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FUNDING FEMALE FOUNDERS

Improving access to entrepreneurial financing for female founders

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Introduction

Female entrepreneurs are systematically conquering the world's entrepreneurship scene and have recently developed into the fastest growing founder group in the world (Birkner, Ettl, Welter, & Ebbers, 2018). With innovative solutions, they do not only follow their male counterparts but increasingly adventure into new areas of entrepreneurship. These female-led startups provide highly promising but oftentimes uncommon investment opportunities, which require investors to think out of the box. The emergence of femtech, which has become an umbrella term for innovative, technology-driven products and services tailored towards female needs, has shown how much the male dominated community of investors struggle to recognize the potential of catering women's needs.

While investors are missing great investment opportunities, female founders lack adequate financing to grow their business. The relationship of female founders and their access to capital is complex. In the past decade, significant research has shown that women struggle to access to entrepreneurial financing all over the world. Thus, the total number of female entrepreneurs is growing and so seems their access to capital funding (Birkner, et al., 2018). However, enthusiasm quickly fades when we take a closer look at the numbers. Brush and colleagues (2018) did so and found that despite the frequent call for diverse teams, all-men venture teams are still four times more likely to receive funding from venture capital investors than ventures with just one woman on their team. Only 2.7% of the venture capital funded companies had a female CEO. Meanwhile, 86% of all venture capital-funded businesses did not have women in management positions (Brush et al. 2018). In Switzerland, the situation is not much different: In 2018, the Swiss venture report looked for the first time at female-led startups and showed that 10 out of 175 start-ups have a female CEO: these companies received about 2% of investment (Swiss Venture Capital Report, 2018). The recently published 2019 report "the State of European Tech" draws an even darker picture for Europe: the financing of purely female entrepreneurial teams was going back in 2019. While 91, 6% of the financing was invested in male teams, only 0.4% was invested in female teams – although they accounted for 21% of the sample.

The access to entrepreneurial funding has long become the most popular topic in women entrepreneurship research (Henry, Foss & Ahl 2016). Over the past two decades, it has clearly demonstrated that the gender gap in entrepreneurial financing exists and persists. Worldwide, female founders are considerably less likely to access entrepreneurial financing than male entrepreneurs do (Edelmann et al. 2018). Women face challenges in acquiring funding, regardless of different institutional and cultural contexts, sector, size or stage of development (Leitch et al. 2019, p.104). Scholars

have found that external resource providers charged female founders with higher interest rates (e.g. Fraser, 2005; Wu and Chua, 2012), asked them to disclose more information (e.g. Constantinidis et al., 2006; Murphy et al., 2007), and provided smaller loans (Eddleston et al., 2016). Given these biases, it is little surprising that female entrepreneurs use less formal and external sourced to finance and grow their business (Yang et al. 2020).

Despite this rich demonstration of the persistent gender gap, we are still far from understanding the formal and informal challenges, which female founders face in acquiring financing (Leitch et al. 2019). Today, we know, however, that a complex interplay of individual, organizational and institutional factors are at play for women seeking entrepreneurial funding (Leitch et al. 2019).

Today's two perspectives on the female struggle for financing co-exists: The first perspective, which is still prevailing, focuses on factors that influence the demand for funding female founders. This perspective concentrates to a large extent on individual characteristics and emphasizes for example women's lower willingness for launching growth-oriented firms (Bitler, Robb, Wolken, 2001); differences in risk taking (Sanchez, Fuentes-Garcia, 2010); lower levels of entrepreneurial self-efficacy (Kirkwood, 2009); and less financial knowledge (Lusardi and Mitchel, 2014; Riding, Nitani and Orser, 2017). The second perspective stresses the supply side by focusing on macro-level factors (such as the characteristics of a region, country or a society) that are beyond the control of the individual female entrepreneurs. Examples are the existence of networks who exclude women entrepreneurs (Eddleston et al. 2016), gender bias in bank and investor decision-making (Zazzaro et al. 2010) or homophily in the acquisition of equity capital (Sohl et al. 2007).

Acknowledging both perspectives and the complex interplay of the demand and supply side, the present report elaborates on three key challenges: #1 Founding as a minority, #2 Founding in a male-dominated scene and # 3 founding for other reasons in different areas.

The continuous gender bias in investment decisions poses an important threat to the success of highly innovative female led start-ups, which are already much less numerous compared to male founders. The fair and equal access to venture capital is central to address the persistent gender inequality in the Swiss entrepreneurship scene. It is therefore of essence that policymakers, investors, startup facilitators and female founders embrace the diversity of today's entrepreneurship scene. A more diverse Swiss start-up scene is an important lever to improve the overall gender equality in the Swiss society for two main reasons: First, startups are not only the future backbone of the Swiss labor market. Second, they have also the potential to address societal challenges, such as gendered innovation through innovative solutions.

Status Quo of women entrepreneurship research

Beyond female-male comparisons

Research on female involvement in entrepreneurial activities took off in the late 80s/ beginning of 90s with comparative studies that explored the main features of women vs. man led businesses (Poggesi et al. 2016). Despite three decades of research, many of these early studies continue to dominate our view of women entrepreneurship. In general, they convey an image of female led startups that tend to be smaller than men's are, undercapitalized and risk-averse, locally based rather than globally active, and with a tendency to operate in sectors where growth may be limited (Leitch et al. 2018, Poggesi et al. 2016, Carter & Marlow 2006). These studies further come to a set of conclusions of female founders that persist until today (Poggesi et al. 2016, Carter & Marlow 2006):

1. Female founders – despite equal educational level – oftentimes lack business / financial education as well as business experience, especially in managerial positions.

2. Female founders are rather "pushed" than "pulled" into entrepreneurship because of necessity, unemployment or unsatisfying, respectively discouraging job situations. Female entrepreneurship provides an ideal vessel to accommodate child-care responsibilities and work obligations.

3. Female founders are more risk-averse and less self-confident when it comes to financial decision-making.

4. Female founders aim for personal fulfillment, flexibility and the desire to serve the community rather than for pure economic factors when evaluating their firm's performance.

These comparative studies where followed by a focus on theoretical development in the late 90s.

Using primarily feminist theories, women entrepreneurship researchers set out to better understand and address these persistent gender gaps in entrepreneurship. The table below illustrates how different theoretical perspectives influence not only the research focus but also the suggestions on how to address the identified gender issues (Foss et al. 2019).

