

Working Paper

Institut für
Mittelstandsforschung

IfM
BONN

www.ifm-bonn.org

The German Mittelstand: Antithesis to the Silicon Valley entrepreneurship model?

André Pahnke und Friederike Welter

Working Paper 01/19

Die IfM Working Paper Reihe veröffentlicht wissenschaftliche Beiträge aus den Bereichen Gründung und Unternehmertum, Familienunternehmen und KMU. Die Ansichten, die in den Beiträgen geäußert werden, beruhen auf der Meinung der Autoren und stellen nicht die Auffassung des Instituts für Mittelstandsforschung (IfM) Bonn dar.

Es kann sich bei den Beiträgen um in Arbeit befindliche Diskussionspapiere handeln. Überarbeitete Fassungen sind auf Nachfrage bei den Autoren erhältlich. Die Autoren sind angehalten, die ethischen Richtlinien des Publizierens einzuhalten.

The IfM Working Paper Series publishes research in entrepreneurship, family business, and SME-related topics. Any opinions expressed here are those of the author(s) and not those of the Institut für Mittelstandsforschung (IfM) Bonn.

Papers published in this series commonly represent preliminary work and may appear elsewhere. A revised version may be requested directly from the author. The authors are committed to work in accordance with the common ethics in publishing.

Suggested citation: Pahnke, A.; Welter, F. (2019): The German Mittelstand: Antithesis to the Silicon Valley entrepreneurship model?, in: IfM Bonn: Working Paper 01/19.

Impressum

Herausgeber

Institut für Mittelstandsforschung Bonn
Maximilianstr. 20, 53111 Bonn
Telefon +49/(0)228 / 72997 - 0
Telefax +49/(0)228 / 72997 - 34

Working Paper 01/19

ISSN 2193-1879 (Internet)
ISSN 2193-1860 (Print)

Bonn, Januar 2019

Das IfM Bonn ist eine Stiftung
des privaten Rechts.

Gefördert durch:



Bundesministerium
für Wirtschaft
und Energie

aufgrund eines Beschlusses
des Deutschen Bundestages

Ministerium für Wirtschaft, Innovation,
Digitalisierung und Energie
des Landes Nordrhein-Westfalen



The German *Mittelstand*:

Antithesis to the Silicon Valley entrepreneurship model?*

André Pahnke**
IfM Bonn

Friederike Welter
IfM Bonn and University of Siegen

Abstract

Whilst internationally, the *Mittelstand* in Germany is admired and many countries try to emulate it, the current debate in Germany praises the Silicon Valley model of entrepreneurship, contrasting the *Mittelstand* as low-growth, low-tech and non-innovative – in short: as a hindrance to Germany’s economic future. We therefore ask whether the *Mittelstand* actually is the antithesis to the Silicon Valley entrepreneurship model. We show that *Mittelstand* is more than a small and medium enterprise size, identifying its distinctive features (identity of ownership and management, sense of belonging). In this regard, we also discuss the influence of historical paths and current institutional settings on the *Mittelstand* model. Asking to what extent the *Mittelstand* is distinctive, we address its diverse contributions to economy and society. We suggest that the *Mittelstand* is an excellent example of everyday entrepreneurship and a vibrant segment of economy which is also competitive, innovative, and growth orientated; albeit in different ways compared to Silicon Valley entrepreneurship. In concluding, we outline ideas for future research and implications for policymakers. In our view, future research and policies should stand back from dichotomies such as “*Mittelstand* versus Silicon Valley entrepreneurship” and acknowledge the diversity and heterogeneity of entrepreneurship.

Keywords: *Mittelstand*, context, everyday entrepreneurship

JEL classifications: L26, M13

* This is the authors’ version of a work that has been accepted for publication in *Small Business Economics: An Entrepreneurship Journal*. Changes resulting from the publishing process, such as peer review, editing, corrections structural formatting, and other quality control mechanisms may not be reflected in this document. Changes may have been made to this work since it was submitted for publication. The final publication is available at link.springer.com: <https://doi.org/10.1007/s11187-018-0095-4>.

