting that the number of customers and the number of users is not the same for the B2B model and both of those metrics have to be tracked separately. Typically in a B2B business model marketing expenses are significantly lower than in a B2C business model. However, often specialized direct sales personnel are required to handle rather complex customer requirements.

In order to reach product-market fit, B2B software products need to be enterprise-ready, meaning they can easily be managed and integrated into an existing IT infrastructure of the buying company. The product needs to have features allowing an administrator at the buying company to manage user accounts (usually their employees), and to back up, delete, export and audit user data. Administrators will also want to monitor a user's activity within the software product and will often require a service level agreement (SLA) with uptime guarantees and timely support in case of a system issue. Many companies already have a user account system (e. g. LDAP, Google Workspace, Microsoft® Active Directory) and expect all their software to support single sign-on (SSO) so they don't need to create separate accounts for their employees for every software they use. They also require all services to be compliant with security best practice standards (e. g. ISO 27001:2013), quality assurance standards (e. g. ISO 9001) and, of course, to respect data privacy regulations (e. g. GDPR in EU). Making a software enterprise-ready often comes at significant cost and also requires more time than expected before a first paying customer can be won.

Business to Consumer (B2C)

A B2C startup sells directly to consumers. It usually has many customers who pay little for the product or service. The startup often needs a large marketing budget to make its brand strong and widely known, and often needs a large support team to handle requests by thousands if not millions of users. It's vital that the product is intuitive and generates only a few support requests per user — otherwise the cost for providing support could kill the business case.

Unit economics are critical to be measured and tracked correctly. As customers typically are less loyal and churn rates will be higher than in B2B, it is important to check the CAC / LTV ratio to make sure high investments in marketing can eventually generate a profit.

Business to Business to Consumer (B2B2C)
In this model, a startup sells its product to another company, which then sells services to consumers. This is often done with white-labeling, where the startup's name does not appear to the consumer. A startup providing a software module to be integrated with a bank's e-banking system, which in turn gives the e-banking users new functionality, is doing B2B2C. The sales approach is similar to B2B, but the product also has to be intuitive enough to keep support requests per user at a minimum. The great thing about this model is that a product can quickly reach millions of users with just a few business customers who already have large customer bases.

From the beginning, a startup must define its business model as either B2B, B2C or B2B2C, as becoming successful will depend on hiring the right people for the right model.

3.4 Software as a Service (SaaS)

In days past, software solutions were installed "on premise" and only available within the local computer network of a company who took care of running the servers and updating the software themselves.

Thanks to global Internet availability with high uptime, many software vendors are now offering so-called "cloud solutions" for their software. This means that the software is run from a vendor-managed data center and is accessible through the public Internet. Users only need an account, a web browser and an Internet connection to be able to use the software. For some software, customers just download an app to their smartphone. The SaaS *multitenancy* arrangement allows B2B startups to provide customers with full software access from a shared source, while keeping the user accounts and data of these "tenants" (companies, organizations, associations, government agencies, etc.) secure and separate from one another.

Cloud solutions mean that users no longer need to buy a local server and install server software before the solution can be used — not to mention the time and expense involved with regular server hardware and software maintenance, local security monitoring, plus the patching and feature updates required to keep the system running and up-to-date. This

way, the user can save time, money, space and personnel. Also, the vendor has streamlined their installation base (only one installation instead of thousands of on-premise installations, possibly in outdated versions) and can push updates immediately to all users. These SaaS pure-cloud software solutions are usually sold with monthly or yearly subscriptions. Fees are typically based on usage, e. g. number of users or number of transactions, and chosen feature set, e. g. basic, advanced, or enterprise package. Furthermore, SaaS services can also rather easily integrate other SaaS solutions, e. g. for payment handling, security services, analytics, or online shops into their online service to keep operating cost low.

Despite the many advantages of SaaS solutions, however, many large corporates (especially those from regulated industries like banking and insurance as well as those with high security requirements — energy industry, governments, military, law firms) will still ask for on-premise installation at first, to be in full control of their data. Once issues with the sensitivity and criticality of the data in these systems are addressed and the available administrator controls are better understood, often the (usually much cheaper) SaaS solution is bought instead.

For startups to be able to scale fast, a pure-SaaS model will scale worlds more efficiently than on-premise installation or even a mix of both. For both vendor and startup, maintaining support for outdated on-premise versions becomes a problem of the past. In any case, the question of whether to sell on-premise or with SaaS should be decided very early in a startup's life. It will also matter how the software is built and whether or not it can be easily integrated with other cloud services available, present and future.

A pure-SaaS offering scales far better than handling thousands of "on-premise" installations in many differently configured data centers. New features reach the customers much faster and all customers always use the latest version.

3.5 Mobile Apps

Some startups launch a mobile application for smartphones to serve their customers instead of offering desktop or server software, or providing a web browser-based application.

In January 2021, Google's Android clearly dominated the mobile operating system market with a share of 72 %. Apple's iOS had a 27 % market share, which left less than 1 % to all other mobile operating systems. The great thing about using mobile apps is that large, easy-to-use global marketplaces for selling, installing and updating apps exist with Google Play and Apple's App Store. They support flexible one-time, in-app subscription and in-app advertising-based payments by credit card. On the downside, they also charge significant fees for the payments they facilitate.

Some B2B2C startups use a hybrid charging model for their corporate customers, where the customers are charged both for an annual subscription fee outside the marketplace (e. g. for running a customized backend and doing server software maintenance) and a per-app download or usage subscription fee charged through the marketplace to each app user.

In order to keep the apps working for customers, developers must continuously update them. The update frequency is currently quite high, with major updates almost yearly. New versions of mobile operating systems are made available and patches to existing ones are distributed over the air. For developers, launching an app once and not maintaining it to be compatible with new smartphones and updated mobile operating systems is a sure recipe for disaster; many customers will be unhappy when they suddenly can't use their paid-for app anymore after buying a new mobile phone or tablet, or after an operating system update to their existing smartphone. Making an app run well on small and large screens (particularly tablets), and on a large variety of devices with different features and sets of sensors is a challenge. Testing each app update thoroughly on many devices in different configurations is a must.

Special considerations are necessary when developing and selling apps for family sharing, or for use by kids who need parents' authorization for in-app credit card purchases. Some countries' regulations require that kids be protected from certain content, and disallow the gathering of certain personal information from kids that could do them harm.

3.6 Business Plan

The business plan makes cost assumptions and commercial goals explicit. This helps in the search for capital by providing investors with a useful decision basis. The complete lack of a business plan can be interpreted to mean that the management cannot or does not want to define a clear execution strategy, does not set clear priorities, refuses to plan ahead and/or cannot work conceptually. However, writing a long and detailed business plan is not only very time consuming, it's also no guarantee that financing can be secured. A lot of things will change along the startup journey and many new insights will be gained that will shape the future direction of the company. Therefore, nowadays, most startups no longer write lengthy business plans, but instead focus on a financial plan while keeping the business plan short and pragmatic. Many angel investor clubs now accept "startup factsheets" (rather than full-fledged business plans) that cover the most essential business plan topics on just a few pages by answering the most relevant business questions with short answers.

No hard rules exist for the structure and content of a business plan. However, a business plan should at least provide information about the business idea, the product, the market potential, the founders and their goals, milestone planning, the financials and required resources to realize the full business potential.

Here's an example outline of a business plan:

Executive Summary

1. Business Overview
   (vision, mission, business idea, values, culture, purpose, company, achievements)
2. Business Model
   (problem, solution, users, customers, uniqueness, value proposition)
3. Market
   (target market definition, addressable market size, geographic regions to be targeted, go-to-market strategy, marketing plan)
4. Competitive Analysis
   (macroeconomics, SWOT, value chain, matrix positioning)
5. Innovation, Technology and Infrastructure
   (innovation description, which technology is core to the solution, technology and infrastructure dependencies of the solution)

6. Team and Organization
   (co-founders, management, key employees, board members, advisors, partners)
7. Financials
   (how to generate revenue, key assumptions, planning scenarios, funding need and use of funds)
8. Roadmap with Milestones
9. Appendix

FIGURE 3.6.1 Example outline of a business plan

A business plan contains both hard facts and assumptions. Facts should be supported by credible references, and assumptions should be presented with their considerations clearly explained. The business plan is not an advertising document; uncritical, unexamined and unfounded statements don't belong here.

Key features of a good business plan to keep in mind:

- Well-written language, easily understandable by non-experts and supplemented with meaningful visualizations
- Well-structured and concentrated on the essential, with little redundant information
- Highly consistent and persuasive through objectivity
- Not longer than 30 pages; shorter is better, provided that essentials are covered; a too-lengthy business plan often indicates a lack of business focus, a shallow understanding of the real problem, or an overly complex solution to a problem
- Continuous content adjustments to keep it an up-to-date, living document

To make sure that the key features are properly addressed, don't hesitate to have your business plan externally reviewed by someone not too involved in writing it. External reviews help improve understandability, consistency, completeness and spelling.

Rather than write a lengthy business plan, the startup should keep it short and spend more time building a prototype of the product.

3.7 Startup Factsheet

In an effort to simplify the assessment of startups applying for funding by angel investors, the Swiss ICT Investor Club (SICTIC) has created and published the "SICTIC Startup Factsheet" template. It's basically a collection of essential business questions to which the startups should provide short answers. Startups that haven't yet written a business plan can fill it out in just a few hours, and while doing so will learn whether they've yet considered all relevant aspects of their venture.

Many startup pitch decks received by angel investors lack important information required to assess the startup. If essential information is missing, the startup factsheet makes it evident as well as easier and faster for investors to assess a startup deal.

Here's the SICTIC Startup Factsheet in full length as of June 2021. The latest version is available online at www.angelhandbook.ch.

Startup Factsheet for (company name)

Please keep your answers short and to the point (think tweets).

The Problem

Describe exactly which problem you solve and why it's a real problem that people care about.

The Solution

How does your startup solve the stated problem? What's the value proposition of your solution?

The Team
List your current and future core team members and their time commitment (as % of a full-time job).

Name, role, time commitment, work location	Education and notable past achievements
Joe Sample, CEO, 100 %, Zürich	PhD Computer Science from ETH Zürich, 6 years experience as data scientist and software developer lead in the Swiss financial services industry, won the Swiss AI excellence award for my employer's robo advisor project, serial entrepreneur, sold my online insurance marketplace to a US acquirer last year.
xxx	
xxx	

The Innovation
What's the innovation of your startup that sets you apart from your competition?

Competition
Who are you competing with? What makes your solution different? Why will you outcompete them?

Business Model
What is the business model of the startup? (B2B, B2C, B2B2C, C2C, etc.; marketplace, subscription, customize everything, on-demand, freemium, reverse auction, virtual goods, etc.) What is your strategy for bringing the product/service to the market?

Market and customer profiles
Describe how your startup plans to earn money, and how well that plan scales up with more customers.

Describe the market you are aiming for and indicate the market size in any applicable geographical region (CH, global, other).

Revenue Model
What's your revenue for the future and the previous years? Please also specify recurring and non-recurring revenue separately. Are there any relevant partnerships established that will generate revenue? What is the latest status of these partnerships?

Past Financial Results (actuals)

What were your yearly revenues and earnings over the last five years? Leave the years empty if your startup did not yet exist back then.

Financials (CHF)	2016 (actual)	2017 (actual)	2018 (actual)	2019 (actual)	2020 (actual)
Revenue (thereof non-recurring)					
COGS (cost of goods sold)					
Other cost					
Earnings					
FTEs (full-time equivalent employees)					

Financial Forecast

What are your estimated yearly revenues and earnings over the next five years?

** Please note that in order to comply with the SICTIC Investment Criteria, your startup must have a reasonable chance to generate at least CHF 5M yearly revenues within five years after investment.

Financials (CHF)	2021 (expected)	2022 (expected)	2023 (expected)	2024 (expected)	2025 (expected)
Revenue (thereof non-recurring)					**
COGS (cost of goods sold)					
Other cost					
Earnings					
FTEs (full-time equivalent employees)					

Product status and key metrics

What have you done so far to solve the problem? Any measurable results so far? If you have an online demo, let us know. How long will it take you to build and beta-launch a minimum viable product (MVP)?

Technology
What technology do you use to solve the problem? Please also mention whether you directly depend on third parties for delivering your service.

Challenges
Which major, known challenges will you need to solve in order to become successful?

Intellectual property, legal issues and freedom to operate
Are there any legal issues we should know of? Are there intellectual property issues or agreements? Any trademark issues? Non-competes for founders? Have you made sure you have the freedom to operate (no patent infringements, etc.)?

Expense planning
How do you plan to spend the money you raise in this investment round? How long will the raised money last? Will you reach break-even with this investment round? If not, when will you need another investment round and for what amount?

Next steps with the highest priority
What are the things that need to get done next? What is the timeline? How can SICTIC best support you?

Further remarks
If you want to let us know anything else, here's your space. If you already have mockups or screenshots, feel free to paste them here.

FIGURE 3.7.1 Startup Factsheet by Swiss ICT Investor Club (SICTIC), June 2021

4 Investing in Startups

Investing in startups without having a strategy or a full understanding of the deal terms is highly risky, and can easily result in financial losses and unpleasant surprises. Find out which investment strategy is right for you, understand the lead investor role, how to track your investments and what impact investing is.

4.1 Startup Investment Strategies

Before you start investing in startups, it's helpful to establish your personal investment strategy. Startup investing is a medium- to long-term endeavor, so you should be clear on what you're aiming for. You wouldn't likely jump right into a marriage the first time you see a lovely person, and investing is a lot like marriage. It's very hard for a startup founder to get back shares of his or her startup once an investor has received them. Also, as an investor, it's hard to find someone else who will buy your shares before the startup has proven to be a success, which usually takes several years.

Here's a selection of commonly used angel investing strategies, which you can use as a source of inspiration to define your very own investment strategy based on a mix of them:

1. **Sector knowledge**: You only invest in startups within an industry sector that you know well. Your sector knowledge helps to de-risk the startup and increase the valuation for the next round.
2. **Build on synergies**: You look for synergies among the startup deals you get into. The companies in your portfolio can give each other a boost, or you can give them a boost with other synergies you can offer based on your business network or job.
3. **Founders' track records on execution**: You invest only in startups with founders who have a proven reputation for executing well. Serial startup founders who've already had a startup exit are very high on your priority list.
4. **Follow successful investors**: You follow a few successful investors whom you trust, and co-invest with them as they enter into their next startup deals.
5. **Club deals:** You only invest in startups that have passed the quality control of a reputable angel investor club and been given the opportunity to pitch to the club's investors.
6. **Accelerator alumni**: You only invest in startups that have successfully exited a reputable *accelerator* — a highly competitive program designed to educate and strengthen the most promising startups. Accelerator "graduates" have hopefully learned a lot, which de-risks your investment.
7. **Spray and pray**: You always invest the same amount per startup. You don't bother too much over which startup you invest in, but just build a sizable portfolio of startups and hope for the best.

8. **Contrarian**: You do the opposite of what the majority of investors do. You don't swim with the masses; you want to find the pearls that others don't recognize. Once a deal is considered hot by the majority, it's probably too late to invest anyway.
9. **Bargains**: You like to invest in distressed startups, e. g. when they are close to running out of money. You like to have a strong position in negotiating a bargain deal at a low valuation due to the startup nearly folding. As you are quick in decision making, you can bail the startup out of this uncomfortable situation and everybody wins.
10. **High exit likelihood**: You consider various exit scenarios and invest if you see a high likelihood that a startup will make a great exit.
11. **Later stage**: You wait for a startup to reach product-market fit and get business traction with several paying customers before you invest, and accept a higher valuation given the lower risk that the startup will fail. This approach is often seen with institutional and professional investors who invest significantly larger amounts than angel investors.

You can always pick a combination of these strategies. The important thing is that, once you've set your investment strategy, you stick to it while building your full startup portfolio.

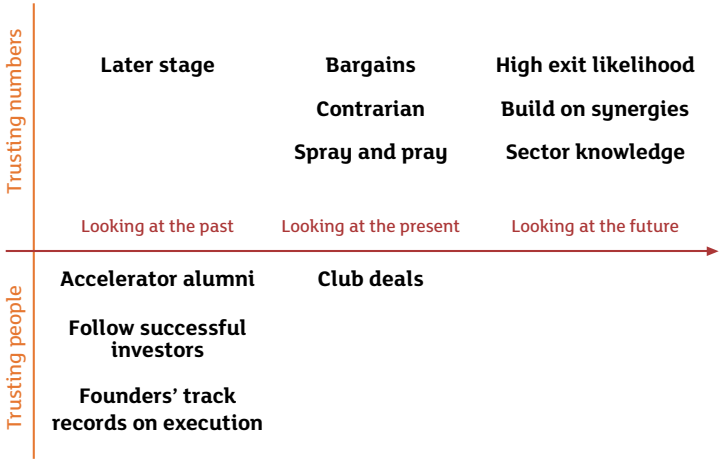


FIGURE 4.1.1 Angel investment strategies by relevant time and trust focus

Here are some investment strategies that we *don't* recommend:

12. **Opportunistic**: You invest in whichever startup approaches you and don't apply specific filtering.
13. **Pure gut feel**: You only rely on your gut feeling after having met the founders, but don't bother to do any market research or due diligence on the startup's business plan.
14. **Fear of missing out (FOMO)**: When you learn that other investors are jumping on a hot deal, you also jump right in as you don't want to miss out. There won't be time to do proper due diligence, or else you would likely miss out on the opportunity.
15. **Frontrunning**: You invest alone as the first angel investor with a secret handshake deal to make sure you get shares at a lower valuation just before other angel investors also invest. Unless you are transparent about it and indeed add significant value, this may easily ruin your reputation among angel investors.

4.2 Portfolio Approach

Law of large numbers

No matter which combination of investment strategies you follow, there is one very important fact that you have to be aware of: the **law of large numbers** (LLN) has been empirically proven to apply to angel investing. This means that any single investment is probably a failure, but investing in a large number of startups over a long time very likely yields lucrative returns. This has been most clearly shown in the 2016 US study of several thousand angel investors conducted by Robert E. Wiltbank and the Kauffman Foundation, which found an average 2.5 financial return multiple with an IRR of approximately 22 %. The study also found that 10 % of the exits generated 85 % of all returns. Phrased differently, you should not begin investing in startups if you plan to only invest in very few of them over the next ten years, as the law of large numbers is not on your side. The more startups you have in your portfolio, the higher the chances that you have some very successful ones in it.

Rules of thumb for prudent investors

Here are some rules of thumb that prudent investors follow to optimize their returns and avoid large losses:

- **Never rush when you invest.**
  Take the time needed to carefully check the investment opportunity. Do some research on the team, company, competition and the size

of the market opportunity. Never sign a deal the same day it's first presented to you.

- **Diversify your investments and never put all eggs in one basket.** Unforeseen things will happen that can change the markets and kill businesses with little time to react — as we've seen with the subprime mortgage crisis, the subsequent banking crisis, and the COVID-19 pandemic to name just a few that have happened since 2007. The larger and the better diversified your startup portfolio is (target market, business model, technology core dependencies, more than one data source a startup relies on, regulatory environment), the less chance that you will lose all your startup investments at once.

- **Be aware of the fundamental rule of investing: high returns always mean high risks.**
  The risk of a loss is often much more real than the chance of returning a profit. Capital or a loan provided to a startup is always an illiquid, high-risk investment. You must be able to incur a full write-off on any single investment, have no expectation of annual returns and not expect to get your investment back at short notice — otherwise angel investing is not for you. You should also avoid getting into a short-term, high-liquidity need situation yourself, e. g. through a divorce, an unplanned high-mortgage amortization, an expensive medical treatment, a large uninsured property loss, a high fine or a high uninsured personal financial liability.

The law of large numbers applies to angel investing; strategically choosing and building a portfolio of ten or more diversified startups, over several years, gives a good chance for a positive return on investments.

4.3 Investment Process

Let's say that you have just learned about a new startup and you're considering making an investment. What needs to happen before you can do this?

Here are the steps that angel investors and startup founders usually go through, from first contact to completion of the financing round.

1. **Exploratory Phase** (get-to-know, pitching, business case, startup setup)
   If you end up investing, you'll be part of *one team* with the startup founders and your fellow investors. That's why you first want to get to know each other better. The startup founders pitch to investors or send a pitch deck and some further information. Angel investors meet the founders and other interested investors. Sometimes a startup is not yet investable because there are important things not in order, unclear or missing. For example, the founding team might still be looking for another co-founder, the business idea might not yet be clearly defined, the founders might not yet agree on the core problem they want to solve first, or the product definition or target market might still be too fuzzy. Possibly, it's only a project and no startup company has been incorporated yet that can be invested in. The founders may not have valid work contracts yet or, if they are foreigners, they might first need to get residence and work permits to be able to stay in Switzerland, as their student visas are about to expire. Making a startup investable can be a lengthy process, as it also involves the founders making important decisions about the startup's journey and ensuring that their own roles and commitments in the coming years are well aligned. Once it is clear that a group of angel investors wants to invest and that the startup is indeed investable, the exploratory phase ends.

   Here are some things to be discussed in the exploratory phase:
   - Founders' profiles, entrepreneurial experience, roles and work pensum (workload) at the startup; work contracts for founders and employees;
   - Value proposition for the startup's customers
   - Product definition and scope
   - Target market and business model (e. g. B2B, B2C, B2B2C, C2C)
   - Company setup (project vs. LLC/GmbH/Sàrl vs. Ltd./AG/SA; company domicile)
   - Maturity stage of startup (pre-seed, seed, growth, pre-IPO)
   - Industry focus of startup (matching with expertise and network of investors)
   - Current shareholder structure (capital table with shareholders and employee incentive plans)
   - Exit strategy (M & A vs. IPO vs. dividends vs. revenue share)

- Feedback from existing investors
- Getting to know existing and new investors
- Source of funds (private, corporate, fund, grant, etc.) as it determines what strings are attached to an investment (e. g. business/strategic vs. ROI, duration until an exit)

2. **Term Sheet** (setting investment terms, company valuation, and round size)
   Before angel investors spend a significant amount of time with the startup founders, they want to get a high-level understanding of the investment terms, the size and timing of the financing round and the startup valuation. The startup founders might want to set a minimum investment ticket size per investor, so that they don't get too many tiny investors in a deal. This is all done in a so-called "term sheet", which is a legally non-binding agreement that is usually spelled out on just a few pages and contains the most important terms and conditions of the financing round. This gives everybody a common understanding of the rights and duties of the investors, existing shareholders and founders, and the financing round setup. One of the most critical points in the term sheet is the setting of the company's valuation. The investors will sign the term sheet to indicate how much they're considering investing. It is legally non-binding, as the due diligence process has not been completed yet and new important findings might come up that have an impact on the terms and valuation of the company, or even break the deal.

3. **Due Diligence** (usually with a focus on people, business and legal aspects)
   Properly assessing the risk of a planned startup investment means taking an in-depth look at the people involved, the business model including the target market, and the legal setup. Even if a startup is still very young, this step should never be skipped, as the worst mistakes often happen at the beginning when inexperienced founders are doing this for the very first time. We devote a full chapter of this handbook to due diligence, which often runs in parallel with term sheet negotiations. If a startup already has a working prototype, then sometimes a *deep dive* is done, which is a session where a topic is looked into in great detail. For a software prototype, this might mean looking at not just a demo of the user interface, but also at the source code quality, the data schema and software architecture, as well as the system's security and data privacy aspects. Some startups may ask investors to sign a *non disclosure agreement* (NDA),

which is an agreement to keep sensitive information confidential – often under a significant financial penalty should a breach occur – before providing detailed information to potential investors as part of due diligence. However, many angel investors and venture capitalists will refuse to sign an NDA, especially at an early stage of a startup, because they often concurrently look at competing startups for making their decision, which the most promising one is to invest in. A paranoid entrepreneur that didn't get an investment then might wrongly accuse the investor to have breached the NDA and sue the investor in a lengthy process even though nothing was actually disclosed.

4. **Shareholders' Agreement**
   The terms from the term sheet are detailed out in the shareholders' agreement (SHA), which must be signed and is a legally binding agreement for all shareholders. Only one SHA may exist at a time. Quite often, the company itself is also a party of the shareholders' agreement, as the company's board has to block or facilitate the execution of certain share transfers, shareholder rights and obligations. The main purpose of the SHA is to give minority shareholders — i. e. the investors in most startups — special rights to protect their investment. We will discuss these rights in the chapter on Deal Terms.

5. **Investment & Subscription Agreement**
   The investment process and associated rights and obligations of investors and founders are detailed out in the investment & subscription agreement (ISA). For simple transactions among parties that trust each other, sometimes only a share subscription agreement (SSA) is made in lieu of a full ISA. Should you decide to have an ISA, it is advisable to work with a startup-savvy lawyer in drafting it.

6. **Closing**
   As part of the closing, the capital for the share subscription or convertible note is paid in by the investors. For the issuance of new shares through a capital increase, the money is wired to a capital payment escrow account *(Kapitaleinzahlungskonto)* and a general assembly is held by the existing shareholders with a notary present to certify the capital increase. The board then allocates and assigns the new shares to the investors and updates the share register. For convertible notes, the capital is paid into an account of the startup

with no need for a notary. As part of the closing, a "closing binder" is usually created that contains all the relevant signed documentation for the company and the shareholders for the financing round.

7. **Joining the board of the startup**
   Quite often, one of the investors will take a board seat at the general assembly to:
   - Help with the business strategy
   - De-risk the investment by avoiding expensive mistakes
   - Ensure two-way communication among investors and founders
   - Get the startup ready for the next investment round
   - Ensure good governance of the startup (e. g. board minutes contain important decisions, accounting is kept up-to-date, taxes and social security are paid on time) and facilitate execution of the rights and obligations spelled out in the shareholders' agreement

The length of this process shouldn't scare you off from investing in a startup. As you will usually run the process with a group of angel investors, you won't need to know everything and the work will be split among several people. You'll also learn a lot during the process and hopefully build long-lasting relationships with founders and investors.

4.4 Lead Investor and Co-Investors

The investment process just described involves a lot of communication between founders and investors and among investors. It also involves negotiations between a group of investors and the founders. To make this process efficient and transparent, often a **lead investor** is chosen — a *primus inter pares* among the new investors who coordinates the investment process, facilitates communication and makes sure the process moves smoothly forward toward drafting a term sheet, executing due diligence, creating and signing a shareholders' agreement and ISA, and finally bringing everything to a closing. The process is often accompanied by a legal advisor who has done many financing rounds and can also provide consultation on best practices. When a very experienced investor leads the round, especially one who has already had several exits, the process often runs faster and negotiations close more quickly.

Typical responsibilities of a lead investor

- Communicating: acting as a fair and neutral communicator between startup founders and investors
- Consolidating: shielding founders from too much parallel investor communication (e.g. by consolidating term sheet feedback and questions from investors into a collaborative document to avoid a flood of emails between investors and founders)
- Investing himself/herself in the current round (often but not always the biggest ticket); a lead investor who does not invest himself/herself in the current round has very little credibility and is very possibly not acting in the investors' best interest; avoid these situations
- Conducting and coordinating the due diligence process and collecting the feedback
- Negotiating deal terms with the founders, with input from investors
- Drafting the term sheet (investment amounts, startup valuation, deal terms)
- Prompting investors for feedback and consolidating it
- Prompting founders for missing documents and sharing them with investors (best done in a data room)
- Recognizing and removing process bottlenecks and roadblocks in a timely fashion
- Identifying an investor who will join the board of the startup to maintain communication with the investors and bring investor feedback into the board meetings
- Making sure the investment round is making progress and gets closed in due time

When to speak up and choose a new lead investor among interested investors

- The lead investor decides not to invest (sometimes happens after due diligence or if a conflict of interest comes up)
- The lead investor is not communicating transparently or leaves some interested investors out of the loop, despite the founders wanting to include them in the round
- The lead investor does not negotiate one deal on the same terms for all, but rather a special deal for himself/herself, especially one that secures a lower valuation than the others receive in their deals (also known as "frontrunning")
- The lead investor is prejudiced or has a strong bias
- The lead investor is not responsive or the investment process is no longer moving forward

Besides the lead investor and angel investors, there are sometimes also **co-investors**, named as such because they are usually:

- not strongly involved in negotiating deal terms
- facing a take-it-or-leave-it investment decision based on the lead's term sheet

The definition of "co-investor" is rather fuzzy, and the degree of activity of co-investors may vary a lot. Besides the rather passive co-investors as just described, there are also professional co-investors who invest in the same round as angel investors but do their own independent due diligence process and often want a board seat as well — an especially common scenario if the co-investors are venture capitalists with a fund.

4.5 Follow-On Investments

Most of the time a startup needs additional funding to keep growing, and many won't be profitable before their exit happens. Participating in such a subsequent funding round after having already invested in the company is called a "follow-on" investment.

Why participate in follow-on investments?

- Further investing will prevent dilution by maintaining one's ownership percentage in the startup.
- It is not a good idea to put all money into the initial investment. Setting money aside for follow-on investments helps direct one's money into the companies that are still promising after some time has passed.
- Later investment rounds are often less risky, since the valuation of the company becomes more realistic and the exit gets closer.

When *not* to invest in a follow-on round:

- The *sunken cost fallacy*: Will this investment round give a startup the push it needs? Or is the company a lost cause? In general: Double down on the winners in your portfolio, stop investing in non-performers and "walking deads" (also called zombie startups).
- You have no money left for startup investments in general. Don't overextend yourself.
- The company's valuation in the new financing round is far higher than in the previous round, thus making it infeasible for you to maintain your current share ownership percentage.

The worst case scenario for the founders is that no existing investors want to invest again in a new financing round. This sends a very negative signal to the new investor, as it could mean that existing investors have lost trust in the company's chance for success.

After a financing round is before the next financing round. Keep some cash in reserve for the next round, to be able to show that you still believe in a startup's success.

4.6 Investment Portfolio Tracking

Over time, you'll build a portfolio of startups. It's good practice to do some portfolio tracking with a dashboard and transaction log from the very beginning to avoid ending up in chaos. Reconstructing investment transactions correctly later might be pretty hard. You'll also need to have these documents ready for doing your yearly tax declaration properly. Keep in mind, too, that sometimes you won't get all necessary documents from the founders in time, as they've forgotten to send them to you.

What to track in your startup portfolio:

Dashboard
Overall

- Number of startups you have invested in
- Total amount (CHF) invested
- Total amount (CHF) received
- Return on your investment (e. g. investment multiple, IRR in %)

Per startup

- Startup name (as it appears in the commercial register)
- Startup website (if any)
- Founder contacts (at least of the CEO or board chairman)
- Number of shares owned, split by share type (common, preferred seed, preferred A, etc.)
- Total amount (CHF) invested, split by equity and debt financing

- Total amount (CHF) received, split by realized capital gains, dividends, and debt interest
- Official latest tax value per share (confirmed by the responsible tax authority)
- Net asset value (NAV) of the company based on either the tax value, the latest major financing round, a recent significant share sale (i. e. at least 10 % of shares sold), or a formula value based on substance and latest annual profits of the company — whichever best represents the current market value of the startup
- Total number of outstanding shares (taken from the commercial register); useful for calculating the NAV of just your own share holdings
- Number of shares in employee incentive share pools (if any) and phantom shares (if any)

Transaction log

- Share purchase/sale:
  Date, number and type of shares purchased or sold, reference to share purchase agreement (SPA), share cession declaration (for existing shares) or subscription agreement (for newly issued shares), other documents
- Cash investments/proceeds:
  Date, amount invested, amount received, type of investment or proceeds (e. g. share purchase, share sale, interest, debt, convertible note)

If you want to be proactive as an angel investor, you can track many more data points to help you prioritize which startup needs the most attention and help from you. Here are some suggestions:

- Expected out-of-cash date (calculated from expected monthly burn rate and current liquidity)
- Status of: team & organization, product & technology, sales & traction, each rated by condition (e. g. green, yellow/amber, red)
- Dates of last investor report, last financials, last budget
- Annual recurring revenue (ARR)
- Number of full-time equivalent employees (FTEs)

If you don't like keeping track with your own spreadsheet, you can find online tools that help you with portfolio management of unlisted companies like startups and other private equity investments. Some investment platforms also offer investment portfolio services, but usually only for investments done through the same platform.

It's best to keep track of your startup investment transactions systematically, starting with your very first investment. You will need the relevant transaction documents, number of shares and tax value for your annual tax declaration.

Change of address
If you change your email address or move and have a new postal address, don't forget to notify the startup's board and founders. Sometimes investors manage to fall out of the information loop and miss important share sale or general meeting announcements.

It's the duty of each shareholder to notify the board of the startup to update his/her contact data in the share register, and not vice versa.

4.7 Impact Investing

Investors enable entrepreneurs to create great and innovative products. If these products have a positive impact on society and our environment, the term "impact investing" comes into play. In 2018, the Global Impact Investing Network (GIIN) offered this definition: "Impact investments are investments made with the intention of achieving positive, measurable social and environmental impacts in addition to a financial return."

While this definition is not very precise, it usually refers to investments in companies that develop products that make a positive overall contribution toward at least one of the 17 sustainable development goals set by the United Nations (UN), cited below (along with example targets for each).

UN-adopted Sustainable Development Goals

Goal 1: End poverty in all its forms (By 2030, eradicate extreme poverty for all people everywhere, currently defined as people living on less than US$1.25 a day.)

Goal 2: Zero Hunger (By 2030, end hunger and ensure access by all people — in particular the poor and people in vulnerable situations, including infants — to safe, nutritious and sufficient food all year round.)

Goal 3: Health (By 2030, reduce the global maternal mortality rate to less than 70 per 100,000 live births.)

Goal 4: Education (By 2030, ensure that all children complete free, equitable and quality primary and secondary education leading to relevant and Goal-4-effective learning outcomes.)

Goal 5: Gender equality and women's empowerment (End all forms of discrimination against all women and girls everywhere.)

Goal 6: Water and Sanitation (By 2030, achieve universal and equitable access to safe and affordable drinking water for all.)

Goal 7: Energy (By 2030, ensure universal access to affordable, reliable and modern energy services.)

Goal 8: Economic Growth (Sustain per-capita economic growth in accordance with national circumstances and, in particular, at least 7 percent gross domestic product growth per annum in the least developed countries.)

Goal 9: Infrastructure, industrialization (Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.)

Goal 10: Inequality (By 2030, progressively achieve and sustain income growth of the bottom 40 percent of the population at a rate higher than the national average.)

Goal 11: Cities (By 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums.)

Goal 12: Sustainable consumption and production (Implement the 10-year framework of programs on sustainable consumption and production, all countries taking action, with developed countries taking the lead, while accounting for the development and capabilities of developing countries.)

Goal 13: Climate Change (Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.)

Goal 14: Oceans (By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.)

Goal 15: Biodiversity, forests, desertification (By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.)

Goal 16: Peace, justice and strong institutions (Significantly reduce all forms of violence and related death rates everywhere.)

Goal 17: Partnerships (Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.)

Impact investing is not to be confused with donating to charities, which also work to achieve the sustainable development goals. When donating, donors don't expect a return on their financial contribution. The advantage of impact investing over making a single donation is that the returns from impact investing allow the investor to invest more, and over many years.

Unfortunately, some investment opportunities are just disguised as impact investments to make them look more attractive to investors. They usually lack transparency as they are not actually sustainable when understanding who really benefits from it, which environmental footprint they have and how the investment scheme truly works. If a deal lacks transparency, don't be shy to ask until you fully understand it.

Impact investing is a great way to combine doing good and shaping the future. Avoid deals that are not transparent enough about their full environmental footprint.

5 Financial Planning

Early-stage startups have very limited financial resources. Having an accurate, complete and up-to-date financial plan helps to prevent bad cash liquidity surprises and is a necessity for doing a successful next financing round. Learn the core principles of financial planning, relevant key performance indicators, and some tools in this chapter.

5.1 Financial Strategy

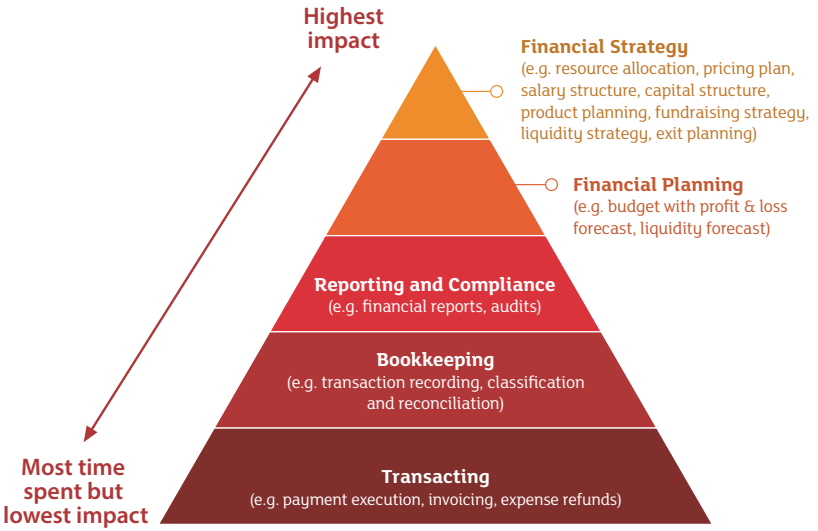


FIGURE 5.1.1 The pyramid of corporate finance, image reformatted by SICTIC, image source: "The CFO in crisis mode: Modern times call for new tools" by Andreessen Horowitz, April 2020

Looking at the pyramid above, a startup's **financial strategy** should be established from the beginning, as all other finance-related actions below are dependent on it. Some startups end up staying so busy with daily tasks and doing transactions, bookkeeping and reporting that the financial strategy never gets clearly defined or even discussed. That's a pity, as it's the financial strategy that has the most decisive impact on the company should a startup accidentally run out of liquidity or go into bankruptcy. The financial strategy defines, among other things, the resource allocation, pricing plan, salary structure, capital structure, product planning, fundraising strategy, liquidity strategy and exit planning.