Table 1 Categories of feminist perspectives

	Feminism	Feminist research	View of sex	Research focus	Theoretically expected policy suggestions
1	Liberal	Feminist empiricism	Essentialist (same)	Make women and their conditions visible	Equal access to resources (e.g., to education, experience, networks, or capital)
2	Radical, socialist	Feminist standpoint theory	Essentialist (different)	Make women's unique perspectives and contributions visible	Change of social structures (e.g., public daycare, equally shared, paid parental leave, quotas in public purchasing)
3	Post-modern, post-colonial	Post-structuralist feminist theory	Socially constructed	Make gendered discriminatory practices visible	Change of discriminatory social practices (e.g., mandatory gender awareness training for business advisors)

Figure 1 feminist perspectives of women entreprenuership (Foss et al. 2019, p.441)

Until today, these different perspectives on women entrepreneurship have considerably influenced our image of female entrepreneurs. More importantly, the focus on theoretical development allowed the field of gender and entrepreneurship to move from rather simplistic analyses of similarities and differences between women and men to studying how gender is embedded in processes, meanings and experiences of entrepreneurship (Ahl & Nelsen, 2010). Consequently, a more nuanced image of women entrepreneurship is emerging in today's literature.

As women entrepreneurship research evolved into a more mature and established field of research, it demonstrates repeatedly the persistence of gender biases in entrepreneurship exists (Ahl & Marlow, 2012):

> *Contrary to the neo-liberal thesis that entrepreneuring is an open and accessible endeavor where personal effort alone determines reward and status, it has been demonstrated that there is a persistent, but occluded, gender bias within the entrepreneurial discourse (Ahl & Marlow, 2012, p. 543)*

Despite gradual changes in society, the gender asymmetry regarding to women's roles persists and the women's position as the family's mainstay remains rather unchanged in most societies (McGowan et al. 2012). This prevalence of the domestic, caring role of women not only conflicts with the demands of a corporate career but also influences why and how women engage in entrepreneurial activities (McGowan et al. 2012). However, to date there is no clear consensus to what extent female and male entrepreneurs effectively differ. Nelson and Duffy (2011) even suggested that the differences between male and female entrepreneurs are exaggerated, extrapolated or occur because the masculine male entrepreneur is taken as the normative ideal.

While differences - influenced by the gendered nature of the business environment - have been identified, there is also a need to recognize the heterogeneity of female founders (Aidis & Weeks, 2016). In some areas, female-male differences may even be minor than differences among female entrepreneurs involved in different entrepreneurial activities (Aidis & Weeks 2016, Poggesi et al. 2016, Malach-Pines & Schwart 2008).

Repeatedly, the public discourse relates the persistent gender gap to personality traits. Numerous studies have for example explored if women have a lower need for achievement and locus of control or a higher risk aversion than men do. Particularly, women's attitude towards risk is often seen as a major barrier to financing. However, we have so far, no conclusive research-based results that show whether female and male entrepreneurs differ in their personality (Poggesi et al. 2016).

Beyond personal traits, an individual's education, experience, and perceptions are important resources for the venture creation process (Brush et al. 2017). In innovation-driven countries like Switzerland, women entrepreneurs are as likely as men, or more likely, to have reached a higher education level (post-secondary or higher) (GEM Women Report 2017). The GEM Women Report (2017) even estimates that in Europe, we have roughly 22% more highly educated women entrepreneurs than men entrepreneurs. Interestingly, however, the women's engagement in entrepreneurial activities does not necessarily increase with a higher education attainment (GEM Women Report 2017). Thus, in the case of Switzerland, the level of education does not have a high explanatory force with regard to the overall level of entrepreneurial activity, but helps to understand the strong female presence in some areas and the almost absence of female founders in sectors such as ICT.

Defining female founders: A conceptual challenge

A significant challenge to understand the status quo of women entrepreneurship is therefore a common definition of female founders. Women entrepreneurship is a particularly rich phenomenon and has many different facets. Drawing from current research, we know that women start and build their ventures very differently – as do their male counterparts. Women entrepreneurs typically differ in motives, objectives, abilities and their ventures are based on different business models – some more innovative than others. However, research on women entrepreneurship to date poorly reflects this diversity. On the contrary, different definitions of women entrepreneurs lead to different assessments of the state of women entrepreneurship. It is indeed challenging to develop a common understanding of whom we consider as a female founder or woman entrepreneur (we use here both terms synonymously) without neglecting the fact that different female founders may experience their start-up process differently and hence have different needs (Aidis & Weeks, 2016).

As pointed out by Welter and colleagues (2017), it is far too easy to focus only on the

small percentage of high-growth, technology-oriented and venture backed businesses if we speak of women entrepreneurship. We recognize also that most of ventures (independent of female or male founder) will never be backed by venture capital but finance their businesses in many ways. While we acknowledge the need to overcome the dichotomies guiding our understanding of entrepreneurship (Welter et al. 2017), our project focuses indeed on the minority of ventures that set out to access venture capital.

Thus, we look at ventures founded in the past decade that have a high degree of innovation and that aim for / witness a strong growth (in line with common definitions of startups used in surveys such as for example the Female Founder Monitor 2019). We assume that these startups eventually need entrepreneurial financing to develop and grow. Thereby, we exclude a majority of female-founded and led businesses that rely on established business models (e.g. service providers like hairdressers, shop owners, or restaurant owners) and / or mark primarily the transition into a self-employed status. Again, we recognize the high importance and value of these female business leaders but assume that they will rely on common financing, which is outside this project's scope.

Furthermore, we will focus on startups with at least one woman active, with a woman, who was active in the venture creation process and/ and or is still actively involved in leading and growing the venture. Unlike other studies, we thereby take a rather broad definition of female founders.

#Challenge 1: Founding as a minority

A first challenge that female founders encounter in seeking entrepreneurial financing is their continued position as minority. Accordingly, we witness a strong imbalance in how we are dealing with female founders: While a few shooting stars are constantly in the spotlight, many female founders act 'below the radar' of the established investment scene. In the following, we therefore explore the status and position of female founders in the Switzerland.

Overall, the assessment of the Swiss female participation in entrepreneurship remains somewhat of a black box and a careful analysis of institutional impediments is still lacking. While there is a general agreement to support an increased involvement of women in entrepreneurial activities, we can still witness the public entrepreneurship discourse as highly gendered phenomena (Ahl & Marlow 2012). One example are national and global rankings of the business environment without gender-differentiated factors. It highlights that – despite increased awareness and many good intentions – institutional impediments for female entrepreneurs are not fully recognized.

Female participation in the Swiss Startup Scene

As outlined in the previous chapter, it is not easy to assess the status of female founders due to conceptual differences in what we understand as female founder. It is therefore little surprising that first attempts to map the female participation in the Swiss Startup Scene may come to different conclusions.

Meyer and Sidler published one of the few empirical studies exploring the role of female versus male founders in Switzerland in 2010. The empirical study suggested that female founders were catching up but also raised important questions as to which female founders in which areas were catching up and if – when looking beyond pure numbers – the gender gap was really decreasing (see next chapter).