** Corresponding author. E-mail: pahnke@ifm-bonn.org.

1 INTERNATIONALLY PRAISED, NATIONALLY DOOMED?

“Le Mittelstand – France’s blind spot” (Walter and Mey 2017), “Can the ‘Brittelstand’ rival Germany?” (Ellyat 2014), “Why ‘Mittelstand’ is important for Korea” (Da-ye 2013) – not only the French, British and Korean governments, but many more officials around the world are interested in understanding Germany’s “secret weapon” (Ross Range 2012) and academics are analyzing how to support similar success models in their own countries (Logue et al. 2015). However, despite its international attention and praise, the discussion in Germany has recently settled on the perceived backwardness of the *Mittelstand*. This is fired by reports and headlines that refer to continuing and statistically observable declines in the number of innovators (Zimmermann 2017), that call to attention the seemingly dying species of entrepreneurs (DIHK 2013), a steadily decreasing number of new businesses (DIHK 2017) and, in international comparisons, relatively low rates of nascent entrepreneurs in Germany (Sternberg and von Loh 2017). As such developments are likely to pose a challenge to the competitiveness of the German economy, there are demands to put more emphasis on fostering a start-up culture in Germany because start-ups are perceived as more dynamic, innovative and growth-oriented.

Therefore, whilst “officials and businesspeople from the world over are making pilgrimages to Germany to learn from the Mittelständler” (The Economist 2014), German politicians, journalists and entrepreneurs regularly travel to the Silicon Valley, to learn from what they perceive a vibrant start-up ecosystem, fostering the seemingly endless creation of highly innovative, technology-oriented, venture-capital backed gazelles and unicorns. “Why can’t Germany have its own Microsoft, google, Amazon, facebook...” is an often heard outcry in meetings with policymakers one of the authors regularly participates in. The *Mittelstand* model is perceived as paradise gone; the Silicon Valley model as the salvation for a doomed German economy.

In this paper, we set out to critically review the assumption of the *Mittelstand* as antithesis to the Silicon Valley entrepreneurship model. Large profits, gazelles and unicorns with impressive growth rates, innovative companies and high-tech industries, venture capital funding are facets shaping the Silicon Valley entrepreneurship model (Engel 2015; Lerner 2013; Saxenian 1990; Steiber and Alänge 2016; Stuart and Sorenson 2003; Welter et al. 2017). Its existence is fostered by an “openness to change and failure, a welcoming attitude towards risk and disruption (...)” (Pfothenhauer and Jasanoff 2017: 421); and Silicon Valley enterprises are generating continuous innovation and wealth (Hamel 1999). We suggest this as too narrow a view since it positions the *Mittelstand* model as antithesis to Silicon Valley entrepreneurship neglects the heterogeneity of the *Mittelstand*, its distinctiveness and roles, as well as its changing nature. We take a closer look at the diversity of what constitutes *Mittelstand* and at its historical as well as institutional origins. We also address the impact of the *Mittelstand's* variety on its (future) role for and contribution to economy and society, respectively. In doing so, we contribute to the discussion on contextualizing entrepreneurship (Welter 2011; Zahra and Wright 2011): Our paper illustrates in which ways contexts influence our view of what constitutes entrepreneurship and its value for economy and society, adding to the emerging literature that criticises the neglect of mundane or everyday entrepreneurship in contemporary entrepreneurship research (e.g., Aldrich and Ruef 2017; Welter et al. 2017).

We first outline a conceptualization of the *Mittelstand* model, investigating whether it is distinctive, before we turn to review the extent to which it is distinctive as reflected in its role and contribution to economy and society. In our final section, we go back to discussing our initial question: is the *Mittelstand* the antithesis of the Silicon Valley model? We argue that it is both different and similar to the Silicon Valley model. For us, the *Mittelstand* model is a very good representation of everyday entrepreneurship because of its diversity, its value- and

long-term orientation and its contributions beyond a pure economic focus on wealth and job creation. We conclude with ideas for future research and implications for policymakers.

2 CONCEPTUALISING THE MITTELSTAND MODEL

In this section, we review current understandings of what constitutes the *Mittelstand*, aiming to identify whether and why it is distinctive. There is some confusion about the meaning of the term *Mittelstand*; not only in media but also in academia. This is mainly because *Mittelstand* or more precisely the part of an economy it is referring to, is not an official statistical reality (Pichet and Lang 2012). Oftentimes, *Mittelstand* is simply seen as a “generic label [...] to describe all SMEs” (Logue et al. 2015: 23), thus reducing the complexity of the phenomenon to size-related criteria such as upper thresholds for the number of employees or the annual turnover.