Once the strategy has been set and agreed upon by the board and management, the **financial planning** can start.

5.2 Bottom-Up vs. Top-Down Revenue and Profit Planning

A **bottom-up approach** means setting the number of products expected to be sold in a given time period at a set price, which will yield the revenue. The profit margin determines the expected profit.

A **top-down approach** means calculating that x% of the total market size, with an industry-average profit margin of y%, would generate an x%-of-market-size revenue and a y%-of-revenue profit, which will grow with the market rate over the next year.

Examples:

- **Bottom-up approach**
  10 000 products sold annually with a price of CHF 2 000, each with a profit margin of 40 %, will yield an annual revenue of CHF 20 million (10 000 × CHF 2 000) and an annual profit of CHF 8 million (40 % × revenue).
- **Top-down approach**
  A startup expects to capture 10 % of the total market of CHF 200 million with an industry-average profit margin of 40 %, and thus will see an annual revenue of CHF 20 million (10 % × CHF 200 million) with an annual profit of CHF 8 million (40 % × revenue). If the compound annual growth rate (CAGR) of the market is 20 %, the company will expect CHF 9.6 million ((100 % +20%) × 8 million) in revenue next year.

A financial plan should be prepared based on a revenue-driver-oriented, bottom-up approach and *validated* by a top-down approach rather than based only on a top-down approach.

A business opportunity presented with only a top-down approach carries a high risk that the entrepreneur did not take sufficient time to analyze the market, pricing, cost aspects and their interdependencies. The financial planning should tell a consistent story — one related to the market opportunity and broken down by unit economics in order to determine the interplay among these quantities:

- The number of customers acquired and the cost to acquire a customer (CAC or CAQ)
- The pricing and consequently the average revenue per user (ARPU)
- The lifetime value per customer (LTV)

An investor should ask for a bottom-up, revenue-driver-oriented financial plan to support any existing top-down approach provided by a startup.

Regarding the term "profit", a distinction must be made between "gross profit" and "net profit". While "net profit" is actual earnings, "gross profit" does not account for costs of running the company (e. g. salaries, marketing, office rent, etc). If it's unclear what is meant in a startup's financial plan, always ask.

5.3 Capital Expenses vs. Operating Expenses

Companies have two fundamentally different types of expenses. Understanding the difference helps to prevent liquidity shortages and negative surprises in audits and profit forecasts. For early-stage software startups that usually rent cloud-computing resources and don't have their own data centers, most expenses classify as operating expenses.

	Capital Expenses (CapEx)	**Operating Expenses (OpEx)**
Definition	Assets purchased with a useful life beyond the current accounting year	Ongoing cost required for the day-to-day functioning of a business
Payment	Upfront lump sum	Usually monthly or annual recurring
Accounting	Over lifetime of several years while asset depreciates	In the current accounting month or year
Classification	Property or equipment	Operating costs
Taxation	Deducted in parts of value over time as asset depreciates according to local tax laws (e. g. 40 % of remaining value or linear depreciation over several years)	Deducted in the current accounting year
Examples	Owned car, production machines, hardware, lab equipment, furniture, office building (owned, not rented)	Salaries, office rent, software licenses, smaller expenses, cleaning services, event expenses

TABLE 5.3.1 Explanation of CapEx and OpEx

If startups have large capital expenses (CapEx) and/or large illiquid assets (e.g. down payments, rent deposits for a large office, expensive and hard-to-sell lab equipment), it is wise to do proper liquidity planning in addition to profit & loss forecasting.

Some startups that develop a software or hardware product activate a large fraction of their operating expenses in the form of developer salaries, arguing that the created product has a longer-term market value. Creating an asset on the balance sheet — instead of deducting the costs immediately from the profit — helps to reduce losses and consequently helps to prevent over-indebtedness in the years these expenses are activated. However, it is mandatory to depreciate such activated assets each year as soon as it is productively used, including in the first year they were activated if the product is live — usually at 40 % (!) per annum. While using this accounting method helps to avoid over-indebtedness, it does not cure a low liquidity situation and might even lead to a false sense of how well the startup is actually doing.

5.4 Financial Plan

The financial plan supports the understanding of the entrepreneur and the investor which key drivers are critical to make the business a success. It consists of:

- An income statement
- A balance sheet

These are both required for taxation of a company and therefore can't be skipped.

Financial planning is often complemented by

- A cash flow statement
- A liquidity plan

A **budget** contains a forecast of financial figures and can be created for any financial statement for a future period of time. In order to easily determine whether actual figures match the forecast, it is advisable to keep the structure of the financial statements the same over several years. That way, percentage deviations can be calculated and unrealistic forecasts with large deviations from the actual numbers can easily be identified.

Income statement (or less formally, Profit and Loss statement (P & L))
The income statement (IS) is an income and expense statement that shows past and expected future profits and losses over a period of time, usually one to several years, broken down by months or quarters.

Sample income statement format (subtract items in parentheses):

Revenue
(Cost of goods sold)
Gross Profit
(Personnel expenses; only if not included in S & M, R & D and G & A)
(Rent and Maintenance; only if not included in S & M, R & D and G & A)
(Sales and Marketing (S & M) expenses)
(Research and Development (R & D) expenses)
(General and Administrative (G & A) expenses)
(Depreciation and Amortization)
EBIT: Earnings Before Interest and Tax
(Financial expenses and income)
(Other costs)
(Taxes)
Net Profit

FIGURE 5.4.1 Income Statement (IS) showing the cost of sales method (*Umsatzkostenverfahren*)

There are several possible layouts for the income statement. It's important to understand what each category encompasses in the company management reporting, as in many cases an IS will not strictly follow any of the Generally Accepted Accounting Principles (GAAPs). e.g. in terms of revenue recognition or cost classification. It will also usually not reflect the statutory tax accounting layout. Mature Swiss startups typically follow the *Swiss GAAP FER* or IFRS accounting and reporting recommendations.

Some financial officers prefer to use the less complex total cost method (Gesamtkostenverfahren) to present cost "by nature" extracting and bundling all costs related to "personnel expenses" and "rent and maintenance" out of S & M, R & D and G & A expenses and to show them separately. The disadvantages of that approach are that:

- If you want to calculate basic ratios, e.g. customer acquisition cost, you need to know what your total sales and marketing (S & M) expenses are

- While Swiss GAAP FER and IFRS allow also the use of the total cost method (see art. 959b CO), US GAAP requires the cost of sales method
- If you want to present where your funds are going you normally also split it into major cost areas like S & M and R & D

Some additional notes on these terms and related concepts:

Revenue
Revenue includes all economic benefits coming to the company from the sale of goods, rendering of services or other use of company assets (e. g. royalties). The type of revenue will depend on a startup's business model. To provide investors with the clearest picture, this should be split into single revenue streams such as licensing, advertising, support, consulting, and product sales. It's also crucial to separate recurring revenue from one-time revenue.

Cost of goods sold (COGS)/Cost of sales (COS)
Cost of sales are costs that are directly related to creating the products that a reporting entity sells, or to providing the service that generates service revenue. Primarily product-oriented companies often use the term COGS, while others use the term COS.

- For software companies this would typically include: cost of data storage and hosting; cost of any external software embedded in the product; personnel cost related to the customer support needed for customer onboarding and retention.
- For hardware companies it would relate to the cost of production and delivery of the end product to the customer.

Gross profit margin
One of the key metrics for assessing company scalability. For highly scalable software companies, gross profit margin is in the area of 80 %.

Personnel expenses
Employee salaries at full-cost including insurance, pension, social security, etc. paid by the employer. In US GAAP, personnel expenses are included in the S & M, R & D and G & A cost categories and not shown separately.

Rent and Maintenance
Cost for rent and maintenance of office and equipment. In US GAAP, rent and maintenance expenses are included in the S & M, R & D and G & A cost categories and not shown separately.

Sales and Marketing (S & M) expenses
All expenses related to the sales of the product or service. It may include personnel cost of the sales team or customer success team responsible for advertising and upselling, as well as the cost of any external marketing or software licenses used to boost sales and marketing efforts.

Research and Development (R & D) expenses
All costs attributed to the research, development or improvement of a product or service. These may include the cost of personnel responsible for product design and development, external software development agency costs or third-party software licenses used by the R & D team. In the majority of cases, for management reporting purposes, these costs are fully expensed in the IS and not capitalized. Some companies choose to activate the part of these costs that create a longer-term value.

General and Administrative (G & A) expenses
These are operating expenses that cannot be assigned to any of the above categories. Typically this would include rent (as a rule of thumb approximately CHF 500.– to CHF 1000.– a month per employee), utilities, insurance, consultation costs and legal fees. Personnel costs of the CEO, finance and human resource (HR) staff are also reported in this category.

Depreciation and Amortization
If you have activated intellectual property (e. g. labor cost for software developed inhouse) or bought hardware equipment you will have to depreciate it to account for the loss in value over time. Amortization means spreading an intangible asset's cost over that asset's useful life. This is for example done for patents, trademarks or franchise agreements.

Recurring revenue and high margins are key to business growth
Recurring revenue is the basis for scaling up a business. A business with only one-time project revenue is highly vulnerable; expenses will grow linearly alongside revenue, and therefore only limited economics of scale can be realized. Any projected revenue growth that is higher than linear (if not exponential) needs to be feasible and comprehensible, and is best presented with references to industry studies that support these high hopes. EBITDA and EBIT margins above 40 % are quite rare in reality, and will very likely soon attract new competitors who will diminish the attractiveness of the market and bring down the high EBITDA/EBIT margins. Entrepreneurs and investors are well advised to consult industry studies for plausibility checks and references regarding margins and market size.

EBIT vs. EBITDA
EBIT represents the operating income (revenue less all operating expenses but before financing interests and taxes) generated by a business, while EBITDA reflects the cash flow generated by its operations. EBIT is used to analyze the performance of a company's core operations, while EBITDA serves to develop the company valuation for investing and acquisition purposes.

Tax
In the year 2020, companies based in Switzerland paid approx. 12 % to 21 % of their profits as tax depending on their domicile location.

Balance sheet
The balance sheet shows how a business has chosen to finance its operations and investments, through owner's equity or loans as liabilities. The three key elements are:

- Assets – what an organization owns
- Liabilities – what an organization owes
- Shareholder equity – the value of shareholders' investments in the company; shareholder equity constitutes the difference between assets and liabilities.

Cash flow statement
A cash flow statement shows the movement and usages of cash, and whether the company generates enough cash to finance its operations and make capital investments. The cash flow statement provides the basis for **liquidity planning** over the course of a financial year, based on cash inflows (cash received by the business as income from sales) and cash outflows (direct cash payments made by the business for sales-related purchases from suppliers and for operating expenses). Liquidity planning — ensuring solvency through at least the coming year — is essential for a company because if sales are already considered in the income statement, that money is only available to the company after the client has paid, which can take 30 to 60 days or even longer. On the other hand, the salaries, which are the biggest expenses of a service company, are immediately due in the current month. Listed companies provide cash flow statements using an indirect method, which is based on the income statement with deductions made for non-cash expenses. For startup companies, a cash flow statement should be prepared using a direct method, as it gives a clearer picture of actual expenses.

A typical cash flow statement prepared by the direct method will split cash flow movements into the following categories:

- **Cash in/outflow from Operating activities**
  Payments received from clients for the sales of goods and services
  (Payments made to suppliers)
  (Payments made to employees)
  Other operating inflows
  (Other operating outflows)
- **Cash in/outflow from Financing activities**
  Cash received from capital increase
  Cash received from issuing bonds
  (Repayment of bonds/decrease in share capital)
  (Profit distribution to equity owners)
- **Cash in/outflow from Investing activities**
  (Cash paid for an investment)
  Cash received from disposal of investment

Importance of cash modelling and what-if scenarios
One fundamental element of a financial forecast, from both an investor and founder perspective, involves evaluating the cash requirements and generation that the startup may produce over time. Let's not forget that profitable (and even big) companies may go bankrupt if the financing is not ensured (e. g. Swissair, in October 2001, was not able to buy kerosene and pay airport taxes for their aircraft, leading to their planes being grounded and the company ultimately paring down).
A sound plan should be constructed around the cash forecasts of key core business drivers, reflecting required resources and outcome of each over time. Ideally, an optimal five-year scenario should reflect the best possible outcome if everything goes right, identifying the resources necessary to attain the objectives and the returns over the period. A pessimistic scenario evaluating possible impacts of negative outcomes on these drivers should model the corrective measures to implement. Finally, a middle scenario is imagined, balanced between best and worst, and corresponding to a realistic plan that the startup is ready to be measured on and held responsible for. For each of these scenarios, cash and funding requirements are derived, helping to assess liquidity risks along with the timing and size of financing rounds. This exercise is also helpful for making sure the startup management is aware of the key stepping stones and vital drivers to follow and has an action plan ready in case of a shortfall.

Comprehending the logic of the financial plan is much more important for investors than the detailed financial projections.

Limitations of the traditional financial statement for software startups
Currently used financial statement formats tend to fail to capture the value created by modern digital companies. In traditional business cases dealing mainly with physical assets, valuation can be easily determined by analysis of the income statement profits and assets value in the balance sheet. For a software company, however, the majority of its assets are intangible, such as the data they collect, algorithms they build, patents or trademarks they own. The core value of software companies is related to their human capital, networks and innovative business models. Traditional accounting cannot capture this value as part of the company assets in the balance sheet. The majority of the expenses related to building company value are immediately expensed in the IS, which results in deep losses in the early stage and growth stages of these modern companies.

Often, for software companies, only two IS metrics are closely linked to the valuation: **revenue growth and gross profit margin** — indicators of growth and scalability, respectively.

To provide investors with deeper insight into the key drivers of company value, additional information is required beyond the traditional GAAP accounting metrics. More useful metrics would be dependent on the company business model, represent underlying business drivers behind company revenue (e. g. number of users, user retention) and divide expenses into main value-generating categories. We will explore these in the next section.

As early-stage startups often don't follow any established accounting standards, make sure you understand what is actually meant in their financial planning sheets, e. g. clarify whether it is revenue or cash flow in a given period.

5.5 Classic Operative Key Performance Indicators (KPIs)

Key Performance Indicators (KPIs) are figures that measure and track business performance. They are used to recognize trends and potentially concerning situations. Some are general while others are very specific to the type of business. KPIs can be classified into the following three categories:

- Classic operative KPIs
- Sales/customer-oriented KPIs
- Financing needs and balance sheet KPIs

We will look into all of them in more detail in separate sub-chapters.

Classic operative KPIs can typically be directly derived from the income statement:

- Revenue growth rate in % (year by year, month by month, or more specific, e. g. monthly recurring revenue growth)
- Gross profit margin (Gross profit as % of revenue)
- Investment in three key areas: sales and marketing (S & M), research and development (R & D), general and administrative (G & A); investment expense as % of revenue
- EBITDA/EBIT in absolute figures and as % of revenue
- Number of full-time employees (FTE)
- Headcount (total number of employees)

5.6 Sales/Customer-Oriented KPIs

The most relevant sales/customer-oriented key performance indicators are:

- Number of customers
- Average revenue per user (ARPU)
- Customer acquisition costs (CAC or CAQ)
- Customer lifetime value (LTV or CLV)
- Churn rate (%, see below)

These sales/customer-oriented KPIs are dependent on the following market-size determining elements:

- Number of potential customers existing within a market
- Amount the average customer is willing to pay for the relevant product or service
- Frequency of an average customer's purchases
- Number of alternative products or services available

The **Average Revenue Per User** (ARPU) is determined by dividing the revenue in a period by the number of users. Revenue is often calculated on a monthly basis. The formula is defined as:

ARPU = Revenue/number of users

A note on *customers vs. users: In B2B business models, customers and users are two different metrics. A customer is typically the enterprise and users are its employees, each with their own account for the software. In B2C business models, the terms are often used interchangeably. Sometimes "customers" means those people who are paying while "users" get it for free. If you're unclear on what is actually being measured, ask the startup to clarify.*

The **Customer Acquisition Cost (CAC)** is the cost to acquire customers and is determined by the cost of sales and marketing divided by the number of customers won over the same period of time. The cost of sales and marketing also includes salaries and other expenses related to headcount (total number of employees). The formula is defined as:

CAC = Cost of sales and marketing/number of customers

The **Customer Lifetime Value (LTV),** sometimes also abbreviated as CLTV, CLV or LCV, predicts the total net profit attributed to the entire future relationship with a customer. LTV tells a startup how much it should spend at most to acquire a new customer. Below are several common formulae for calculating LTV. Note that: all KPIs used in any formula must use the same time range; the **Churn Rate** is the probability that a customer quits at the end of a time period; the **Retention Rate** is the probability that a customer does not quit at the end of a time period (Churn Rate = 1 – Retention Rate).

- *LTV = (ARPU × gross profit margin)/Churn Rate*
- *LTV = (Revenue per customer – direct expenses per customer)/(1 – Retention Rate)*
- *LTV = (ARPU × gross profit margin) × average number of periods before a customer quits*

Example:

LTV = (CHF 20 ARPU × 25 % margin) / 5 % Churn = CHF 100

- CHF 20 average monthly revenue per user
- 25 % gross profit margin
- 5 % monthly churn

If the LTV/CAC ratio is less than 1.0 then the company is losing value or, phrased differently, it does not succeed to generate enough value for what it spends. If it exceeds 1.0, value is being created. A ratio of LTV/CAC greater than 3.0 is usually considered healthy, but that depends on the type of business. Several factors contributing to CAC and LTV changes for a business are shown in the following illustration.

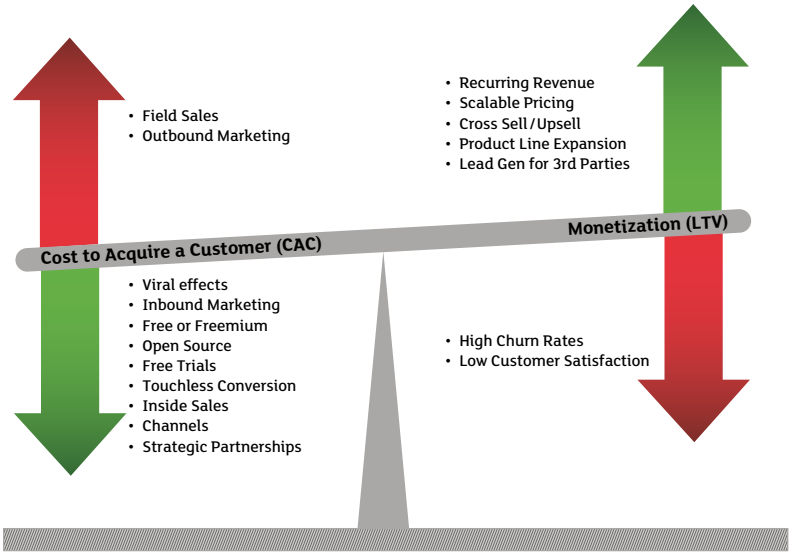


FIGURE 5.6.1 Drivers of the cost to acquire a customer (CAC) and the lifetime value of an acquired customer (LTV). Source: "Startup killer: The cost of customer acquisition" by David Skok, 2009; illustration adapted by SICTIC

5.7 Financing Need and Balance Sheet KPIs

The most relevant key performance indicators related to financing need and balance sheet are:

- Burn rate (CHF/month)
- Runway (months) and out-of-cash date
- Operating vs. financial break-even (point where income = expenses)

Burn rate

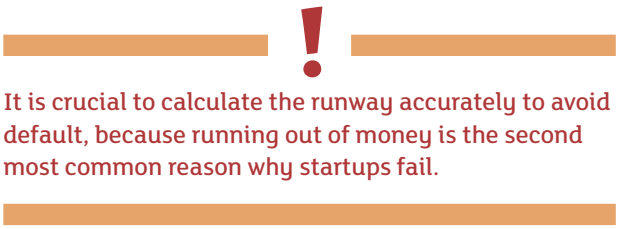
The monthly burn rate is a substantial KPI for startups that have not yet achieved the operating break-even, and refers to the amount of cash a company uses each month to pay for operations.

- *Gross monthly burn rate* is the total amount of operating costs each month.

- *Net monthly burn rate* is the total amount of money a company loses each month, calculated by subtracting revenues from gross burn.

Runway and out-of-cash date

When determining the remaining **runway** for a startup — the time (in months) from today until the **out-of-cash date** — the assumptions made about cash inflows are crucial. Especially in the case of no current cash inflows, or low cash inflows expected with only a low likelihood, it's best to err on the side of caution when finding the runway; current liquidity should simply be divided by the *gross monthly burn rate* to obtain a rough estimate for when the next financing round must be closed to avoid a default. However, in most startups, the burn rate can't be kept constant for a long period of time and will increase considerably once hiring is ramped up. The cash flow statement is typically used to calculate a more accurate out-of-cash date that considers the burn rate increasing over time.



Break-even

Typically, the expenses are greater than the income at the beginning for a new business, especially if a product has to first be developed before it can be sold. The moment at which the income in a period reaches the same level as the sum of all fixed and variable expenses for the same period is defined as the (operating) "**break-even**" **point (BEP)**. For startups that sell a single product (e. g. a software subscription), the formula for determining the BEP in minimum number of units to be sold to reach profitability is as follows:

BEP = fixed cost/contribution margin per unit = fixed cost/(sales price per unit – variable cost per unit)

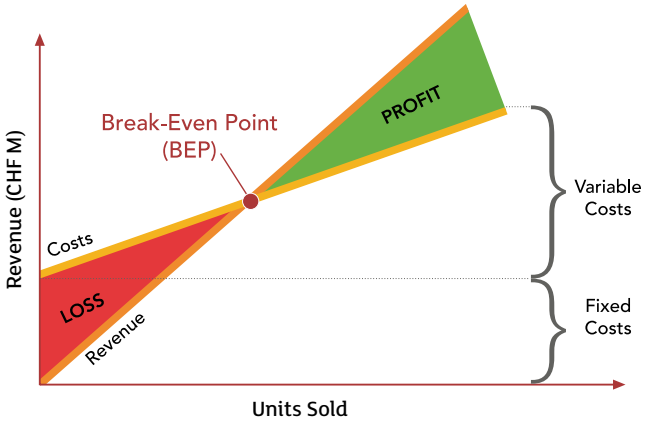


FIGURE 5.7.1 Break-event point with the areas of loss and profit. The startup must sell a certain number of units (e. g. SaaS licences) to cover all fixed and variable costs in order to become profitable.

Somewhat confusingly, "break-even" is also used to refer to the point in time when first profits occur. Furthermore, a startup can have several operating break-even events in cases where revenues and/or expenses are fluctuating heavily. The "real" break-even event is usually considered to be the first moment after which a startup becomes and then remains profitable for significantly longer. In most cases where a startup goes into a further growth phase (e. g. entering a new market and building up a new sales, marketing and support team), or starts to develop a new product that requires a larger initial effort before it can be sold — usually after another investment round — the startup will remain unprofitable for longer and therefore it will have to reach break-even again after the market entry.

Payback or financial break-even

In the first few years, most tech startups incur losses. These losses reduce the startup's equity. Once the startup reaches operating break-even, it becomes profitable and the payback period begins. The moment at which all of a startup's accumulated losses since incorporation, which were financed by investors, are paid back by the accumulated profits is referred to as the "**financial break-even**" moment. It is also called the "**payback**" moment or "**initial equity break-even**".

To differentiate this financial or equity break-even point from the previously discussed break-even point, we sometimes explicitly refer to that one as the *operating* break-even point. For tech startups, the operating break-even point is usually achieved after a few years, while the payback

point might take many more years to be reached. That usually means a substantial amount of invested cash will be spent before it is earned back through profits. Luckily, many tech startups can already be sold to an acquirer while they are still not profitable because the acquirer can use its own existing sales channels to rather cheaply scale up the acquired start-up's product business, quickly making it profitable.

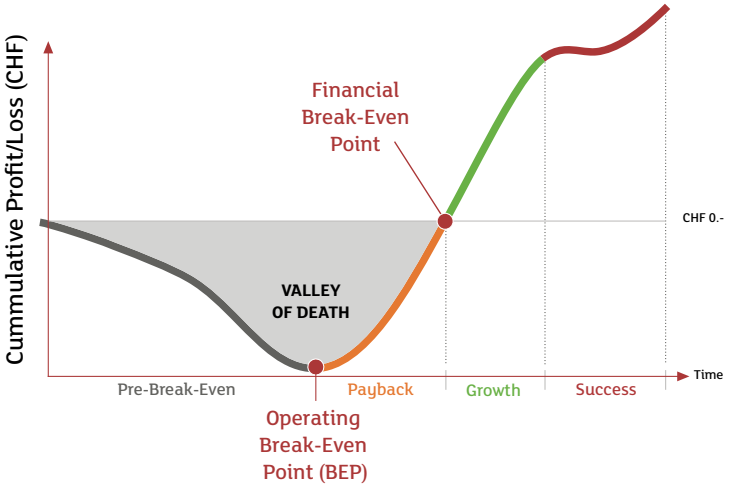


FIGURE 5.7.2 After accumulating losses for the first years, the operating break-even point is reached by a tech startup and profits start to pay back the previously required (equity) investments to finally reach the financial break-even point (sometimes referred to as "initial equity break-even point"). Afterwards, the startup hopefully continues to make growing profits and ultimately stay at a high level of profitability.

Especially in the "loss-making phase" of the "valley of death" before the operating break-even point, careful monitoring of liquidity is crucial for the timely planning of required equity financing rounds.

5.8 Capital Loss and Over-Indebtedness

Article 725(1) of the Swiss Code of Obligation (CO) — and *Code des obligations* (CO) in French, *Obligationenrecht* (OR) in German — defines certain critical circumstances of the financial situation of a company, such as "capital loss" and "over-indebtedness". When these occur, the board of directors (BoD) is obliged by law to act.

Capital loss (*Kapitalverlust* or *Unterbilanz* in German) is defined as occurring when the total balance sheet loss is equal to or higher than 50 % of the share capital including the statutory reserves, based on the latest financial balance sheet. In this case the BoD has the obligation to convoke a general meeting and propose financial restructuring measures.

Assets / *Aktiven*		**Liabilities / *Passiven***	
Current assets		**Current liabilities**	
Cash	90 000	Loan (non-subordinated) / *Darlehen (nicht nachrangig)*	50 000
Fixed assets		**Capital**	
Equipment	30 000	Share capital (owner equity) / *Aktienkapital*	100 000
		Statutory reserves / *gesetzliche Reserven*	50 000
		Loss / *Verlustvortrag*	-80 000
Total assets	**120 000**	**Total liabilities and capital**	**120 000**

TABLE 5.8.1 Example of a capital loss situation in the balance sheet. German terms are given in italics. With CHF 80 000 in accumulated losses, the company's capital is no longer covered by at least 50 % (= (100 000 + 50 000) × 50 % = CHF 75 000), but only 46.6 % (= ((100 000 + 50 000) – 80 000)/(100 000 + 50 000)). The board has to act immediately to improve the financial situation of the company.

Capital loss situations actually occur quite often in startups that must develop a product before they will have first revenues, as losses just accumulate over the first years. Because liquidity (e. g. CHF 90 000 in cash in our example) might still look good, inexperienced board members and founders often don't recognize this problematic situation.

Getting subordinated loans (that don't count toward capital loss) or more equity financing will fix the situation. It's important to know that the "agio", which is the price paid per share in addition to the nominal value of a share is part of the general reserves (*allgemeine Reserven*), which also count as part of the statutory reserves (*gesetzliche Reserven*).

Over-indebtedness (*Überschuldung*) is defined by the total balance-sheet loss being higher than the sum of the share capital and the statutory reserves. The BoD has to act according to CO 725(2) when it suspects the situation of over-indebtedness. In this case the BoD has the obligation to:

- Prepare an interim financial statement,
- Present and audit the interim financial statement by an approved auditor, and
- Notify the judge.

An alternative for avoiding these three actions is to provide a subordinated loan of a minimum amount that allows recovery to 50 % of the share capital and legal reserves (to be neither over-indebted nor in a situation of capital loss).

Assets / *Aktiven*		**Liabilities / *Passiven***	
Current assets		**Current liabilities**	
Cash	10 000	Loan (non subordinated) / *Darlehen (nicht nachrangig)*	50 000
Fixed assets		**Capital**	
Equipment	30 000	Share capital (owner equity) / *Aktienkapital*	100 000
		Statutory reserves / *gesetzliche Reserven*	50 000
		Loss / *Verlustvortrag*	-160 000
Total assets	**40 000**	**Total liabilities and capital**	**40 000**

TABLE 5.8.2 Example of a situation of over-indebtedness in the balance sheet. German terms are given in italics. With CHF 160 000 in accumulated losses the company's capital of CHF 150 000 is no longer covered. The board has to act immediately to improve the financial situation of the company and, if the situation cannot be improved short-term, has to notify the judge, who will likely initiate liquidation of the company. Note that in this example, it is not enough to subordinate the existing loan, because this will not be enough to recover 50 % of the capital to get out of a capital loss situation.

Founders, management, board members and investors should closely monitor whether capital loss and over-indebtedness may occur, and are well advised to have a clear understanding of the consequences and their legal obligations.

5.9 Financial Planning Template

The Swiss ICT Investor Club (SICTIC) provides a financial planning template (on www.angelhandbook.ch) to prepare a bottom-up, business-driver-oriented financial model for Swiss tech startups based on Microsoft® Excel™. Use of the template by founders and investors is free of charge and it can be adapted to individual needs quite easily.

The template provides five years of monthly input sheets for:

- Revenue including purchases
- Personnel expenses (also called human resources (HR))
- Marketing expenses
- IT equipment expenses including capital expenses (CapEx)
- Other miscellaneous operating expenses (OpEx)

The individual yearly income (P & L) sheets are automatically calculated from the input sheets. At the bottom of each income sheet the monthly cash flow and liquidity planning are shown, which help to determine the financing need. Two additional sheets, Overview and KPI, provide the five-year annual income overview (including the financing need per year) and a graphical output for important KPIs.

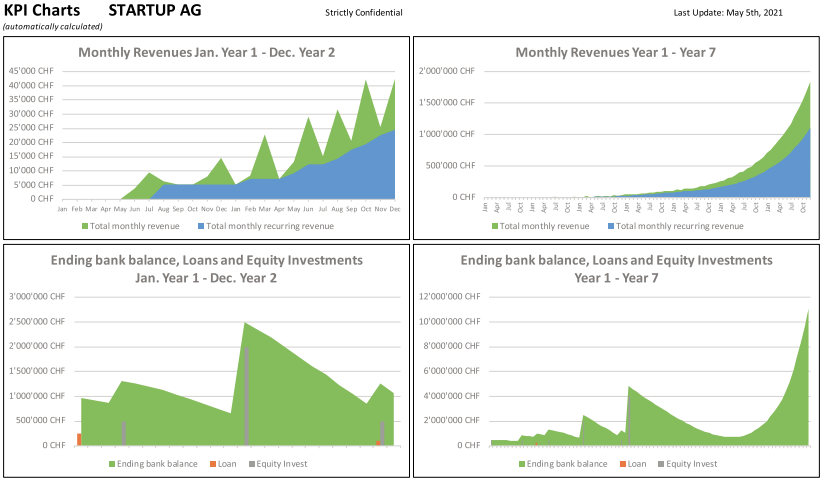


FIGURE 5.9.1 Some automatically calculated KPI charts of many from SICTIC's free financial planning template.

6 Swiss Company Basics

Most startups domiciled in Switzerland are incorporated in the form of a Swiss joint-stock company (Ltd), also referred to as "company limited by shares" or "corporation". Swiss corporate law uses the following terminology in German, French and Italian: *Aktiengesellschaft* (AG), *société anonyme* (SA), *società anonima* (SA). If you are not familiar with how a Swiss joint-stock company is organized or with the rights and obligations of board members and shareholders, this chapter explains the basics to you.

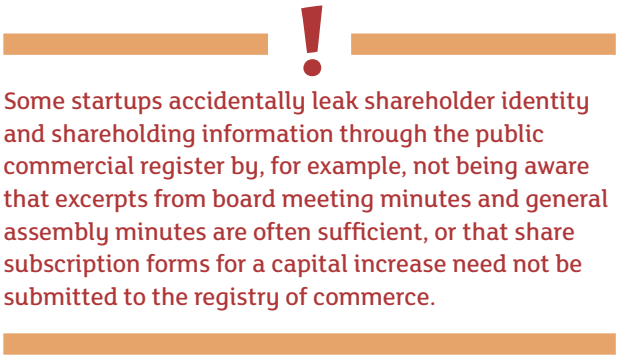
6.1 Registries of Commerce

Each of the 26 cantons in Switzerland has one registry of commerce except for Valais, which has three for different regions within the canton, making a total of 28 registries of commerce for Switzerland. The *domicile* is usually the location of the top management's office and where the company has its primary physical mailbox. The location of the official domicile of the company determines which registry of commerce a company must register with.

How to search for a company by name in Switzerland
Luckily there exists a meta search engine, Zefix (www.zefix.ch), that serves as a central business name index and allows searching all registries of commerce of Switzerland at once, including within deleted records. When a company moves its domicile outside the current registry's region, it must re-register with the newly responsible registry of commerce and will be removed from the old one's register.

Information you get from the registries of commerce
Core information about a company is accessible free of charge, including the postal address of the domicile, number of outstanding shares and their classes, incorporation date, which people have signature authority alone or jointly, members of the board of directors, etc. A few registries of commerce allow free downloading of scans of documents relevant to the company (e. g. deed of incorporation, capital increases, changes in the board of directors, articles) while others charge for sending them by email or by post. The registries of commerce currently work towards a solution to access all submitted documents electronically.

Information you don't get
Information crucial for investors like the annual financial statements, the share register and the shareholders' agreement are not known to the registry of commerce for joint-stock companies and therefore can't be obtained from it. Some startups, however, accidentally leak certain shareholder and financial information in the transaction documents sent to the registry of commerce, e. g. by sending full general assembly minutes (instead of just an excerpt of relevant paragraphs) or unnecessarily submitting share subscription agreements as part of a capital increase. This can be avoided by having experienced angel investors on the board of directors or a legal advisor.



Language support
English is not an official language in Switzerland but the registries of commerce usually offer an English web-user interface that translates at least the table column titles (but not the company purpose or other items). Important documents submitted to a registry of commerce are required to be written in one of the official Swiss languages supported by the responsible registry of commerce (usually just one of German, French or Italian), or come with a translation certified for legal accuracy. Less important documents are sometimes accepted in one of the other official languages or in a non-official language — e. g. English or even Romansh — if they are written in an easy-to-read style, but only by some registries of commerce (e. g. in the canton of Zürich and Zug).

Important documents
The following documents are considered important by the registries of commerce and therefore required to be written in the accepted official language(s):

- Articles of association (*Statuten*)
- Public deeds (öffentliche Urkunden)
- Contribution in-kind (*Sacheinlage*)
- Acquisition of (intellectual) property (*Sachübernahme*)
- Merger agreements (*Fusionsverträge*)
- Audit reports (*Revisionsbericht*)
- Deed of incorporation (*Gründungsbericht*)
- Capital increase report (*Kapitalerhöhungsbericht*)

There may be more documents deemed important; if in doubt about a particular document, ask the registry of commerce before creating it.

The registries of commerce are legally bound by the ordinance called *Handelsregisterverordnung (HRegV), Ordonnance sur le registre du commerce (ORC)* or *Ordinanza sul registro di commercio (ORC)* which, as of 2021, has 182 articles defining how the registry works and which documents to submit for getting entries and changes accepted. There are subtle differences between the different registries (e. g. how certain people's roles are named, whether attached passport copies must be certified, or if they trust the notary to have checked the originals when writing the deed of incorporation). If you are unsure whether your documents will be accepted, you can ask for a pre-verification of the to-be-submitted documents from the responsible registry of commerce and send them the documents by email. The process usually only takes one to two weeks and costs a few hundred Swiss Francs, but gives you the assurance that a notarized general meeting or a notarized board meeting will not result in invalid resolutions or incomplete documents, requiring the meeting to be called again.

6.2 Naming and Types of Startup Companies

Joint-stock companies
Startups in Switzerland planning to get venture capital are usually incorporated as joint-stock companies. Depending on the language set in the web browser, the registries of commerce will show different terms for a limited stock company:

- *Aktiengesellschaft* (AG) in German
- *Société anonyme* (SA) in French
- *Società anonima* (SA) in Italian
- *Limited (Ltd.)* or *corporation* in English

Minimum equity capital and share liberation
The minimum equity capital required to incorporate a Swiss joint-stock company is CHF 50 000 in case when only 50 % of the share capital is paid in, or CHF 100 000 when all shares are fully paid in. Investors usually require that shares are fully paid in (*voll liberiert/entièrement libérées/interamente liberate*) *before* investing, as partially paid in shares require the shareholders to still pay up 100 % of the issued shares (in particular in case of a bankruptcy). In addition to the equity capital, one must also consider notary fees for creating and certifying the deed of incorporation, fees from the registry of commerce for registering the company, stamp issuance tax if the share capital exceeds CHF 1M (or in case of à fonds perdu contributions) and legal consulting fees for creating the articles of incorporation and possibly a shareholders' agreement.

Limited liability companies

In rare cases the startup is incorporated as a limited liability company, because it requires less capital than incorporating a joint-stock company: only CHF 20 000 (100 % of the shares must be liberated). Depending on the language set in the web browser, the registries of commerce will show different terms for a limited liability company:

- *Gesellschaft mit beschränkter Haftung* (GmbH) in German
- *Société à responsabilité limitée* (Sàrl) in French
- *Società a garanzia limitata* (Sagl) in Italian
- *Limited liability company* (LLC) in English

The full names of all owners of a limited liability company are published in the registry of commerce together with their individual ownership interest. Hence, every share transfer must be filed with the registry of commerce. In contrast, shareholders of a joint-stock company are not public (i. e. anonymous) and there is no requirement to provide the registry of commerce with a notice. Investors often require a conversion into a joint-stock company as part of a larger investment round. We therefore don't discuss limited liability companies further in this chapter and focus on joint-stock companies.