In particular, it raised the question whether female founders were also catching up with innovation-driven and high growth startups. In March 2020, the Swiss news portal *startupticker.ch* mapped for the second time in a row the Swiss startups led by female CEOs. From 2019 to 2020, the list of female CEOs jumped from 80 to 135 startups indicating that female entrepreneurs are indeed taking off. Most female CEOs are active in the typical areas of Swiss startups, namely life sciences, B2B IT solutions and hardware / micro technology.

Figure 1 Swiss Startups with Female CEOs (startupticker.ch, 2020)

Interestingly, however, *startupticker.ch* limited themselves to female CEOs, who may or may not have (co-) founded the startup. While CEOs without doubt shape the startup, many CEOs join the startup only after the first financing rounds have occurred. While the mapping of startupticker.ch provides an excellent overview of female-led startups in Switzerland, it does not provide a clear indication as to where women stand in comparison to their male colleagues nor how successful female led startups are perceived in the Swiss startup scene. In order to complement the mapping of female CEOs and to address these two shortcomings, we analyze in the following the role of female funders in the top-ranked startups of Switzerland.

Female Founders in the Swiss Top 100

One of the most prominent public startup recognitions in Switzerland is the yearly ranking of the Top 100. Founded by Beat Schilling and Jordi Montserrat (from the IFJ Institute for young entrepreneurs), a panel of 100 jurors chooses every year what they deem the 100 most innovative and promising startups of Switzerland. The ranking has since its foundation been established as a commonly accepted quality criteria for startups. Startup awards provide indeed a legitimacy to new ventures that is crucial and helps to access entrepreneurial. Moreover, awards and rankings such as the Top 100 act as important door openers for entrepreneurs and may provide unique access to the Swiss startup network.

Female Founders in the Swiss Top 100 from 2011 to 2019

The Top 100 rankings from 2011 to 2019 are publicly available and serve as data basis for the present analysis, which systematically analyze each of the listed startups from 2011 until 2019 regarding female involvement.

In order to gain a more holistic understanding of female involvement, we applied a broad conceptualization of female founder to include different roles, notably founder, co-founder, member of the management, and/or member of the board of directors.

Thus, a detailed analysis of the yearly rankings from 2011 to 2019 provides an interesting indication and reflection of the role of women in the Swiss startup scene, notably the three following insights:

Insight #1: Female founders remain a minority

The analysis data shows clearly that male entrepreneurs are leading the majority of ranked startups every single year since the foundation of the Top100 ranking. Yet, there is a significant trend with women entrepreneurs becoming more frequent almost every year (see figure 2). While in 2011 the ranking included only eight female founders, it comprised 29 female founders in 2019, which constitutes an impressive increase of 21%. Yet, the starting point of merely eight female founders in 2011 is extremely low and troublesome. However, in 2019 women entrepreneurs already accounted for 40% of the listed startups.

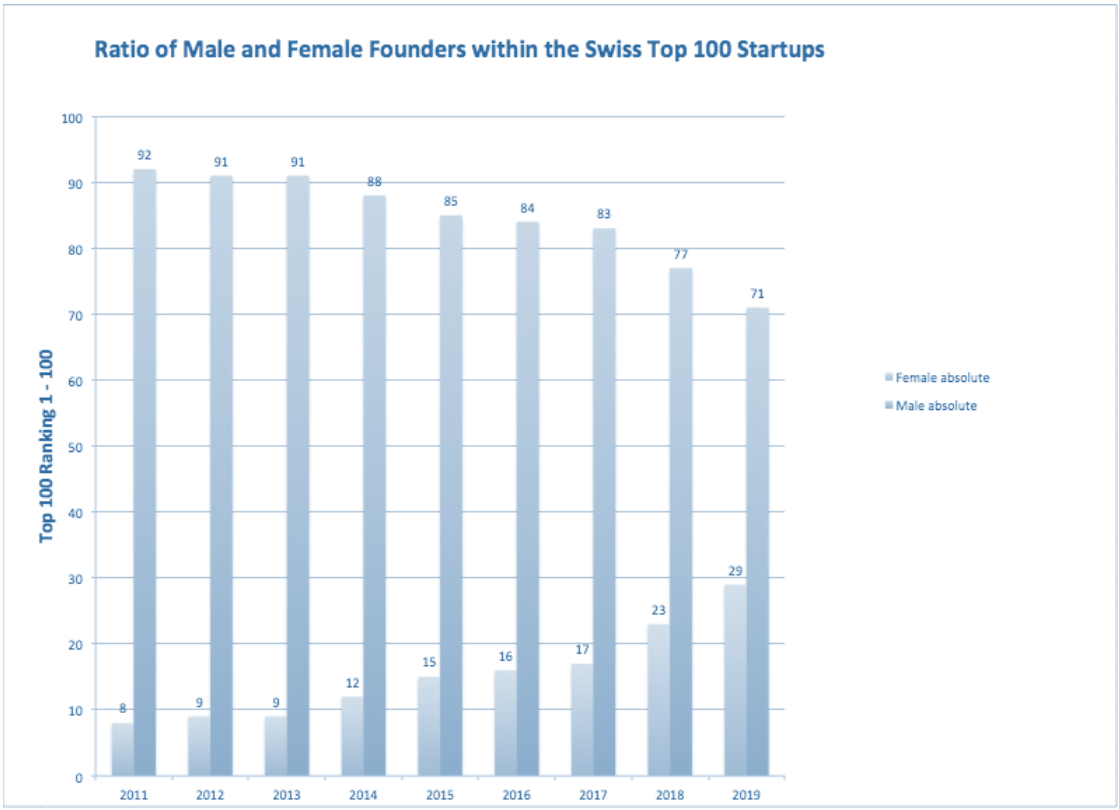


Figure 2 Ratio of Male and Female Founders within the Swiss top 100 Startups

Insight #2: A volatile upward trend

As demonstrated above, the number of ranked female founders over the years is raising. Yet, if we look at the data in more detail, we see that many female founders once listed, made it indeed repeatedly into the top 100. This is not surprising, and in this regard, the female founders do not significantly differ from their male counterparts.

If we look, however, at the number of newcomers each year, the positive trend becomes more volatile. From 2012 until 2014, there is a slight upward trend followed by a slight decrease from 2015 until 2017. In 2019, we witness a relatively strong increase with 11 newcomers. This shows that while we witness a light overall trend, the female representation in the Top 100 is still dependent on few selected female entrepreneurs and remains therefore highly volatile.