More than a size-related phenomenon

A small enterprise size is neither the sole nor most important constituent feature of the *Mittelstand* model. It is much more a by-product of other key characteristics of *Mittelstand* businesses as noted by Berghoff (2006: 271): “[...] the characteristic trait of a company in the German *Mittelstand* is not the size of its workforce or the numbers on its balance sheets, but rather its corporate governance in a broad sense that encompasses both legal and sociocultural features.” *Mittelstand* entrepreneurs are seen as independent and own, either as individual or family, their businesses; they are actively involved in the strategic development and decision-making (management) of their companies and bear the entrepreneurial risks and liabilities of these decisions (Gantzel 1962). The majority of German *Mittelstand* enterprises legally operate as sole proprietorship, sometimes as so-called registered merchant (*eingetragener*

Kaufmann) or non-incorporated firms, all without limited liability protections. In other words: For them, economic success and private wealth are inseparable linked.

However, what happens in those cases where *Mittelstand* entrepreneurs decide to bring in additional managers? Theoretically, this will erode the identity of ownership and management and result in principal-agent problems, thus putting into question the whole *Mittelstand* model. As long as the owner or owner-family still have some influence over strategic decisions in the firm (Wolter and Hauser 2001), it is likely that the *Mittelstand* character as such will persist to some extent. Nevertheless, those enterprises where owners or families only control, but no longer manage, do not qualify as core but only as extended *Mittelstand* (see Figure 1).

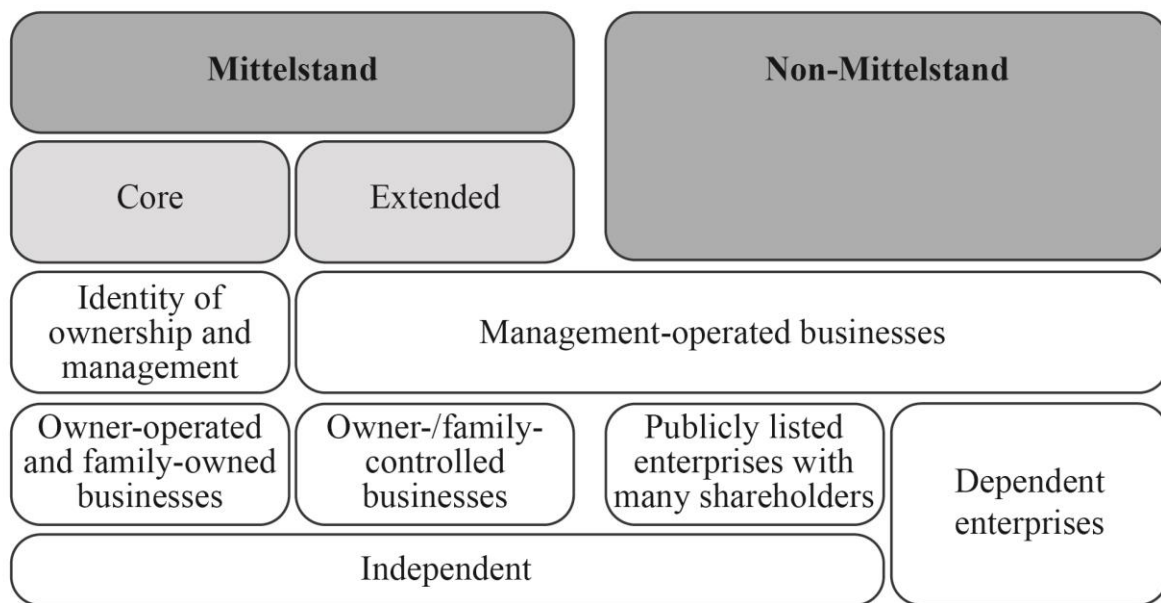


Fig. 1 Demarcation of the Mittelstand. Source: own illustration

This conceptualization of the *Mittelstand* emphasizes the identity of ownership and leadership as core criterion which in turn determines other (observable) characteristics. Our model also implies that the segments of SMEs and *Mittelstand* are not congruent. For example, not every small enterprise automatically is a *Mittelstand* venture in case it is not independent; and large family businesses still are part of it in case they are family-owned and family-

controlled. A typical example for a large family-owned and family-controlled (i.e., core *Mittelstand*) company would be the Kirchhoff Group (<https://www.kirchhoff-group.com>). Set up in 1785 as producer of sewing needles in South-West Westphalia, it is nowadays operating as fourth generation family business group, with four different business units and employing more than 11,500 employees worldwide in 2016.