6.3 Shareholders

The *shareholders* are legal entities or natural persons who own and ultimately control the company.

In Switzerland, simple partnerships (einfache Gesellschaften) as used in some investment syndicates may buy, sell and hold shares. However, there is legal uncertainty as to whether these partnerships are allowed to subscribe to shares at incorporation or in a capital increase; at least one registry of commerce has denied it. Legal entities such as corporations or associations do not face this problem.

Type of shares

Startups use *registered common shares* (*Namenaktien*), which come with voting rights. One share equals one vote, independent of its *nominal value*. The aggregate nominal value of all issued and outstanding shares equals the total share capital of the company. The *share purchase price* (i. e. how much you pay to buy a share) and the *share tax value* (i. e. how much value a share has for the determination of the wealth tax or income tax) usually deviate significantly from the nominal value the older a company gets. The ownership interest of each shareholder determines how much of the dividends or proceeds they are paid (the ownership interest equals the aggregate nominal value of all shares held by a shareholder), unless the articles of association state otherwise.

The era of *bearer shares* (*Inhaberaktien*) in Switzerland came to an end as of April 30th, 2021. After that date, any outstanding bearer shares will be automatically converted to registered shares. Bearer shares are still permitted for listed companies or if stock is issued as intermediated securities (within the meaning of the Swiss Federal Intermediated Securities Act FISA). There also exist *participatory shares* (*Partizipationsscheine*), which come without voting rights. They are sometimes used as an employee incentive if the founders prefer to keep the voting rights for the investors and themselves while only sharing the economic upside of the company with their employees.

The minimum nominal share value allowed in Switzerland is currently CHF 0.01 but there are efforts to allow for smaller CHF fractions. Issuing shares at the minimum nominal value is not recommended for startups as it reduces the options of getting out of an over-indebtedness situation, one of which is to reduce the nominal share value.

Don't issue shares at the lowest possible nominal value, to have more options how to fix an over-indebtedness situation.

Uncertificated securities

Switzerland allows the use of *uncertificated securities* instead of physical share certificates, a practice widespread among Swiss startups as it eliminates the burden of issuing physical share certificates that may get lost. The articles of association must state that uncertificated securities are used.

Most Swiss startups use uncertificated securities and keep your share holdings in the company's share register, so investors won't have to safely store a physical share certificate.

Share register

A company records the names and postal addresses of its owners (*Eigentümer*) and usufructuaries (*Nutzniesser*) in the *share register*, which by law must be kept in such a manner that it can be accessed on Swiss territory at any time. For each entry, the company is required to keep documentary proof that and when the share was acquired for ownership, or of the reasons for the usufruct thereof.

Companies may use a paper sheet or electronic document to keep track of the shareholders and their shareholdings, or use an online share register solution. It is best to keep it in a form that allows for quick and easy summing up of the total number of share voting rights in a ballot. Using an online share register tool prevents inconsistent entries, which can become a dealbreaker in a financing round or exit. Changes to the share register must be approved and signed by the board of directors.

6.4 Interplay of Stakeholders

Let's have a look at which stakeholders a Swiss joint-stock company has and how they interact.

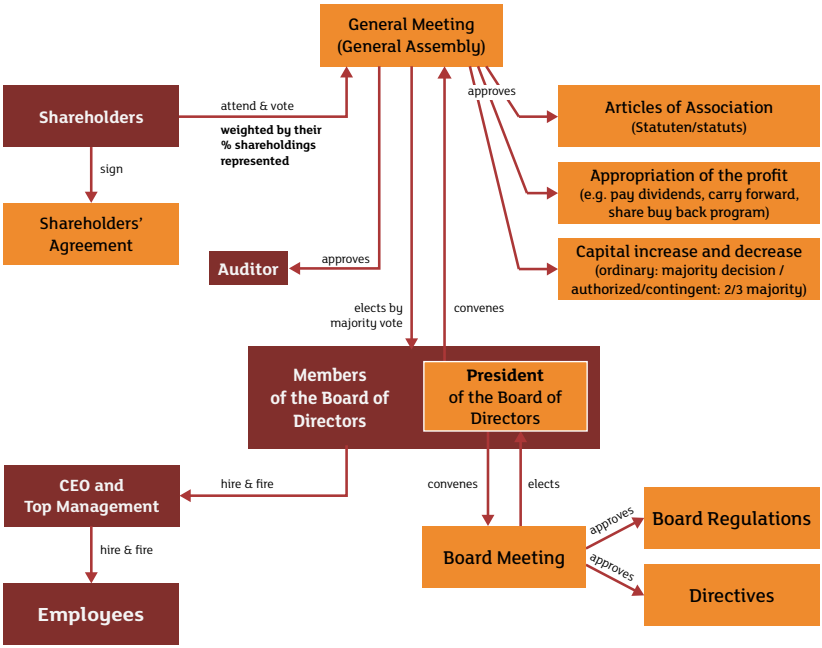


FIGURE 6.4.1 Interplay of shareholders, members of the board and top management in a Swiss joint-stock company.

The *shareholders* may all sign a shareholders agreement to set some share transfer restrictions and declare special shareholder rights and obligations, e. g. how to vote at the general assembly, or when they must sell their shares to allow for a sale of the whole company. Their vote at the *general meeting* (sometimes called a "general assembly") is weighted by their percentage shareholdings in relation to all shares *represented* at the meeting. A common mistake shareholders make is to assume that their voting power at the general meeting is limited to their share percentage in relation to *all* outstanding shares, which is in fact only the minimum voting power they would have if all shares were to be represented at the meeting. It's important to note that "represented" means the votes of shareholders taking part in the meeting themselves or having someone there (usually another shareholder) representing them by power of attorney (also called proxy).

Most resolutions at the general meeting are decided by simple majority vote, e. g. how to appropriate profits, how much dividends to pay to shareholders, which members of the board of directors to appoint or dismiss, or which auditor to appoint. The shareholders also discharge the board members. A shareholder that was a board member cannot discharge him-/herself but is entitled to vote on the discharge of the other board members.

The general meeting elects the board members, which at their first board meeting will elect the president among themselves. This ensures that the president is backed by the majority of the board members. Board members hire the CEO and members of the top management. They also decide when to terminate their employment.

The following important decisions require approval by at least *two-thirds* of the voting rights represented and an *absolute majority of the nominal value of shares represented* (see Art. 704 in the Swiss Code of Obligations):

- Any amendment of the corporate purpose
- The introduction of shares with preferential voting rights
- Any restriction on the transferability of registered shares
- An authorized or contingent capital increase or the creation of reserve capital in accordance with Article 12 of the Banking Act of 8 November 1934
- A capital increase funded by equity capital, against contributions in kind or to fund acquisitions in kind and the granting of special privileges
- Any restriction or cancellation of the subscription right
- A relocation of the seat of the company
- The dissolution of the company

A few extremely critical decisions, such as converting a for-profit company into a not-for-profit company, will require unanimous approval by the represented voting rights.

The general meeting appoints the financial *auditor* (if required) and elects the *members of the board of directors*, who usually elect their *president*. The members of the board hire and fire the CEO and top executives, who in turn hire all other employees.

The general meeting also approves changes to the articles of association (*Statuten/statuts*), decides on the appropriation of profit and approves capital increases and decreases.

A group of shareholders controlling *at least two-thirds of the voting rights* can decide on anything. Such a group can also change the company's domicile or purpose or liquidate the company. The articles can be changed to set a quorum greater than two-thirds for important resolutions of the general meeting if needed, for example, to prevent founders from misusing their voting powers (as they often own more than 80 % of the company after the seed round). Similarly, a shareholders' agreement can be used to impose extra rules on the founders or on all shareholders to avoid misuse of voting power and to protect those who have invested as minority shareholders from financial harm.

Any group of shareholders controlling at least two-thirds of the voting rights ultimately has control over a company unless special provisions are added, either to the articles of association or to the shareholders' agreement, which establish higher quorums for resolutions at the general meeting.

6.5 Board of Directors

A Swiss joint-stock company's board of directors is required to have *at least one* member. That person's full name, nationality or place of origin (*Heimatort/Lieu d'origine/Luogo di attinenza*) for foreigners or Swiss nationals, respectively, and their place of residence (*Wohnort/l'habitat/residenza*) is registered in the registry of commerce.

If there is more than one member, and unless the articles assign the duty of electing the president to the general assembly, then the board members elect a president from among themselves. The articles can give the president the casting vote in general meetings. The president has the casting vote in board meetings by operation of law, unless the articles state otherwise. The president is in charge of convening the board meetings and the general assembly, and by default is also expected to lead them.

Board members are elected by the general assembly for a term specified by the articles — typically 1 to 3 years. Even though many articles refer to a "year", it often isn't an exact year in length, as a general assembly must be held within 6 months of the end of the business year. For startups, a one-year term for the general assembly is recommended in order to stay flexible in changing the board composition as needed.

In Switzerland, the members of the board of directors are ultimately liable for what the company does. They can delegate some duties to other people, but not the following seven non-transferable and inalienable duties (see Code of Obligations, Art. 716a III):

1. Overall management of the company and the issuing of all necessary directives
2. Determination of the company's organization
3. Organization of the accounting, financial control and financial planning systems as required for management of the company
4. Appointment and dismissal of persons entrusted with managing and representing the company
5. Overall supervision of the persons entrusted with managing the company, in particular with regard to compliance with the law, articles of association, operational regulations and directives
6. Compilation of the annual report, preparation for the general meeting and implementation of its resolutions
7. Notification of the court in the event that the company is over-indebted

There are seven non-transferable and inalienable duties you must take care of as a member of the board of directors personally.

Looking at this list of duties, it's clear that the board of directors has a very strong position, as it hires and fires the CEO and top executives and is responsible for proper financial management and for taking appropriate actions in cases where the company is getting into financial trouble.

There is a *joint and several liability* (*Solidarhaftung/responsabilité soldaire*) of all members of the board of directors with their private wealth if the company goes bankrupt and consequently can't pay outstanding social security contributions and taxes. More specifically, they are liable for the following expenses:

- Social security contributions (*Sozialversicherungsbeiträge AHV, IV, EO, ALV/Cotisations assurances sociales AVS/AI/APG/AC*)
- Value-added tax, or VAT (*MWST/TVA*)
- Withholding tax (*Verrechnungssteuer/l'impôt anticipé*)
- Direct federal tax (*Direkte Bundessteuer/l'impôt fédéral direct*)
- Cantonal, communal and church tax (*Kantons-, Gemeinde und Kirchensteuer/impôts cantonaux, communaux et paroissiaux*)

A claim often goes against one of the members, who can then take recourse on the other members. However, a member of the board is only liable to the extent of its own negligence.

In fast-growing companies, these social security contributions and taxes owed can increase significantly very quickly. Therefore, it is of utmost importance that the board ensures proper liquidity management and regularly adjusts the at-least-quarterly payments on account for social security, especially when the number of employees increases and the total salary amount goes up.

Members of the board of directors face joint and several liability. As a board member, don't forget to verify that your startup pays sufficient social security contributions on account at least quarterly, and that it does proper accruals for taxes. Otherwise, in the event of bankruptcy, you could unexpectedly end up having to pay out of your private pocket.

D & O insurance

The company may get liability insurance for their directors and officers (hence "D & O") to cover some of the financial risks they face as members of the board or top management. However, such insurance policies don't cover damages resulting from gross negligence.

Risks for board members

- Legal fiduciary duty to all shareholders. If disregarded, the board member is legally liable
- Conflict of interest resulting from having to put the shareholders' interest ahead of own or of other investors' interests
- Increased pressure to participate in follow-up rounds as not participating sends a strong negative signal to other investors
- To be a productive board member and to add value to the company, a board member needs to commit time and effort to prepare board meetings well
- Personal financial liability in case of a bankruptcy

Opportunities for board members

- Possibility to prevent or stop negative developments and costly mistakes
- Be partly in the driver seat to steer the company's strategy in the right direction
- Access to more information earlier than regular shareholders
- Learning from and getting inspired by other board members

While the risks and liability associated with a board position might sound scary, it also has to be said that it is extremely rare that members of the board of directors get sued in Switzerland. Still, some investors prefer to take an advisor role rather than a board position.

6.6 Liquidation

The general assembly has the power to initiate the liquidation of the company. However, the situations outlined below will cause a judge or the registry of commerce to initiate the liquidation of the company. Members of the board should be aware of them.

Organizational deficiencies

In case of organizational deficiency, the registry of commerce will initiate the liquidation of the company. Here are some issues that lead to an organizational deficit:

- The company no longer has a valid domicile.
- There is a lack of assets and lack of business activity.
- The company is no longer represented by at least one person (either a director or a member of the management) who maintains a place of residence in Switzerland and is registered in the commercial register.
- The board of directors does not have the power of representation conferred either by at least one board member having single-signature authority or by two board members with *joint signature at two*.
- The company does not have an auditor (*Revisor/réviseur*) registered in the registry of commerce. This is required unless all shareholders have explicitly opted out from having an auditor. However, if the company has more than ten full-time employees (FTEs) on annual average, it is obliged to at least do a *limited annual audit* (*eingeschränkte Revision/contrôle restreint*). Moreover, the company is obliged to have an auditor and to do an *ordinary annual audit* (*orden-*

tliche Revision/contrôle ordinaire) if it fulfills two of the following criteria for two consecutive years:

- Balance sheet total of at least CHF 20M
- Revenues of at least CHF 40M
- 250 or more FTEs on average during the year

Over-indebtedness

If the company gets into a situation of over-indebtedness, the board of directors must convene a general assembly and take measures to improve the financial situation. If the financial situation cannot be improved in a timely manner, the board of directors must notify the judge, who will then put the company into bankruptcy, which initiates the liquidation of the company by way of public clerks.

6.7 Gender-Neutral Salaries

If a company has 100 or more employees (headcount) as of the beginning of a year, the board of directors has to conduct an equal pay analysis. An auditor has to assess if the salaries paid are gender neutral. If inequality is found, the study has to be repeated every four years. If equality is found, the employer concerned shall be exempted from the obligation to conduct this analysis.

The detailed regulations are defined in the Swiss Federal Act on Gender Equality (GEA) in Section 4a. The Swiss government provides an online tool called Logib to conduct the analysis.

7 Capitalization Table

Keeping track of who has which stakes in a startup is essential, especially when going through a financing round. The capitalization table (or “cap table” for short) is the perfect instrument for this. It is also an important tool for VCs to judge who is incentivized and how well, in order to calculate dilution effects of employee incentive programs or of a future round. Finally, it shows whether the company has issues with dead shares.

7.1 Gaining Insights from the Capitalization Table

The cap table can be thought of as an extended share register. It allows you, at a glance, to see all relevant information on who has financial stakes or voting rights in a company. It can also be used to learn how the stakes have changed over time and how they might continue to change, as it also includes employee incentive plans and convertible notes, if done right.

At the least, a cap table shows who owns how many shares of which type in a company:

Shareholder Name	Number of Shares	Type of Shares	% of Shares
John Doe	720 000	Common	72 %
Maria Musk	180 000	Common	18 %
Nicole Brin	50 000	Preferred Seed	5 %
Patrick Sommer	50 000	Preferred Seed	5 %
Total	**1 000 000**		**100 %**

TABLE 7.1.1 Example of a basic cap table

The cap table above shows four shareholders, with founders John Doe and Maria Musk owning, respectively, 72 % and 18 % of the company. The two angel investors Nicole Brin and Patrick Sommer own 5 % each of the company. Note that theirs are "preferred seed" shares which, unlike "common" shares, come with certain extra rights that protect them as minority shareholders.

Shareholders have participation, control and information rights
Whoever owns at least one share (that is not a participatory share) has the *right to participate* in the general meeting and is allowed to vote on proposals and to elect the auditor and members of the board. Each shareholder also has *rights of control* and *information rights* that give access to the annual report (which includes the balance sheet and income statement) and the audit report (if an auditor is in place). At the general meeting, any shareholder is entitled to get answers from the board of directors on company affairs and to get information from the auditor on the methods and results of the audit. An inspection of the company ledgers and business correspondence by a shareholder needs the express authorization of the general meeting or a resolution of the board of directors, and measures will need to be taken to safeguard trade secrets. Furthermore, a shareholder

may request a special audit at the general meeting to clarify specific matters.

Be aware that giving real shares to employees to incentivize them financially also gives them the right to participate in the general meeting to vote and elect members of the board, along with rights of control and information rights. They will get access to the auditor's report and the company's annual report, including the annual balance sheet and income statement.

A small group of shareholders may have all the deciding power

As we have seen in the last chapter, for approval of a resolution at the general meeting, a majority vote among those shares represented at the general assembly is required. In our example above, John Doe holds more than 50 % of the share votes and can therefore block *all* decisions if he wants, preventing any majority decision if he attends the general meeting either personally or by sending someone with a power of attorney to represent his shares. Thanks to holding 72 % of the voting rights, John can also approve alone all important company decisions that by law require two-thirds of represented share votes. Investors as minority shareholders will therefore often require a shareholders' agreement to protect themselves.

Looking at the cap table is an essential part of due diligence, as it shows the company's stakeholders and how much each is incentivized. Because the founders are driving the company's success and are dedicating their time and energy to running the startup (often for years at a low startup salary), they should be incentivized the most by having the majority of shares — at least until the company enters the growth phase (usually after Series A) when significant funding is required. If a startup is still pre-Series A and founders have already given up the majority of company shares to investors, it's likely that some big and costly mistakes have been made in the past. If founders are already getting less than the investors from a startup's financial success at such an early stage, it becomes doubtful that those founders will be driving the company to continued success.

Carefully examine the capitalization table before you invest to understand who the stakeholders are and how much the founders are incentivized.

7.2 Preventing Dead Shares

It's possible that former founders and employees who have left still hold a significant portion of shares, but no longer contribute to the success of the startup while still standing to profit from its future success. Shares that are held by people who don't benefit the company (anymore) are sometimes called *dead shares*, and venture capitalists don't like it when these make up a significant portion of company shares. Note that investor-owned shares paid for with cash don't count as "dead"; the term is typically reserved only for shares owned by former founders and employees who have left. You can prevent dead shares by implementing a purchase option (see the chapter on deal terms) and founder vesting (see the chapter on vesting and employee incentive plans).

Detrimental "dead" shares can be prevented by being proactive and implementing a purchase option and founder vesting in the shareholders agreement as early as possible.

7.3 Dilution of Shareholdings

Let's look at the following hypothetical scenario: After the seed investment round, an angel investor ends up with 2 % of a startup. The startup is very successful from the beginning and grows its revenues fast. Therefore the investor expects the startup to become a *unicorn*, which means the startup will be valued at CHF 1 billion or more. The investor starts to dream of

what to do with the exit proceeds of 2 % × CHF 1 billion = CHF 20 million. Suddenly, reality strikes. At the exit, even though the company is indeed sold for CHF 1 billion, the investor receives a mere CHF 5 million! This corresponds to only 0.5 % of the company's exit valuation! How did the other CHF 15 million evaporate? It's an effect called *dilution* and it happens whenever new shares or equity-like instruments are created. The dilution is related to the reduction of a shareholder's percentage ownership in a company. The number of shares originally subscribed to doesn't change (unless shares are sold by the shareholder); only the number of total existing shares and share-like instruments changes.

Four reasons for dilution of your shareholdings:

- **New shares are issued in later financing rounds**
  Startups that require significant funding will see greater dilution than startups with small subsequent financing needs. Dilution can only be prevented if an investor invests *pro rata* to their existing shareholdings in each follow-on round, which each shareholder of a Swiss stock company has the right to do by law, as long as the subscription rights have not been waived. However, investing *pro rata* in all subsequent rounds is often infeasible for angel investors as it potentially requires a lot of capital.
- **Convertible notes convert into new shares**
  Convertible notes will often convert into extra shares that cause dilution; we'll look into these in Chapter 8: Startup Financing Instruments. Just because a follow-on round is not in shares but in convertible notes does not mean investors won't run into dilution and can just skip it.
- **New shares are issued as part of an ESOP**
  Several startups have implemented an employee incentive plan (also known as an *employee stock ownership plan* (ESOP) or *employee participation plan*), which gives the employees shares or call options with the right to buy shares after a certain vesting period, or in the event of an exit of the startup. Usually, existing shareholders have to waive their subscription rights for shares issued under an ESOP. Waiving happens in the shareholders' agreement and/or when contingent capital is created for the issuance of such shares and the articles are changed accordingly.
- **New phantom shares are issued as part of a PSOP**
  There are also incentive plans that only give rights to *phantom shares* (sometimes called *virtual shares*), which are share-like instruments that carry no voting rights and are just paid out in cash to the holder (much like a bonus payment to an employee upon exit)

without ever materializing as actual shares. However, phantom shares still dilute the exit proceeds as if they were real shares. Such a plan is called a *phantom stock ownership plan* (PSOP). In many shareholders agreements, existing shareholders waive their subscription rights for phantom shares issued under a PSOP.

These "extra" shares from ESOP and PSOP, which can co-exist in the same company, often don't show up in the share register or in the commercial register because no actual shares have been issued (yet). They are usually implemented in agreements between the company and the employees, and vesting delays their issuance. However, they need to be accounted for when considering ownership in a company. If an ESOP gives employees real shares with voting rights, then voting rights will be diluted along with dividend payments and financial returns in a startup exit. Finally, also liquidation preference rights in the shareholders agreement may financially dilute exit proceeds. We discuss this in the chapter on deal terms.

Ask for all ESOP, PSOP and convertible notes information before investing to understand the actual (fully diluted) startup valuation.

7.4 Fully Diluted

Here's an example cap table showing the dilutive effect of an ESOP. In our example, one call option from the ESOP pool gives the right to purchase one common share.

Shareholder Name	Number of Shares	Type of Shares	% of Shares	% of Shares (fully diluted)
John Doe	720 000	Common	72 %	63 %
Maria Musk	180 000	Common	18 %	16 %
Nicole Brin	50 000	Preferred Seed	5 %	4 %
Patrick Sommer	50 000	Preferred Seed	5 %	4 %
Subtotal	**1 000 000**		**100 %**	**87 %**
ESOP	150 000	Call Options on Common Shares	15 %	13 %
Total	**1 150 000**		**115 %**	**100 %**

TABLE 7.4.1 Example of a cap table with shareholder dilution by an ESOP

Note the adjusted share percentages in the rightmost column. This shows the significant dilution effect that 150 000 added ESOP shares (shown further down the table) have on all other shareholders' original ownership. When talking about company valuation or share ownership, it's important to clarify whether one means outstanding actual shares only (which all show up in the share register and in the commercial register), or if one is also including shares granted under an ESOP (and/or phantom shares granted under a PSOP).

The term "*fully diluted*" is often used to refer to the situation in which actual outstanding shares as well as shares granted from ESOP, PSOP, and convertible notes are included. Even so, it can still be somewhat confusing; while "fully diluted" usually means by the full pool of shares from ESOP and phantom shares from PSOP, it can sometimes mean only the ESOP/PSOP shares already granted, or even the granted ESOP shares plus only the PSOP shares that have already vested. To avoid confusion, a cap table that includes options and shares from ESOP, PSOP and convertible notes greatly helps. It should show both the already-granted employee (phantom) shares and the size of the remaining pool.

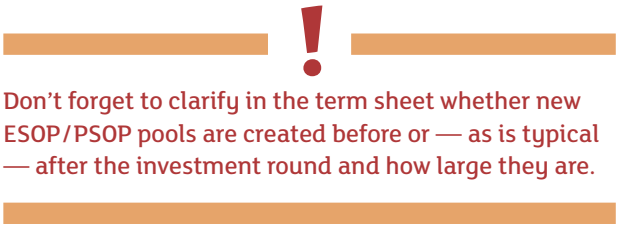
In addition, getting clarity on the actual and expected dilution may require asking for a full list of convertible notes, their amounts (including deferred accumulated interest payments that will also be converted), and their terms for conversion in order to determine the number of to-be-issued shares. The number of shares to be issued to convertible-notes holders often further depends on the date of the conversion, how much debt is paid back before the conversion, and the valuation of the next round — all of which are often not precisely known before the next financing round actually takes place. Therefore, such calculations before a financing round is fully defined often end up as a range of shares expected to be issued.

Convertible notes should also be taken into account when buying shares from an existing shareholder in a secondary share deal, with the goal of reaching a certain percentage ownership of the company. There is also a choice between taking the *pre-money* valuation or the *post-money* valuation of the company. Taking the pre-money valuation is more common and means the valuation before any investment money is put into a company. We will look into this in more detail in the chapter on startup valuation.

When talking about company valuation, it is best practice for investors to negotiate a "fully diluted pre-money" valuation. If the round size is not fixed, investors prefer a post-money valuation.

Finally, when negotiating the valuation for a financing round, it is important to clarify if new share pools or option pools for ESOP and/or PSOP will be created as part of the round and how large they are. Furthermore, it has to be agreed whether these pools are created before calculating the share subscription price of the financing round or after. Creating them before further increases dilution of existing shareholders. Creating them after the financing round dilutes all shareholders, including the new ones that joined as shareholders in the round.

Usually, the pools are created after the investment round because all shareholders benefit if employees can be incentivized strongly through a large ESOP/PSOP pool. Some VCs play tricks on unsuspecting founders and angel investors by being fuzzy about the pool creation timing and size. Very late in the investment process, some VCs may claim to have always assumed a sizable pool (often 10 % – 20 % of total outstanding shares) would be created *before* they come in. That way, they can reduce the actual company valuation for themselves and ultimately get more shares for the same investment amount. It's best to be explicit about the size and timing from the very beginning of negotiating an investment round.



Below is an example cap table extended from the one shown above. Here, a PSOP of 100 000 call options for phantom shares to be granted to employees has been created, and convertible notes have been signed with investors that, due to an agreed maximum valuation for the conversion (also called "cap"), will convert into at least (!) 250 000 preferred Series A shares at the Series A. If the final Series A company valuation ends up being lower than the agreed maximum valuation, the dilution from the convertible notes would be even bigger. John will end up with 48 % shares fully diluted. Voting-wise, he will still hold 720 000/(1 000 000 + 250 000 + 150 000) = 51.4 % as the 100 000 PSOPs don't dilute his voting rights. On top of that, it must also be mentioned that the newly created shares from the capital increase for the new investment by a VC as part of the Series A will further dilute all existing shareholders who don't invest pro rata to their shareholdings in the Series A.

Shareholder Name	**Number of Shares**	**Type of Shares**	**% of Shares**	**% of Shares (fully diluted)**
John Doe	720 000	Common	72 %	48 %
Maria Musk	180 000	Common	18 %	12 %
Nicole Brin	50 000	Preferred Seed	5 %	3 %
Patrick Sommer	50 000	Preferred Seed	5 %	3 %
Subtotal	**1 000 000**		**100 %**	**67 %**
Convertible Notes	250 000	Preferred Series A	25 %	17 %
ESOP	150 000	Call Options on Common Shares	15 %	10 %
PSOP	100 000	Call Options on Phantom Common Shares	10 %	7 %
Total	**1 500 000**		**150 %**	**100 %**

TABLE 7.4.2 Example of a cap table with shareholder dilution by an ESOP, PSOP and convertible notes.

Creating new shares, no matter if they are real or phantom ones, dilutes the dividend and exit proceeds of existing shareholders. Creating new shares in a capital increase also dilutes the voting powers of existing shareholders at the general meeting.

The cap table will grow over time, with new rows added as new stakeholders join and new columns added on the right as new financing rounds happen.

8 Startup Financing Instruments

The type of financing instrument chosen sets the basis for a potential higher or lower return in the future, as the economic terms, rights and obligations for both investor and startup differ significantly across financing instruments. This chapter outlines the most common financing instruments in use for early-stage technology startups, beginning with equity — currently the gold standard for funding Switzerland-based early-stage startups.

8.1 Equity

The most commonly used financing instrument for early-stage technology startups based in Switzerland is equity. While the founders and employees hold *common shares*, the investors typically get preferred shares (*Vorzugsaktien/actions privilégiées*) that give them additional rights. We will look into these special rights in the chapter on deal terms. Preferred shares and common shares are both *registered shares (Namenaktien/actions nominatives)*. We have already looked in detail at registered shares in the chapter on Swiss company basics (along with *participatory shares* (*Partizipationsscheine*), which are quite rarely used by startup investors).

Under Swiss law, the holder of a share only has one obligation: to pay up the full amount of the nominal value of the share when requested by the board of directors. Such subsequent contributions may be made in money, in kind, or by means of set-off (see art. 634a CO). Usually, investors request all existing shares to be paid up in full (*liberiert/libérée*) before an investment round. When investing, investors also usually pay up new shares in full. Shareholders don't have any fiduciary duties or duties of loyalty by law; however, shareholders agreements fill this gap in varying degrees, so it is paramount for a shareholder to understand the scope of legal exposure under a shareholders agreement.

The big advantages of equity for the company are that the startup will never have to pay it back to investors, and there is no interest due on equity. The investors will get their money back when selling their shares to a buyer when the shares have, hopefully, gained a lot in value.

The great thing about equity for investors is that Swiss law lays a solid foundation for voting and information rights of a shareholder, and a lean and clear process for the subscription of new shares. In most cases, selling shares in a startup exit is a tax-free capital gain for founders and private investors with Swiss residence (if the shares are held as part of their private property). Shares held by employees or directors may be subject to income taxation (and social security charges) depending on the situation of each particular case. Furthermore, earn-out payments in an exit can, depending on their structure, also lead to income taxation for shareholders. Investors are advised to seek special tax counsel in order to assess their individual tax implications.

Investors have to be aware that the secondary market for startup shares is very illiquid and it is hard to sell shares before an exit of a company. If angel investors are lucky, venture capitalists offer to buy their shares in an oversubscribed financing round (usually at a discount). This also means that investing in equity is often a long-term commitment for several years.

The tricky part about equity investments in early-stage startups is that they require a share price and therefore a company valuation to be set. We discuss various methods of determining the company valuation in the chapter on startup valuation.

Equity in the form of preferred registered shares is the most common startup investment instrument used by Swiss technology startups.

Here's an example of a share subscription form:

Subscription Form

With reference to the resolution of the extraordinary general meeting of STARTUP XYZ AG (CHE-___.___.___), with legal domicile in Zurich (the "Company"), of May 5th, 2021 regarding the ordinary capital increase from CHF 100 000.00 by up to CHF 20 000.00 by issuing up to 200 000 new, fully paid-in, preferred registered shares with a par value of CHF 0.10 each and an issue price of CHF 2.50 each,

the undersigned:

Company (if any) _____
Last/First name _____
Street, No. _____
ZIP code, City _____
Country _____
Email address _____

hereby unconditionally subscribes for 20 000 registered preferred shares of the Company with restricted transferability (according to the articles of association) with the irrevocable and unconditional undertaking to pay the subscription price of CHF 50 000.00.

The payment shall be made by way of fund transfer to the following bank account opened in the name of the Company:

Bank: MyBank AG, Bahnhofstrasse 100, 8000 Zürich
IBAN: CH__ ____ ____ ____ ____ _
Company: STARTUP XY AG, Einhorngasse 44, 8002 Zürich

The undersigned hereby requests to be registered in the share register of the Company with the address indicated above.
This subscription form is governed by Swiss law and valid until May 30th, 2021.

Place and Date _____

Signature(s) _____

Last/First name _____

FIGURE 8.1.1 A sample share subscription form for a Swiss stock company. The underlined values are placeholders, some with sample data.

Sometimes, the subscription form states *common shares* instead of *preferred shares*, but the startup's shareholders agreement internally re-classifies the shares subscribed to by investors as *preferred shares*. In any case, the subscription form must be consistent with what is to be reflected in the register of commerce after the round.

When buying existing shares instead of subscribing to new shares in a capital increase, make sure to get all of these signed documents for later proof of your share ownership:

- *Share purchase agreement* (SPA), which at least identifies the selling and buying parties and how many shares of which company at what price are sold on which date
- *Declaration of assignment*, which assigns the shares and its associated rights to you as the new share owner; for book-entry securities (*Wertrechte*) this is usually done in a separate declaration of assignment (sometimes called *cession declaration*), which must be signed in wet ink or by qualified electronic signature, or sometimes integrated into the SPA; for old-style printed share certificates (*verbriefte Namenaktien*), the new owner is declared directly on the certificate's back through an endorsement (*Indossament/l'endossement/l'endorsement*)
- *Statement of your shareholdings* (i. e. an excerpt from the official share register), that shows you as the new legit shareholder of the shares bought

8.2 Debt

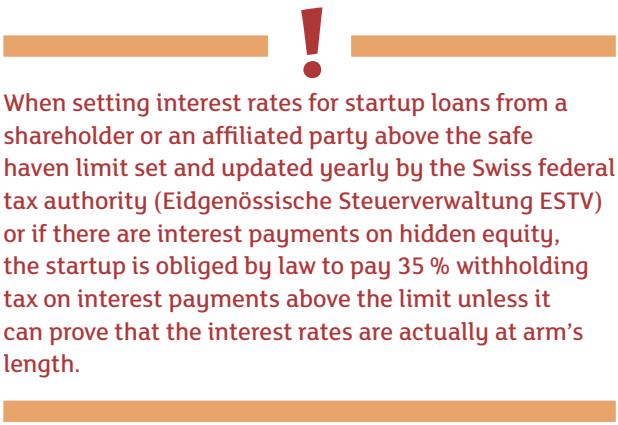
Some startups decide to ask investors for *debt financing* in the form of a *loan with interest*.

Some founders like this form of financing because it is quick to set up, delays dilution of their shareholdings until a later equity round, and no company valuation needs to be negotiated. If the startup does very well and becomes profitable quickly, they may never have to give up any shares to investors. However, this is often an illusion, especially for startups with a growth ambition, an innovative new product, and for those that aim to become market leaders, as these startups will typically require substantial subsequent funding.

The advantages for investors are that debt is senior to equity (but usually junior to other debt, see below), the agreement for a loan is straightforward to understand, and there are regular interest payments to the investor, often monthly, quarterly, yearly or at maturity. In addition, the loans will have to be repaid within a few months to a few years, so the investment duration is significantly shorter than for equity. Some startups issue subordinated loans to avoid having to notify the judge in case of over-indebtedness. Some use loans with accruing interest to delay interest payments and herewith improve their short-term liquidity. Some startups that unexpectedly can't pay back the loans as their financing round got

delayed or profits didn't grow as fast as anticipated may ask investors later to transform their straight loans into convertible notes and ultimately return equity instead of paying back the principal plus interest. We will discuss convertible notes in the next section.

When the loan is from a shareholder or an affiliated party and the interest rate is higher than the currencies dependent *safe haven* limits set yearly by the Swiss federal tax administration ESTV (for 2021: 3 % for the first CHF 1 million, then 1 %; see "ESTV Rundschreiben: Steuerlich anerkannte Zinssätze 2021 für Vorschüsse oder Darlehen in Schweizer Franken"), the startup has to pay 35 % withholding tax on the difference of the gross interest and the safe haven limits, which a Swiss investor can claim back in full. This regime applies unless the startup can prove that the higher interest rates are actually at arm's length, which is typically difficult to prove for an early-stage startup. Failure to pay Swiss withholding tax may result in a tax penalty for the startup and the lenders in question. Furthermore, if it turns out that the startup has hidden equity (*verdecktes Eigenkapital*) and therefore the loan partly re-qualifies tax-wise as equity, the safe haven interest limit is retroactively set to 0 %. Exaggerated interest rates that are not at arm's length with a third party loan may cause further tax issues, as they may requalify as hidden profit distribution, which can't be deducted by the startup as expenses. As a consequence, such expenses are generally added back to the startup's taxable income by the tax authorities, but may be offset against existing tax loss carry-forwards.



For investors, giving a loan comes at a big risk, as the startup is usually not profitable for longer and can only pay back the debt with new money from investors. The loan is usually not backed by a collateral, as the startup does not have any relevant tangible assets (like real estate or expensive equip-

ment) or intellectual property that is yet valuable enough. Once the startup's balance sheet indicates a looming over-indebtedness, loan givers are usually asked by the startup founders to subordinate their loan (*Rangrücktritt*) to prevent bankruptcy of the startup. This further reduces the investor's chances of getting any money back. Furthermore, interest payments are taxable as income for the investor — even if they are not paid out and just accumulated to the principal (*thesaurierender Zins*) — and losses are not tax-deductible for private investors. Finally, there is no leverage for the investor if the startup does extraordinarily well, because the only return is the interest on the loan's principal and possibly interest on accrued interest, called *compound interest*.

Startup loans will have to be paid back by future investors, as most startups won't make profits for some considerable time. Loans that are small compared to an upcoming funding round are okay for bridging a short-term liquidity gap, but only if it is very probable that the next round will indeed happen soon.

For startups, taking too much debt may quickly lead to a capital loss and then over-indebtedness, resulting in bankruptcy. In addition, large loan amounts deter future investors, as they basically have to first refinance the past before new investments can be used to accelerate the growth of the startup.

Startups with a lot of debt are less attractive to future investors.

While startups that are not yet profit-making typically can't get a bank loan, this was different during the COVID-19 pandemic in 2020. Several hundred startups in Switzerland got state-backed, long-term loans from Swiss banks to help them handle the difficult economic situation. These COVID-19 loans will have to be paid back first before the startup can pay any dividends or bonus for the board of directors, or pay back any other loan.

Outstanding, state-backed COVID-19 loans prevent dividend payments and repayments of other loans.

8.3 Convertible Note

A *convertible note* is a loan that later converts into shares of the company. It combines the main advantages of a loan (no company valuation required, simple to set up) with those of equity (non-repayable investment, leverage for investors). Critics say it combines the main *dis*advantages of a loan (no leverage for investors, no information rights by default, usually unsecured, leads to over-indebtedness faster unless subordinated) and equity (company valuation required for the convertible note's cap). The truth lies somewhere in between.

Startup founders use convertible notes for two main reasons:

- To bridge a short-term financing gap when an upcoming financing round gets delayed
- When they can't agree on a company valuation with investors

Convertible notes come with several terms that define the characteristics of the instrument. The ranges and numbers given below stem from an analysis of actual loans used by Swiss startups in 2020 done by cap table management startup Ledgy, and from financing rounds of startups in the portfolio of the Swiss ICT Investor Club (SICTIC).