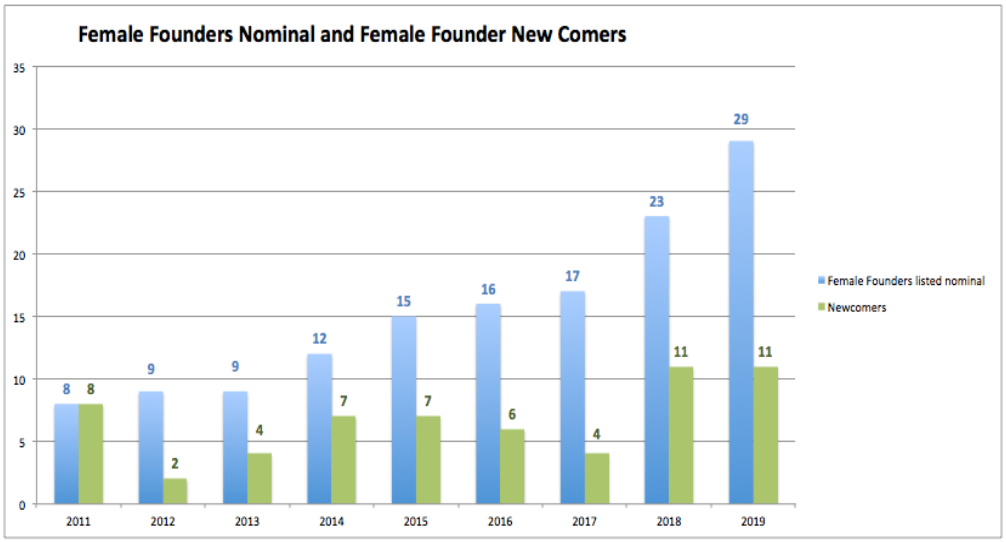


Figure 3: Female Founder listed nominal vs. Female Founder Newcomers per Year within the Swiss top 100 Startups

Insight #3: Female founders grow their businesses

The frequent "re-ranking" of female founders shows that the number of female founders is effectively far lower than the data above implies but it also indicates that the ranked female founders develop and grow their ventures from one year to the other.

One example of such a re-ranking is Lea von Bidder at Ava AG, who recently assumed the role as CEO from her co-founder. With the launch of the fertility bracelet in 2014, AVA AG entered the Top 100 for the first time in 2015 and got ranked at 94th place. From then on, AVA AG made its way up the ranking, entered the top 10 (rank 6) in 2017 and became number one in 2018.

Insight #4: Female founders are starting to move beyond bio – and medtech sectors

While we see an overall prevalence of listed startups in the areas of bio-and med-tech, in 2011 the female founders entered the scene predominantly with bio- and med-tech startups.

In 2019, there is a remarkable difference: female founders are more present in different industries. In particular, the software industry became more popular for women and became the third highest industry for female led startups (see figure 4). While we see this broadening in the scope of female-led startups as a very positive trend for the overall development of female participation in entrepreneurial activities, the im-

portance of biotech and medtech startups remains high – at least in the Top100 rankings.

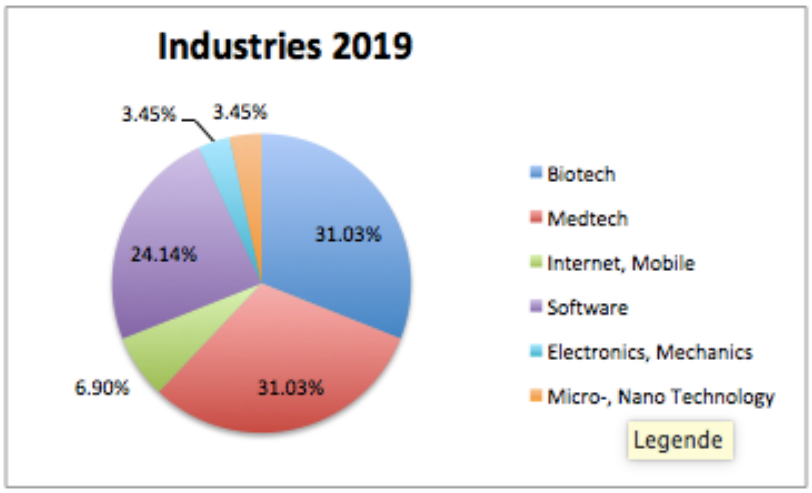


Figure 5: Industries in which female founders started a business in the year 2019

An international comparison

The above analysis clearly indicates that female founders remain a minority in Switzerland but suggests also that there is a positive trend towards more female engagement in entrepreneurial activities. However, it is interesting to look beyond the Swiss borders and briefly explore how Switzerland ranks in an international comparison. Yet, an international comparison is not trivial because current research on women entrepreneurship emphasizes the macro-level influences through institutions, policies, culture and women's socially assigned roles on female participation (Leitch et al. 2018, Foss et al. 2019).

Repeatedly, Switzerland is recognized for its institutional context that makes the starting and developing of new ventures relatively easy (GEM 2019/2020). In the most recent Global Entrepreneurship Monitor, Switzerland even ranks at the very top. Switzerland's favorable business environment is known for access to finance, education, knowledge and technology transfer, infrastructure and government programs (GEM 2018/2019). The manifold efforts to foster the Swiss entrepreneurship ecosystem seem to pay off – at least for some entrepreneurs.

If we bring gender into the equation, everything changes: Switzerland finds itself clearly at the other end of the ranking. Interestingly, many indexes compare either a nation's competitiveness in entrepreneurship and innovation (e.g. Global Entrepreneurship Monitor, Global Competitiveness Index WEF) or gender gap reports (e.g.

Global Gender Gap, WEF) but few reports explore combine these topics. This is problematic because – as already mentioned above countries may rank very highly in one and poorly in the other area. While Switzerland is leading the list of the most competitive countries according to the Global Competitiveness Index (WEF, 2018), it only reaches rank 18 in the WEF's Global Gender Gap report (2020). Overall, none of countries top ranked with respect to their entrepreneurial ecosystem overlap with the countries ranked in the top ten on gender equality (Aidis & Weeks 2016).

Insight # 5: A nation's favorable business environment does not directly translate into high female participation

Switzerland is among the few countries around the globe that are innovation powerhouses. One of the most important driving factors for innovations is a country's entrepreneurial culture. The higher a country's willingness to take risk and embrace disruptive ideas, the better its entrepreneurial culture as well as its innovative ecosystem. Switzerland ranks repeatedly high in international comparisons in terms of innovativeness (GEM 2019/2020, WEF 2019). These rankings and comparison investigate how favorable a nation's ecosystem is to creation and growth of new ventures. Based on different criteria such as business dynamism (regulatory frameworks, administrative requirements), innovation capability, human capability and the entrepreneurial culture, they indicate to what extent creating an innovative and high-growth venture is fostered by the nation's macro-level factors. The below figure shows how Switzerland compares to the countries[1] that achieved the highest score within each of the selected categories (WEF, 2019). The figure highlights Switzerland's high scores in the stable and enabling environment as well as in the availability of healthy and skilled human capital. In terms of innovation capability, Switzerland is ranked third behind the innovation powerhouses, Germany and the United States (WEF 2019). Interestingly, however, Switzerland scores relatively low in ICT adoption, which relates well to the above-identified prevailing focus on bio-and medtech in contrast to ICT in the Swiss startup scene.