An example for a family -controlled company (i.e., extended *Mittelstand*), on the other hand, is the internationally renowned Porsche AG. Founded in 1931 by Ferdinand Porsche, the company became part of the Volkswagen Group in 2009; and its current CEO is a non-family member. However, the Porsche family still has major influence on the Porsche AG: members of the two families Porsche and Piëch own more than 50% of all voting rights and more than 30% of the subscribed capital stock of the Volkswagen AG.

Analysing the ownership and management structures of a representative sample¹ of more than 500 enterprises of all size classes in the German private sector, Welter et al. (2015) also confirm that *Mittelstand*, operationalized by identity of ownership and management, is widely spread among solo entrepreneurs and micro enterprises. But, in all size categories, there are “non-*Mittelstand*” enterprises where the identity of ownership and management is no longer given. Not surprisingly, this share is increasing with enterprise size (see Figure 2).

Thus, even in the smaller size segments of the enterprise population, SMEs and *Mittelstand* differ while also large enterprises are part of the *Mittelstand*. That sounds trivial, but the underlying argument is an important one, because the prevailing discourse, whether in academia or in the public, whether in Germany or internationally, tends to equate SMEs and *Mittelstand*, neglecting the diversity of the phenomenon and the impact of the identity of ownership and management on the economic behavior of *Mittelstand* ventures.

1 For the survey, a stratified random sample of 14,397 enterprises was drawn from Creditreform’s largest database covering about 3.5 million German firms. The stratification of the sample is based on industry affiliation and total annual sales. The response rate was 3.8%.

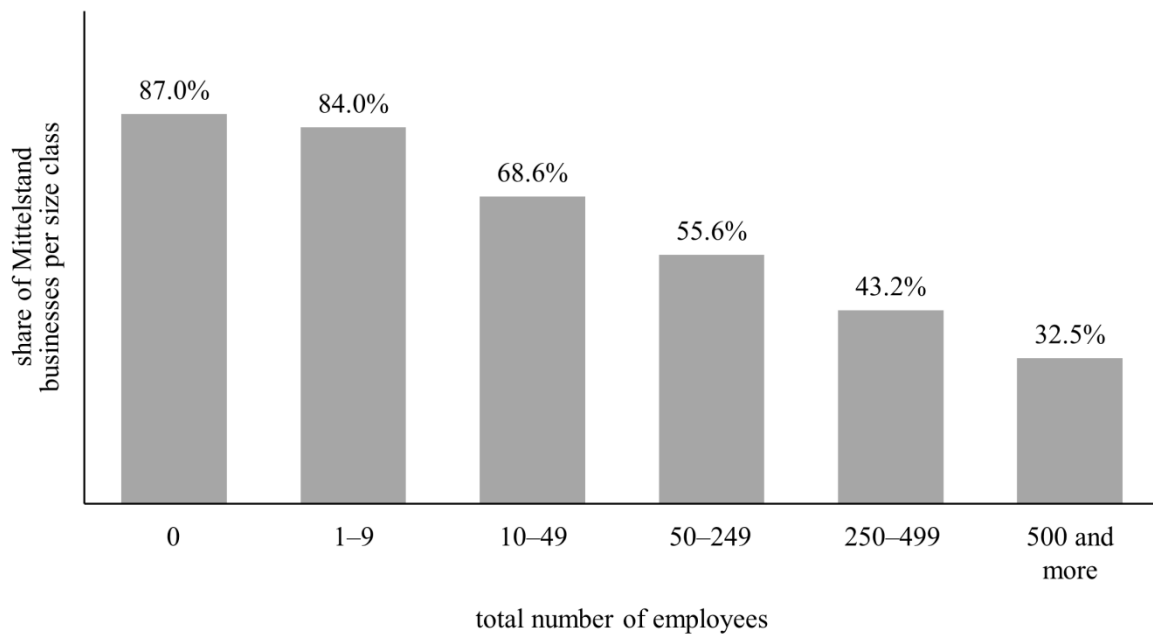


Fig. 2 Prevalence of the Mittelstand. Source: Based on Welter et al. (2015: 73)

***Mittelstand* as mindset**

Berghoff (2006) outlines an ideal-type business model of the *Mittelstand* which combines features of ownership, leadership, organizational characteristics with individual values and attitudes. *Mittelstand* ventures are family-controlled and managed with an organization characterized by a patriarchal culture together with flat hierarchies and informality, reflected in trust-based internal and stakeholder relations. Longevity or long-term orientation dominates the strategic behavior and is visible in generational continuity, where the leadership succession is restricted to within the family, in a focus on core competencies and in a lack of diversification. Entrepreneurs are emotionally attached and dedicated to their ventures, which is visible in their strong identification with the business. They value their economic and personal independence, reflected in, for example, a preference for self-financing. The term “*Mittelstand*” has many positive connotations in Germany, so that even large companies - which are

not only longer part of the “*core Mittelstand*” by (our) definition - still perceive themselves as *Mittelstand* (Fear 2014).