Terms of a convertible note

- *Loan amount (CHF)*
  How much money to invest in the startup. Typical convertible loans range from CHF 25k to a few million. Amounts between 25k and 300k are most common for angel investments.
- *Discount rate (%)*
  Valuation discount received upon conversion. The discount should be applied to the regular share price paid in the next equity round and not to the company valuation (to avoid impact of dilution effects). Typical discounts are from 0 % to 40 %, depending on how

far out the next financing round is. Discounts between 15 % and 25 % are most common for angel investments.

- *Valuation cap (CHF)*
  Caps the share price at which the notes convert into equity.
- *Interest rate (%)*
  Money lent to the company accrues annual interest at this rate. Typical interest rates are from 0 % to 8 %, with 5 % being most common in 2020. To avoid misunderstandings on how exactly the interest amount due is calculated, the *day-count convention* should be explicitly stated: *act/act* (very common, also known as ICMA method; counts actual days in a calendar year, i. e. 365 or 366 for base year and for interest days; no interest due on the first day; interest due on the last day of loan), *act/360* with Euro interest (base year is only 360 days, interest days are actual calendar days, interest due on the first day; no interest due on the last day of loan), *30/360* (also known as German method; each base and interest month calculated as 30 days, an interest year as 360 days; several variations exist for repayments within a month).
- *Maturity date*
  Date on which the note is due, i. e. when the company needs to repay the loan if it has not converted by then. Typical maturity dates are from 9 to 36 months after the date of the convertible note investment. Some have no maturity date, which is bad for investors, especially at a 0 % interest rate. Maturity after 12 to 18 months is most common.
- *Conversion provisions*
  Any condition under which the conversion from debt to equity takes place, most typically a financing round exceeding a certain investment size threshold.

Most-favored-nation (MFN) clause

Startups tend to need more money than expected, and therefore commonly issue several convertible notes over time, often with terms and conditions that change from one issuance to the next. The more desperate the liquidity situation becomes, the more favorable the terms and conditions for investors become. However, it's not exactly fair that an investor who gave money early ends up with worse terms than an investor who gives money much later. To avoid the early investor getting worse terms, a *most-favored-nation (MFN) clause* may be asked for in the convertible note. It guarantees the investor an "upgrade" option to get the better terms and conditions used in subsequently granted convertible notes.

Covenants
The Borrower hereby covenants and agrees vis-à-vis the Lenders, whether directly or through a subsidiary, that it if the Company provides terms to one or more current or future lenders of a Convertible Loan tranche or any other convertible loan raised after the date hereof that are more favorable to such lenders than the terms set forth herein, the Company shall promptly provide such more favorable terms to the Lender without further consideration.

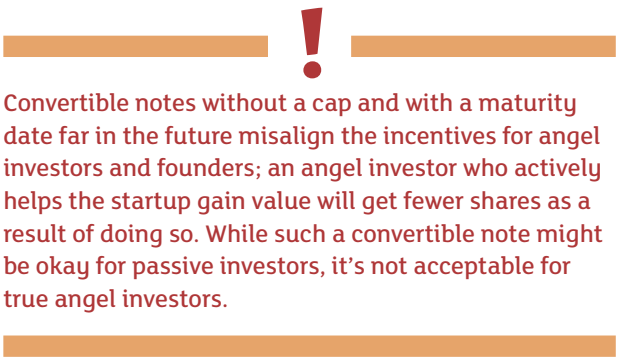
Figure 8.3.1 Example of a most-favored-nation (MFN) clause in a convertible loan agreement. Both Company and Borrower refer to the startup. The investors are referred to as Lenders.

Check your convertible note for a most-favored-nation clause before signing to ensure that you can get the same better terms offered to later investors.

Conversion without a financing round
More often than expected by many founders, a next financing round gets delayed and the maturity date is suddenly reached. If the convertible note has a defined valuation at which it converts at the maturity date, the conversion process is clear. However, if the note must be repaid but the startup does not (as is usual) have the money for this, then there are two viable options: Re-negotiate a later maturity date (possibly together with a higher interest rate or higher discount); or, agree on a share price for an immediate conversion into equity. The problem is that not all investors might agree on the new terms (or the conversion itself) and negotiations can become lengthy. Meanwhile, the startup is running out of money and should instead be focusing on raising further capital. To minimize the chance of a deadlock situation to occur you may want to agree that a certain percentage of the convertible note holders (of the same series) get the right to either extend the maturity date or set a cap for all holders of the same series.

Why angel investors dislike convertible notes without a cap
A convertible note without a cap and with a maturity date far in the future sets very different incentives for investors and founders. If an angel investor signs such a convertible note and then greatly helps the startup gain in value (e.g. by finding large customers and referring outstanding team members), then the next round will be much higher-priced and, as a result, the angel investor will get far fewer shares than if he or she hadn't helped! It's quite counterintuitive for active angel investors to get punished for

their help, and also a gross misalignment of founders' and investors' incentives. In this situation, investors are best off if the startup *doesn't* do well until the next round happens, allowing their notes to convert at a low valuation. Furthermore, convertible notes also don't give any of the shareholder rights defined in the Swiss Code of Obligations, such as company information rights to receive financial statements and the participation right for the annual general meeting. This can lead to a situation where angel investors who financed a startup don't even know how their portfolio startup is doing financially. Investors also can't ask for an audit at the general meeting in a case where seemingly weird things are happening at the startup. Therefore, convertible note holders are well advised to agree on reporting duties with the startup on a contractual basis.



Convertible notes without a cap and with a maturity date far in the future misalign the incentives for angel investors and founders; an angel investor who actively helps the startup gain value will get fewer shares as a result of doing so. While such a convertible note might be okay for passive investors, it's not acceptable for true angel investors.

8.4 The 10/20/100 Non-Bank Rules

When a startup is paying interest on loans or convertible notes, a 35 % withholding tax on the interest paid might apply if these get re-qualified as *bond* (*Bond*) or *debenture* (*Obligation*) by the Swiss federal tax authority (Eidgenössische Steuerverwaltung ESTV). If noticed too late, this may result in an expensive surprise for startup founders, and unexpectedly reduced or delayed interest payments for investors. Unfortunately, the rules are not very obvious, as withholding tax only applies under specific circumstances depending on the height of the interest rate, the total loan size, the structuring of the loan and the number and type of lenders involved. Furthermore, the Swiss government is planning to abolish withholding taxes on loans in 2023 or later to make debt-financing with Swiss-issued bonds more attractive to investors.

10/20 non-bank rule for broadly defined bonds and debentures
While people might have a different notion of *bonds* and *debentures* from Swiss civil law, or with financial markets in mind, the Swiss withholding tax practice has its own definition of them, which is much broader! It subsumes bonds and debentures as written debt acknowledgements for fixed amounts that are issued with comparable conditions, in multiple tranches, and for the purpose of collective financing. Let's look into this in more detail.

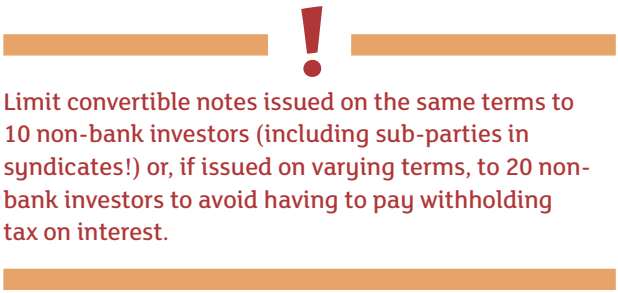
A loan qualifies as a *bond* (*Bond*) if all of these conditions are met:

- A Swiss company issues written debt acknowledgements over *fixed amounts.*
- A *single* credit agreement with identical conditions is used.
- *More than 10 non-banks* are among the lenders (including sub-participants, excluding Swiss and foreign banks).
- The aggregate amount of debt issued is at least CHF 500 000.

A loan qualifies as a *debenture* (*Obligation*) if all of these conditions are met:

- A Swiss company issues written debt acknowledgements over *fixed amounts.*
- The credit agreements have *variable conditions.*
- *More than 20 non-banks* are among the lenders (including sub-participants, excluding Swiss and foreign banks).
- The aggregate amount of debt issued is at least CHF 500 000.

For both bonds and debentures, as defined above, the 35 % withholding tax on interest paid (including interest only accrued internally) is due.



The 100 non-bank rule for interest on deposits

Interest qualifies as a *taxable bank interest* (even for companies that are not banks) if all of these conditions are met:,

- A Swiss company continuously accepts or publicly solicits interest-bearing deposits.
- *More than 100 non-banks* are among the depositors (including sub-participants, excluding Swiss and foreign banks).
- The aggregate amount of deposits accepted is at least CHF 5M.

Whenever the 10/20/100 non-bank rules trigger, the Swiss company that borrowed or accepted deposits is obliged to pay 35 % withholding tax on the gross interest and must only transfer 65 % of gross interest to the lender or depositor. Swiss lenders or depositors may get a refund of the full amount of the withholding tax under Swiss law if reclaimed in a timely manner, while foreign lenders or depositors get a refund only if there is an applicable double tax treaty in place.

Contractual safeguards for investors

To avoid being subject to withholding tax on interest, an investor may demand from the startup that the written debt acknowledgement contains a binding clause guaranteeing that, while the credit is outstanding, the startup will limit the number of non-bank lenders to 10 or less.

Bonds vs. convertible notes

When listing convertible notes in your balance sheet, please pay attention to naming them convertible notes (*Wandeldarlehen; emprunt convertible*) and not "bonds". Bonds are securities and you really don't want to confuse tax authorities accidentally by misnaming financing instruments your startup uses. Unfortunately, this naming mistake is quite common among bookkeepers that are not familiar with startup financing methods.

8.5 Prospectus for Offering Securities Publicly

Should a startup consider offering securities (shares, bonds, etc.) publicly to investors, the 2020-enacted Swiss Federal Act on Financial Services (FinSA; *FIDLEG* in German) requires an authority-approved prospectus that systematically describes the security offering and its risks.

A prospectus does not need to be published if the public offer:

- Is addressed solely to investors classified as professional clients (e. g. accredited investors)
- Is addressed to fewer than 500 investors
- Is addressed to investors acquiring securities with a value of at least CHF 100 000
- Has a minimum denomination per unit of CHF 100 000
- Does not exceed a total value of CHF 8M over a 12-month period (see also FinSA Art. 36)

Failing to provide a prospectus when required may result in a fine of up to CHF 500 000.

Offering startup securities publicly to private investors without a prospectus may result in hefty fines.

8.6 SAFE

In late 2013, the startup incubator and accelerator *Y Combinator* located in Mountain View, California, USA, best known for their offspring Dropbox and Airbnb, introduced the *simple agreement for future equity* (*SAFE*) to unify the terms for startup financing and simplify fundraising of their startups. It has been revised since, with a fundamental change from a pre-money to a post-money valuation cap (where applicable) to accommodate for the fact that seed-stage financing rounds have become larger over time. A SAFE has no maturity date, unlike loans and most convertible notes. Be aware that a SAFE is tailored to US law and it is disputed how to correctly interpret them under Swiss law.

A SAFE has two core advantages over equity rounds:

- *High-resolution fundraising*
  As soon as a startup finds an investor who is ready to sign and wire the money, the two parties can close the deal without the need to synchronize with and wait for other investors in the same round to close the deal.
- *Time and cost savings due to a standardized template with few parameters*
  Using the template does not require a lawyer and time-consuming negotiations. Usually, only the valuation cap and/or the discount are negotiated.

Even though originally meant to simplify the funding terms, the latest templates from Y Combinator now come in four different variants:

- SAFE: Valuation cap, no discount
- SAFE: Discount, no valuation cap
- SAFE: Valuation cap and discount
- SAFE: Most-favored-nation (MFN) clause, no valuation cap, no discount

In addition, a side letter template that gives pro rata subscription rights in a subsequent round is provided for those investors who don't want to miss out on a follow-on investment.

The MFN Clause guarantees the better terms of a subsequent SAFE (see also above section on convertible notes). The MFN SAFE has no discount or cap and thus the conversion price is the (lowest) price of preferred stock issued.

Common features of all SAFE variants include:

- Investors pay up front to get the right to future preferred shares issued by the startup in the next financing round, typically at a discount to the price paid by the new investors.
- There is no interest paid.
- There is no maturity date.
- SAFEs are not transferable.
- There is a liquidation preference equal to the invested capital.
- In a liquidity event (e. g. change of control, direct listing, or an initial public offering (IPO)) before a next equity financing round, the investor receives either cash or common stock at the liquidity share valuation.
- A SAFE is to be signed by accredited investors only (as defined in US securities laws), which excludes those angel investors in Switzerland who are not also accredited investors.

Until the next funding round, investors don't really know what they will get. Startups that decide to abandon a next equity round by, for example, switching into a consulting business and paying high salaries with bonuses to the founders, put investors in the awkward position of basically having given an interest-free loan and never getting any returns. SAFEs implicitly assume the participation of Silicon Valley-style startups with high growth ambitions that either succeed or go bust quickly. SAFEs are not common in Switzerland. Due to many legal uncertainties for a SAFE under Swiss law, we strongly advise against using it for startups domiciled in Switzerland.

Do not sign a SAFE unless you are an accredited investor.

8.7 KISS

In 2014, 500 Startups, the most active global venture capital firm with more than 2 400 startups in their portfolio by 2020, proposed "Keep It Simple Security" (KISS) with the goal of better balancing investor interests, which a SAFE doesn't do well in their view, and to provide their own simple and efficient investment instrument. Be aware that a KISS is tailored to US law and it is disputed how to correctly interpret them under Swiss law.

Unlike a SAFE, the *debt version of KISS* has a maturity date, provides investors with information rights and the right to participate in future company financings, accrues interest and is transferable. It also has a most-favored-nation clause. With this new instrument, 500 Startups actually re-introduced some of the issues with convertible notes that SAFE had tried to get rid of. There's also an *equity version of KISS* without interest.

The terminology of SAFE and KISS is similar, with some subtle yet important differences: While SAFE uses *discount rate*, which is 100 % *minus* the discount, KISS simply uses *discount*.

Be aware that a "discount" of 20 % in a KISS corresponds to a "discount rate" of 80 % in a SAFE. Don't confuse them.

Like a SAFE, a KISS is also for accredited investors (under US securities laws) only, and is not common in Switzerland. Due to many legal uncertainties for a KISS under Swiss law, we strongly advise against using it for startups domiciled in Switzerland.

Do not sign a KISS unless you are an accredited investor.

8.8 Token Sale

Crypto tokens offered in token sales are a rather new way of financing startups. National legal and regulatory frameworks and the technical implementation of token issuance, transfer and storage are still very much in flux. We give some background information here on how crypto tokens came into existence and point out some major concerns for token investors and for startups that consider using them to raise funds.

Bitcoin emerges as new digital currency
In October 2008, the whitepaper "Bitcoin: A Peer-to-Peer Electronic Cash System" was published on bitcoin.org. It laid the groundwork for cryptocurrencies at scale. With *Bitcoin*, a new global currency was established that enough people trusted to make it viable to buy and sell goods and services against bitcoin. Transactions of bitcoin were recorded in a digital ledger called *blockchain,* which is stored redundantly on servers run by people who believe in bitcoin. The Bitcoin market capitalization increased from approximately one billion U. S. dollars in 2013 to over one trillion U. S. dollars in March 2021.

Mastercoin did the first-ever ICO

In 2013, the Mastercoin project raised USD 500 000 worth of bitcoin against newly minted Mastercoin cryptocurrency tokens in the first-ever *initial coin offering* (ICO). Other so-called *altcoins* appeared, such as Litecoin, XRP (or Ripple), Bitcoin Cash and hundreds more.

Ethereum made it easy to issue and control custom tokens with smart contracts

The most notable cryptocurrency (or "crypto") nowadays besides bitcoin is *Ether*, with its own blockchain called *Ethereum*. Ethereum supports the creation of fungible (ERC20) and non-fungible (ERC721) custom tokens. It allows for storing and running *smart contracts*, which are small computer programs used to execute a process, e. g. releasing tokens once a payment is made. The smart contract also determines a large part of the characteristics of how tokens can be used, limited in quantity and how token ownership is subdivided. One can also implement token vesting schemes based on time and other triggers and enforce token transfer restrictions. As an investor, be sure you understand the logic behind a smart contract well before buying a crypto token. As bugs in smart contracts and crypto wallets may lead to tokens being misused or stolen, a thorough source code security review is advisable.

ICOs, TGEs and token sales

As ICOs evolved and became vastly popular, some called them token generation events (TGEs) and eventually the more generic term (crypto) *token sale* emerged. Investors would read a *whitepaper* that describes the ideas behind a particular crypto project in order to decide whether they wanted to buy tokens. Many whitepapers were focused on technological aspects and algorithmic advancements, while leaving out discussion of who would ultimately be a paying customer or how they planned to make the project sustainably profitable. At times, these *private token sales* were reminiscent of the gold rush. They were usually offered at the seed stage of a new crypto project to people in the extended network of the project founders or to those that were very active in the crypto space. These token buyers were then often asked to help boost the value of the token for later much larger *public token sales*. Many crypto projects did their public token sales by listing their token on a crypto exchange, which made the token widely accessible and easily tradable. Amidst the token sale craze in 2018 and 2019, millions of people fell victim to token sale ponzi schemes that also popped up. Finally, financial authorities stepped in and started to regulate token issuance and token exchanges. Among others, the US Securities and Exchange Commission (SEC) and Swiss Financial Market

Supervisory Authority (FINMA) re-classified some already issued tokens as securities, and thus concluded that the way in which they were sold to private people globally was in gross violation of local securities regulations. This resulted in fines against some token issuers and exchanges, and several token sales had to be stopped and rolled back. In December 2020, SEC filed a lawsuit against Ripple and its founders for violating security regulations after they had collected more than US$ 1.3 billion over seven years in XRP token sales. Crypto exchanges fell under more scrutiny and new regulations were established to assist anti-money laundering (AML) efforts and establish know-your-customer (KYC) best practices. Some crypto exchanges that didn't want to be regulated shut down, some got hacked and lost significant amounts of their customers' crypto tokens, while still other exchanges adapted and evolved.

Buying and storing crypto tokens

Investors may buy crypto tokens directly from the token issuer or on the secondary market. Crypto exchanges list some of the available tokens and facilitate the trade. To store crypto tokens, a *crypto wallet* is needed. Crypto wallets exist as software (e. g. MetaMask) or hardware solutions (e. g. Ledger Nano, Trezor). To transfer a token out of a crypto wallet, access to the secure private key of the wallet is needed. The private key is usually shown to the wallet owner as a list of 12 or 24 English dictionary words. Crypto banks also offer custodianship for most popular crypto tokens.

Store your crypto wallet's private key in a secure place and keep it secret. You will need it to claim ownership of the tokens and to transfer them.

Risks when investing in blockchain projects

It's important to consider that, as a token holder, the investor has very limited rights and often very limited access to financial information about the project. The technical maturity of blockchain technology is still rather low, as no generally accepted and stable industry standard has yet been established. The technology is under heavy development and it is not uncommon that performance or storage issues occur. Features and algorithms get deprecated after just a few years, and there is often little to no professional support available for volunteer-run blockchain platforms.

An evolving crypto token regulatory environment

Startups initially liked token sales, as they could raise money globally and quickly from many small investors. Now, with new token issuance and exchange regulations in place, the preparation of a token sale has become costly and time-consuming. While still possible, it must be considered that crypto token regulations are still changing and are not globally consistent. Some countries (Algeria, Bolivia, Morocco, Nepal, Pakistan, and Vietnam as of 2021) have already banned all activities involving cryptocurrencies, as they might undermine a state's financial sovereignty and result in a loss of control over the money flow of their citizens.

In Switzerland, holding and trading cryptocurrencies is legal. Private holdings in cryptocurrencies must be declared as wealth for tax purposes. When receiving crypto tokens for working on a crypto project, this is usually considered taxable income. Also interest and dividends paid in crypto tokens count as income. When getting newly issued crypto tokens for free through a fork of a coin into several coins or through an airdrop, depending on the location of the domicile of the issuer, the received amount and whether the coin is tradable or not, gift tax might apply. In the Canton of Zürich, the gift tax is due within three months of receiving the gift and must be declared separately to the annual taxes, so don't wait until the end of the year before declaring it.

Crypto tokens are an interesting field for investors and startups, but the space must be closely watched when investing to catch new technical developments, laws and regulations early.

Don't forget to list all your crypto tokens as wealth when filing taxes. Also list crypto tokens received as income, through airdrops and forks, which might cause income and gift tax.

9 Deal Terms

The terms of startup investment deals differ widely. Some startups give investors very few rights, even though the investors' money is at full risk right after being invested. Investors who don't understand the terms might end up with a startup investment that doesn't even give the right to receive financials and regular updates from the founders. If the startup shuts down, deal terms might allow the remaining money to be paid out primarily to the founders as majority shareholders, rather than to the investors who financed the startup in the first place. Learn how to protect yourself as an investor from unpleasant surprises.

9.1 Protecting Investors as Minority Shareholders

As we have seen in Chapter 6 on Swiss joint-stock companies, approval of most shareholder decisions at the general meeting requires a majority (more than 50 %) of all shareholder votes represented at the meeting. Investors in an early-stage startup usually hold a minority of the shares (often less than one third), while the founders hold the majority. This however means that the founders could simply ignore what investors want and make decisions as they see fit. Furthermore, the law does not ensure by default that, when the founders sell their shares, investors have a chance to exit as well. Neither does the law remedy a situation where a founder quits a startup early and takes a large part of the shares with him or her — keeping the full financial upside of a future exit, while never having made a strong contribution to the company's success. And, if a buyer ever wants to purchase the whole company, the law does not ensure that all shareholders are obliged to sell; a single shareholder could block an exit. For these reasons, investors and founders usually want to negotiate special deal terms to protect investors and founders better than the law has foreseen, and balance the interests of both parties.

Investors are usually minority shareholders while the founders hold the majority of shareholder votes in an early-stage startup.

9.2 Term Sheet, Shareholders Agreement and Articles

The deal terms are first drafted in a non-binding *term sheet* (TS) on a high level. This allows adjusting them with little effort while negotiating. We will look at the term sheet in more detail in section 9.14. Once the terms have been agreed upon and the term sheet has been signed, the terms are spelled out with more precision in the legally binding *shareholders agreement* (SHA; *Aktionärsbindungsvertrag* (ABV)). In principle, a SHA works by binding all shareholders to additional rules for how to cast their votes at the general meeting and imposing fines if they breach its terms. There should only be one valid SHA at any point in time, and all shareholders must sign it to properly ensure the special rights and obligations. In rare

cases a company might end up with some shareholders refusing to sign a newer version of the SHA, which results in multiple valid SHAs. For Swiss tech startups, the SHA is usually written in English. The SHA does not need to be certified by a notary and is also not stored in the commercial register. This makes it easier to update it when needed.

Usually, the SHA gets updated with each financing round as new investors join and a new, more senior share class is established for them. It is legal to have multiple share classes with special rights defined in the SHA, while only having one type of shares in the commercial register. The SHA should explicitly state, in the case of a disagreement between the SHA and the articles, which one takes precedence. In order to ensure enforceability of the SHA in breach-of-contract situations, it helps to agree on a contractual penalty that is high enough to deter shareholders from committing such a breach. Without a penalty, the damage from a breach has to be recognized and assessed by a court decision, which is a slow and often expensive effort.

Some of the rights and obligations, such as dividend and liquidation preference for different share classes, can be put into the *articles* (*Statuten*) of the company. This gives stronger enforceability, as the board members in their discussions and shareholders at the general assembly have to respect them when making decisions. However, each article change requires a general meeting to be held with a certification by a notary and a registration of the new articles in the commercial register. Another disadvantage is that the legally binding articles are written in the official language of the canton where the startup is domiciled, e. g. German is used in Zurich and French in Lausanne.

To safeguard investors' interests, minority shareholder protections have to be put in place in a shareholders agreement and/or the articles.

In the following sections, we'll look at some of the terminology you will encounter when investing in startups.

9.3 Founder Vesting

Having *vesting* in place for founder shares ensures that founders have to earn their shares, usually over a four-year period before they own them for good. If a founder leaves early, then the company, remaining founders or shareholders can buy them back cheaply. This is very crucial should a founder leave early, as it gives the startup a good basis for hiring a late co-founder as replacement and for significantly incentivizing that person with shares while avoiding dead shares. Founders who refuse to accept vesting on founder shares send a clear message: They are not willing to fully commit to and fight for the startup's success for at least four years, and think their big reward should be already secured from the very beginning, even if they end up not contributing a significant amount of time to the startup's success. The share buy-back mechanism of vesting is usually implemented as part of a purchase option in the shareholders agreement, or via a separate agreement on buy-back rights for founder shares at nominal value that expire over time. Given the importance of vesting as a deal term, we've decided to devote Chapter 10 to covering it in more detail.

Founder vesting shows the founders' long-term commitment to a startup and is vital for smoothly replacing a founder who leaves early.

9.4 Purchase Option, Good and Bad Leaver

There are several situations where it is very helpful to have the right to easily buy back shares from a shareholder, including a founder, in order to keep shares only in the hands of people who are best for the company's success. Therefore a *purchase option (PO)* much like the example below is added to the shareholders agreement.

With effect as from the Effective Date, the Parties (for the purposes of this Section, "Option Parties") shall have an exclusive and irrevocable option ("Purchase Option") to purchase all Shares of another Party (for purposes of this Section, "Restricted Party") if any of the following events occurs (each, a "Triggering Event"):

- the Restricted Party dies, becomes incapable to act or otherwise loses its capacity to act for a period of more than six months or otherwise permanently loses its capacity to exercise its rights and obligations under this Agreement;
- the Restricted Party becomes subject to an Insolvency Event;
- the Restricted Party commits a criminal act against the interests of a Party, of the Company or of any of its subsidiaries;
- the Restricted Party materially breaches this Agreement, unless such breach and its effects are fully cured within 20 calendar days upon notification in writing of the breach and its effects by any other Party; a material breach shall include, without limitation:
  - any delay in the payment of Shares subscribed for or payments into the reserves or loans to be granted to the Company pursuant to any written agreement; and
  - any Transfer, pledge or other encumbrance of Shares in violation of this Agreement;
- the employment agreement between a Restricted Party and the Company is terminated and the Restricted Party is considered a Bad Leaver; or
- the employment agreement between a Restricted Party and the Company is terminated and the Restricted Party is considered a Good Leaver,

in each case with effect as per the occurrence of such Triggering Event and in proportion to the nominal value of their shareholdings in the Company or in such other proportions and/or other terms as they may agree in writing between themselves.

FIGURE 9.4.1. Purchase option for shareholders
Source: Shareholders Agreement, SECA VC Model Documentation, 2019

The price of the share to be paid has to be set as well. In case of a shareholder's death, insolvency, or in a good leaver case, it is usually the market value, as either mutually agreed upon among shareholders or set by an independent auditor. In the other cases listed above, it is usually the nominal value. Some — especially older — angel investors, don't like that their shares may be bought back at fair market value in the event of their death, as they want to bequeath their shares as inheritance. The main reason for their concern is that a premature sale before the startup makes profits will often result in a low fair-market value, sometimes even below the inves-

tor's share purchase price. Some angels therefore choose to be excluded from this trigger event of the purchase option. The disadvantage for the startup is that it can't control who inherits shares in case of a shareholder's death; shares could, in the worst case, end up with someone working for a competitor or with an underage person represented by a lawyer.

An employee leaving the company is considered a *bad leaver* if one of these conditions holds:

- The company has terminated the employment agreement for an important reason (*wichtiger Grund/juste motif*) within the meaning of art. 337 CO, or for a justified reason (*begründeter Anlass*) within the meaning of art. 340c para. 2 CO
- The employee has terminated the employment agreement other than for an important reason within the meaning of art. 337 CO, or for a justified reason within the meaning of art. 340c para. 2 CO

In all other cases of an employment termination, the employee is considered a *good leaver*. Usually, members of the board of directors who do not also terminate a regular employment agreement in addition to their board position are excluded from the bad-leaver clause.

To implement vesting of founder shares (which are already with the founder, usually since incorporation), the good-leaver case is usually broadened to allow unvested shares to be bought back by the company at nominal value. For employees, unvested shares are still with the company and therefore don't need to be bought back.

A purchase option for shares prepares well for nasty times to come, by making it clear at the very beginning who will have to give up shares and at what price.

9.5 Liquidation Preference

A *liquidation* occurs if a startup gets sold (including major assets being sold) or if it shuts down in a voluntary or non-voluntary liquidation, dissolution, or winding-up. In these cases, the shareholders either get all the proceeds of the sale or, if the startup has shut down, the money that is left

once all assets have been sold and all debts paid back pro rata to their shareholdings in the company.

Minority shareholders do well to negotiate a *liquidation preference* (LiqPref) to ensure their right to be paid back first, before founders and employees holding common shares get any proceeds. This right is useful in the case of a sale or liquidation that yields returns for investors of no more than the investors' aggregate *preference amount,* which is the amount they have invested in total. Consequently, a liquidation preference for investors makes it very unattractive for founders to shut down the company while there are still assets left, or to sell the company at a low price, thus indirectly incentivizing the founders to deliver the best performance they can.

Asking for a liquidation preference will protect your investment in a sale or liquidation of the startup and sets a clear incentive for founders to perform well.

Here's how a liquidation preference might be phrased in a shareholders agreement:

> In the event a liquidation occurs, the proceeds resulting from such liquidation shall be allocated to the holders of shares in the following order of precedence ("Liquidation Preference"):
>
> (a) in first priority to the holders of preferred shares pro rata to their respective holdings in the class of preferred shares up to the preference amount; and
>
> (b) in second priority, if and to the extent the preference amount has been fully paid, to all holders of common shares pro rata to their respective holdings in the class of common shares.

FIGURE 9.5.1 A 1× non-participating liquidation preference for investors.
Source: Shareholders Agreement, SECA VC Model Documentation, 2019

How VCs fix high company valuations with a liquidation preference

Liquidation preference is sometimes used by venture capitalists to remedy a company valuation that is too high in their view, by asking for not just a 1× liquidation preference but, for example, a 3× liquidation preference, which means they get back *triple* their preference amount before others get any proceeds. It is sometimes coupled with a *LIFO (last-in-first-out)*

waterfall policy, which fully pays back the most recently investing investor first, and then the next most recent one and so on. Furthermore, some investors also ask for a *participating liquidation preference*, which means they get paid their liquidation preference and then also participate in the remaining distribution process pro rata to their shareholdings. A participating liquidation preference is informally also called a *double dip*, as investors get served twice, while the regular liquidation preference is called *non-participating*. Some combine the multiple of the liquidation preference with a duration until exit, e. g. if there is an exit within 5 years, it's 3x, and if it is later, the liquidation preference is 5x. Others ask for an interest rate of, say, 7 % per year on the preference amount for the liquidation preference to secure their returns. Such special liquidation preferences guarantee investors a decent investment multiple independent of the company valuation at investment and the final exit price.

When negotiating liquidation preferences, be explicit in the term sheet whether it is non-participating (most common) or participating, and if the multiple is 1× (most common) or higher.

9.6 Dividend Preference

When a startup pays dividends, these are usually paid pro rata to the shareholdings in nominal value. If there exist two share classes, one with 10× the nominal value of the other, then the share with the higher nominal value will get ten times more in dividends than the other. While share classes with different nominal values are rather rare for startups, it has to be considered that founders of an early-stage startup usually hold the majority of the shares. This means the majority of dividends paid go to the founders. Dividends can be paid not only from profits but also from the company's reserves, like for example the *agio* (amount paid on top of the share's nominal value) from a capital increase. Without safeguards in place to protect minority shareholders, founders could potentially decide on a dividend payment right after a capital increase and take out a lot of the invested money privately, with investors left unable to do anything about it.

That's exactly why investors usually ask for a *dividend preference*, which guarantees that they at least get their preference amount back first before common shareholders, such as founders, get any dividend payments. This also makes it very unattractive for startups to pay out investments as dividends, as the money goes back to the investors. If the company performs well and makes lots of profits, founders will still profit from dividends as soon as they have fully paid back the investors. Some people confuse dividend preference with liquidation preference and assume the handling of dividends would also fall under liquidation preference, which is usually not the case. Another thing to consider is that dividends are taxable as income, and therefore a repayment of only the preference amount through dividends will not actually pay back the full invested amount after tax deductions.

9.7 Right of First Refusal

The *right of first refusal* (RoFR) is rather common, as it helps existing shareholders seize an opportunity to buy shares up for sale. It gives existing shareholders the right to pre-empt a share transaction between other shareholders and a third party by buying those shares themselves at the same price agreed upon with that potential buyer. If several shareholders want to buy, they can buy a fraction of the offered shares pro rata to their relative shareholdings. As there are no fractions of shares, some rounding to full shares is usually needed.

The negative side of having a RoFR in place is that outsiders are strongly discouraged from making a share purchase offer, or even negotiating an exit and doing extensive due diligence as part of that process, as they have no guarantee that they can profit from a negotiated deal. This is especially problematic for startups that have, among their investors, corporate investors or buy-out venture capitalists who would potentially want to acquire the startup themselves. To remedy this situation, a RoFR can have an expiration date for investors, e. g. two years after the investment takes place, or it can be granted only to the startup itself and to seed investors. Most

commonly, though, it is made clear that the "drag-along" right (see below) prevails over the RoFR.

The right of first refusal is helpful in an early-stage startup, but possibly detrimental when trying to exit, as it deters potential acquirers from making an offer.

9.8 Tag-Along (Co-Sale Right)

When a shareholder has the opportunity to sell shares at a high price, investors don't want to miss out on this opportunity, especially not when the sale would result in a change of control of the company. The *tag-along* is a right that allows shareholders to participate with their own shares in a sale that another shareholder is about to execute.

The tag-along right comes in different flavors: whether all shareholders or only investors have this right; with or without free share sale quotas (e. g. 5 % of the founder's initial shareholdings at incorporation) for founders who are exempt from this right; whether it depends on a change-of-control trigger or not; and, whether all or just a pro rata number of shares may be co-sold.

If you don't want to miss out on the same excellent opportunity taken by a founder to sell shares, make sure to get a tag-along right.

9.9 Drag-Along (Co-Sale Obligation)

Let's assume that the startup gets a favorable acquisition offer for 100 % of the company, but then — oh no! — a single disgruntled employee refuses to sell his shares and the exit goes bust. To prevent such an awkward situ-

ation, most startups enforce *drag-along*. It is the obligation of all shareholders to also sell once a large enough number (or *quorum*) of shareholders is willing to sell all their shares.

How high the quorum has to be, depends on the share distribution among founders, employees and investors, and might need to be adjusted as part of a financing round. Usually, the quorum is set at least high enough so that no single founder and no single investor can trigger the drag-along provision. Furthermore, the purchase price must be *bona fide* to prevent a sales price that is too low. Savvy startup founders won't forget to require drag-along from their shareholders.

Without drag-along, a single shareholder can block an exit deal if the buyer has agreed to acquire 100 % of the company.

9.10 Anti-Dilution Protection

Some founders try to push for an already-high valuation in early financing rounds, not knowing that this could hurt them badly in the next round if they don't live up to their very optimistic business plan. *Dilution* is the effect where a shareholder's ownership percentage decreases due to the company issuing additional shares. To protect themselves from fantasy company valuations and dilution in subsequent financing rounds done at lower valuations (called *down rounds*), investors can ask for *anti-dilution* protection (*Verwässerungsschutz*). Founders who are confident of reaching their goals have no problem accepting this, as it only comes into play if they miss those goals, run out of money and have to raise funds in a down round.

Anti-dilution
In a down round, the existing investors who earlier paid a higher price will be compensated in the form of additional shares at either nominal value or at no extra cost. These typically come from the founders, treasury shares held by the company or from the down-round capital increase. Investors usually make use of their pro-rata subscription rights for newly issued shares, which founders have to consider for setting the number of newly

issued shares in a down round correctly. Anti-dilution protection for investors incentivizes the founders to come up with a more realistic financial plan and spend investors' money carefully in order to achieve the higher valuation they want for the next investment round. The number of shares received by investors as compensation for a down round are calculated with either the *weighted average* or the *full ratchet* formula.

Weighted average *(gewichteter Mittelwert)*
Each existing investor gets additional shares such that after the down round he or she has **(preference amount$_i$/average share price)** many shares with:
average share price = $(n_{old} \times price_{old} + n_{new} \times price_{new})/(n_{old} + n_{new})$
n_{old} = number of shares issued at $price_{old}$ in the old financing round
n_{new}= number of shares issued at $price_{new}$ in the down round
preference $amount_i$ = amount invested by investor i in the old financing round

The weighted average comes in two variants on how to set the number of shares:

- *Broad-based* (most common): Calculation includes all outstanding equity and all equity currently being issued, including convertible securities like options, as well as warrants and shares that are to be distributed as part of employee participation plans. This form of anti-dilution protection is frequently used by Swiss tech startups.
- *Narrow-based*: Calculation includes only the total number of outstanding preferred shares.

Full ratchet *(voller Ausgleich)*
Existing investors get additional shares such that in the end they have **(preference amount/price$_{new}$)** shares.
This can severely dilute the founders if the new share price is low and the invested amount under dilution protection is high. On the other hand, it does model a situation where investors have invested all their money at the valuation of the current down round, which most likely better reflects the real value of the startup than did the previous round.

Pay-to-play
Anti-dilution protection is sometimes restricted to those who will invest again in a down round and excludes those who won't. This is to reward those investors who still believe in the startup despite the current down round, and to make it more attractive to invest again to save the startup.

Let's look at an example to illustrate how anti-dilution protection plays out.