The slow ICT adaption, which stands largely for the country's digital readiness, is also one of the key reasons why Switzerland lost its number one status in the recent competitiveness rankings (WEF, 2018, 2019). In 2019, Switzerland just made it into the top 5 behind Singapore, United States, Hong Kong and the Netherlands.

[1]The United States scored the highest within the overall score, while New Zealand scored the highest within the pillar institutions, Singapore within the pillar infrastructure and product market, Korea Rep. within the pillar ICT adoption, Finland within the pillar skills, environment, the United states within the pillar labor market, financial system and business dynamism, China within the pillar market size and Germany within the pillar innovation capability.

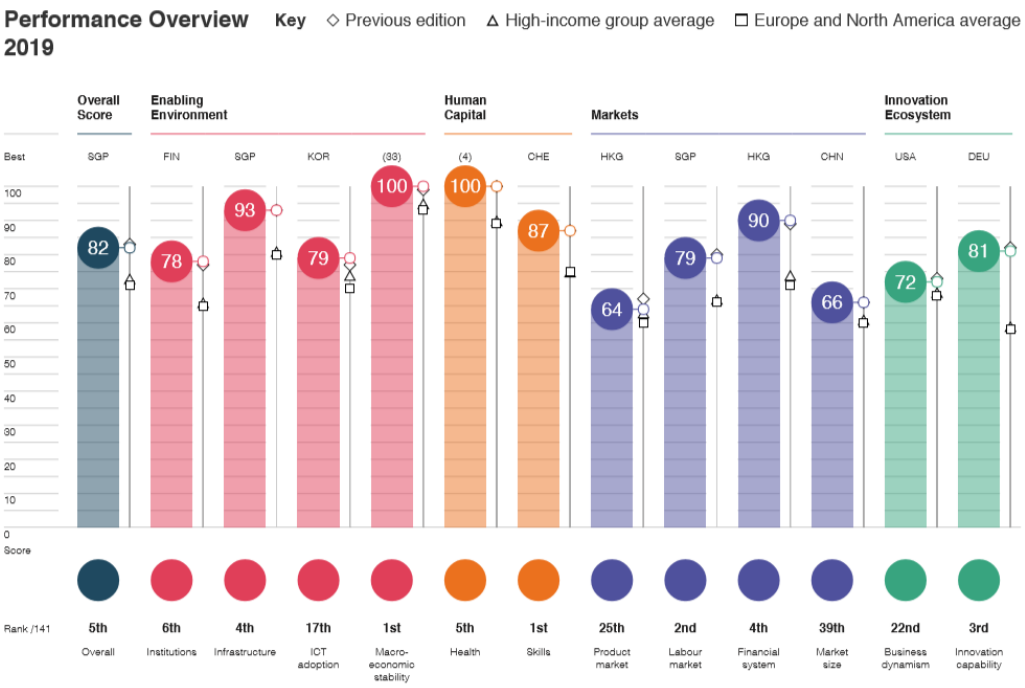


Figure 6 Switzerland and the Global Competitiveness Index (WEF Report, 2019)

Interestingly, from these global five innovation leaders, only Switzerland (rank 18) made into the top 20 countries in terms of gender parity[2] (Global Gender Gap Index, 2020). The 2020 Global Gender Gap Report features a benchmark of 153 countries regarding the differences between women and men in social, political, intellectual, cultural and economic attainments or attitudes (WEF, 2020). Next to the overall ranking of nations, it also offers interesting sub-indexes such as economic participation and opportunity, which relates best to our focus. This sub-index shows that progress in female participation has regressed all over the world. The report estimates that it will take 257 years before gender parity can be achieved in the area of economic participation and opportunity. This sub-index also displays a rather low ranking of Switzerland (rank 34). Hence, it indicates that women and notably female founders are not equally benefitting from the great entrepreneurial ecosystem that Switzerland offers. The Global Gender Gap Index accordingly identifies one of the biggest global challenge as the underrepresentation of women in growing branches like ICT, technology or engineering as well as the limited access to capital.

Comparing the trend for gender parity by countries, we see that Western Europe has made the most progress on gender parity when taking as an example the percentage of women in companies' board of directors that includes most of the Western Europe

[2] gender parity is a statistical measure about the female-to-male ratio regarding indicators like for example income or education.

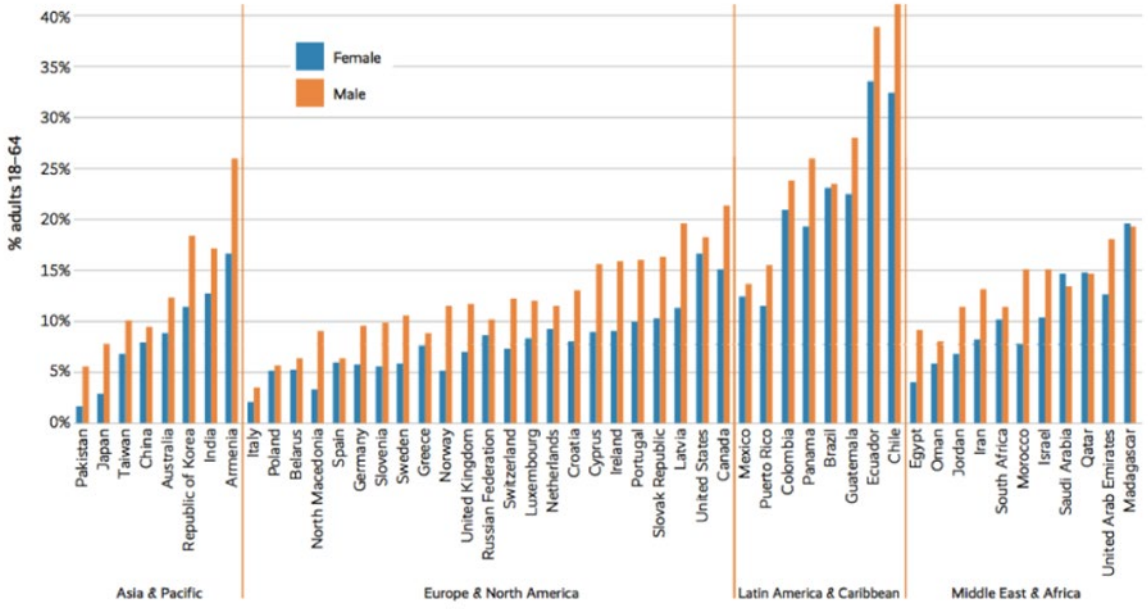
countries having over than 30% women as board directors(e.g.: France 43.4%, Germany 31.9% and Denmark 30.3%) (WEF, 2019-2020). However, in 2019 Switzerland only 2.7% of women hold a board chair position (Deloitte, 2019).