Anti-dilution example

- **Incorporation:** Founders hold 1 000 000 common shares of nominal value CHF 0.10/share after incorporation.
- **Series Seed I:** The startup does a first seed round, named Series Seed I at a pre-money valuation of CHF 6M. Investors invest CHF 600 000.– at CHF 6.–/share and receive **100 000** newly issued shares in total. As a result, there are 1 100 000 shares outstanding in total.
- **Series Seed II:** After a year of missing monthly revenue targets the startup runs out of money and raises a second seed round at a lower CHF 3.3M pre-money valuation, which is a down round. New investors invest CHF 150 000.– at CHF 3.–/share and receive 50 000 newly issued shares in total.

The down round triggers **anti-dilution protection rights** for existing Series Seed I investors that jointly hold 100 000 shares, which results in a compensation with additional shares for existing investors depending on the level of their protection agreed in the shareholders agreement.

Series Seed I investors	Compensated shares	Shares after down round
No anti-dilution protection	0	100 000
Weighted average	20 000	120 000
Full-ratchet	100 000	200 000

TABLE 9. 10. 1 The shareholdings of Series Seed I investors after the down round depend on their level of anti-dilution protection.

Share compensation calculations due to anti-dilution protection:

- **No anti-dilution protection:** Series Seed I investors' shareholdings remain at **100 000 shares** and they don't get compensated for the poor performance of the company that missed the promised revenue targets upon which the share price was based in Series Seed I.
- **Weighted average:** The weighted average share price is equal to CHF 5.00/share (=100 000 shares × CHF 6.–/share +50000 shares × CHF 3.–/share)/(100 000 shares +50000 shares). Series Seed I investors end up with **120 000 shares** (=CHF 600 000/CHF 5.00/share), which means they have the right to receive (or subscribe to) additional 20 000 shares to their existing 100 000 shares as if they

had invested their CHF 600 000.– at the weighted average share price of the two financing rounds.

- **Full-ratchet:** Series Seed I Investors end up with **200 000 shares** (= CHF 600 000.–/CHF 3.–/share), which means they receive an additional 100 000 shares to their existing 100 000 thanks to their anti-dilution protection.

9.11 Information Rights

In order to stay on top on how well the startup is doing and whether it is on track regarding the financial plan agreed upon in the financing round, investors usually want to be kept up to date on the following matters (as suggested by SECA in its VC model documentation of 2019, with a few small adjustments):

- Within 90 calendar days of the end of each financial year, *audited financial statements* prepared in accordance with the CO
- Within 30 calendar days of the end of each fiscal quarter, *unaudited quarterly financial statements*
- Within 20 calendar days of the end of each month, *monthly management accounts* (i. e., balance sheet, income statement, cash flow statement)
- No later than 30 calendar days prior to the end of each financial year, the proposed *budget for the next following financial year*
- Forthwith, any additional information reasonably requested by an Investor in order to (i) account for the investment made in the company or (ii) meet the demands of any regulatory and/or governmental authorities, including, but not limited to, any information required in order to prepare a prospectus or filings to competition authorities.
- In addition, each investor shall have the opportunity at its discretion to discuss any issues relating to its investment and the company at least on a monthly basis with the company, and the company shall allow (i) consultation with the management on significant issues and (ii) access to the books, records and facilities of the company at any time upon reasonable advance request to the president of the board.

Such rights are usually put into the shareholders agreement. Without them, shareholders only have minimal information rights by Swiss law: access to the annual report with income statement and balance sheet at the general meeting, which is held once a year within six months of the

end of the financial year. Such a low frequency of business and financial reports (and the long delay of up to 18 months before one sees the financial numbers for the month of January) is often not useful for angel investors, as without up-to-date information on how the company is doing, they can't help proactively and are mostly flying blind.

9.12 Conversion to Common Shares

Most term sheets have a clause that gives the startup the right to force investors to convert their preferred shares into common shares in some very specific, spelled-out situations. This is called *mandatory conversion* and one reason for it is to facilitate an initial public offering (IPO), where only one share class will be listed.

Usually investors also request the right to, at any time, convert some or all of their preferred shares into common shares. This is called *voluntary conversion*. This right ensures that investors always get at least the returns that founders and employees with common shares get. However, this conversion is usually one-way and shares can't be converted back into preferred shares afterwards. It's most often applied in special situations where liquidation preference or dividend preference returns less per preferred share than per common share, or when voting (as election or veto rights are tied to certain quotas of common shares).

9.13 Share Sell-Back Right

Some investors request the right to sell all their shares back to the startup at any time for a symbolic amount (e. g. CHF 1.– in total for all shares). This is mostly seen with corporate investors. The reason is that there are certain situations in which holding shares of a startup might cause compliance issues or a large business risk for the holding company, especially if the startup pivots into a new business field or when the holding company acquires or merges with another (possibly competing) company.

9.14 Term Sheet

The *term sheet* summarizes, in only a few pages, the principal terms of a potential startup investment. It is the basis for negotiating an equity investment. It is not legally binding in most parts and, even if signed, does not oblige the investors to actually invest. A term sheet mostly gives an indication of how much an investor is willing to invest under the given terms. At the time of term-sheet signing, the due diligence process is often not yet completed, the full terms haven't been spelled out in detail, and it is often still unclear which investors will ultimately be investing how much.

Here are the most essential components of a term sheet:

Investment round

- Company that issues equity
- Type of shares issued (e. g. preferred shares)
- Amount of equity raised (often a range) in CHF
- Price per share in CHF based on a fully diluted pre-money valuation of the startup (see also Chapter 11 on startup valuation)
- Investor name
- Investment amount considered by investor
- Confidentiality: signing parties cannot disclose contents of the term sheet
- Timing: end date of due-diligence process, negotiations, signing of legally binding investment and subscription agreement, round closing and end of exclusivity (if any)
- Exclusivity: duration after signing the term sheet during which the company will not engage with other investors (this is not recommended for angel investor rounds)

Investor rights and obligations (examples — many variations exist)

- **Ranking**: Prioritizing of the investor shares compared to the common shares
- **Liquidation preference**: How the investor gets paid in case of a sale or liquidation
- **Dividend preference**: Right to get back preference amount first, through dividends
- **Anti-dilution protection**: Retrospective adjustment of the price per share paid by investors to compensate for a down round
- **Board composition**: Usually, each share class has the right to be represented in the board and can nominate at least one director

- **Information rights**: Investor receives at least quarterly financial statements and can request discussion of issues or review the books
- **Right of first refusal**: If someone wants to transfer shares, the investor always gets a chance to buy these shares first
- **Tag-along**: Minority shareholders have the right to participate in a transfer of shares initiated by other shareholders
- **Drag-along**: Majority shareholders can require minority shareholders to participate in the transfer of shares
- **Purchase option, good and bad leaver:** Right to buy back shares when a shareholder dies, commits a criminal act, terminates an employment agreement, etc.; definition of when a leaving employee qualifies as good or bad leaver
- **Vesting**: How founder shares will vest to protect the other founders when a founder quits early
- **Important shareholder matters**: List of important changes to the company or impactful decisions that must be approved by a quorum of investor shares; this basically gives investors a veto
- **Important board matters**: List of important decisions that also need the approval of one (or more) of the the investor director(s); this basically gives investors a veto

At first glance, this long list of rights and obligations might look overwhelming. It sometimes is, especially for first-time startup founders who will have to quickly learn new terminology and become familiar with the implications of these terms. While some think they can avoid complexity in the term sheets and shareholders agreement, this attitude will most likely backfire at the first financing round with a venture capitalist who needs to secure their investment with proper terms as part of responsible corporate governance. If there is no shareholders agreement already in place, it's far from certain that all existing investors will approve the introduction of one later; they can't be forced to enter into a shareholders agreement, and they already own shares that can't be taken away from them.

Some angel investors require their own list of favorite rights before investing. Among these are information rights (at least quarterly financials), liquidation preference (1× non-participating), tag-along (co-sell all shares in case of a change of control) and founder vesting, sometimes through a purchase option for good/bad leavers.

Once the term sheet is signed and the minimum-required financing amount is committed, an investment and subscription agreement is prepared together with a shareholders agreement and, if necessary, the updated articles. The first two will be signed by the investors and founders,

and then the round will be executed through an *extraordinary general meeting* (i. e. one other than the usual annual meeting) with a notary, and a board meeting to implement the capital increase and register the new shareholders in the share register. Some founders and angel investors shorten the investment process by dropping the investment and subscription agreement, and instead just signing a share subscription form and the shareholders agreement.

10 Vesting and Employee Incentive Plans

Fairly allocating equity among founders and employees is tricky, as little is known about how much they will contribute to the startup’s success. It’s also not clear how long each founder and employee will play a critical role at a startup, or when a founder or employee will leave. A lot can go wrong when allocating equity. Too much and too little allocation are both highly problematic and can seriously hamper a startup’s chances for success. Learn in this chapter how to do it right, what *vesting* is, and how proper vesting can provide a safeguard that key people stay motivated.

10.1 Employee Incentive Plan (ESOP, PSOP)

Startups need to attract the best talent and keep them loyal to the company even if the startup goes through difficult times. Faced with having very limited financial resources at the beginning, sharing the startup's future success with key employees is a great incentive to keep them motivated throughout the journey. This is usually done by offering an employee incentive plan that allows employees to participate in the financial upside as the company's shares gain value over time. Such a plan is called an *employee stock ownership plan* (ESOP) or *phantom stock ownership plan* (PSOP). The former is about real shares or options on real shares, while the latter is about sharing the financial upside of the startup's stock value appreciation by agreeing on a future bonus payout in the case of an exit.

As part of the employee incentive plan, usually a pool of 10 % to 20 % of outstanding shares is reserved for allocation to current and future employees.

Pool size and allocation
The rule of thumb is that the earlier someone joins the startup, the lower their salary payout; the more senior a person is and the more impact a person will most likely have on the startup's success, the higher the allocation should be.

The venture capital firm Index Ventures suggests the following employee share allocation:

- 10 % for the first 10 employees and thereof:
- 1 %–10 % for a C-level executive or vice president
- 0.5 %–1.5 % for a lead/senior developer
- 0.25 %–0.75 % for a junior developer/non-technical employee
- 5 % for the next 20 employees
- 5 % for the next 50 employees

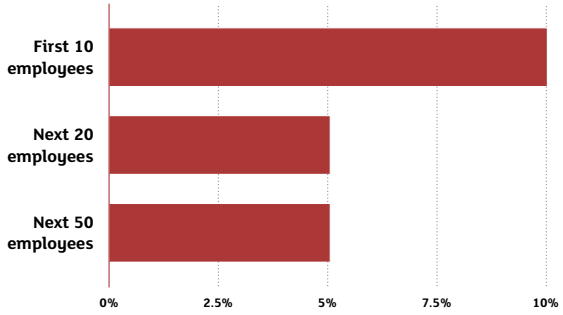


FIGURE 10.1.1 Share allocation from a 20 % ESOP Pool for the first 80 employees

With a pool of 20 % shares, the company can incentivize up to 80 employees — a good size for a strongly motivated core team. At that stage the company might be able to pay market salaries, reducing the need for additional incentives to get great people to join the startup.

When communicating with employees, the first few will talk about percentage company ownership while later employees who get a very small percentage will want to understand the potential upside in CHF of owning shares they'll ultimately be able to sell in an exit.

10.2 Why Vesting Matters

Let's look at a startup scenario where two founders, Sarah and Peter, have incorporated a startup together with each subscribing to half of the company shares. After a few months, they complete a seed round with angel investors who then together hold 20 % of the company shares. The terms of the round have capped the founders' salaries at 50 % market rate until the first million Swiss Francs in annual recurring revenues has been reached. This balances the risk between both groups: the founders who hold a lot of equity from the start, and only linearly invest their time and salary cuts (as opportunity cost to them); and the investors who, while holding significantly fewer shares than the founders, have put 100 % of their money at risk from the first day of investing and valued the company with a lot of faith that the founders will eventually make it a success. Now each founder owns 40 % of the company.

Just two months after the seed round, Peter decides to leave the company to get an MBA and afterward pursue a well-paid career in finance. He therefore terminates his employment agreement with the startup. Now, Sarah has to fight alone to make the startup a success. In the case of an exit,

Peter will still earn the same amount of money from selling his shares that Sarah will. Sarah, meanwhile, can't easily find a new "late" co-founder and incentivize that person strongly with shares. She does eventually find Kevin, and gives half of her shares to him as new co-founder. She and Kevin both end up with 20 % of total shares. As a result, Peter still holds 40 % of the shares and would now earn twice (!!) as much as Sarah in the case of a successful exit without doing anything more for the startup until that point. On top of *that*, Peter also has a decent market salary while Sarah does not. Such a situation will strongly dampen the motivation of co-founder Sarah to go the extra mile, and of late co-founder Kevin to give his best. It's very hard to find and keep a new late co-founder, or even keep the staying co-founder motivated in this off-balance scenario.

Shareholder	**At Incorporation (% shares)**	**After Seed Round (% shares)**	**After new co-founder Kevin joined (% shares)**	**Proceeds in a CHF 100M exit**
Sarah (co-founder)	50 %	40 %	20 %	CHF 20M
Peter (co-founder); left startup	50 %	40 %	40 %	**CHF 40M**
Kevin (late co-founder)			20 %	CHF 20M
Angel Investors		20 %	20 %	CHF 20M
Total	**100 %**	**100 %**	**100 %**	CHF 100M

TABLE 10.2.1 Capital table of the startup in our scenario showing a misaligned upside participation in a CHF 100M exit

What can be done to fix such a bad situation for the founders and investors?

1. **Start from scratch**
   Shutting down the company and restarting from scratch is not an attractive option due to the money and intellectual property locked up in the startup to be liquidated — as well as the time and extra costs a shutdown and restart would require.
2. **Try to buy back shares**
   While convincing the leaving founder to sell his/her shares cheaply to the new co-founder is a possibility, it often won't work; the leaving founder is often unwilling to sell, and is under no obligation to do so. The new co-founder often lacks the funds.

3. **Dilute leaving founder**
   A company could create many new shares in a capital increase, at nominal value, and try to massively dilute the founder that left. However, this would require extra capital from the staying founder and investors, and still depend on the departed founder not making use of his/her pro-rata subscription rights for new shares during the capital increase. This often won't work.
4. **Vesting of founder shares**
   With vesting of founder shares in place, it is easy to get shares back cheaply when a founder leaves early. It protects both the (staying) founders and the investors from running into a bad situation for the startup. We'll look at vesting in the next sections.

10.3 Vesting Basics

Vesting means the acquisition of legal ownership of property and, in the case of startups, of equity or equity-like instruments. The underlying concept is that employees and founders get unvested equity granted, yet will have to earn that equity over a period of time to actually own it.

The *vesting schedule* defines how much equity vests and when. It defines the *period* in months over which vesting will happen for a specific equity grant and whether there is a *cliff*, or point in time until which vesting is deferred. It also defines the formula for calculating how many shares get allocated and the specific points in time when vesting of equity happens (e.g. monthly, quarterly, or yearly).

An employee can be on multiple concurrent vesting plans for different grants. Some companies issue grants yearly, some every two years, and some only once the prior grant has fully vested. Having concurrent multi-year vesting plans has the advantage that the employee is mentally always on a full, multi-year journey and does not count backward until the vesting schedule completes. It is also easier to justify lower-than-market salaries in the new year if this is compensated for with another grant.

Vesting works differently for founders than for employees, because usually founders have already owned a lot of equity since the startup's incorporation, while employees typically own no shares when joining a startup.

10.4 Vesting for Employees

Below is a typical linear vesting schedule for an employee over four years (or 48 months) with a 1-year vesting cliff. Shares (or call options for shares) usually vest monthly (+1/48 per month), sometimes quarterly (+1/16 per quarter) or yearly (+1/4 per year), and rarely daily. If the employee leaves in the first 12 months after being hired, the employee leaves without any shares. After the 1-year cliff, all of those 12 months' shares are now vested to the employee. After 16 months, the employees will have 1/4 (for the first year) + 4/48 = 8/24 = 1/3 of the total granted shares vested.

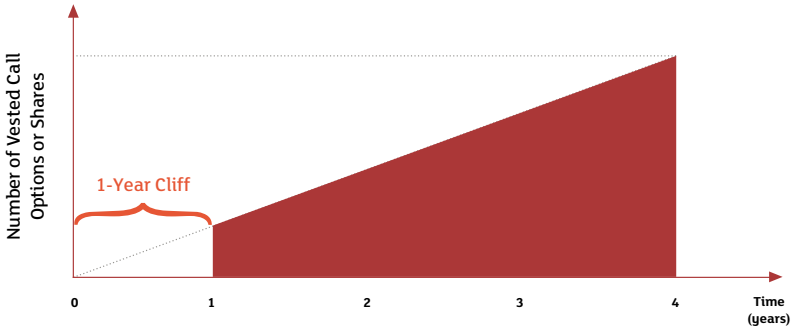


FIGURE 10.4.1 Linear vesting over 4 years with a 1-year cliff for employee shares

10.5 Vesting for Founders with Expiring Buy-Back Rights

Given that founders already hold a lot of shares at incorporation, instead of granting them shares as is done for employees, the company (and/or the other co-founders and shareholders) gets the right to buy back shares at nominal value in case a co-founder leaves the company early. The number of shares that may be bought back will decrease over time as buy-back rights expire according to the vesting schedule. This ultimately results in a co-founder holding more and more shares securely the longer the co-founder stays with the startup.

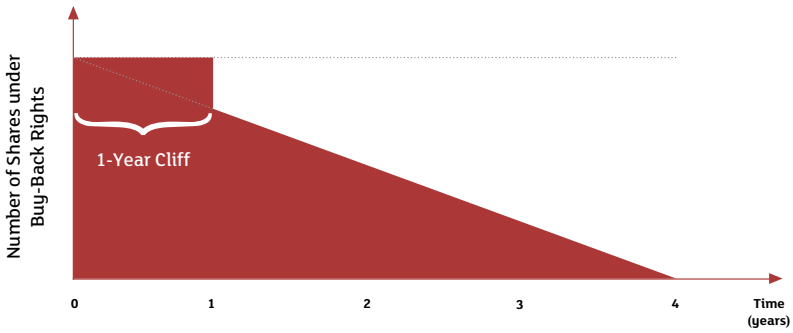


FIGURE 10.5.1 Linear reverse vesting over 4 years with a 1-year cliff for founder shares

The buy-back rights are usually implemented with a *purchase option*, which is stated in the shareholders agreement and explained in Chapter 9 on deal terms.

10.6 Accelerated Vesting

What should happen if founders and employees are still on a vesting schedule when a *qualified exit* — a startup exit as defined in the shareholders agreement (e. g. change of control) — happens? The buyer will most likely not want to continue giving shares to employees, as this defeats the purpose of a full company acquisition. Also, founders don't want the company to buy back shares from them at nominal value just after an exit in case their employment agreements change.

The solution is *accelerated vesting*, which allows for shortening the vesting period in the event of a qualified exit and having any unvested shares vest all at once just before the exit is executed. For founders, accelerated vesting means that all buy-back rights will expire just before the exit happens.

Some companies implement *double trigger acceleration*, which requires the occurrence of two events: typically, a qualified exit and either the termination of an employee by the company without cause or the employee self-terminates for *good reason*. The list of accepted good reasons is usually explicitly spelled out and might include, for example: reduction in employee's total compensation; reduction in employee's duties or title; relocation of employee's principal place of employment farther than 80 kilometers from employer's then-principal place of employment. The termination may happen within a certain period after an exit, often within a year. This is meant to provide remuneration for the unvested shares should an

employee be terminated or have to quit as a result of an exit and subsequent restructuring of the team. However, in practice, in an acquisition, unvested shares are often replaced at the exit event by a salary with a yearly cash bonus, and therefore there won't be any more shares to vest when the second trigger fires.

10.7 Shares and Options vs. Stock Appreciation Rights (Phantom)

Which type of security is best for incentivizing employees? There is no simple answer, as each instrument comes with its pros and cons:

- *Shares* give economic upside, voting and information rights, but incur taxes for the employee and the company early on
- *Call options* give economic upside and come with a tax benefit, as taxation is delayed until they are exercised; handling options on real shares is rather complex
- *Stock appreciation rights* (also called *phantom(s)* or more precisely *phantom call options on phantom shares*) give economic upside and delay taxation to the exit; they are the easiest to set up and have the lowest overhead to maintain

Shares and call options for shares must be backed by at least one of:

- conditional capital in the articles that allows creation of new shares
- treasury shares, which are owned by the company and are limited by law to 10 % of all shares
- founder shares

For shares and options on real shares, a fair market share value is required whenever shares are granted or when options are exercised. For unlisted shares like startups have, this often results in a *tax ruling* that agrees on a company valuation formula with the cantonal tax authorities. Such a valuation formula will stick until the exit, and can no longer be easily changed. While it gives clarity on the taxable share price, it also prevents tax-free capital gains on the full proceeds when employees sell shares. All proceeds above the taxable share price at the moment of the transaction are taxed as income. Shares can be declared blocked (*gesperrt*) for several years, which results in them not being tradable and subject to a discount of 6 % on the formula tax value for each year blocked.

We can now have a look at the taxation of the different instruments from the perspective of a receiving employee who is taxable in Switzerland.

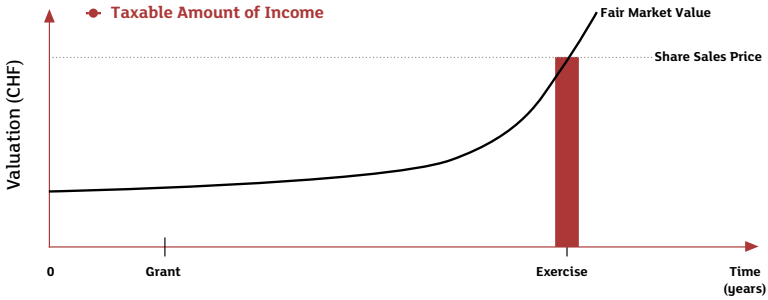


FIGURE 10.7.1 Taxation of stock appreciation rights (phantom shares) given out for free without a strike price (i.e. cost of exercising). This case applies to most Swiss tech startups with a phantom share based employee incentive plan, which is quite popular.

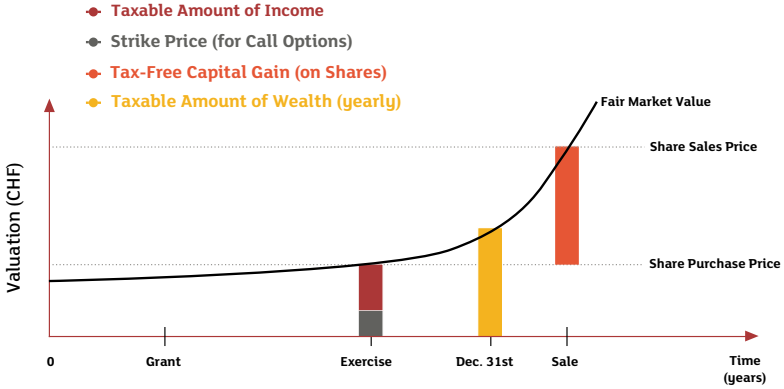


FIGURE 10.7.2 Taxation of call options for real shares (stock options) given out for free with a strike price (if tax authorities accept the fair market value as tax value)

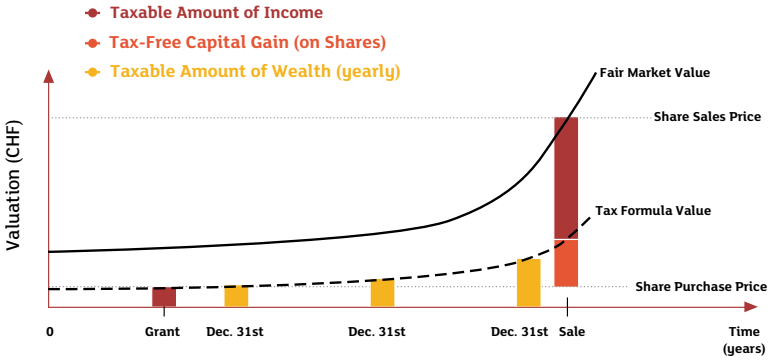


FIGURE 10.7.3 Taxation of employee shares given out for free with a tax ruling for the share price. Free capital gain after a holding period of 5 years (ESTV Kreisschreiben 37 (2020))

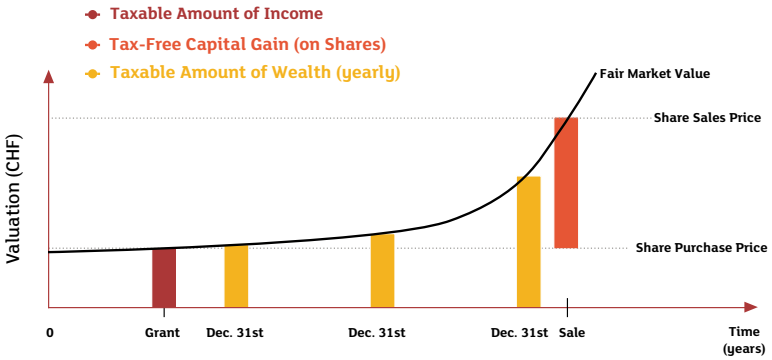


FIGURE 10.7.4 Taxation of employee shares given out for free without a tax ruling for the share price (if tax authorities accept the fair market value as tax value)

Why incentive plans with real shares might not work for all employees

Some argue that real shares are the only "real" employee incentive to give. However, real shares can also put a burden on employees once they realize that they have to pay income taxes out of their own pockets when they receive these "free" shares, and wealth tax every year until they sell it, not knowing if the startup will eventually succeed. The Swiss wealth tax on startup shares for people taxed in Switzerland can become quite significant for fast-growing startups that do large financing rounds. Furthermore, the company must also pay social security contributions on top when giving shares to employees "for free", as the difference between the shares' tax value and the actual price paid (often nothing) by the employee for the shares counts toward the employee's taxable salary. It's quite hard to explain to employees with a low startup salary why an ESOP that should incentivize them actually burdens them with taxes they have to pay out of their pockets before such shares can be easily sold.

The table below shows a comparison of the different incentive types and their advantages and disadvantages.

	Phantom	Options	Shares
Setup Cost	Low	**High**	Medium
Setup Complexity	Low	**High**	**High**
Maintenance Cost	Low	**High**	Medium
Maintenance Complexity	Medium	**High**	Medium
Tax payments "out of pocket"	No	No	Yes
Taxes due	At exit	At exercise/when sold	At grant/when sold
Taxes for employee	Income tax (at exit); no wealth tax (on phantom)	Income tax (at exercise; when option is sold – if it is transferable); no wealth tax (on option)	**Income tax (at grant; when sold above formula valuation); wealth tax (yearly on share tax value)**

TABLE 10.7.5 Comparison of phantom, options and shares as employee incentives

Blocking period significantly reduces income tax

For employee incentive shares that employees receive for free or purchase for a price below the market price (or below the share price calculated with a formula for unlisted shares set by the tax authorities), the income tax on the difference between market price and purchase price can be significantly reduced if a blocking period (*Sperrfrist*) of one to ten years is agreed upon. During the blocking period, the employee is not allowed to sell or pledge the shares. As of 2021, a discount of 6 % on the share market price is applied for each blocked year. The market price reduction is calculated with the formula $100\ \%/1.06^{n}$ with n being the remaining (fractional) years of the blocking period. This results in a discount on the share market price of 5.660 % for a one-year period, all the way up to 44.161 % (!!) for a 10-year period. To receive the discount, an employee has to state the blocking period in his or her annual private tax declaration. A startup exit or the selling of shares is still possible at any time, but will result in a tax penalty for the shares prematurely taken out of an agreed blocking period. For publicly traded shares, trading windows closed to employees due to stock market regulations don't count as blocking periods. More details can be found in the document "Kreisschreiben Nr. 37 – Besteuerung von Mitarbeiterbeteiligungen" by the Swiss tax authority ESTV.

The simplest employee incentive plan uses phantoms
Stock appreciation rights (phantoms) are by far the simplest instrument to set up and handle for an employee incentive plan. Many Swiss startups therefore decide on phantoms early in the startup's journey, to keep overhead low and avoid taxation for employees due to an ESOP. The plan can be installed by the board backed by an agreement among the shareholders and the company. This is usually included in the shareholders agreement. The required bookkeeping of the phantom allocations can be done with cap table tools. No tax ruling, article changes or notary sessions are needed to implement it. The company giving out stock appreciation rights does need to declare them when filing taxes and notify the social security authority (*Ausgleichskasse*) about them even though no taxes are due until they are exercised. The receiving employee also has to declare all stock appreciation rights received, which is usually done by the company adding the stock appreciation rights to the yearly salary statement as part of the regular tax filing for each employee. The downside of using phantom stock plans is that there's no chance to get a tax free capital gain (as with real shares). All proceeds will be taxed like regular income when they are paid out.

Now that we have covered all essential topics under employee incentive plans, here's a typical PSOP vesting plan with stock appreciation rights:

- Cliff: 1 year
- Period: 4 years
- Vesting type: linear with monthly vesting
- Type of security: Stock appreciation rights (phantom call options on phantom common shares)
- Accelerated vesting: In the event of a qualified exit, all granted stock appreciation rights will vest immediately just prior to the exit.
- Taxation: Upon exit, the proceeds are classified as taxable income. The company will deduct social security contributions and related taxes owed by the company from the proceeds.

10.8 Dynamic Equity Allocation with "Slicing Pie"

Splitting equity among founders fairly
The question of how to fairly split equity among the founders has been discussed in many articles, and a lot of different well-argued opinions exist. When starting a venture, some founders think a 50:50 split between the two co-founders would be best. Very soon they realize that, due to very different personal situations, the possibilities to contribute turn out to be

very different and need to be reflected in how each founder participates in the startup's financial upside. In his book *Slicing Pie: Fund Your Company Without Funds*, Mike Moyer proposes a dynamic equity allocation model based on the idea that each founder's equity shall be calculated by his or her actual contribution in relation to the overall contribution. This model is not only suitable for the split between two co-founders, but also provides a fair and flexible way to offer early employees participation in the company's success.

Applying a dynamic equity model also forces the founders to think and talk at a very early stage about things many procrastinate over addressing. Questions like "What is the actual value of my contribution?", "What happens if one of us quits?", or even more importantly, "What drives each of us to commit to this long-term journey?" Undoubtedly, answering these questions will help the founders get a deeper understanding of each other.

Slicing Pie in theory

The basic idea of the Slicing Pie model is very simple: As a startup, you are baking a pie (i. e. your startup). Everyone who contributes to this endeavor helps make the pie bigger (i. e. the valuation of your startup goes up). In the end, you portion this pie such that every contributor gets a slice reflecting his or her contribution in relation to the overall effort.

The tricky part is the question of what a contribution is and how to measure or value it. Moyer suggests valuing all kinds of contributions, such as time, money, intellectual property, licenses, the business network one brings to the company, and sales deals closed for the company. For time and money, the valuation is pretty straightforward as they are easy to quantify. For the other ones, it's more difficult. Moyer's book explains with many details and examples what such contributions might be worth. To keep it simple here, the founders may well decide to just focus on the most important two: time and money.

How many work hours there are in a calendar year

If we assume a 100 % workload and a regular 42-hour work week as is typical for Switzerland, then the approximate gross number of work hours per year is found by multiplying 52 weeks by 42 hours, resulting in 2 184 hours per year. For part-time employees, the hours are reduced to correspond with their actual workload. To get the *net* work hours per year, the holidays that fall on a weekday (Monday through Friday) and the vacation days (4 – 6 weeks a year depending on the employee's age and employment contract terms) have to be deducted. Obviously, this will differ slightly each year as several holidays are bound to a fixed date or movable feasts and therefore not bound to the same day of the week. The number and

length of holidays also depends on the canton and city in which the employer is domiciled. Some employers also give extra corporate vacation days (*Betriebsferientage*) when they close shop, e. g. half-days the afternoon before Ascension or a few days before New Year's Eve. Finally, the extra day of a leap year must also be considered. For the city of Zurich (4 weeks vacation, 42-hour week, and assuming no corporate vacation days), this all results in 1963.5 net work hours for the year 2021.

Grunt Hourly Resource Rate (GHHR)
The Slicing Pie model offers an easy way to quantify each employee's time contribution. The underlying idea is based on the observation that, in an early-stage startup, founders and early employees will typically not get paid a market salary. The cash difference between your market salary and the money you get paid for your work is your annual investment into the company. If you divide this yearly investment by the number of hours worked per year, you get your hourly investment. Since you're investing in an early-stage startup, this hourly investment is multiplied by a *risk factor*. The result is referred to as the Grunt Hourly Resource Rate (GHRR) — with "grunt" defined by Moyer as "any person who works in a startup doing whatever it takes to make the company a success".

To simplify our calculations below, we'll assume a year to have 2 000 work hours.

Gross Market Salary (CHF)		Actual Gross Salary (CHF)		**Yearly Investment (CHF)**
90 000.–	-	50 000.–	=	40 000.–

Yearly Investment (CHF)		Yearly Work Hours (h)		**Hourly Investment (CHF)**
40 000.–	/	2 000	=	20.–

Hourly Investment (CHF)		Risk Factor		**Grunt Hourly Resource Rate (GHHR) in CHF**
20.–	×	2	=	**40.–**

Don't forget to review and adjust the input figures used for the GHHR calculations from time to time to make sure they are still reflecting current market salary rates and employees' latest work experience level.

Financial contributions
If the founders invest cash, the formula is even easier to calculate. Typically, for cash, the risk factor is increased since the total cash amount is at full risk once invested.

Cash Investment (CHF)		Risk Factor		**Theoretical Investment (CHF)**
8 000.–	×	4	=	**32 000.–**

Theoretical value of the company
The total sum of all contributions of all participants is referred to as the "Theoretical Value" of the company. This, of course, does not reflect the tax value or the valuation for an investment round; rather, it represents the size of the full pie to be portioned later among all contributors.

Extension of Slicing Pie to all early employees (ESOP)
This dynamic equity model was developed to dynamically assign equity among co-founders, but it can very easily be extended to all early employees, or even to other contributors (e. g. freelancers you cannot pay in cash yet). The principles stay the same; it just requires some additional thought on how to legally implement it.

What to consider when applying the model
When implementing this model, you will face a lot of challenges in detail, mostly related to the legal and tax framework regarding share transfers among founders and employees. Some of the most important topics are listed here.

- **Setting up the pie**
  In the original model, the pie represents the whole company (i. e. all shares). This makes a lot of sense as long as only founders participate and the company is at a very early stage. When including employees and contractors, as well as raising money from investors, the pie can be set up differently: Reserve half of the shares for investors, advisors, and a fixed allotment to the co-founders. Accordingly, the actual "whole" pie then represents the other half of the shares that are allocated dynamically based on actual contributions.
- **Tracking**
  A tedious but important implication of this model is the need to centrally and systematically track every investment, be it time (including potentially changing GHRRs), money, or any other kind of quantifiable contribution.

- **Reporting**
  Founders should report the current pie distribution to all Slicing Pie participants regularly (at least once a quarter).
- **When to slice the pie for good**
  Since the model is designed to reflect the situation in early-stage startups, you most likely will not want to keep it forever, and one day you will switch to a regular ESOP or PSOP. It is important to agree early on as to which trigger events will determine when the pie will be sliced and the shares allocated to all contributors for good.
  Such trigger events may be:
  - Four years after incorporation of the startup. By then, the team members' performance will have become apparent and the business model will most likely have been clarified.
  - As part of the Series A, executed just before the round
  - In the case of an exit or IPO, in preparation for the event
  - In the case of a liquidation of the startup
- **How the pieces of the pie are allocated**
  The decision of whether physical shares, options or phantom shares will be used to re-allocate the shares from the founders to all other contributors is made by the startup, with each choice having pros and cons in terms of complexity, cost, effort and tax implications.

Tax implications and why you should get a tax ruling early
If the model is only applied to the co-founders, the most important thing is to start with it from the very beginning. This will later allow you to argue that shares would have been allocated properly from the beginning, but for the fact that only now do you know the individual contributions. This means that, at the end of the Slicing Pie program, you will re-allocate the shares retroactively as if it had been done at the moment of incorporation. That way, the transactions do *not* have income tax implications. Nevertheless, it is very important to get a *tax ruling* from your local cantonal tax authority, since it is not handled the same way in all cantons of Switzerland. The canton of Zurich for example, officially accepts the Slicing Pie model. While this gives more tax predictability, it is still advisable to get a tax ruling. Also, in the case of an investment round, remember to add a clause to the shareholders' agreement allowing the founders to transfer shares up to a certain number among each other.

In case you're considering applying the model to an extended circle of people and using it like an ESOP, you will need to take care of some additional issues. For all non-founders (i. e. everyone not subscribing to shares at incorporation), the assignment of their shares slices will be treated as

income and is therefore taxable. You should also be aware that the company will have to pay social security contributions and possibly other salary-related costs based on that taxable income. This is not necessarily an issue, because at the moment of termination of the Slicing Pie program, the tax value of the company is usually still very low, since it is often calculated based on the EBIT. The company's board is well advised to agree to a company valuation formula with the tax authorities, obtain a tax ruling early, and inform all beneficiaries accordingly. You may use a formula like the following with a valuation factor (e. g. 10) that matches your peer group:

company valuation = max(10 × EBIT, substance value of company)

Don't forget that the shareholders' agreement must allow the company to install an ESOP and, if you are transferring physical shares to non-shareholders, all beneficiaries need to sign an accession declaration to the shareholders' agreement.

Lastly, you should define what happens to the slices of any contributors who leave before the final allocation of the shares. You could add a vesting schedule, for example, with different purchase option rules for good and bad leavers.

Final thoughts

Although the Slicing Pie model is not yet widespread in Switzerland, it offers a clear and fair way to distribute equity among the early contributors of a startup. It does require some initial effort, but proves to be very effective for both the founders and early employees, especially as it forces all team members to make their contributions transparent early on. Of course, restricting contributions mostly to time commitments and the role one has can, at times, be somewhat too simplistic; the productivity of certain stellar software developers is in a very different ballpark, and some decisions (e. g., how to define the product, which business strategy to pursue, or which people to hire) will have a huge impact on the success of the entire effort. Last but not least, the Slicing Pie model fosters important, early discussion on how valuable each contributor really is to a startup.

11 Startup Valuation

No two startups are alike. However, when you invest, you want to know how much you get out for what you're putting in. Learn in this chapter how to determine a sensible valuation for seed and early-stage startups.

11.1 Valuation Basics

Many different methods have been proposed that can help you find a valuation for a startup. There is no fail-proof method for setting a "correct" valuation for a pre-revenue startup, which often has yet to build a product that can be sold. Pre-revenue startup valuation methods are to be looked at as rules of thumb.

If you don't find the time to read all startup valuation methods in this chapter, we suggest studying at least the Venture Capital Method, the Maximum Acceptable Dilution Method and the easy-to-understand Berkus Method. For early-stage startups, the Discounted Cash Flow (DCF) Method is too sensitive to highly unreliable cash flow estimates many years into the future, and therefore we advise against using it. However, as startups sometimes try to use DCF to impress angel investors with a seemingly scientifically sound valuation, it's still useful to understand it.

Aside from the valuation at which one invests, other associated investment terms can also make a big difference in the expected return on an investment in the case of a startup exit. Some investors, for example, ask to get back at least a certain multiple of their investment amount at the time of exit, regardless of the valuation they invested at.

Finally, if you can't agree on a valuation, there's also the option to piggyback on the valuation of a later investment round, when there are more reliable financial numbers in and fewer unknowns about product-market fit and business traction. You do so by negotiating a discount on the share price of the later round and investing through a convertible note or similar instrument.

We'll look further into investment terms that influence your returns and investment instruments that allow valuation deferral in a later chapter ("Investing in Startups"), while focusing on determining the present valuation of a startup at the time of investment in this chapter.

Be aware that startup valuation is ultimately determined by the market, where investors and founders meet and negotiate to close an investment deal. If a startup doesn't find enough money from investors to close a financing round (and the sooner it runs out of money), the more likely valuation is to go down. If a financing round gets oversubscribed by investors because the startup is very hot, it's likely that valuation will go up and that some investors will miss out in this round.

Ultimately, there is always a market for startup deals with room for negotiation by investors. The more attractive a startup, and the more investors want to get in, the higher the valuation.

11.2 Pre-Money vs. Post-Money Valuation

When talking about valuation for an investment, it's important to distinguish between **pre-money** and **post-money** valuation in order to avoid confusion and negative surprises.

post-money valuation =
pre-money valuation + total investment by all investors

If a company is worth CHF 5M before a CHF 1.5M investment, the pre-money valuation is CHF 5M and the post-money valuation is CHF 6.5M, i. e. CHF 5M pre-money + CHF 1.5M investment.

Why is this important? The percentage shareholdings you will get for your investment is calculated as:

*your shareholdings (%) = your investment/**post-money valuation***

If you fix the *post-money* valuation when negotiating the investment terms with the founders, the denominator in this formula will stay the same even if the total investment round gets larger than originally expected. Existing shareholders will just get diluted more.

When you fix the *pre-money* valuation, then this formula applies instead:

your shareholdings (%) =
*your investment /(**pre-money valuation** + total investment by all investors)*

Note that the denominator now grows with the total investment size of the round, and you will get fewer shares than expected if the total investment round gets bigger than first anticipated.

When agreeing on a valuation with a startup in an investment round, ALWAYS clarify whether the valuation agreed upon is meant as pre- or post-money. If you thought it was post-money but the founders meant it as pre-money, then after the round has closed, you'll own a smaller share percentage of the company for your investment than you had expected.

11.3 Fair (Market) Value

The **fair value (FV)** of a startup share indicates the hypothetical price a seller of that share would receive from a willing buyer, assuming both parties are knowledgeable and enter the transaction freely, in the absence of an involuntary liquidation, forced transaction, or fire sale. It is usually determined by applying generally accepted valuation best practices, such as the International Private Equity and Venture Capital Valuation (IPEV) Guidelines, and by taking into account: (i) selling restrictions and other shareholder obligations that often apply to startup shares as set in the shareholders agreement; and (ii) the effective dilution through, for example, employee stock ownership plans (ESOP). Note that the overhead cost for selling a share is not taken into account when setting the fair value. In practice, startup-share trades usually involve multiple shares rather than just one, as the overhead for selling a single startup share would be too high. Therefore, when there has been a large, recent share transaction (e. g. 10 % or more of all shares bought, done within 6 months before or after valuation date), then that share price is taken as fair value.

Determining the fair value of a startup share is required, for example, in calculating the **net asset value (NAV)** that represents a venture capital (VC) startup investment fund's per-share market value. The NAV of a fund share equals the total value of all securities (determined from their FV) and cash in a fund, minus any liabilities, divided by the total number of outstanding shares. The NAV allows the limited partners (LPs) of the fund to declare the net worth of their fund holdings for tax purposes (i. e. for the private wealth tax in Switzerland).

Another scenario requiring FV determination occurs when a founder leaves the startup prematurely, on good terms with the shareholders (the

so-called "good leaver"), and the shareholders agreement contains a clause allowing the company or other shareholders to buy back some or all of that leaving founder's shares at the fair value. Determining the FV in this case is done by mutual agreement between the selling and buying parties or, if they can't agree on a fair value, by appointing a jointly selected independent private equity valuation expert.

Once a startup gets listed on a public stock market, the fair value of a share is the amount of money a seller would receive when selling a share on that market at the current market price. This fair value is often referred to as **fair market value (FMV)** to indicate that a market exists. Sometimes, "fair value" and "fair market value" are used interchangeably, even for unquoted companies. Swiss tax authorities consider a private company to have an FMV determined by a "market" if its shares are traded at least once a week on average.

11.4 Valuation Method Overview

If there is no public stock market that determines the share price, other aspects have to be considered before arriving at a justifiable valuation of a startup:

- Qualitative aspects of the team, product, intellectual property, partnerships, etc.
- Actual past and future estimated income (e. g. revenue, cash flows and profits)
- Past industry valuations of comparable companies (e. g. multiples of EBITDA in an exit, exit sizes compared to monthly active users)
- Past investor returns (e. g. past venture capital fund performance)
- Replacement cost (when mostly looking at net assets)
- Maximum acceptable dilution for existing shareholders

Many methods have been proposed in literature and some have been improved or refined over time. The startup valuation methods we present can be grouped into three main classes:

Valuation Method	Valuation Based On
Cash flow methods	
Discounted Cash Flow (DCF) with multiples	Sum of all future cash flows generated, relying on an industry multiple for the terminal value
Discounted Cash Flow (DCF) with long-term growth (LTG)	Sum of all future cash flows generated assuming constant long-term growth
First Chicago Method	Weighted average of three valuation scenarios
Comparative methods	
Venture Capital Method*	Return on investment (ROI) multiple expected by the investor and exit proceeds derived from market multiples
Comparable Transactions Method	Rule of three with a key performance indicator (KPI) and exit proceeds known from a similar company
Maximum Acceptable Dilution Method*	Maximum dilution that founders accept for a round and capital need
Risk Factor Summation Method	Base value adjusted according to 12 risk factors
Scorecard Method/Bill Payne Method	Weighted average score adjusted for a similar company, based on how a startup compares with its peer group
Additive method	
Berkus Method*	Sum of five independently valued success criteria

TABLE 11.4.1 Classification and overview of various startup valuation methods. If you are in a hurry, look at the ones marked with an asterisk (*) first.

Unless explicitly noted otherwise, the valuation methods described here calculate the present, undiluted, post-money valuation.

Using several different valuation methods is advisable, as they analyze the business value from different angles. This will result in a valuation *range,* giving a more comprehensive view on a probable valuation. Keep in mind that:

- Low initial valuations are crucial for high returns across a startup portfolio, as 10 % – 20 % of a startup portfolio will have to compensate for the other failed or low-performing investments.
- High initial valuation means that there is a substantial chance for a later round at a lower price (also called “down round”). Further-

more, the exit price must be substantially higher to return sufficient money to investors to compensate for failures in a startup portfolio, and can only be justified for low-risk investments.

Investing at reasonable initial valuations is a good way to increase chances of attractive returns. Don't jump on a deal with a high valuation unless you're sure that it's worth the money, that the startup has product-market fit, and that it's likely the startup can still grow its valuation considerably until the exit.

11.5 Discounted Cash Flow Method (DCF)

This method assumes that a startup's value is equal to the sum of all its future cash flows. Before summing up, future cash flows must be discounted to the present value using a discount rate that represents the cost of capital, e. g. the interest rate. Usually, to avoid having to predict all future cash flows, only about five years of cash flows are projected, and then a so-called terminal value (TV) is added. As accurate financial cash flow forecasts are usually not available for early-stage startups, this method is not recommended for young companies without larger revenues. However, some founders — often with a business, consulting or MBA background — occasionally use it to justify their valuation proposal.

Valuation $= d_1 + d_2 + ... + d_n + t$

- d_k = discounted cash flow (CHF) in year k, with k from 1 to n, where usually n=5
- t = terminal value (CHF)

The annual **discounted cash flow** is calculated as
$d_k = f_k / (1 + r)^k$

- f_k = cash flow (CHF) in year k
- r = discount rate

DCF example for a startup

Let's look at an example startup and assume the discount rate (r) is 35 % and the terminal value (t) corresponds to the exit proceeds of CHF 120M when the startup is sold in year 5. The proceeds also have to be discounted. It is important to note that if we assume the terminal value is an exit of the startup, then "cash flows" are to be interpreted from an investor's perspective, which means that a positive cash flow is money flowing out of the company to the investor, e. g. as net dividends (with income taxes deducted!). If positive cash flows were not paid out, they would be reflected in a higher exit valuation and therefore would have to be ignored (i. e. set to CHF 0) when using the DCF method for startup valuation as otherwise they get accounted for twice.

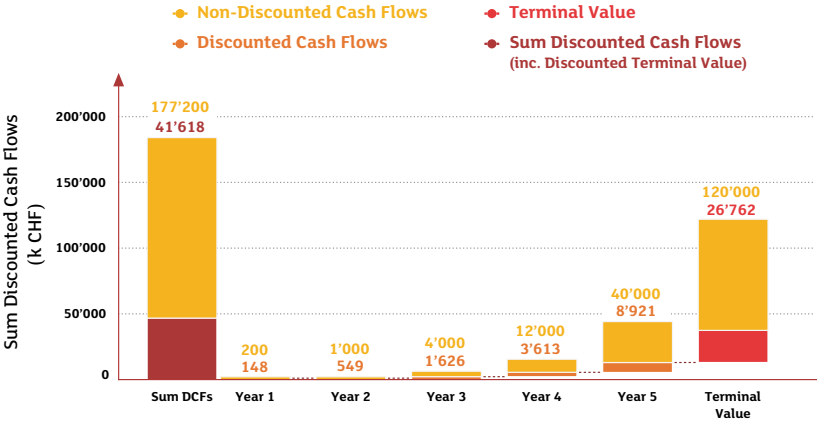


FIGURE 11.5.1 Discounted cash flow (DCF) valuation applied to a sample startup with 35 % discount rate (r) and a CHF 120M exit in Year 5. The chart shows the composition of the total valuation and how big a role the terminal value plays.

Year k	Cash flow f (kCHF)	Discounted Cash Flow d (kCHF)	Formula
1	200	148	$= f_1/(1+r)^1$
2	1 000	549	$= f_2/(1+r)^2$
3	4 000	1 626	$= f_3/(1+r)^3$
4	12 000	3 613	$= f_4/(1+r)^4$
5	40 000	8 921	$= f_5/(1+r)^5$
exit (Year 5)	120 000	26 762	$= t = 120M/(1+r)^5$
Total	177 200	Valuation (kCHF) = 41 618	

TABLE 11.5.2 Discounted cash flow (DCF) valuation applied to a sample startup with 35 % discount rate (r) and a CHF 120M exit in Year 5.

This example tells us that the **net present value** (NPV) of the startup in Year 1 is CHF 41.618M. If we are ok to get an estimated 35 % interest per year, we could invest today for a valuation of up to that NPV.

However, angel investors know that the risk of a young startup failing is quite high, and they need to compensate with the winners for the losses in their startup portfolio. Therefore, they often target to get back 10× their investment in five years, which corresponds to a discount rate (r) of 58.5 %. Using the same exit proceeds of CHF 120M and 58.5 % interest rate, as you can see in Table 11.5.3, the net present value of the startup comes to only CHF 19.4M for 100 % of the company!

Year k	**Cash flow f (kCHF)**	**Discounted Cash Flow d (kCHF)**	**Formula**	**Date**
invest (begin of year 1)	**0**	**0**	= -investment	2021−01−01
1	200.00	126.18	$= f_1/(1+r)^1$	2021−12−31
2	1 000.00	398.05	$= f_2/(1+r)^2$	2022−12−31
3	4 000.00	1 004.55	$= f_3/(1+r)^3$	2023−12−31
4	12 000.00	1 901.36	$= f_4/(1+r)^4$	2024−12−31
5	40 000.00	3 998.65	$= f_5/(1+r)^5$	2025−12−31
exit (end of year 5)	120 000.00	11 995.96	$= t = exit/(1+r)^5$	2025−12−31
Total	177 200.00	**19 424.76**	**NPV (kCHF)** as sum assuming same-length years	
		19 426.69	NPV (kCHF) using Excel's XNPV() formula with leap years	

TABLE 11.5.3 Discounted cash flow (DCF) valuation applied to the same sample startup from Table 11.5.2 but with a 58.5 % discount rate r, which is necessary to achieve a 10× investment multiple for angel investors in year 5.

You can easily calculate DCF's net present value (NPV) with your spreadsheet software's XNPV() function.

As you might have noticed, we have added a top row for the investment amount and dates for each cash flow in Table 11.5.3 so that you can use Microsoft® Excel™ or Google® Sheets to calculate the net present value of an investment using the discounted cash flow method. The net present value in the example is for the 1st of January 2021, which is the first date given in the series of cash flow dates (including investment and exit).

=XNPV(discount rate r, series of all cash flows, dates of all cash flows)

Please note that we used same-length time periods to illustrate the DCF method while Microsoft® Excel™ and Google® Sheets use the *actual* number of days in each year, which is of course not constant due to leap years. The deviation in the results is quite small, however. These applications also offer a net present value function NPV() for regularly paced cash flows, which are rare for investors, as the investment and exit dates are usually not both on December 31st.

How does an angel investor interpret a DCF valuation?

- If you invest at a *lower* post-money valuation than the DCF valuation, your return on investment in terms of internal rate of return (IRR) will be *higher* than the discount rate.
- If you invest at a *higher* post-money valuation than the DCF valuation, your return on investment in terms of IRR will be *lower* than the discount rate.

Always be aware that future cash flow estimates and exit price predictions are not very reliable, as a lot of things will change during the startup's journey that have a financial impact on the startup. The terminal value is often a very strong contributor to the overall DCF valuation — sometimes as much as 50 %–70 % of the overall valuation. It is therefore advisable to cross-check underlying assumptions and historical exit data.

In order to get returns higher than the DCF method's discount rate, you have to invest at a lower post-money valuation than the DCF-based startup valuation.

The **terminal value (t)** can be calculated with two common methods:

A. Industry approach for terminal value (t) using multiples
t = financial metric (e.g. EBITDA) × trading multiple for full startup exits (e.g. 10x)

The financial metric determines the exit proceeds from selling 100 % of the startup in the last annual cash flow forecast period for the DCF valuation. It uses the most common financial metric (or "financial KPI") for the startup's industry, and the trading multiple is based on historical data of exits in the same industry.

B. Academic approach for terminal value (t) using long-term growth (LTG)

$t = (f_n \times (1+g))/(r-g)$

- f_n = cash flow in year n, which is the last forecast period
- g = perpetual growth rate of cash flow
- r = discount rate = e. g. weighted average cost of capital (WACC)

The **perpetual growth rate (g)** is the assumed rate at which a company will grow in perpetuity. We can assume it is lower than the growth rate of a country's gross domestic product (GDP), as it is unlikely the startup would eventually outgrow the country's GDP. As a lower bound, we can assume it is higher than a country's historical inflation rate; therefore we can nowadays set it to around 0.1 % to 2.5 %, depending on the market(s) of the startup. In case of a stagflation for longer, this reasoning is not applicable.

The **weighted average cost of capital (WACC)** is the sum of the cost of all equity and debt capital sources, each weighted in proportion to its size. For a pure equity investment round in a startup, it can be simplified to just the cost of equity. Because the company does not have to explicitly pay interest on equity (unlike for debt), we use the capital asset pricing model (CAPM) to determine the cost of equity, as it establishes a relationship between the risk and expected return for assets. If investors don't get adequate returns, they will try to sell off their shares and the share price will drop. To avoid unhappy investors, the company has to deliver adequate returns on investment, which can be looked at as the (opportunity) cost of equity.

Capital asset pricing model (CAPM)

$R = R_f + \beta\ (R_m - R_f)$

- R = expected return on the startup equity investment
- R_f = risk-free rate of return = nominal interest rate of 10-year government bonds
- β = beta of the startup investment (e. g. ratio of the startup's industry risk to the average market risk); this can be fine-tuned by taking into account the startup's number of employees, maturity stage and profitability. A β risk value of 1.0 means the same risk as the market, while a higher β risk value means higher-than-average risk and therefore higher potential returns.
- R_m = expected return of the market in which the startup is or will be traded

Now, if we find WACC by only considering cost of equity without debt, we get:
WACC = cost of equity = R

Recap of DCF valuation steps

1. Project annual cash flows for about five years
2. Choose a discount rate (r)
3. Calculate the terminal value (t) using either the industry or academic approach
4. Calculate the net present value (NPV) to get the current startup valuation with the XNPV function in your spreadsheet software, or by first discounting and then summing up the cash flows and terminal value.

Assessment of the DCF method

Advantages

- Takes into account the future business potential
- Adjusts for time value of money
- Earnings-based method directs focus on mid-term earnings potential of business
- Often used at exit of a startup based on actual financials and growth rates

Disadvantages

- Sophisticated and rather complicated
- Depends on accurate financial cash flow forecasts by founders (and investors), which are often not available for early-stage startups
- Makes many assumptions (e. g. markets and exit multiples won't dramatically change)
- Forecasting beyond a couple of years is often very uncertain
- Highly sensitive to the discount rate and the terminal value (i. e. exit multiple or perpetual growth rate)

11.6 First Chicago Method

The late First Chicago Bank came up with a refinement of the discounted cash flow (DCF) method by weighing three scenarios in which the startup will increase in value. Each scenario has a different probability $P_{scenario}$ that expresses the likelihood that it will happen.

- Worst Case (with a rather low probability), e.g. slow revenue growth, tiny exit
- Normal Case (with a large probability), e.g. medium revenue growth, okay-ish exit
- Best Case (with a low probability), e.g. fast revenue growth and large exit

The DCF method is then used to calculate the net present values (NPV) of each scenario:

$$Valuation = NPV_{\text{worst case}} \times P_{\text{worst case}} + NPV_{\text{normal case}} \times P_{\text{normal case}} + NPV_{\text{best case}} \times P_{\text{best case}}$$

Example startup:
Valuation = CHF (25 % × 5M +70% × 50M + 5 % × 500M) = CHF 61.25M

Scenario	Probability P	NPV with DCF (CHF)
Worst Case	25 %	5M
Normal Case	70 %	50M
Best Case	5 %	500M
Total	**100 %**	**Valuation = CHF 61.25M**

TABLE 11.6.1 Example of weighted startup valuation using the First Chicago Method

11.7 Venture Capital Method

The undiluted post-money valuation using the venture capital method is defined as:

Valuation = terminal value/target ROI

- Terminal value = exit price of startup (CHF) = financial metric (e.g. EBITDA) × average trading multiple for recent full startup exits (e.g. 10x); the market multiple is sometimes adjusted up or down according to the idiosyncratic risk of the startup's business
- Target ROI = return on investment (ROI) targeted by the investor expressed as investment multiple (e.g. 20×)

To accommodate for dilution of an investment by later financing rounds, the venture capital method formula can be extended to:

Diluted pre-money valuation = (undiluted post-money valuation – investment) × (100 % – Dilution (%))

- Undiluted post-money valuation = terminal value/target ROI
- Dilution (%) = total dilution of investment in percent until exit (e. g. 30 %)

Example of the venture capital method

Finding the terminal value

- There have been three exit transactions involving similar startups with valuations of 10×, 12×, and 15× EBITDA, respectively — i. e. average EBITDA valuation multiple = 12.3
- Expected EBITDA of the startup in the exit year = CHF 7M
- Yet, since our startup has a very clearly defined go-to-market strategy and a more capable team in place to execute it compared to its peers, we adjust the EBITDA multiple upwards from 12.3 to, say, 14

Therefore, our terminal value is 14 × CHF 7M = CHF 98M.

Now, with an expected ROI of 20× of our investment and a capital need of CHF 1M in the current round with no future rounds anticipated, we arrive at:

Post-money valuation = terminal value / target ROI
= CHF 98M / 20 = CHF 4.9M
Pre-money valuation = post-money valuation – investment
= CHF 4.9M – 1M = CHF 3.9M

If we anticipate further financing rounds with a total dilution of 40 % of our investment, this would result in:
Diluted pre-money valuation = (100 % – 40 %) × CHF 3.9M = CHF 2.34M

Assessment of the venture capital method

Advantages

- Based on recent actual sales or financing rounds of comparable companies (benchmarking)
- Market-based valuation
- Easy to understand

Disadvantages

- Need for data on comparable firms in the region (often hard to obtain)
- Depends significantly on startup profile
- Depends on founder's financial forecast

11.8 Comparable Transactions Method

This method can be used if we know a value-indicating key performance indicator (KPI) and the exit price of a comparable startup.

Valuation = $KPI_a \times terminal\ value_b / KPI_b$

- KPI_a = key performance indicator of startup up for valuation
- Terminal $value_b$ = exit price of a comparable startup paid in the past
- KPI_b= key performance indicator of comparable startup

Which key performance indicator best indicates the value of a startup depends on the startup's type of business and industry. Example KPIs:

- weekly active users
- patents filed (e. g. hardware, medtech, biotech)
- P & L figures for revenue-generating startups
- monthly recurring revenue (e. g. SaaS subscription, mobile app subscription)
- annual recurring revenue
- gross margin
- EBITDA

If you know the valuation and the value of a well-chosen KPI for a comparable company, and the value of the same indicator for the startup you are assessing, you can then just use a *rule of three* to calculate the valuation of the startup.

Example
A startup similar to a startup you want to invest in has 10M weekly active users and was sold for CHF 30M. Your startup has 2M weekly active users. Therefore your startup's valuation is equal to 2M users × CHF 30M exit proceeds / 10M users = CHF 6M.

Assessment of the comparable transactions method
Advantages

- Easy to understand

Disadvantages

- Need for data on comparable firms in the region (often hard to obtain)
- If a KPI is chosen that is not correlated strongly and linearly enough with the exit price, results may be misleading

11.9 Maximum Acceptable Dilution Method

In an early-stage financing round, the dilution for existing shareholders due to new shares issued for investors is typically between 10 % and 25 % — less for strong startups, and more for startups that don't yet have a lot of business traction. Dilution has an impact both on voting power at the startup's general assembly and on return on investment, making it very relevant for investors and founders.

Pre-money valuation = investment (CHF) / acceptable dilution (%)

- Investment = maximum amount to be raised in this round (CHF)
- Acceptable dilution (%) = maximum dilution percentage acceptable to existing shareholders = new shares/(outstanding shares + new shares) in percent; the new shares are issued in the current financing round as part of a capital increase

Post-money valuation = pre-money valuation + investment (CHF)

Example of the maximum acceptable dilution method
If the founders (who have agreed on a 20 % maximum acceptable dilution) are holding 90 % and pre-seed angel investors 10 % before the seed round, the founders would jointly hold 90 % × (100 % – 20 % dilution) = 72 % of the startup shares after the seed round ends with the 20 % dilution being reached. Now, if they need to raise no more than CHF 1.5M in order to hold dilution at 20 %, this would mean that the startup's pre-money valuation is, at a *minimum*, CHF 1.5M / 20 % = CHF 7.5M and the post-money valuation, at a *maximum*, will be CHF 7.5M + CHF 1.5M = CHF 9M.

Before the round, the founders were jointly holding shares that represented 90 % × 7.5M = CHF 6.75M of the total company value of CHF 7.5M. After the round with a 20 % dilution, the founders will hold shares that represent 72 % × (CHF 7.5M + CHF 1.5M) = CHF 6.48M of the company value.

A closer look at dilution in financing rounds
If there existed 1M shares before the seed round and maximum acceptable dilution was set at (and reached) 20 %, then how many new shares were issued? The answer: 250 000 new shares.

Here's why:
dilution = new shares / (outstanding shares + new shares)
dilution × (outstanding shares + new shares) = new shares
(dilution × outstanding shares) + (dilution × new shares) = new shares
dilution × outstanding shares = new shares – (dilution × new shares)
dilution × outstanding shares = new shares × (100 % – dilution)

This results in the number of newly issued shares in this round:
new shares = outstanding shares × dilution / (100 % – dilution)

- *outstanding shares = number of shares before the round*
- *dilution = dilution in this round* = new shares/(outstanding shares + new shares) expressed as percentage

new shares = 1M shares × 20 % dilution / (100 % – 20 % dilution) = 0.2M shares / 80 % = 250 000 shares

Coming back to our founders who were holding 90 % × 1M outstanding shares = 900 000 shares before the round; they will still hold the same number of shares after the round, assuming they do not also invest. So, their share of the company after the seed round is 900 000 shares / (1M outstanding shares + 0.25M new shares) = 0.9M shares / 1.25M shares= 72 %, as expected.

Further considerations
If a startup does not perform well and, say, expected revenues get delayed, founders often have to accept a valuation lower than they'd wished for in the next financing round, which results in greater dilution (unless there's also less money raised). Dilution is an important issue, as it can lead to a situation where founders who originally held 100 % of a startup end up with less than 50 % of the startup after just a few financing rounds; they will no longer be able to, by themselves, form a majority vote group if all shareholders are represented at a general assembly. If founders want to prevent this from happening, they have to carefully think about the maximum size of a round, the required minimum valuation, and the resulting dilution to them. Investors who would risk dilution from subsequent financing rounds happening at lower valuation than they've invested at (a so-called "down round") can protect themselves by making use of their anti-dilution protection rights, which we covered in the chapter on deal terms.

Assessment of the maximum acceptable dilution method
Advantages

- Easy to understand and apply
- Few parameters to estimate

Disadvantages

- Dilution gets easily overestimated as the only determining factor; a strong dilution can still be compensated for over time with, for example, an employee incentive plan that includes founders
- It is driven by a one-sided founder-only view
- It does not take into account the facts that make a company valuable and it is hard to defend against more substantiated valuation methods

11.10 Risk Factor Summation Method

The undiluted post-money valuation using the **risk factor summation method (RFS)** is defined as:
Valuation =
pre-money valuation of comparable startups + sum of risk factor scores × CHF 250k

The startup valuation is primarily based on the average of comparable pre-money valuations of startups in the same industry, and then adjusted by assessing twelve risk factors with a score ranging from -2 (high risk, i. e. very bad) to +2 (low risk, i. e. very good). The sum of all risk factor scores, which can also be negative, is then multiplied by CHF 250k and added to the initial valuation to determine the final pre-money valuation.

Risk factor	Judgement by investor	Score
Management risk	strong team, i. e. very low risk	+2
Business stage risk	very early, i. e. high risk	-1
Legislation/Political risk	unregulated business in stable country	+2
Manufacturing/Development risk	only software, but MVP incomplete	+1
Sales and marketing-strategy risk	strategy is missing	-2
Litigation risk	litigations rather unlikely	-1
Funding and capital risk	large pool of interested investors	+2
Competition risk	modest competition	+1
Technology risk	state-of-the-art, no legacy	+2
International risk	hard to expand abroad	-2
Reputation risk	area of business unlikely to cause reputation risk, i. e. low	+1
Exit attractiveness and options	unclear, i. e. normal risk	0
Total risk factor score		**+5**

TABLE 11.10.1 Twelve risk factors of a startup with example judgements and scores. Scores range from -2 (high risk) to +2 (low risk).

Example valuation using RFS method

Assuming an average valuation of comparable pre-revenue startups of CHF 1.5M and using the example scores from Table 11.10.1 that result in a total risk factor sum of +5, we arrive at this valuation:

Pre-Money Valuation = CHF 1.5M + (5 × CHF 250k) = CHF 1.5M + CHF 1.25M = CHF 2.75M

Assessment of the RFS method

Advantages

- Directs attention to various risk factors and their influence on a successful exit
- Does not require a financial forecast

Disadvantages

- Need for data on comparable startups in the same industry (often hard to obtain)
- Assessing risk factors to find scores is tricky and not very intuitive

11.11 Scorecard Method/Bill Payne Method

Similar to the risk factor summation method, the **scorecard method** also adjusts an initial pre-money valuation using scores resulting from assessing several success criteria of a startup. However, in this method, the criteria are weighted to reflect how much a particular criterion determines the specific startup's success. The resulting weighted score is the weighted average of all scores.

Valuation = average valuation of comparable startups × weighted average of scores (%)

Criteria	**Weight (%)**	**Example score (%) vs. average (100 %) startup**
Team capacity	40 %	130 %
Product/Technology readiness	30 %	60 %
Market size	25 %	40 %
Competition	5 %	150 %
Total	**100 %**	**Weighted score = 88 %**

TABLE 11.11.1 Scorecard method with four criteria that are weighted according to their impact on the startup's success.

Example of scorecard method
Given an average pre-money valuation of comparable startups of CHF 1.5M, and the sample scores and criteria weights in Table 11.11.1, the valuation of the startup results in:

Pre-money valuation = CHF 1.5M × 88 % = CHF 1.32M

Bill Payne method
A variation of the scorecard method known as the Bill Payne method uses six criteria with fixed weights given in Figure 11. 11.2. The rest is analogous.

Valuation = average valuation of comparable startups × weighted average of scores (%)

Criteria	Weight (%)	Example score (%) vs. average (100 %) startup
Management	30 %	150 %
Product / Service	10 %	80 %
Market size	25 %	200 %
Sales channels	10 %	120 %
Business stage	10 %	50 %
Other factors	15 %	120 %
Total	**100 %**	**Weighted score = 138 %**

TABLE 11.11.2 Bill Payne method with six criteria that are weighted.

Example of scorecard method
Given an average pre-money valuation of comparable startups of CHF 1.5M, and the sample scores and criteria weights in Table 11.11.2, the valuation of the startup results in:

Pre-money valuation = CHF 1.5M × 138 % = CHF 2.07M

Assessment of the scorecard / Bill Payne methods
Advantages

- Directs focus toward most critical success factors
- Identifies strengths and weaknesses of startup
- Does not require a financial forecast

Disadvantages

- Only applicable to companies at same stage of development (e. g. pre-revenue startups)
- Need for data on comparable startups (often hard to obtain)

11.12 Berkus Method

The Berkus method was proposed by angel investor Dave Berkus for pre-revenue startups that have the potential to reach CHF 20M in revenues in five years. For each of five startup success criteria, up to CHF 0.5M may be added to the total valuation.

Pre-money valuation = sum of five startup success criteria valuations

Criteria	Add to startup value up to:	Example startup criteria valuation
Sound Idea (basic value)	CHF 0.5M	CHF 0.5M
Prototype (reducing technology risk)	CHF 0.5M	CHF 0.1M
Quality Management Team (reducing execution risk)	CHF 0.5M	CHF 0.5M
Strategic relationships/ Go-to-market (reducing market risk)	CHF 0.5M	CHF 0.1M
Product Rollout or Sales (reducing production risk)	CHF 0.5M	CHF 0.0M
Total		**CHF 1.2M**

TABLE 11.12.1 The Berkus method for valuation of a startup using five success criteria that yield up to CHF 0.5M each.

Example of Berkus method

Consider a fictional startup that has identified a great business opportunity but has just started developing the prototype, which does not yet work. They have a top-notch management team (e.g. a serial entrepreneur and a former executive member of a market-leading company in the startup's target market), plus access to another strong board member. They have identified an attractive niche market but only have a rough draft of their go-to-market strategy. They also haven't yet identified a sales person and production issues haven't yet been properly addressed. This would result in the example scores in Table 11.12.1, and the pre-money valuation of CHF 1.2M.

Assessment of the Berkus method

Advantages

- Guards against excessive optimism of founders by its CHF 2.5M maximum valuation
- Does not require a financial forecast
- Easy to understand

Disadvantages

- Rough method of simply adding up without weighting factors
- Maximum valuation is capped at a fixed value
- Only applicable to pre-revenue companies

11.13 Conclusion

We have looked at several commonly used startup valuation methods. None of them is perfect and all involve investors making a tricky assessment of the startup despite many unknowns.

There are many other startup valuation methods in angel investing, which we find less appropriate and less accurate for startups that develop a technology-based product: net assets method, cost method, development stage method, liquidation value, book value, etc.

Valuation methods for early-stage startups are only indicative and assume that the startup will gain considerable business traction later. It's not a valuation of just the current profitability and assets of the startup.

12 Due Diligence

There are two main reasons why angel investors should always conduct due diligence before investing in a startup: preventing fraud and properly assessing the risk of an investment.

The term “due diligence” came into common use with the US Securities Act of 1933. The idea was that broker-dealers who put appropriate care and effort into investigating the company whose stock they were selling to investors were not liable for non-disclosure of information they did not discover. Today, it principally means carefully checking company documents and claims made by a company’s management.

12.1 Preventing Fraud

There are crooks out there who try to get money from investors with no intention of ever paying it back. They may, for example, pretend to be experienced "investment advisors", "investment brokers", "startup founders", "fundraisers" or "fund managers" urgently looking for investments. Investors who engage with them most often lose their full investment. Loans are not paid back, and crypto tokens or shares received for an investment in cash turn out to be worthless. "Securities" given for loans turn out not to exist or have been used many times for different investors, and therefore don't actually back all investments. Sometimes underhanded operators even disguise themselves as investors who claim to offer a cheap loan to a startup or an investor and then make the loan recipient pay hefty fees up front. However, the promised loan never materializes. Illegal investment brokers and fraudsters are very creative and are constantly devising new business models and enticing stories to attract and steal from potential investors, or get them to unwittingly engage in money laundering.

Known fraudsters
Check the public and freely accessible online lists of people and companies known to offer fraudulent investment services:

- Swiss Financial Market Supervisory Authority (FINMA)'s warning list of individuals and companies carrying out unauthorized investment services
- Swiss consumer magazine *KTipp*'s warning list
- The investor alerts portal maintained by International Organization of Securities Commissions (IOSCO)
- Financial Market Supervision of Austria (FMA)'s warning list

Characteristics of an investment opportunity that should make you cautious of fraud
Fortunately, there are some reliable indicators that a startup investment offer may well be fraudulent. If several of the following red flags show up in an investment deal offer, be wary.

- High returns promised or even guaranteed (e. g. 15 % p. a.)
- Very low risk promised despite it being a startup investment
- Founder team not willing to meet the investor or hold a video conference
- Founder team not willing to provide proof of identity (e. g. passport)
- Founder team not willing to disclose the location of their private residences (e. g. validated postal address)

- Company office location not disclosed or office visit not possible
- Founder team not willing to provide sufficient documentation for proper due diligence of the startup, often claiming confidentiality prevents sharing
- No reputable references backing the founders and/or fundraiser
- Pitch deck missing a competitor analysis and giving little or no relevant data on people in the management and board — often just a name or a photo but no credible and verifiable prior education or work information, and no direct contact data
- High startup valuation (e. g. > CHF 10 million) without having any revenues, customers or substantial intellectual property
- Person offering the deal does not understand the business of the advertised startup and cannot answer core questions about the founders and board of directors
- Person offering the deal takes a large investment commission (e. g. >4 %)
- Startup has a lot of management and board member changes recorded in the commercial register, and former members don't mention their connection on LinkedIn
- Person offering the deal seems urgent to close the investment and pushes investors to skip due diligence
- Unfounded claim that the stock price will go up significantly "very soon" to push an immediate investment so as not to miss out on a good deal

Fraudsters are everywhere. Don't invest if it looks too good to be true, and don't sign any investment deal the same day that it's presented to you.

12.2 Identifying and Assessing Risks

FIGURE 12.2.1 Triangle of startup risks

The "Triangle of startup risks" figure gives you an easy way to keep track of the many important aspects of a startup's risks that need addressing during the due diligence phase. The idea is to present the startup team with questions and find answers in the startup-related documents that founders provide to investors. The goal is simply to properly identify and assess all relevant risks.

People risks

Management & Team

- Do all founders have a valid residency permit?
- Do all founders have a valid work permit?
- Are the founders' criminal records clean?
- Are the founders privately free of overdue debts (i. e. an empty debt registry extract)?
- Do reference calls to prior employers and co-workers yield positive results?
- Does the shareholder agreement provide stock vesting clauses for the founders in case a founder unexpectedly leaves prematurely, such that a new "late co-founder" can be incentivized easily and properly?
- Do all founders actually take entrepreneurial risks (e. g. invest their own money into the startup or begin work on the product before getting paid for it at market rate)?
- Do all founders show the personality traits of high-quality entrepreneurs, including integrity, honesty, passion and leadership ability?
- Do all founders share the long-term vision, commitment and stamina needed for success in any venture?

- Do founders have the sense of idealism to believe in changing the world, along with the realism and pragmatism needed to make it happen?
- Are all founders able to stay in command of plans, numbers and customers with strong attention to detail and the flexibility to adapt to new situations and pivot strategy?

Employment contracts

- Has everyone in the startup had a valid employment contract since they began working on the startup product? If not, intellectual property of the work done does not belong to the company and must be transferred to the company.
- Do all employees have a legal work permit?
- Are all key employees incentivized with an employee stock ownership program (ESOP)? Is the ESOP adequate in size and duration and executed in a tax-compliant way?