Insight # 6: A favorable startup environment does not directly translate into female-led startups

Having seen that an overall beneficial business environment does not necessarily translate into a high participation of women in economic activities, we take a closer look into the specific domain of startups ecosystems.

With more than twice as many male entrepreneurs (9.98%) than female entrepreneurs (4.72%) active, the Global Entrepreneurship Monitor 2018/2019 ranks Switzerland particularly poorly (rank 42 of 48) in terms of gender equality. Indeed, 25 of 30 reference countries ranked better than Switzerland in terms of female participation in entrepreneurship (GEM 2018/2019).

We further know that despite the high accessibility of (entrepreneurship) education for Swiss women, few female founders seem to translate their high expertise into new ventures. Accordingly, the gender gap becomes even evident when we look at innovation-driven and high impact startups. These ventures often originate from research undertaken at universities; however, the SWITT Report (2013, more recent data is not available) shows that women only led 5.9% of university spin off.



Source: GEM Adult Population Survey, 2019

In this connection, women in high-income countries like Switzerland have more options for employment and that is why they are less likely to start a business. However, this is not the case for low-income countries where necessity (due to not having other options for an income or unemployment) as well as other factors also play a big role. Furthermore, Switzerland together with Cyprus belong to the countries who have 86% of women who pursue a business because of opportunity rather than not having other means of economic support or employment. Only in Poland there are more opportunity-driven entrepreneurs than in Switzerland (95%) (GEM 2018/2019).

The two best start-up ecosystems worldwide can be found in Silicon Valley, in the US, and in Israel. However, a study found out that women own only a quarter of the equity and just one in eight women are start-up CEOs compared to their male counterparts (CNBC, 2019). Next to Silicon Valley, Israel has become an inspiration for many policymakers and startup enthusiasts featuring the world's highest rate of start-ups per capita and one of the highest density of tech start-ups in the world (Yuklea, Cukier, Melo, Kon, 2014, pp. 4-8). Some researchers see Israel's success in its unique context with high participation in military service, immigration (e.g. notably highly educated Russian Jews from the former Soviet Union) and the facilitated exploration and exploitation through universities, ventures and incumbent companies (Haan, 2011; Piscione, 2013).

Yet, despite all these strengths of Israel's start-up ecosystem, Israel also features a clear lack of diversity in the entrepreneurs' demographic profiles: Most of founders are male secular Jews from a European background. Moreover, women have been found to be very rarely involved in high-tech and innovative start-ups (Yuklea et al. 2014, p. 22). Chancellor Merkel noticed this lack of female founders during her visit in Israel when she met with Israel's venture capitalists, entrepreneurs, and government officials. She noticed that among all them, she was the only woman, even though 51% of Israel's population is female (Fenigson, Forbes, 2018). Furthermore, the role of family is very significant when considering a theory that says most people become entrepreneurs by imitation (Kedrosky 2013 mentioned in Yuklea et al. 2014). Thus, traditional gender roles in countries like Israel foresee a career as entrepreneur primarily for the male family members (Yuklea et al. 2014, p. 13).

Insight # 7: Gender-neutral is not good enough

Thus, even (or especially) in these global startup hubs, female founders remain a minority, which faces difficulties and challenges. Without doubt, an entrepreneur's decision starting a new venture is embedded in its social, cultural, historic and economic context that may foster or hinder the development of a new venture. These comparisons indicate that gender-blind business support does not help women to grow their businesses as they help the male equivalents (Aidis & Weeks 2016).

There are many countries the government started to act and so set up policies for the

purpose of increasing women entrepreneur's access to financial capital like for example in Canada, Germany, Norway and the US. Coleman and colleagues (2019) conducted a cross-country study[3] of policies and practices aimed to increase women entrepreneurs' access to financial capital. Their study shows that structural and/or cultural factors disadvantage female founders in accessing financial capital and that more explicit policymaking is required. Norway for example uses quotas in order to ensure that women receive a "fair share" of funding. Most of these countries include in their policies primarily profit-oriented female companies, while German policy documents included also socially and environmentally oriented firms. As Coleman et al. (2019) mentioned: "This is notable given that women are disproportionately engaged in non-profit and social enterprises".

Given the embeddedness of entrepreneurial activities, there is still a lack of research on how the Swiss policy context affects women entrepreneurship. As outlined above, the low ranking in terms of female participation in entrepreneurship suggests that the Swiss business environment is far from being as great for women as it is for men.

[3] Documents from Canada, Germany, Ireland, Norway and the United States were analysed.

#Challenge 2: Founding in a male-dominated scene

Female founder looking for coaching and investment enter without doubt a male industry. With the majority of investors being male, network events, pitches and the way ideas are evaluated are tailored towards male needs and preferences. Social similarity between founders and investors plays indeed an important role in investment decisions (Murnieks et al. 2011), which are strongly influenced by 'signals' (characteristics) of the entrepreneurial team. Social similarity becomes particularly relevant in situations of high complexity and uncertainty, where rules of thumbs and gut feelings provide the basis for the decision-making. Driven by gender stereotypes, male investment communities evaluate entrepreneurial activities of male teams more positively and tend to exclude female teams

The power of unconscious bias

Unconscious bias influences every decision we make- even investment decisions. Many people think that financial decisions are rational because they are based on numbers. Conventional financial theories have therefore seen people as rational profit makers or wealth maximizers. However, modern theories increasingly investigate the question why people make irrational investment decisions and conclude that investment decisions are strongly influenced by psychological factors such as unconscious bias.

Insight #8: Unconscious bias influence investors' assessment of female founders more negatively

Unconscious bias can be very destructive and cause problems for investors and entrepreneurs. Considering the venture capital investment process that includes four phases (deal sourcing, pitching, due diligence and closing), the pitching phase is the most at risk for biases. Within a pitching phase, the decision-making is strongly influenced with gender bias (Harvard Business Review, 2020). Researchers found out that investors prefer – regardless of a pitch's content – male entrepreneurs' pitches more than pitches made by female entrepreneurs (Brooks, Huang, Kearney and Murray, 2014). Moreover, due to biases investors tend to ask more promotion questions to male entrepreneurs and preventive to female entrepreneurs (such as questions including potential losses and risk reductions) (Kanze, Huang, Conley and Higgins, 2017). Consequently, the ones who were asked promotional questions had raised six times more money.

What are unconscious biases? Human beings have limits in their information-processing, and this is the reason why it comes to. There are different cognitive and

emotional bias that influence our behavior where cognitive bias are about the processing and the interpretation that – as mental short-cuts – help us to make a sense of the worlds as well as reaching decisions in a quicker way (PIMCO, 2020). Moreover, it refers to systematic, non-predictable rationality in judgement or decision making (Blanco, 2017).