Business risks

Business model

- Is the business in regulatory compliance with FINMA, GDPR, etc.? Some example considerations: Many banking and financial services require a license from financial authorities; crypto tokens issued by startups must first be classified by the financial authorities in order to be issued in a legally compliant way (e. g. implementing know-your-customer (KYC) and anti-money laundering (AML) procedures and offering an investment prospectus to investors), and be ruled by tax authorities to avoid surprises (e. g. value-added tax, or VAT); electronics and telecommunications products must follow regulatory standards and go through regulatory approval processes (e. g. CE mark, FCC certification); collecting and processing personal data of people residing in the European Union (EU) requires General Data Protection Regulation (GDPR) compliance; export of cryptographic software is regulated and restricted in some countries; offering some services in countries under international embargo is illegal; diagnostic medical devices need Food and Drug Administration (FDA) approval; online casinos and online liquor stores need a license to operate.
- Is the product and business model legal?
  Some countries' laws disallow certain materials, objects, symbols and/or videos, and some cultures discourage or ban certain practices. Some business models such as multi-level marketing (MLM) schemes — also called pyramid or ponzi schemes — are illegal.

- Is the business ethical?
- Is the business sustainable?
- Is the business environmentally friendly?

Product

- Does the startup have "freedom to operate" (FTO), i. e. does its product or service avoid violating existing patents (or have any relevant patents been properly licensed)?

Market

- Is there a high entry barrier to the market?
- Is there a high upfront cost to enter the market?
- Are current customers happy with the startup's product?
- Can we speak with a reference customer?

Sales

- How long is the sales cycle in months?
- Is the "go-to-market strategy" defined and plausible?
- What does your customer agreement look like?
- What is the sales track record of the startup so far?
- How much sales experience does the startup's sales team have?

Financials

- Is the company over-indebted? Over-indebtedness was explained in Chapter 5 on financial planning.
- Does the company have sufficient liquidity to continue operations until the investment round closes?
- Are the revenue and cost assumptions reasonable and complete?
- Are the salaries of non-founders at market rates?
- Did the company pay all social security fees owed so far? Some startups forget to adjust the monthly payments and necessary accruals as they hire new employees, and are then surprised by large invoices from social security authorities.
- Did the company pay all fees and taxes owed so far (e. g. VAT, stamp fees on capital increases, tax on earnings and capital)?

Legal risks

Business contracts

- Are the contracts signed by all parties, and are they sound, consistent and complete?
- How high is the startup's financial liability in each contract and could this seriously endanger the startup's future?
- What financial implications do the current contracts have for the company?

Intellectual property

- Is the intellectual property properly inventoried, access-secured, backed up and legally protected?
- Are required domains and trademarks registered, with expiration dates and infringements monitored?

There are many different types of risks associated with a startup. When doing due diligence before investing, look at least at the people, business and legal risks involved. Use the "Triangle of startup risks" to guide you.

12.3 SICTIC Due Diligence Checklist

The following due diligence checklist is made available online as a **free tool for startups and investors** by the Swiss ICT Investor Club (SICTIC). Startups that are well prepared with answers and documents relevant to the items listed below will speed up the investment process considerably.

It is best practice to store these documents in an **online data room** and use one folder per topic. For any document that does not (yet) exist, it's best to note on this checklist whether it will be made available later or not (e. g. if it is irrelevant to the startup business).

1 Business and Product Overview

- ☐ Pitch Deck
- ☐ SICTIC Factsheet
- ☐ Business Model Canvas

2 Company

2.1 Corporation

- ☐ Corporate structure including subsidiaries
- ☐ Corporate ownership including subsidiaries (e. g. capital tables, share registers)
- ☐ Governing documents for the company, subsidiaries, and affiliates including articles of association, deed of incorporation, board regulations, etc.
- ☐ Excerpt from the commercial register for each legal entity
- ☐ Excerpt from the debt collection register
- ☐ Signature policies
  - ☐ for contracts
  - ☐ for bank accounts

2.2 Shareholders

- ☐ Signed register of shareholders including unvested stocks/options, etc. and past share and option transactions
- ☐ Shareholders agreement(s)
- ☐ Signed minutes of all board meetings
- ☐ Signed protocols of all shareholder general meetings
- ☐ Summary of warrants, convertible notes, and any right entitling the holder to obtain equity
- ☐ Results from previous due diligence checks from previous investors

2.3 Tax and Legal

- ☐ General terms and conditions (T & C) for all products
- ☐ Any past, ongoing, pending or threatened legal claims or actions
- ☐ Copies of any letters with any regulatory agencies or authorities
- ☐ Summary of permits, licenses, and other authorizations
- ☐ All communication with tax authorities (including tax rulings)
- ☐ Accounting provider agreement
- ☐ Tax and legal counsels agreements
- ☐ Other consulting agreements
- ☐ Transfer pricing agreements

2.4 Risks

- ☐ Known risks
- ☐ Conflicts of interests of employees, shareholders and founders
- ☐ Other risks that could significantly harm the company's chance for success
- ☐ Insurance contracts
- ☐ List of known non insured risks
- ☐ List of key competitors
- ☐ Risk management policies

3 Team

- ☐ Organisational chart
- ☐ Description of roles, responsibilities and work location of key team members
- ☐ Curricula vitae with education certificates and work reports
- ☐ Employment contracts made orally or in writing
- ☐ Passports or identification cards
- ☐ Excerpts from the debt collection register
- ☐ Criminal records
- ☐ Employee Stock Ownership Plan (ESOP, PSOP) with grants done and available pool
- ☐ Performance management framework (OKRs, peer reviews, etc.)
- ☐ Hiring process

4 Financial Situation

- ☐ Balance sheets (including accruals and deferrals)
- ☐ Income statements (previously called profit and loss statements)
- ☐ Cash flow statements showing burn rate
- ☐ All current bank account balances
- ☐ Future financial projections
- ☐ Financial management reporting including core KPIs
- ☐ Loan agreements with banks or private people
- ☐ Rental and leasing agreements for offices, production plants, cars, machines, etc.
- ☐ Finder's fees, fundraiser commissions or investment-related financial contracts

5 Customers

- ☐ Commercial agreements made orally or in writing
- ☐ Letters of Intent (LoIs)
- ☐ Service-level agreements (SLAs)
- ☐ Revenue split per customer
- ☐ Number of leads per sales funnel stage
- ☐ Leads conversion metrics
- ☐ Sales cycle for current clients
- ☐ Customer churn in last 12 months
- ☐ Customer engagement and satisfaction metrics
- ☐ Market research findings
- ☐ Market size assessment

6 Intellectual Property, Data Protection and Security

6.1 Intellectual Property

- ☐ Records of trademarks and trademark applications
- ☐ Records of domain name registrations
- ☐ Records of patents and patent applications
- ☐ Documentation of research concerning the company name, trademarks, domain names and patents (e.g. freedom to operate (FTO) reports)
- ☐ All agreements with employees, consultants or other persons or legal entities concerning intellectual property

6.2 Data Protection

- ☐ Company's data management policy
- ☐ Company's privacy policy
- ☐ List of all claims or investigations related to data protection
- ☐ Proof of General Data Protection Regulation (GDPR) compliance
- ☐ Signed non-disclosure agreements (NDAs)

6.3 Security

- ☐ Summary of key security measures and protocols
- ☐ Details about monitoring measures and testing to ensure technical safeguards
- ☐ Summary of any security issues, including data breaches, loss of confidential information, inappropriate or malicious content, hacking attacks, major vulnerabilities, etc.

7 Software Development and Production

- ☐ Software architecture
- ☐ List of software components developed in-house
- ☐ List of third party software (purchased and open source) used in the product including their licenses
- ☐ Schema of computing infrastructure setups for development, testing and production
- ☐ Network, hardware, test and production systems used
- ☐ Hosting details (e. g. hoster name, location of data centers)
- ☐ Internet service provider(s)
- ☐ Coding practices (e. g. coding style guides and standards)
- ☐ Source code review process
- ☐ Software deployment process
- ☐ Monitoring setup of productive systems
- ☐ Obtained certifications for security and quality assurance

It's best to use a checklist of documents to request from the startup for identifying all relevant risks when doing due diligence.

13 Intellectual Property

The often intangible work result of technology startups that develop software solutions deserves special attention, as it often represents the core value of the company. When investing into a startup, it must be ensured that all relevant intellectual property rights including the source code of the software, relevant data, trademarks, designs, patents, domain names, trade secrets, and confidential information actually belong to the company.

13.1 Wake-Up Call for Founders and Investors

Skype was started in 2003 and purchased by eBay for US$3.1 billion in 2005. When eBay was about to sell 65 % of Skype in 2009 to a private investor consortium, Skype founders Niklas Zennstrom and Janus Friis filed a copyright lawsuit against eBay informing them that eBay didn't actually own the source code of Skype, which was still with the founders' company called Joltid. As a result, eBay settled the lawsuit by handing over a 14 % stake in the new Skype and two seats on the board to the Skype founders. It was quite a surprise to learn that even in a multi-billion dollar company acquisition, intellectual property ownership had not been carefully checked.

Even for angel investors, intellectual property ownership must be carefully checked before an investment. Why? Startup founders often start working on a new idea without incorporating a company first. Even if they have, there is usually no employment agreement in place, as they don't pay themselves a salary. This negligence can easily wreak havoc later. The result is a situation where the company does not actually own the work conceived by the founders. All software written is in fact privately owned by the founders. Internet domains are often also registered in the name of one of the founders, as are trademarks.

In this chapter, we provide a checklist to help assess the intellectual property situation in a startup. When it comes to protecting intellectual property, we will also touch on the patentability of software.

13.2 IP Checklist for Angel Investors

Checklist for angels concerning intellectual property
The value of a technology startup is in most cases strongly dependent on the intellectual property (IP) and know-how rights the startup owns. The following checklist is a basis for the assessment of these rights. While this list highlights important legal issues concerning IP in the context of technology startups, it is neither meant to be exhaustive nor does it replace professional advice.

	n/a	– –	–	ok	+	+ +
Protection of software						
Quality and quantity of the software rights[1]						
Patents and patent applications[2]						
Extent and type of third-party software components, particularly open-source software[3]						
Quality of the protection of the source code[4]						
Protection of hardware						
Quality and quantity of the hardware rights						
Extent and type of third-party hardware components[5]						
Protection of trademarks						
Quality and quantity of the trademarks and trademark applications[6]						
Validity of the registered trademarks[7]						
Protection of other IP						
Domain names						
Know-how (e. g. protected as trade secrets or confidential information)[8]						
Designs or other IP						
Contractual limitations						
In-licensing[9]						
Out-licensing[10]						
Other aspects of contractual limitations[11]						
IP Strategy						
Matching between products/services and IP of the startup[12]						
Filing and prosecution strategy[13]						

IP of third parties						
Freedom to operate[14]						
Quality of monitoring[15]						
Disputes						
Claims against the startup made by third parties[16]						
Claims against third parties made by the startup						

TABLE 13.2.1 Intellectual property checklist for a technology startup

1 Ideally, the concerned startup has comprehensive ownership rights to all relevant software. In practice, however, this is quite often not the case. Therefore, one of the most important tasks of due diligence before investing in a technology startup is to assess the extent to which core intellectual property rights are *not* owned by the startup. Maybe some employees or consultants never transferred software rights properly to the startup, or software rights are not actually owned by the startup, but only licensed from a third party via a licensing agreement that can be terminated easily or has an unclear scope. The list of potential challenges is long.

2 Patents can improve the strength of the software protection substantially. In the case of patents, the scope of protection, geographic coverage and legal status of the patent(s) should be checked. In Europe, software patents granted to startups are rather rare but do exist.

3 In many cases software of startups includes third-party components, particularly-open source software. The licensing terms of any third-party software components and their impact on the software distribution should be closely examined. For example, so-called "copyleft" open-source software may require the startup to distribute the software under the original open-source license, which can obviously be a deal-breaker.

4 In particular, it must be considered to what extent: (i) employees and customers have access to the source code of the software; and (ii) the source code is protected in these cases by appropriate agreements (e. g. by source-code escrow agreements or non-disclosure agreements).

5 If hardware components have to be purchased by the startup, it is key to avoid bottleneck situations.

6 The scope of protection, geographic coverage and legal status (trademarks or trademark applications) should be examined. If the scope of protection or the geographic coverage is not satisfactory and cannot be extended in order to ensure a successful distribution of the relevant products or services, a rebranding could be an option.

7 Granted trademarks may not be valid (e. g. in a case of non-use of the trademark in the US).

8 If the technology of the startup is not protected by patents, it may be important that appropriate non-disclosure agreements are in place.

9 If the startup is required to license key components from third parties, the relevant licensing terms have to be considered carefully. Licensing agreements may be risky for several reasons (e. g. due to termination rights or in the case of a potential liquidation of the licensor).

10 Early-stage technology startups in particular sometimes grant licenses to third parties under disadvantageous conditions. Long-term exclusivities for certain regions or the lack of appropriate termination rights, for example, may be deal-breakers.
11 Other contractual limitations such as purchase rights for the relevant IP or termination rights may be deal-breakers.
12 The distribution of a product, for example, may be limited due to trademarks or patents of third parties in certain territories such as the US or Asia.
13 A filing and prosecution IP strategy is valuable, but rather rare in the case of technology startups. Lack of professional support leads to an increased risk position. The due diligence should in this case be made more extensively.
14 The freedom to operate (FTO) may be limited in certain countries, regions or distribution channels. In an FTO analysis, the investor evaluates whether there are IP rights that would stand in the way of the development, manufacture, distribution and/or marketing of a product. Due to business patents that may be granted (particularly in the US), there may, for example, be uncertainties as to the extent of FTO. Moreover, as there are no worldwide trademarks, the distribution and marketing of a product may be limited in certain countries or regions.
15 Monitoring is often costly and time-consuming, and therefore is seldom done properly by early-stage startups.
16 If the concerned startup is claimed against by third parties, the respective correspondence can contain valuable information on challenges such as the FTO.

13.3 Patentability of Software

Contrary to widespread misconception, *software inventions are patentable* in most jurisdictions around the world — if claimed in the appropriate manner.
Digital technologies are usually either implemented as

- *Hardware* (e. g. computers, communication and computing networks, etc.) or
- *Software* (computer programs, firmware, machine code, algorithms, neural networks, etc.)

Technical innovations in hardware components (e. g. computing and processing systems) have always been accepted as patentable inventions. These include, for example, data processing, data communication, and data storage/retrieval systems.
On the other hand, software *as such* — i. e. the computer program *itself* as an abstract entity devoid of technical context — is excluded from patentability in various jurisdictions in much the same way that mathematical methods and mental acts are excluded. Instead, the computer program (e. g. source code or machine code) used to implement the invention is protected by copyright. However, copyright confers insufficient protection of a software invention, as copyright merely covers an original and specific expression of an idea, in this case the computer program. For example, an implementation of the same software invention in a different programming

language would *not* violate copyright! In contrast, a patent covers the underlying technical concept of the software invention.

Having said that, software rarely exists in a vacuum ("as such"). Rather, software is part of a computer system (e. g. it is stored in memory and executed by a processor) which is technical and therefore patent eligible. In order to clearly identify patentable software inventions, the term "computer-implemented invention" (CII) has been introduced to define an invention which involves the use of a computer, a computer network or another programmable apparatus, wherein at least one feature is realized by means of a computer program.

The term "computer-implemented invention" covers a broad range of inventions in various fields of technology, including:

- Automation / process control,
  including software control of industrial processes (e. g. 3D-printing, CNC machines)
- Data and signal processing,
  including audio / video / image / text processing
- Applied algorithms,
  in particular machine learning and artificial intelligence (e. g. neural networks or genetic algorithms)
- Data storage / retrieval,
  including data formats / structures and database systems
- Data communication,
  including data signal transmission, including data communication protocols (e. g. 5G)
- Distributed systems,
  including cloud computing or internet of things (IoT)
- Technical means for presentation of information,
  in particular user interfaces (UI) (e. g. graphical user interfaces (GUIs) and augmented and virtual reality (AR / VR))
- Security,
  e. g. data security, authentication, cryptography, and blockchain
- Computer-implemented business methods,
  e. g. software-controlled logistic systems, e-commerce and fintech.

In the last decade, the legal frameworks of the major patent offices (EPO, USPTO, CNIPA, JPO and KIPO) with respect to computer-implemented inventions have become gradually more and more aligned. While certain differences in the assessment of computer-implemented inventions still persist among the patent offices, it can be generally said that *software providing a technical solution to a technical problem is patentable* through-

out the world — if claimed in the appropriate manner and provided that the requirements for patentability (especially novelty and the "inventive step") are fulfilled.

Software inventions can indeed also be patented in Europe, contrary to widespread misconception.

13.4 IP Transfers

It is best practice to have clauses in all employment, contractor and advisor agreements that intellectual property (IP) resulting from the work is automatically assigned to the company. However, sometimes, these agreements are put in place after work has already started or such IP transfer clauses are just missing from the agreements. Assuming the IP is still with the founders, ex-founders, contractors or advisors while a startup is looking for an investment, what can be done to fix the situation? Basically, the startup has to acquire the intellectual property from the founders, etc. before, or as part of, a financing round.

For IP of small value, an *IP assignment agreement* between the founders, ex-founders, contractors or advisors and the company might suffice. Swiss law does not allow a purchase of intellectual property from the founders for a significant amount soon after incorporation or a capital increase without declaring this to the shareholders beforehand. At incorporation or at a capital increase a so-called *Stampa-Erklärung* has to be signed that denies larger planned IP purchases from people close to the company.

IP of significant value can be transferred into a company through a *contribution in kind* (*Sacheinlage*) in return for interests in the receiving company, which is reflected in the company's articles of association mentioning the purchase price. The market value of intellectual property is assessed by an independent auditor.

Transferring IP (e. g. software source code, trademarks, domain names) out of a company, e. g. to a new holding company, may also cause significant taxes as this might be seen as an IP sale, where earnings tax and possibly value-added tax (VAT) are due for the selling company.

The later the intellectual property is transferred into or out of a startup, the more time-consuming, complex and costly it will get. Not having all relevant intellectual property owned by a startup is often a deal-breaker in growth-financing rounds.

14 Startup Coaching

Once angel investors have invested in a startup, they often continue supporting the founders on their startup journey. Whether it's by coaching the startup to properly prioritize tasks, bringing up important questions when the time is right, helping the company avoid costly mistakes, or bringing to bear their own work experience and business networks, angel investors can help increase the chances of startup success while at the same time de-risking their own investment. Learn how to be a great coach for the startup founders.

14.1 Detrimental Coaching Motivations

Let's start with how not to coach startup founders. If your desire to coach is driven by some of the following motivations, you'll most likely turn into a big pain for entrepreneurs, and other angel investors won't like you:

- Taking control of the startup
- Telling founders what they have to do
- Putting a lot of pressure on the founders when the business plan isn't 100 % followed
- Demanding a lot of time from the founders for things only you get value out of
- Knowing best about everything and not accepting others' views on a matter
- Charging your early-stage portfolio startups for consulting and services
- Trying to get rich quick

If you realize that you are driven by motivations that are bad for founders, you might want to reconsider whether angel investing is right for you.

14.2 How to be a Winning Coach

If you want to be a helpful coach as a smart-money investor, you must first get to know the founder team better, identify any gaps or blind spots the team might have and understand how you can help compensate for these, thanks to your own expertise with:

- Specific skills (e. g. strategy, operations, marketing/sales)
- Extensive work experience (been there, done that)
- Network ties to domain experts
- Business network ties to potential customers, suppliers or partners
- Domain or industry knowledge

Early-stage technology startups with young first-time founders usually need help with similar tasks, as they face the same challenges early on when bootstrapping a business.

Tasks most early-stage startups need help with

- Product definition
- Identifying the most attractive target market
- Sales: lead generation, creating a sales pitch deck, building a strong sales team
- Hiring senior people
- Human resources
- Financial planning
- Legal advice
- Information security and data privacy
- Fundraising for the next financing round
- Growing, organizing and leading a larger team
- Building a strong company culture

How to make the founders happy

- Be straightforward about what the founders can expect from you in terms of capital and support and make sure they also want it from you
- Explain exactly where and how you can create value for the startup
- As a regular investor (not a lead investor or a board member) provide a level of interaction that is comfortable for the founders and don't be too pushy
- Do not interfere with the day-to-day operational business and avoid a temptation to micromanage
- Provide clear, honest, pragmatic and candid feedback to the founders and the board
- Share the startup's vision and have faith in the team
- Use as little time of the founders as possible by keeping interactions efficient and relevant
- Be responsive when asked by the founders for help

Support that is always appreciated

- Refer potential customers and make an intro if asked
- Invest more than just once to show your continued support
- Provide moral support when things don't go well or when founders get exhausted
- Celebrate successes and show appreciation when important milestones are achieved
- Point out relevant news articles (e.g. about competition, market developments)

As an angel investor you can help young first-time founders with a lot of things. Just don't forget that you are not running the startup yourself.

Risks when coaching founders

- Giving advice makes you legally (if you are paid) and/or morally liable for the effects; if a question is outside your area of expertise, redirect the startup to someone more knowledgeable. Angel investors don't know everything.
- Be aware that regular attendance of and contributions to board meetings might make you a de facto board member, with all the consequences, even if you do it for free.

14.3 Understanding the Situation and Developing a Solution

Here's a quick guide to ad hoc startup problem-solving, showing the need to understand the problem first and then devise a solution or process to address it.

Understanding the situation

What to do

- Find the concrete problem and understand the root cause in detail; try to paraphrase the problem in your own words to make sure you properly understand it
- Assess who at the startup has the resources and expertise to solve the problem efficiently, or if delegation to a supplier or partner is an option
- Direct the team's resources toward issues with the highest impact-to-effort ratio
- Be aware that your job is not to confirm strong opinions held by the team, but to find the best way to solve a specific problem

Concrete questions to ask

- Have I experienced similar problems before?

- How did we handle it and how applicable is that solution to the current problem in the current environment?
- Given that I am qualified and experienced, are there any moral or legal problems or conflicts of interest if I provide a solution?
- Would it be beneficial or just a waste of time for the team to develop its own solution?
- Is the problem important and urgent enough to be addressed at all?

Developing a solution
What to do

- Constantly challenge entrepreneurs and motivate the team to find better approaches to problems
- Focus on flexibility instead of efficiency when developing solutions and processes in the early stages (i. e. do not target 100 %, but 80 % solutions) until the company has a profitable and sustainable business model
- Maintain flexibility of the people (readiness to accept new challenges and learn quickly) and organization (agile structure and processes, ability to pivot the business and product strategy quickly)

Concrete questions to ask

- What is the set of possible solutions?
- Is an 80 % solution sufficient?
- How much time and money is needed for each option?
- Can we postpone a decision in order to first collect more information and avoid tying up scarce resources?
- Who is best suited to implement a solution?
- Are the actions that are needed within our core competencies?
- Is there more important work to be done instead?

14.4 How to Best Address Specific Topics

We now look at specific topics and situations and offer some inspiration for angel investors on what to do or think about from a coaching perspective.

Meeting schedule

- Scheduled regularly (e. g. monthly): always set an agenda before the meeting so participants can prepare; allows frequent contact with entrepreneurs, but is sometimes inefficient and should be skipped if no agenda has been set

- On demand: often requested for a specific problem; focused and efficient, but the entrepreneur must first realize he or she has a problem and ask for help; important issues might be noticed and addressed too late

Conflict handling

- Consider different possible conflict scenarios: conflicts among co-founders; investor-management conflicts; conflicts among investors; board-management conflicts
- Mitigate conflicts among co-founders regarding shareholdings and who contributes how much to the venture by asking founders to keep track of hours and cash invested (e.g. using "Slicing Pie", see Chapter 10)
- Before stepping in and trying to find a solution, first hear each party out in a one-on-one meeting or call to get a comprehensive understanding of the situation and how the facts weigh in. Sometimes a conflict is about something very different than what is voiced, which is just a symptom of the real problem.

Business planning

- Always keep in mind that the success of a startup cannot be planned or guaranteed, but is the result of ambition and capability meeting opportunities.
- Make sure, therefore, that the team always has a Plan B, C, and D in case the original plan doesn't work.
- One approach that works well is called effectuation: a problem-solving method developed by successful entrepreneurs that takes the future as unpredictable, yet controllable through human action; the environment as constructible through choice; and goals as negotiated residuals of stakeholder commitments. You can learn more at www.effectuation.org.

Growth and expansion

- Prepare and coach entrepreneurs and members of the management to present in front of customers, investors and other stakeholders
- Revise and cross-check strategy and business plan (especially defining a strong scaling strategy)
- Connect entrepreneurs and management with resources, employees, partners, investors or acquirers

Financials

- Do not invest a lot of time and resources in highly elaborate accounting while the business model is still continuously changing
- Outsource accounting at a reasonable price to free up time for the entrepreneurs so they can focus on customers and strategy
- Mistakes in accounting (e. g. forgetting to adjust social insurance contributions, not paying or reclaiming VAT) can get very costly later; let the professionals handle payroll and taxes

Financing rounds and awards

- Plan the next financing round early to win new investors — before time works against you and your startup runs out of money
- Prepare a term sheet and data room internally before talking to early-stage investors
- Winning a few awards is good for the founders' moods, but often does not come with enough prize money or prestige to justify the effort to apply and compete

Legal

- Let important agreements be reviewed by a lawyer familiar with the field, and keep working with the same lawyer, ideally one who is both startup-friendly and startup-experienced
- Work with widely used legal templates instead of creating your own from scratch

Marketing and sales

- Make sure that at least one of the founders is good at selling, or becomes good at it through sales training and coaching by a sales consultant
- Help founders sell to their first customers with intros, sales coaching or even by attending some sales meetings with prospective customers

Networking

- Make sure founders attend and present at the best events to meet potential customers, suppliers, partners and investors
- Remind them to promptly follow up on interesting leads and keep those people updated on the startup's progress

Product development

- Let founders work with customers very early on and teach them to not be afraid of critical feedback; they ultimately build the product for their paying customers
- Try to have founders work with two or more customers simultaneously to avoid development of a solution that's too customer-specific

Burnout

People under stress over long periods of time may run into *burnout*, a serious illness that manifests itself as emotional, physical, and mental exhaustion. Affected people feel little life energy, are demotivated, often overwhelmed, emotionally drained, and unable to meet constant demands. Burnout comes with many possible symptoms, none of which alone is specific enough to diagnose it for sure, which frequently delays people realizing they are affected. It progresses gradually at first, and when it finally becomes apparent — often by way of debilitating physical and/or mental exhaustion — it's hard to cure. People who address burnout too late often don't come back to work full-time for a long while.

Common symptoms of burnout:

- Lower-than-usual resistance to illness
- Pessimistic outlook on work or life
- Detachment from work
- Detachment from personal relationships
- Social isolation
- Lower-than-usual productivity
- Inability to focus
- Avoidance of decision-making
- Forgetfulness
- Anxiety
- More time spent away from work
- Persistent tiredness in the mornings
- Chronic headaches
- Depression

What should you do if you think a founder or startup employee is struggling with burnout?

- Talk with the affected person privately, not when others may hear it.
- Don't play medical doctor; just share what you have noticed and why you are concerned

- Mention where to get help if needed; there are doctors, clinics, self-help groups and useful websites. If possible, connect them with a person who had a mild form of burnout, recovered from it, and would be willing to discuss it.
- Make it possible for the affected person to take a few days off (e. g. at least four in a row), away from work, family duties, and without constant access to email, instant messaging, etc.; removing these stressors for a while might bring some clarity.

14.5 Reporting and Key Performance Indicators (KPIs)

Reporting helps keep people in the loop with how the business is progressing, and how the product and the team are evolving. Systematic and regular reports that follow the same template structure are useful in making sure important things don't get overlooked or forgotten.

It is recommended to include the same set of *key performance indicators* (KPIs) in each of the reports. KPIs are objectively measurable and hopefully actionable indicators of how the business is evolving (e. g. monthly recurring revenue (MRR)) and how the team (e. g. number of FTEs) and product (e. g. weekly active users) are maturing. We've already seen several KPIs in Chapter 5 on financial planning. KPIs may be combined with a forecast and range from good to bad for easy interpretation by any reader.

Here's a list of different reports that might prove useful for keeping different audiences up to date, encouraging proactive support by investors, and unlocking synergies among employees:

- *Weekly snippets for employees*
  Each Friday around noon, every employee writes a few bullet points on what he or she has been doing that week, whether there are any roadblocks to address, any help that might be needed, and what he or she plans to do the next week. These snippets can just be sent to a mailing group named "snippets" or posted internally in the stream of a social media tool. Once the number of employees grows, distribution may need to be limited to within teams that work on the same product or topic.
- *Monthly reports for investors, board members and key employees*
  A condensed report with general updates on highlights and lowlights, news about the team, product, traction, financials, compliance and risks. Including specific requests for help from investors might prove useful. (A sample reporting structure is given below.)

- *Quarterly reports with financials for investors, board members and key employees*
  Quarterly report with a review on achieved goals and key results with financials for the past quarter. Any deviations from the business plan should be highlighted and their reasons explained.
- *Yearly reports with audited financials*
  Annual report with financial information from the past business year, at least as required for the general meeting and possibly including an outlook on the coming year.

For each report type, the target audience (public, management, board, investors, key employees, all employees, advisors, etc.) and confidentiality classification (e. g. public, internal, secret) has to be decided upon. It's best to mention this explicitly in the reports to avoid further distribution by recipients.

Writing reports takes time, but also greatly helps keeping things aligned, making progress and issues visible so that investors, advisors and employees know what's going on and can be proactive to best support the startup's mission. The best reports are those with content that is actionable for the recipients and those that unlock synergies by allowing people to recognize and fill gaps, to understand important needs early, and by facilitating people working together across teams.

Here's a suggested structure for a monthly report:

Updates
- General updates
- Highlights
- Lowlights
- Topics where investors can help

Team
- Team (open positions, hiring progress, members of core team, employee FTEs/head count, contractor FTEs/head count)

Product
- Progress and 12-month forecast for major product-development milestones

Traction

- Users/Customers (free, paying; daily active, weekly active, monthly active; sign-ups; inactive accounts (no activity for more than 3 months))

Financials

- P & L (monthly budget vs. actual; 18-month forecast; one-time vs. recurring revenues, monthly cash burn)
- Liquidity (expected out-of-money date, expected date of no return for orderly shutdown)
- Funding (cumulative funding since incorporation, unfunded amount in current round, time when current round closes, size and start of next round)

Compliance & Risks

- Business risks that need to be addressed
- Legal, tax, compliance issues that need attention
- Data protection issues that need attention
- Security issues that need attention

FIGURE 14.5.1 Sample template for a monthly report.

If monthly reports get unduly delayed, or are no longer sent out it's often a sign that things are no longer going well in a startup. Don't be shy about reaching out to the founders to ask how it's going and why the report wasn't sent out on time.

Reporting, if done right, can greatly help with unlocking synergies, fostering growth and keeping everybody up to date.

14.6 Swiss Startup Support Ecosystem

Switzerland has a strong and diverse startup support ecosystem of more than 215 organizations that help Swiss early-stage tech startups. Some of these only act very locally to a city, a canton or a geographic region, while others help startups anywhere in Switzerland.

Below is a map of startup support organizations based in Switzerland grouped according to specialty and focus:

- Events & Networking
- Information Platforms & Associations
- Incubators & Accelerators
- Investors: Angel Investor Clubs, Foundations, VC Funds & Corporate Ventures
- Awards & Support
- Consulting & Coaching
- Co-Working & Training
- Science, Teaching & Transfer

The latest version of this map is also available online for free download in multiple file formats at www.sictic.ch/map, and features clickable logos for learning more about each organization.

We highly recommend checking out these organizations' websites to see if and how they can help your startup grow. A good starting point is Innosuisse at www.innosuisse.ch, which provides substantial research and development grants and free coaching for founders of innovative science-based startups all over Switzerland.

The Swiss startup support ecosystem is amazingly diverse and high-quality, but what a startup gets access to depends on the startup's domicile. Don't be shy about reaching out for help.

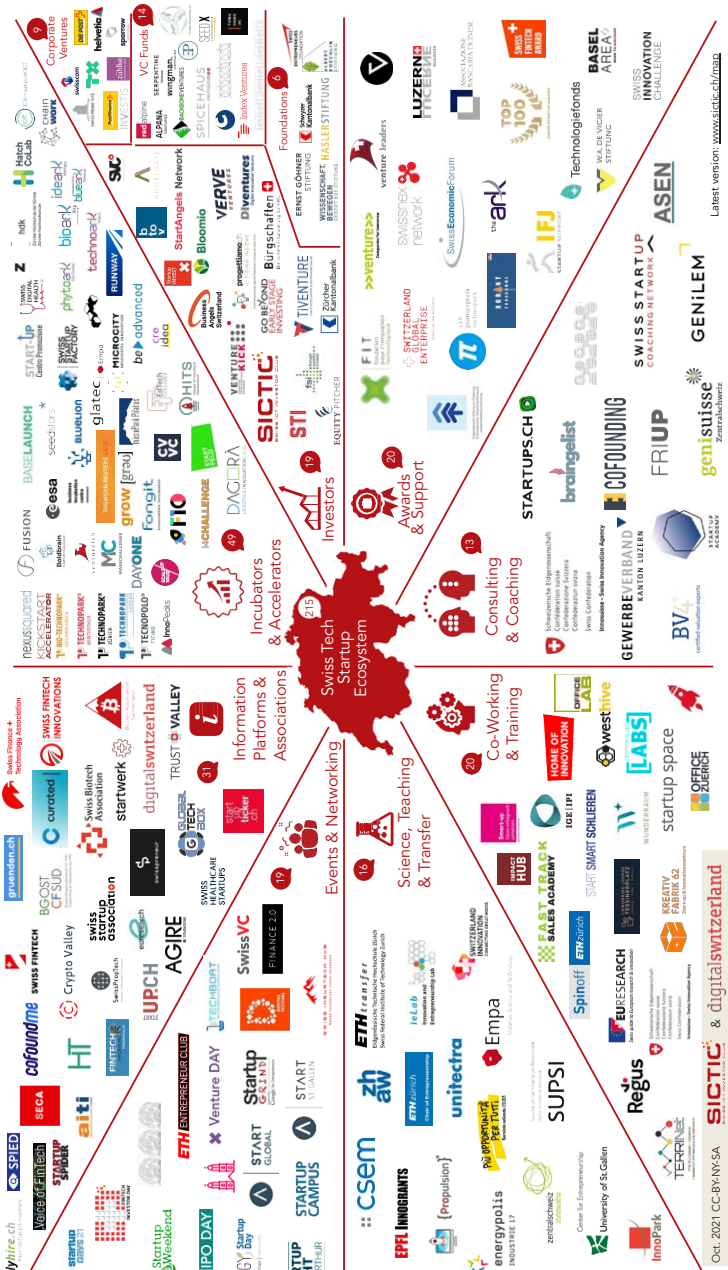


FIGURE 14.6.1 The Swiss Tech Startup Ecosystem Map lists 215 support organizations as of Oct 2021 (by SICTIC and digitalswitzerland under creative commons CC-BY-NY-SA). The latest map is available at: www.sictic.ch/map

15 Exits, Returns and Taxation

Investing without ever getting a financial return is not investing, but rather donating. Only angel investors that get returns on their investments can continue to invest in new startups and extend their startup portfolios. A working angel investor ecosystem therefore needs startup exits that bring returns. The more frequent and the larger the startup exits are, the more angel investors will be around. Learn how an exit looks, how to calculate the returns of your portfolio, and some important tax aspects for angel investors based in Switzerland.

15.1 Startup Exits

For startup investments to be attractive to investors, there have to be startup exits that allow investors to sell all their stakes in a startup. There were at least 172 recorded exits of Swiss tech startups (including ICT, fintech and healthcare IT) from year 2005 to year 2019, at least 50 exits of Swiss biotech startups, and at least 22 exits of Swiss medtech startups.

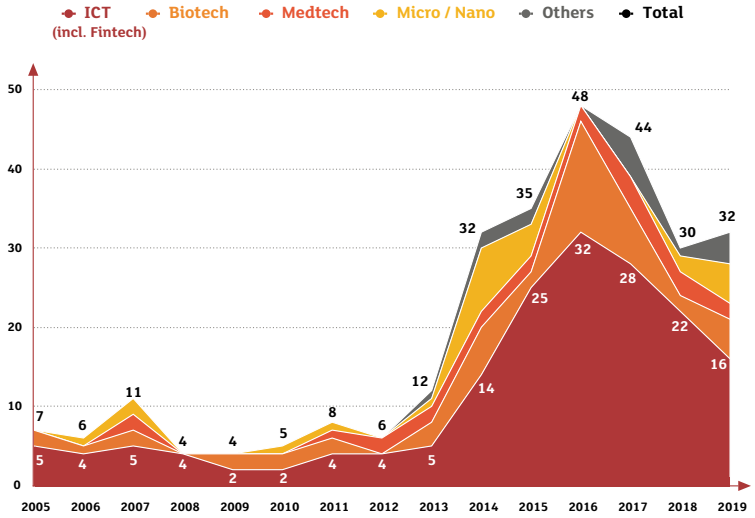


FIGURE 15.1.1 Exits of Swiss startups per year.
Source: Swiss Venture Capital Report, Swiss Startup Radar, Pitchbook, public sources

Exit figures show that Swiss tech startups are an extremely active and very promising investment sector in Switzerland.

Our chart below clearly shows that the majority of Swiss startup exits each year since 2005 were done by Swiss tech startups (see “ICT incl. Fintech” in the chart).

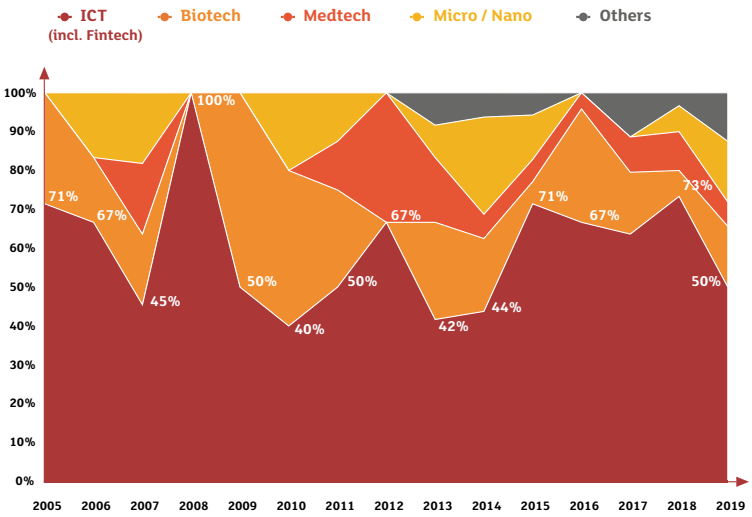


FIGURE 15.1.2 Percentage of Swiss startup exits by sector / year
Source: Swiss Venture Capital Report, Swiss Startup Radar, Pitchbook, public sources

An analysis of startup exit data from 2013 to 2016 in Figure 15.1.3 shows that 63 % of Swiss startups were sold to an acquirer abroad. Acquirers of Swiss startups include well-known names like Google, Baidu, SAP, Salesforce, Apple, Qualcomm, GoPro, MSCI and Sony. Despite frequent public criticism, an acquisition by an acquirer abroad is not, per se, negative for Switzerland for a couple of reasons: when the acquired company located in Switzerland is kept, more people are often hired onto the team after acquisition, as the buyer wants continued access to the Swiss talent pool and business network; in addition, acquisitions from abroad tend to be larger deals than those with local acquirers.

If you expect your successful Swiss tech startup to be acquired by a company from abroad, you'll most likely be right.

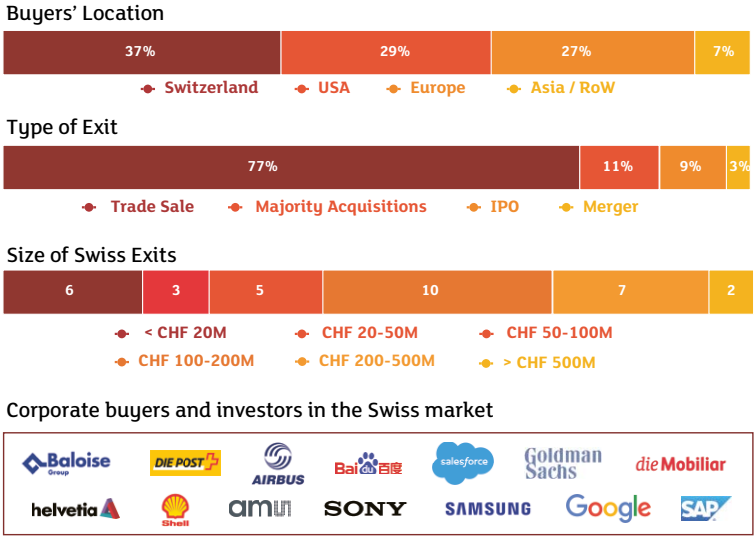


FIGURE 15.1.3 Buyers, size and type of Swiss startup exits.
Source: Statistics based on 134 Swiss startup exits in 2013–2016 compiled by David Sidler

The analysis also shows that 77 % of startup exits are *trade sales*, where only the assets (software, patents, trade marks, domains, customer subscriptions, etc.) are sold but not the legal entity of the company itself, and that IPOs at 9 % are very rare. There were only 12 total IPOs in the four years from 2013 – 2016. David Sidler reported 200 exits by Swiss startups from 2015 to 2020, which makes an average of 33 exits per year.

Finally, we see that more than half of the exits were above company valuations of CHF 100M and more than 72 % were above CHF 50M with a median exit price of CHF 107M. The exit size statistics don't give the full picture as they are based on only 33 out of 134 startup exits as the sizes of the exits for the others were not published.

KPMG's 2019 report "Clarity on mergers and acquisitions" states that the majority of mergers and acquisitions of Swiss startups were below CHF 250M.

US angel investor David Rose analyzed the distribution of exit routes for US startups in 2014 and came to the conclusion that mergers and acquisitions (sale to a larger company) are also the most common exit routes. The next most frequent exit is an "*acqui-hire*", which is usually an exit at a low valuation where some assets (e. g. software, data) are acquired, and where usually it is primarily the founders who profit financially as long as they remain at the acquirer after the exit, as they get a decent salary and a significant cash bonus in the earn-out phase after the acquisition. Quite a

few exits result in *zombie* startups, which don't grow anymore but remain in a state where they make just enough income to not die. These get no further VC money (as they don't grow further), can't easily be sold (as most are too small a business) and can't pay dividends (as they don't make enough profits). Angel investors often remain shareholders but will no longer see any returns.

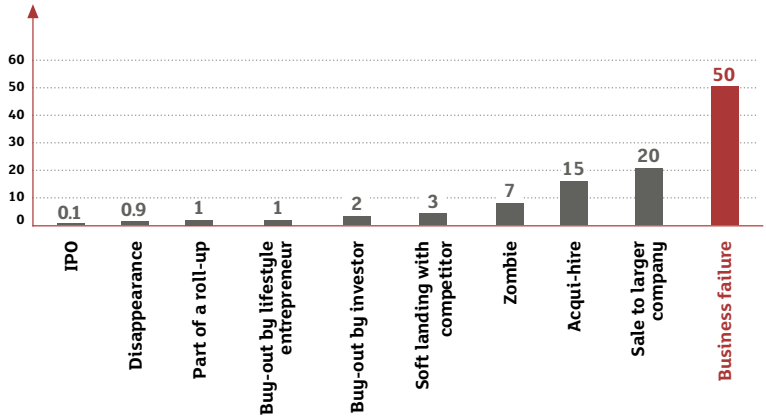


FIGURE 15.1.4 Estimated distribution of exit routes in percentage.
Source: "Angel Investing" by Rose (2014)

The rationales for a deal by an acquirer of a startup are manifold. Here are three very different ones:

- *Strategic buyer*
  A startup acquisition unlocks synergies and brings the value of the startup's customers, products, technology, innovation, brand and expertise into the acquirer. Strategic buyers are often willing to pay more than a financial buyer. Sometimes they pay a lot of *goodwill* to defend their market leadership position against competitors and to get the founders to work for them.
- *Financial buyer*
  Owning the startup brings economic returns through future cash flows and/or a potential later sale to a large corporation or an IPO at a higher exit price than the acquisition cost. Financial buyers focus a lot on the financials and the economics of a business model. Some do a *leveraged buyout* (LBO) by using a significant amount of borrowed money to meet the cost of acquisition and often giving the acquired startup's assets as a collateral for the loan.

- *Lifestyle entrepreneurs*
  Founders buy the shares back from investors in a *management buyout* (MBO) transaction, as they want to live off their own business long-term and be their own bosses. They will usually stop taking venture capital and stop growing, instead focusing on efficiency improvements and profitability. Management buyouts are often less attractive for angel investors, as entrepreneurs don't often have the deep pockets to acquire the company for a high price.

Acquirers have very different rationales for why they acquire a startup and how much they are willing to pay for it.

Why to think about the startup exit from the very beginning

As an angel investor, you can help make a startup attractive for an exit. For this to happen, however, the planned exit route must be clear, as acquirers have different rationales for buying a startup as shown above. Doing an initial public offering (IPO) is very different from targeting an acqui-hire or an acquisition by a financial buyer. The better you optimize for the target exit, the higher your exit price will be. You can't optimize for fast growth and for high profitability at the same time. For achieving fast growth, you will have to get considerable amounts of venture capital and take big entrepreneurial and financial risks to outpace your competition. For achieving an attractive acqui-hire exit, you need the best people on the talent market in your company — even if their salary costs hurt your profitability at first.

If you don't yet know which type of exit you want to aim for, you should focus on delivering strong customer value and creating a defendable *unique selling proposition* (USP). Targeting an IPO is often more a dream than a reality, as very few startups end up doing an IPO. To get listed at a reputable and liquid stock market, the company has to have a considerable valuation (usually more than CHF 100M) and a large portion of freely tradable shares. An IPO comes at high cost just to get listed, along with regulatory, accounting and compliance requirements that create internal overhead. Furthermore, taking a company public also takes away control over who becomes a shareholder and who gets access to the company's financials. An IPO should be the consequence of a very successful journey from a

startup into a mature, market-leading company, but not the main goal of creating a startup.

Knowing which type of exit to target helps position the startup for growth vs. profitability, making it most attractive to a future acquirer and achieving a decent exit valuation.

15.2 Startup Portfolio Returns

Exit multiples and internal rate of return (IRR)

Financial returns are measured as *exit multiples* (how many times your total investment you get paid out in an exit), and as *internal rate of return* (IRR — the annual rate of growth of an investment). You can think of it as the annual interest rate you get if you put your investment in a bank account and keep all interest and compound interest there until the exit. The IRR depends on the duration from an investment to an exit, while an exit multiple is independent of time.

Years, Multiple	2x	3x	4x	5x	10x	20x	30x
1 Year	**100 %**	**200 %**	**300 %**	**400 %**	**900 %**	**1900 %**	**2900 %**
2 Years	**41 %**	**73 %**	**100 %**	**124 %**	**216 %**	**347 %**	**448 %**
3 Years	26 %	**44 %**	**59 %**	**71 %**	**115 %**	**171 %**	**211 %**
4 Years	19 %	32 %	**41 %**	**50 %**	**78 %**	**111 %**	**134 %**
5 Years	15 %	25 %	32 %	**38 %**	**58 %**	**82 %**	**97 %**
6 Years	12 %	20 %	26 %	31 %	**47 %**	**65 %**	**76 %**
7 Years	10 %	17 %	22 %	26 %	**39 %**	**53 %**	**63 %**
8 Years	9 %	15 %	19 %	22 %	33 %	**45 %**	**53 %**
9 Years	8 %	13 %	17 %	20 %	29 %	**39 %**	**46 %**
10 Years	7 %	12 %	15 %	17 %	26 %	**35 %**	**41 %**

TABLE 15.2.1 Internal rate of return (IRR) calculated from the number of years between an investment and receiving exit returns and the achieved investment multiple. The IRR is calculated as IRR = Multiple^(1/Number of Years) – 100 %.

Given the high risk of investing in startups, IRRs of 35 % or more (marked in bold in the table above) are considered attractive for angel investors.

Usually, an angel investor invests more than once and the returns might come in multiple tranches, e. g. with some proceeds being kept back in an escrow account until 1 – 2 years after the exit to cover potential liabilities. To calculate the correct IRR easily, you can use these functions available in Microsoft® Excel™ and Google® Sheets:
=IRR(cashflow_amounts)
=XIRR(cashflow_amounts, cashflow_dates)

For the same exit multiple, the internal rate of return (IRR) decreases significantly the longer it takes from investment to exit.

Calculating exit returns for your startup portfolio

As an angel investor, you usually have more than one startup investment in your portfolio and therefore want to calculate the overall exit multiple and IRR. The chart below shows how to do this, with example calculations for three separate startup portfolios.

Deal Outcome	Multiple	IRR	Portfolio A	Portfolio B	Portfolio C
Total loss	0×	n/a	4	3	4
Break-even	1×	0 %	4	3	3
Double	2×	15 %	1	2	1
Great exit	10×	58 %	1	2	1
Home run	20×	82 %	0	0	1
Total portfolio multiple (at exit)			**1.6** =(4+2+10)/10	**2.7** =(3+4+20)/10	**3.5** =(3+2+10+20)/10
Total annualized portfolio return (IRR)			**9.9 %** =1.6^(1/5)-1	**22.0 %** =2.7^(1/5)-1	**28.4 %** =3.5^(1/5)-1
The startup exit happened 5 years after 10 equal-sized seed investments took place.					

TABLE 15.2.2 Example startup portfolios with overall exit multiples and IRR.

In our example, Portfolio C performed best, followed by Portfolio B. Portfolio A performed the worst. This might be surprising, as Portfolio B had two double and two great 10× exits. However, the 20× home run exit of Portfolio C made it the winner.

Inflated IRRs

Some venture capital funds and angel startup portfolio performance reports calculate IRR based on the appreciation of the net asset value (NAV) of startups, which is based on company valuations in recent investment rounds. Because these are *not* actual returns (as *no money was returned to investors*), and because startup shares can't easily be sold at the last financing round's valuation, such a methodology tends to artificially increase the real IRR. We recommend only taking *actual paid-out returns* into consideration when calculating both IRR and exit multiples for angel investor returns; otherwise, it should be clearly declared that IRRs are based on NAVs rather than actual return payouts. This also means that the IRR and exit multiples are only known once the full payout of an exit has happened and a venture fund has been completely shut down, which often takes 10 years or more.

Actual exit multiples in Switzerland

It's hard to give exact exit multiple figures for Swiss startups, as most exit transactions are not publicly disclosed. Only for 33 Swiss startup exits that happened from 2005 to 2019, the exact multiples became known. Of these, the *median exit multiple was 5.6×* and the average multiple was 6.6×. The highest disclosed multiple was 18.1× according to Pitchbook and Swiss Startup Radar.

These figures are in a very different ballpark than, for example, the exit multiples enjoyed by Uber angel investor Jason Calacanis, who turned his US$ 25 000 investment into more than USD$ 124M. However, it also has to be said that the press likes to focus on stories of startup *unicorns*, which are startups valued in an investment round at more than USD 1 billion, and more recently *decacorns*, which are valued at more than USD 10 billion. In reality, most investors won't ever get early access to these super-rare startups, and getting such a huge financial return remains a dream realized by very few people only.

92 % of ETH Zurich spin-offs survive the first five years

On the positive side, Swiss startups tend to be much more robust than US startups in terms of survival rate. It was found that ETH Zurich spin-offs that were incorporated between 1979 and 2013 had a survival rate of 92 % within their first five years of operations, compared to a 50 % survival rate

for Swiss startups in general. In comparison, Harvard Business School senior lecturer Shikhar Ghosh, in analyzing 2 000 venture-backed companies that raised at least $1 million from 2004 to 2010, found that only 25 % of venture-backed companies ever returned cash to investors. Survival is a prerequisite for an exit, but a high survival rate alone does not automatically lead to an exit, let alone one with a decent multiple.

Should one of your startups fail — as you realistically have to expect — take it easy and don't be hard on the startup founders if they have truly tried to make it a success. See it as some form of hands-on education and seize the opportunity to learn from it, allowing you to choose more wisely and give better help next time. In any case, you should never invest money you cannot afford to lose or need back soon. If you can mentally "forget" the money that you invested on the day of the investment, you will only experience the positive feelings when getting returns and won't need to worry whether you'll lose an investment.

ETH spin-offs have an amazing 92 % five-year survival rate. Nevertheless, angel investors must be mentally prepared to lose some of their investments.

15.3 Tax Aspects for Private Angel Investors

Once you have made your first startup investment, the question of taxation of your investments looms around the corner. For most people taxed in Switzerland who hold their investments privately, only wealth tax is paid on the startup shares. The shares' binding tax value is set by the cantonal tax authorities of the startup's domicile once the startup has submitted a balance sheet and income statement in its tax filing.

Which share value to enter in the wealth tax filing

It can easily take two to three years until the first official tax value is available to investors. Why is that? Most startups set their business year to end on Dec 31st, but they are free to choose to end it on a different date. If their business is very seasonal, for example, they usually end it just before the high season starts, as this is beneficial for their stock taxation. Or, they set a date for the end of September, when many accountants have little to do,

unlike at the end of the calendar year when they're all super-busy preparing annual reports that need to be ready early next year. The first business year can sometimes be extended to encompass 13 to 23 months until the end of the next full business year, depending on the tax law in the canton where the startup has its domicile.
Once the tax authorities receive the startup's tax filings, it often takes them several months (and sometimes even a few years) to process them. The final tax value is then communicated in a letter to the board of directors sent to the startup's domicile address. The chairman of the board has the obligation to share it with the startup's shareholders, as the tax authorities usually don't have access to the share register of the startup. Anyone who is registered with signature authority in the commercial register for a startup may ask the tax authorities for the tax value of the startup if needed.

Angel investors will usually have to file their tax returns *before* they know the final share tax value. Which share value should they enter as their wealth when filing taxes?

- If available, the *last known official share tax value* from a previous year
- If no official tax value is available, the *latest provisional tax value* calculated by the accountant of the startup from the balance sheet and income statement, using the tax authorities' public formulae if provided to the investors
- If no tax value and no provisional tax value is known, the *share price paid* in the financing round and at least the *nominal share value*

In Europe, only Spain, Norway, Switzerland and Belgium recognize a wealth tax. The USA also has no wealth tax.

Income tax on interests and dividends
If angel investors invest in loans or convertible notes with an *interest*, they have to declare and pay income tax on the interest, even if the interest is not paid out but accumulated internally and later used for conversion into shares. Interest is also taxable when holding shares in a VC fund that receives interest because VC funds are *tax transparent*, i. e. as if the fund's shareholder were holding his share of the fund's assets directly.
When a startup pays *dividends* on shares, angel investors have to pay income tax on them at a reduced tax rate.

Angel investors have to annually pay wealth tax on their startup shares and income tax on interest from loans and convertible loans.

No capital gains tax for angel investors

Besides wealth tax, there is usually no other tax on startup shares because *capital gains when selling startup shares in Switzerland are tax free* for private people holding these assets as private assets (*Privatvermögen*). This is very unlike many other countries that tax capital gains, often at a reduced level compared to regular income from salary and interest.

Angel taxation in Switzerland versus USA, UK and Israel

Let's look at an example startup investment with these parameters, published in a report by the Swiss government in 2016:

- CHF 138 560.– invested in startup shares (equity) by a private angel investor
- CHF 2 711 250.– capital gain generated in cash at startup exit
- CHF 221 700.– was the angel investor's other additional taxable income (from salary and interest received) in the same year
- The investment was always held as a private asset
- The angel investor is subject to tax in the respective country and the company is headquartered in the same country
- The angel investor is treated as a private individual for tax purposes
- Church taxes have not been included (only applies to individuals belonging to a church)

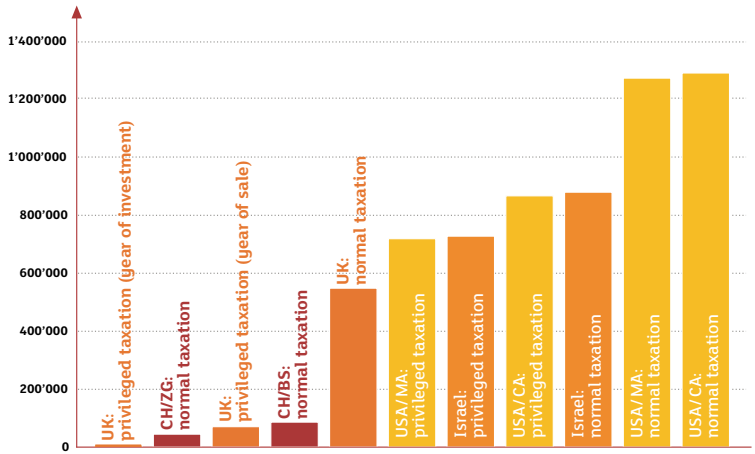


FIGURE 15.3.1. Approximate total tax amounts in CH, UK, USA and Israel, for CHF 2.7M exit proceeds for an angel investor with a taxable other income of CHF 221 700.– Source: Federal Council of Switzerland (2016)

From the chart it can be clearly seen that Switzerland-based angel investors pay dramatically less taxes than angels in other countries, assuming they in fact get tax-free capital gains. The tax on other taxable income (from salary and interest) differs by canton. Zug (ZG) charges less than Basel (BS). The canton of Ticino even has a special tax treaty for investors residing in Ticino who invest in startups domiciled in Ticino. They can even deduct investments from their taxable income up to certain limits (not reflected in the above chart).

Tax-free capital gains on startup investments for angel investors taxable in Switzerland make Switzerland very attractive for angel investors.

15.4 Private vs. Professional Investors

Now we have just learned about tax-free capital gains — but is this really guaranteed? The answer is: Yes, usually, but there are exceptions.

After an exit transaction, tax authorities do have the power to reclassify a private angel investor in retrospect as a professional investor (*gewerbsmässiger Wertschriftenhändler*), which allows the investor to deduct his or her losses but also waives the tax-free capital gain status, allowing the tax authority to collect income tax on exit proceeds. The reason is that professional investment activity in securities by private angel investors is not governed by law, and the distinction between private and professional investment activity has been developed only through court cases. This resulting tax uncertainty unfortunately hangs like a Sword of Damocles over successful Swiss angel investors.

How do tax authorities differentiate?

- *Private Investor*
  Gains made simply by managing private assets or through a fortuitous event
- *Professional Investor (gewerbsmässiger Wertschriftenhändler)*
  Investment activity is done for generating revenue, even in the case of a single one-time investment with a good exit.

Tax authorities don't bother as long as angel investors lose money or only make small returns. However, once a larger exit happens, they will usually carefully check an angel investor's activities.

To avoid reclassification as a professional investor after a good exit, you can stick to the "safe haven" conditions spelled out in the Swiss tax authorities document "ESTV Kreisschreiben Nr. 36 – Gewerbsmässiger Wertschriftenhandel" — *all* of which must be fulfilled to stay on the safe side:

- Securities were held for *at least six months* before they were sold
- The total transaction value in a year, which is the sum of all purchases and sales, is *no more than 5 times* the total securities and cash (*Wertschriften- und Guthabenbestand*) at the start of the tax period
- The income from returns is not needed to cover the cost of living; this is usually the case if exit proceeds are less than 50 % of all taxable income in the tax period
- No borrowed capital is used to invest, or the taxable income from securities (e. g. interest, dividends) is higher than the interest paid on the borrowed capital

- No derivatives (e.g. call and put options) are used other than to secure existing share positions

The main obstacles to fulfilling all these conditions are that:

- An angel investor can't influence when an exit will happen; due to drag-along, he or she has to sell his or her shares when an exit happens, even if this is less than 6 months after buying the shares.
- If exit proceeds exceed 50 % of total taxable income in that tax year, the angel leaves the safe haven, and an angel investor can't easily split exit proceeds over multiple tax years

The only good side to being reclassified in this way is that one can deduct losses while being taxed as a professional investor. However, this is not possible in retrospect for past losses. To hopefully reduce this tax uncertainty, a political interpellation on clarifying angel investor taxation was filed with the Swiss government in 2020.

Angel investors who have a large exit might lose their tax-free capital gain privilege and have to pay income tax on their exit proceeds.

15.5 Indirect Partial Liquidation

There's a situation involving leveraged buyouts, where capital gains might not be tax-free for private angel investors. This is the case if an *indirect partial liquidation* occurs. For this to occur, the following conditions must be met jointly:

- A sale of shares representing at least 20 % of the total nominal value of a startup
- The buyer is a legal entity or a private buyer who acquires the company as business assets (*Geschäftsvermögen*)
- Within five years after the sale, the buyer, with help from the seller, pays out any assets of the company bought (which were already present at the date of the sale), and that payout is used to (re)finance the purchase price

See also Art. 20a in the Swiss tax law "Bundesgesetz über die direkte Bundessteuer (DBG)".

The weird thing here is that the question of whether or not taxes are due can only be answered with certainty five years after an exit, and depends primarily on the behavior of the acquirer. To avoid any such taxes, it is advisable to add a clause to the share purchase agreement stipulating that, in an exit, the buyer will hold the seller harmless of any tax consequences for the seller should the buyer cause an indirect partial liquidation.

When selling more than 20 % of a startup's shares as a private angel investor in an exit to an acquirer, don't forget to add a clause to the share purchase agreement ensuring that you will be held harmless for the tax consequences of an indirect partial liquidation caused by the buyer within five years after the acquisition.

15.6 Investing through Your Own Investment Company

Given the uncertainty around tax-free capital gains for successful angel investors, some very active angel investors decided to incorporate a company to hold all their startup investments in order to maintain a predictable tax situation.

Holding shares in a company instead of privately has several advantages:

- Losses from investments in startups that were shut down can be deducted from current and future earnings
- The tax on earnings for a legal entity is significantly lower than in the case of being reclassified as private individual into a professional investor and having to pay income tax and social security on exit proceeds
- It is fine to use loans to finance startup investments and there is no danger of getting a large tax increase like private people risk that leverage their investments with loans

- You can invite partners to join your startup portfolio by selling them some shares of your investment company or by doing a capital increase
- It is possible to sell shares of your investment company instead of illiquid startup shares when you privately need liquidity
- All receipts will be collected timely due to bookkeeping that is required for companies
- A salary could be paid to the manager (and owner), which reduces the earnings, and in some cases is advantageous to dividend payments only, especially if the manager does not have another income. Taking a salary would also avoid being taxed quite heavily by social security authorities as non-employed people get taxed by wealth instead of by income as usual. Finally, taking a salary also prevents gaps in pension fund in-payments.
- When the angel investor dies, the startup shares don't have to be liquidated to pay out heirs and also don't fall under the purchase option of some shareholders agreements, as the company holding the shares exists beyond the death of the angel investor; ownership is simply transferred to the heirs

Holding shares in a company also has some drawbacks:

- As the company has to do bookkeeping, file taxes yearly and hold a general meeting, there is administrative overhead involved
- There is no free capital gain. Earnings tax (11,9 % – 21 % in year 2021 depending on the canton of the company's domicile) is due on exit proceeds when selling shares of less than 10 % stakes (either on nominal capital or on earnings and reserves). Some special tax reduction rules apply for subsequent share sales and proceeds paid as dividends. When taking earnings out of the company through dividend payments, a reduced income tax is due for the receiver.

Angel investors usually start with smaller investments and are unsure if it is worth the administrative overhead to hold shares in an investment company from the very beginning given the low volume. The good news is that startup shares can also later be transferred into an investment company controlled at least 50 % by the seller (this is called an *affiliate transfer*). However, to avoid income taxation for the seller, shares have to be sold at nominal share value. The difference between purchase proceeds and nominal value is taxable income. As there are some intricacies on how to execute larger share sales to your affiliate optimally, you might want to ask your tax counsel about transposition (*Transponierung*) before executing it.

If you plan to build a significant startup portfolio and want to deduct your losses from your exit proceeds, finance your investments together with partners or with debt, or want to simplify inheritance, having your own investment company is a viable option to consider.

Swiss securities transfer tax
Something to keep in mind: Once your Swiss investment company holds securities with a tax book value of more than CHF 10M according to the latest balance sheet, the company will be automatically classified as a "securities dealer", and will have to pay Swiss securities transfer tax when you sell and buy domestic securities (0.15 % tax rate) or similar foreign instruments (0.30 % tax rate as of 2021).

If an investment company holds more than CHF 10 million taxable securities, Swiss securities transfer tax is owed whenever transferring (startup) shares and other securities.

While we have touched on many tricky tax subjects here, it's always best to consult a Swiss tax expert before engaging in any complex transaction like an exit, or before setting up your investment vehicle.

15.7 Social Security Pitfalls

While a seemingly straightforward topic, social security contributions on employee salaries present three pitfalls that the startup management and board should be aware of to avoid unpleasant and costly surprises.

Social security on exit proceeds
When paying out proceeds of phantom stocks or options at an exit, know that these are treated like income from an employee bonus. Therefore, country-specific social security contributions on the proceeds have to be

paid by the startup. If an employee moves from Switzerland to a subsidiary of the startup abroad (e. g. for entering the markets in Germany, France or the US), the amount to be deducted from the exit proceeds to pay social security contributions may change significantly. This could lead employees to re-negotiate their phantom package before relocation. It gets even trickier if the receiver of the proceeds no longer works at the company, or the work permit has expired, or if the receiver no longer resides in a country where the company has a legal entity. To avoid these problems, some startups have a *guillotine clause* that voids the phantom employee participation program upon employment termination — or relocation to a different legal entity in another country.

Social security payments on account

When startups hire many new employees in a short time period, things can become somewhat chaotic due to a lack of proper onboarding and management processes. At times, some startups forget to increase the monthly payments on account for social security contributions. At the beginning of each new calendar year, the social security authorities request the total salary amount of the previous calendar year. Any difference between actual and paid contributions will be invoiced instantly. Without proper liquidity planning and monthly adjustments of the payments on account for social security, pension plans and insurance fees, this can add up to a large amount of money being due immediately. If the owed money isn't readily available, this can lead to enforcement and, in the worst case, liquidation of the company.

As a startup hires (or terminates) new employees, the monthly payments on account for social security contributions, pension plans and insurance fees must be adjusted accordingly.

A1 attestation when sending employees abroad

To reach more customers, employees are often sent abroad for some days or weeks to present the product to the customer, do marketing from a booth at a trade show, give a talk at a large conference, gather customer requirements, troubleshoot at the customer's site, negotiate deals, execute proofs of concept and more. Doing so without carrying a valid *A1 attestation* — which proves that social security is paid by the employer in Switzerland — can be very costly. This attestation is specific to each work-re-

lated trip abroad, even if it's just for a few hours to help set up a booth or visit a customer to sign a deal. It can be obtained online by the employer through AHVeasy.ch, which connects to the Swiss government's online portal ALPS for issuing A1 attestations. A multi-page form has to be filled in, and it takes from a few hours to a few days to receive the attestation. When not carrying an A1 attestation on a work trip, a foreign authority will claim that, due to lack of immediate proof, they have the right to assume that social security has *not* been paid, and are therefore entitled to collect these contributions themselves at the rate of the country in which the work is performed. This can become very costly and result in fines and even arrests. Many such cases have been reported from Germany, France, Austria and other EU/EFTA countries.

Social security systems are constantly under reform and things may change, so consulting with an expert is highly recommended.

16 About

The Swiss ICT Investor Club (SICTIC) published this handbook with the goal of fostering the angel investor and startup ecosystem in Switzerland, and to make angel investing more accessible to aspiring angel investors and investors from outside Switzerland. We'd like to thank our many contributors for creating content, giving us feedback and our partners for helping us finance and distribute the publication of the handbook. We present the contributors and partners in this chapter.

16.1 Acknowledgements

We'd like to thank the major content contributors Rüdiger Petrikowski (Chapter 3 on business model and Chapter 5 on financial planning), Magda Tarasinska (Chapter 5 on financial planning), Jan Fülscher (input to sections on how to be a winning coach, understanding the situation and developing a solution, how to address specific topics in Chapter 14 on startup coaching), Manuel Dietrich (section on slicing pie in Chapter 10 on vesting and employee incentive plans), Dr. Oliver Staffelbach (IP checklist in Chapter 13 intellectual property), Dany Vogel and the RENTSCH PARTNER Software Practice Group (section on software invention patentability in Chapter 13 on intellectual property). We also had great help from our SICTIC interns Philipp Mao and Patrick Kessel for consolidating bits and pieces of input from a large number of sources.

SICTIC Co-Founder and President Dr. Thomas Dübendorfer did the overall editing of the handbook, and SICTIC CEO Anca Albu helped with the design of the figures. David Surratt took care of the proofreading (in US English). We decided to consistently use "startup" instead of "start-up" in this book, as both forms are often seen nowadays. David Redondo created the cover illustration.

We would also like to thank our many reviewers who gave feedback on the content and helped greatly in making the text more easily readable: Thomas Billeter, Ronnie Brunner, Marcel Egger, Jan Fülscher, Caroline Gueissaz, Dr. Bolko Hohaus, Michel Kertai, Florian Lussi, Karim Maizar, Rüdiger Petrikowski, Beat Speck, Magda Tarasinska, Christian Winkler, and several others.

16.2 Swiss ICT Investor Club (SICTIC)

Swiss ICT Investor Club (www.sictic.ch)
The Swiss ICT Investor Club (SICTIC) connects smart-money investors to Swiss seed and early-stage technology startups. SICTIC is a non-profit association established in the year 2014, which has a strong investor community and organizes the deal flow and matchmaking of startups and investors online and at pitching events. In 2018, SICTIC became the largest and most active business angel network in Switzerland and was awarded "Best Performing EBAN Member" from over 150 member organizations in more than 50 countries.

16.3 Partners

This handbook has been made possible thanks to the financial support of our partners that share our vision. We are very grateful to our partners for their generous support.

Foundations

WISSENSCHAFT. BEWEGEN
GEBERT RÜF STIFTUNG

Gebert Rüf Stiftung (www.grstiftung.ch)
Gebert Rüf Stiftung was established by entrepreneur Heinrich Gebert as a science and innovation foundation. Its objective is to promote "Switzerland as a top location for business and as a place to live". As a private funding agency guided by its mission statement, "making science effective", it supports entrepreneurial projects which are committed to achieving an impact.

HASLERSTIFTUNG

Hasler Stiftung (haslerstiftung.ch)
Hasler Foundation is an independent foundation, free of any corporate interests, which aims to promote education, research and innovation in the field of information and communications technology (ICT) for the well-being and benefit of Switzerland as an intellectual and industrial center.

Economic initiatives

digitalswitzerland

digitalswitzerland (digitalswitzerland.com)
digitalswitzerland is a Swiss-wide, multi-stakeholder initiative created from the shared vision of its over 200 members to strengthen Switzerland's position as a leading innovation hub. By engaging government, business, academia and the public, we create a platform to lead Switzerland forward.

Swiss Private Equity & Corporate Finance Association (www.seca.ch)
The Swiss Private Equity & Corporate Finance Association (SECA) is the representative body for promoting activity within Switzerland's private equity, venture capital and corporate finance industries. Members of SECA include equity investment companies, banks, corporate finance advisors, auditing companies, management consultants, lawyers and private investors.

Law firms

Kellerhals Carrard (www.kellerhals-carrard.ch)
Kellerhals Carrard has emerged as one of Switzerland's most active and impactful key legal enablers for people shifting technology frontiers and driving market-changing innovations. Deeply rooted in the startup ecosystem, Kellerhals Carrard is dedicated to contributing value for startups, founders and investors across all industries and investment stages.

Lenz & Staehelin (www.lenzstaehelin.com)
With an in-depth understanding of startups and enthusiasm for their ideas combined with leading expertise across the full bandwidth of relevant laws and sectors, Lenz & Staehelin's startup and investor desk is regularly chosen by startups, business angels, entrepreneurs and investors wishing to understand and navigate the legal complexities of bringing new business ideas to the world.

VISCHER
SWISS LAW AND TAX

VISCHER (www.vischer.com)
VISCHER is one of the leading Swiss business law firms with offices in Zurich, Basel and Geneva. We provide best-in-class legal advice to founders, entrepreneurs, startups and investors. Our clients benefit from our long-standing experience in working with startups at all stages from first business idea to exit. We make it easy to deal with us, with a one-stop-shop approach that includes legal experts from all fields, available to advise you and your team on all of your legal matters.

walderwyss attorneys at law

Walder Wyss (www.walderwyss.com)
Walder Wyss is one of the most successful Swiss commercial law firms, with offices in Zurich, Geneva, Berne, Basle, Lausanne and Lugano. Our experienced startup desk makes our industry experience, knowledge and expertise available to founders, entrepreneurs, startups and investors, and supports them through all phases from the sparking idea to the exit.

wenger & vieli
Attorneys at law

Wenger & Vieli (www.wengervieli.ch)
Wenger & Vieli Ltd. is deeply rooted in the Swiss startup ecosystem, as we are involved in about 50 % of all trade sales and between ⅓ and 40 % of all financing rounds. All of our advisors have personally invested in startups and know how it feels to lose money. One of our partners was voted Business Angel of the Year 2019, and is eager to assist with each deal strategically. Providing advice on a personal level and having small teams attend to our clients allows us to respond quickly and individually to our clients' particular needs. We advise and represent our clients in a productive, goal-oriented and efficient manner.

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Wicki Partners AG (www.wickipartners.ch)
Focused on technology, corporate and financial matters, as well as business related litigation, Wicki Partners AG is an internationally active business law firm with a personal size domiciled in the heart of Zurich. Countless startups, founders, entrepreneurs, and investors trust our business experience and in-depth market understanding on their path from a vision to a successful exit. Our attorneys, being founders and investors in multiple companies themselves, are passionate about adding structure to complex matters with the aim to create lasting value.

Intellectual property advisors

RENTSCH
PARTNER Attorneys at Law
and Patent Attorneys

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Our lawyers and patent attorneys advise in all matters relating to intellectual property and information technology. We support our clients in the definition and implementation of their IP strategy and develop legally and technically sustainable solutions to complex legal issues. For startups, we focus on protecting their innovations worldwide at reasonable cost in the framework of an IP roadmap.

16.4 Further Resources and Feedback

If you have feedback on this handbook, want to share non-commercial resources with other readers, or have suggestions for a future version, please contact us at info@angelhandbook.ch.

Visit www.angelhandbook.ch for a collection of additional resources for angel investors, such as templates, tools, references, and further reading.

I wish I'd had this handbook when I first invested in a Swiss technology startup as a novice angel investor. The highly condensed content makes it a quick read, gives you relevant input and points out important caveats. It's basically an extended cheat sheet for angel investors.

Dr. Thomas Dübendorfer, President and Co-Founder, Swiss ICT Investor Club (SICTIC)

I have read a lot of venture capitalist literature but this is the first handbook that really nails it. It's concise, written to the point, and it covers a lot of highly relevant topics for private investors.

Susanne Chishti, CEO & Founder, FINTECH Circle

This handbook is a strong contribution toward further professionalizing angel investing in Switzerland, and the best practices presented are very sound. If you truly want the startups to grow faster and make successful exits earlier, you can't ignore these guidelines.

Beat Kühni, Partner and Co-Head VC/PE Practice, Lenz & Staehelin

This handbook would have been tremendously useful for me when I became a founder of GetYourGuide. It gives you deep insights into working with angel investors and why certain deal terms are very important to get right from the beginning — terms that are crucial for when things don't go as planned and that help a startup recover faster.

Pascal Mathis, Co-Founder, GetYourGuide

Partners

digitalswitzerland

VISCHER
SWISS LAW AND TAX

HASLERSTIFTUNG

walderwyss attorneys at law

Kellerhals Carrard

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