Emotional bias on the other hand are based on emotional factors like for example impulse or intuition and are driven by fears and/ or desires (PIMCO, 2020). There are also other biases that belong, in most of the cases, in the category of the cognitive biases. The most important ones – that are related to the topic of start-up funding – are going to be introduced in the following:

Insight #8: The *similarity bias* leads male investors to invest more easily in male than female entrepreneurs

The social psychologist Byrne (1971) analyzed the phenomenon "similar-to-me" that according to his theories includes, the tendency of individuals to gravitate to people who are the same as us or in other words: "What you like is what you are" (Blanco, 2017). The underlying theoretical backgrounds for his studies include firstly, *the learning theory*. This is about the perceived similarity that causes interpersonal attraction which in turn has an impact on the evaluation of the other persons opinion and/or decision. Secondly, he also includes the *self-categorization theory*. This theory says that a person's self-concept is based on the social categories he places himself taking as an example the category "gender": Being a woman or a man (the categories) and the desire for having a positive self-identity causes him/her to have a preference for those wo are a similar regarding its social category (e.g. male or female). Finally, the *social identity* theory is another basis and is about that people wish to belong to a group as this leads to the positive feeling of social identity.

Furthermore, the similarity biases (or affinity bias) leads to the selective attention bias that is about paying attention to things, ideas and inputs from people who we tend to gravitate towards. As previously mentioned in another chapter, female founders found a business in a male dominated scene where the most influential people including investors are male. Thus, this unconscious bias may provide one explanation why male investors have the tendency to selectively rather invest in male founded businesses than female founded.

Insight #9: Due to the availability bias, investors base their decisions on male rather than female role models of entrepreneurship

Entrepreneurship remains a highly gendered phenomenon in the sense that male role models dominate our view of entrepreneurs (Ahl & Marlow 2012). This is highly relevant because the availability / confirmation bias will have investors look for entrepreneurs that correspond to their vision of entrepreneurs that comes to mind with most east. In most cases, the image of successful male entrepreneurs dominates the public

discourse (Ahl & Marlow 2012. In addition, this is strongly correlated with the confirmation bias, that describes the tendency to find information, input or data that supports our preconceived notions. Putting this puzzle pieces together, there starts to build the image in form of the question: Do investors tend to judge the success of a start-up that is run by a man as more likely to happen because it is easier to represent in his/ her mind a man as a start-up owner than a woman?

Insight # 10: Overconfidence of male entrepreneurs and investors disadvantage female founders

In the context of investment decisions, it acts in two ways against female founders: First, research shows that male entrepreneurs tend to overrate their skills, know-how and expertise while women undervalue themselves. The individual perception of one's skills, the likelihood of failure and the strength of the entrepreneurial opportunity is one of the most important differences between female and male founders (Welter and Smallbone 2003). The lower self-perception compared to male role models make investors perceive women as being insecure – especially in highly competitive settings such as pitching formats. This obviously translates into less favorable investment decisions. Second, investors also tend to show a significant overconfidence bias which affected their decision accuracy negatively (Zacharakis and Shepherd, 2001). They are therefore less likely to critically reflect upon their decisions regarding to gender stereotypes and unconscious bias that might disadvantage female founders.

Overall, the unconscious biases are disadvantaging especially female entrepreneurs in competitive pitch settings that dominate the startup scene. Due to these blind spots, investors not only have risks like making the wrong venture-investing decisions but also be missing promising opportunities.

Effectively overcoming unconscious bias

Since biases have an unconscious nature, the very first step is getting aware of the fact that, we are limited in our information-processing, and that this may lead to biased decisions. Concrete steps for getting aware is for example to learn more about unconscious biases and then to identify the biases you are being exposed to. A further strategy for minimizing biases is the use of alternatives to pitching or at least to use a slightly different way of pitching than the traditional way (e.g. blind pitches).

In keeping with the motto that "four eyes see more than two", important decisions are better reconsidered when making it with others. In pitches, it can be created a panel of different kinds of people where an outside view can be taken into consideration (e.g.: discussing the pitch on female racing wear with female family members or friends). Using this strategy for overcoming for example the similarity bias, it is crucial that your decision-support team is diversified.

Another strategy for overcoming biases like availability or overconfidence is to act

against your intuition. This is a way of making a decision that is based on logic rather on emotions due to fact that the irrational and impulsive center of our brain is used when acting based on intuition and acting against it, we start to challenge the logical center of our brain (Payne et al., Harvard Business Review, 2015).

In order to address biases in general and to develop a control system, a process, structure and checklist can be created and/ or used. This includes the creation for a criteria list with which entrepreneurial pitches are being evaluated. Additionally, standardized interviews rather than open questions should be used when interviewing entrepreneurs. Moreover, when regularly the types of people you mentor and support with your investments are being tracked then this enables you to use this data for reflections and adjusting if biases may be getting in the way.

The slow uprising of female investors

While unconscious biases, gender stereotypes and homophily of the male startup scene tend to slow down the rise of female entrepreneurs (see Leitch et al. 2018), more and more attention is paid to the role of female investors and women business angels (Poggesi et al. 2016, Becker-Blease and Sohl, 2007). Becker-Blease and Sohl (2007) investigated female founders' access to angel capital. Business angels play an important role in first and early stage investments, which oftentimes allows new ventures to eventually access venture capital. However, business angels tend to be highly reluctant to identify themselves and to provide detailed information about their investments. Accordingly, Becker-Blease and Sohl's (2007) study relies on aggregated data from angel portals from 2000 to 2004 and therefore only provides an indication of today's situation. However, here are some interesting findings: First, their study showed that women-led startups seek considerably less angel capital than men do. However, once women submit a funding proposal to business angel portals, they are equally likely to get funding as their male counterparts. Second, the study shows that female founders are more likely to seek, and to a lesser extent receive angel investment from women investors. Thus, the unconscious bias of similarity naturally also influences how female founders seek capital and how female investors make decisions.

Insight #11: Female founders prefer to seek capital from female investors

Given the predominance of male entrepreneurs and male investors, it is little surprising that we also find that juries of startup awards and accelerator programs are oftentimes overwhelmingly male. In our analysis of the Top100, we therefore looked also at the gender ratio of the jury and found that in 2019 merely 13 women were present in the panel of 100 jurors that aim to choose the 100 most innovative and promising Swiss startups. Thus, the uprising of female investors and startup experts is an important lever to address the challenges of female funders in accessing external funding.

#Challenge 3: Founding for other reasons in different areas

International research indicates indeed that female founders differ from male entrepreneurs in how they engage in entrepreneurial activities. While we emphasize the heterogeneity of female founders (Calderon et al. 2017), we recognize that female founders oftentimes start their new ventures for other reasons than profit maximization, that female founders tend to grow their business differently, enter new areas of entrepreneurship and oftentimes target a predominantly female market. These tendencies to deviate from the male conception of an entrepreneur may pose significant challenges when looking for entrepreneurial funding in conventional forums.

Entrepreneurial motivation: Beyond profit maximization

If we investigate the question why women start their own business, we find indeed that the complexities of women's motivation to engage in entrepreneurship is higher than the traditional 'pull/push' dichotomy suggests (Poggesi et al. 2016). However, there is clear evidence that female founders start their business more often for necessity-driven reasons than by opportunity (Calderon et al. 2017). This is certainly true for the context of many developing nations, but we also find similar trends in Switzerland. What does necessity mean in Switzerland? An early study of Swiss female entrepreneurs suggested that many women decided to start their venture for family-related reasons and/ or to create job opportunities closer to their homes (Meyer and Sidler, 2010).

It is therefore little surprising that literature has often pictured women entrepreneurship as the "escape" from unsatisfying career options in the corporate world and the solution for a better family-work life balance. Yet, by adopting new research approaches (e.g. life history approach), a more complex set of pull and push factors motivates female and male entrepreneurs alike (Kirkwood 2009). While many female entrepreneurs are motivated by similar factors such as the desire for independence or financial gain as their male counterparts (McGowan et al. 2012), there are also factors that seem to affect the women's intention to startup more than the men's consideration: For example, the role of children has indeed a strong impact on women but does not influence the men's decision to start (or not) a new venture (Kirkwood 2009). This correlates with the relatively unchanged role of women about childcare responsibilities. Yet, this research stream also shows that entrepreneurship is not a panacea for the persistent struggle of balancing work and family responsibilities (Poggesi et al. 2016).

Insight # 12: The innovativeness of women-specific opportunities may be underestimated by the male-dominated startup scene.

It has been suggested that founding out of necessity negatively affects the degree of innovation and growth of a new venture (Meyer and Sidler 2010). However, findings on the degree of innovativeness of female vs. male new ventures are inconclusive but the recent GEM report on women entrepreneurship (GEM 2017) indicates that female founders may even be more innovative than their male parts. Importantly, female entrepreneurs oftentimes develop innovative products and services tailored towards female needs. There are indeed many profitable opportunities to make a true impact in the life of women, because the development of innovations is still strongly gendered and technologies for women-specific needs are still underdeveloped.

Insight #13: Stable long-term growth projections may not appeal to investors looking for quick returns.

Furthermore, female founders tend to grow their businesses differently: Many women start their business as solo-entrepreneurs and pursue little ambitions to grow in terms of employees within the first 5 years of activity (GEM 2017). Consequently, they tend to be less active in international markets (Pergelova et al. 2019). However, female-led startups have significantly higher survival rates (OECD 2017). The logic of stable growth in contrast to the logic overconfident growth projections in the startup scene may be to the detriment of female founders.

The emergence of femtech and the discovery of new sectors

Under the label “femtech”, an increasing number of female founders are addressing female health topics with innovative solutions. One of the most prominent examples in Switzerland is Lea von Bidder who has launched an innovative fertility tracker with her startup AVA. Although these startups target the needs of half of our population, they encounter significant difficulties in finding investors. Indeed, they report that male investors do not feel comfortable discussing female topics and hence are also reluctant to discuss and recognize the potential of the related business cases (NZZ, 2020). While the awareness increases that female founders may propose new and impactful opportunities, the predominantly male investment scene still seems to underestimate their potential and therefore miss important investment chances.

Insight# 14: Preferred sectors of women entrepreneurship tend to be outside the investors’ focus

Female founders are also present in certain industries while largely absent in other sectors: In Switzerland, just under three fourths of women entrepreneurs are active in the service sector – within which the areas of government/health/ education and social services are particularly popular (GEM 2017). With almost half of the Swiss female founders starting their business in this sector, it corresponds to over eight times the

level of men entrepreneurially active in this sector. On the opposite, we find for example significantly less female-led startups in the ICT sector (GEM 2017. International research further validates this difference and indicates that many female founders focus with their startup on economic and social objectives (Berger and Kuckertz, 2016). If we look at the distribution of venture capital in Switzerland, we see that in 2019 almost 35% of financing rounds in Switzerland took place in the ICT sectors – in the first half of 2020 this percentage grew even further (VC Report Update, 2020). Moreover, a significant share of financing rounds and effective investments take place in the bio and med tech sector (VS Report Update, 2020).

Advancing female entrepreneurship

Today, we know that gender-blind business support does not help women to grow their businesses as they help male equivalents (Aidis & Weeks 2016). Thus, even „gender neutral" support policies are likely to have gender biased outcomes. Without doubt, an entrepreneur's decision starting a new venture is embedded in its social, cultural, historic and economic context that may foster or hinder the development of a new venture. The low ranking in terms of female participation in entrepreneurship suggests that the Swiss business environment is far from being as great for women as it is for men.

The paradox of positive economic development, higher education levels and decreasing women entrepreneurship

One challenge in advancing female funders and supporting them to strive for successful and adequate financing is that a positive development of a nation's economy and innovativeness does not translate into more female founders – it may even be the contrary. A global comparison indicates that the number of female founders decreases with a positive economic development as well as with the innovativeness of a nation' economy (GEM 2017). Given the high propensity of female founders starting their venture out of necessity, this is little surprising. It is however worrisome because it shows that too many women entrepreneurship is not an attractive career option. The same applies also for the level of education: Overall, higher education does not seem help to strengthen women's perception of their entrepreneurial skills nor their wish to engage in entrepreneurial activities (GEM 2017).

We know indeed that despite the high accessibility of education for Swiss women, few female founders seem to translate their high expertise into new ventures. Accordingly, the gender gap becomes evident when we look at innovation-driven and high impact startups. These ventures often originate from research undertaken at universities; however, the SWITT Report (2013, more recent data is not available) shows that women only led 5.9% of university spin off.

The heterogeneity of female founders and the risk to turn female founders into poor male copies

Furthermore, we witness a large variety of female founders (Calderon et al. 2017, Aidis & Weeks, 2016) and overlooking this heterogeneity of female founders the design of support policies and programs is risky. Although all forms of female entrepreneurship are important, different forms of businesses require different levels of resources, skills and support (Aidis & Weeks, 2016). Hence, there is an urgent need for a more

nuanced understanding and acknowledgment of different types of female entrepreneurship.

Moreover, it is in our opinion of outmost importance that support policies and programs for female founders do not aim to adapt female founders to the predominant male logic. It is essential to develop an innovative and attractive environment that fits better with female founders' logic (Global Entrepreneurship Monitor, 2017; OECD/European Commission., 2017).

Supporting female founders demands a more diverse and differentiated approach, which goes beyond the current investment focus on growth-oriented and technology-based startups and considers the benefits of startups with an ambitious vision for a sustainable future. Going forward, we will therefore take a critical stance towards a persevering discourse that still reflects an implicit "deficit model" - the "why a women entrepreneur can't be more like a man?" approach (Marlow and Swail 2014).

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