Therefore, emotions, passion and feelings of belonging play an important role for understanding the *Mittelstand*. Figure 3 presents findings of a recent study, asking which entrepreneurs perceive themselves and their businesses, respectively, as part of the *Mittelstand* (Welter et al. 2015). The results demonstrate that *Mittelstand* by definition (i.e., identity of ownership and management) and *Mittelstand* by perception (i.e., self-identification of entrepreneurs) are by no means congruent. Three quarters of *Mittelstand* business by definition, perceive themselves as *Mittelstand* (Welter et al. 2015: 41). But, that also means that one quarter of the core *Mittelstand* feel they do not belong – this perception is most widely spread amongst newly founded, smaller and younger businesses and those operating in business services and services in general. Many larger (and older) enterprises, however, where the identity of ownership and management no longer is given, also still perceive themselves as *Mittelstand* – especially long-established family businesses in manufacturing.

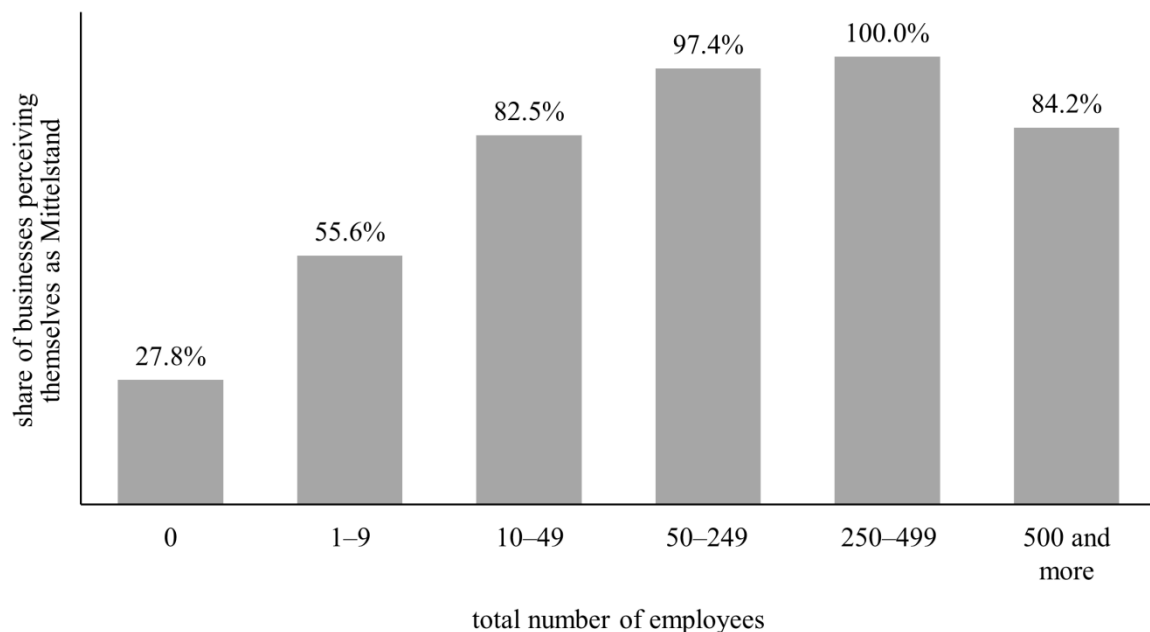


Fig. 3 Mittelstand as perception. Source: Based on Welter et al. (2015: 73)

For the business world, the term clearly is linked to tradition and to values: More than 90% of entrepreneurs in this study agreed that the *Mittelstand* is first and foremost characterized by long-term orientation, whilst 50% emphasized the identity of ownership and management, and less than 30% saw an upper size limit (employees, turnover) as important feature of a *Mittelstand* business (May-Strobl and Welter 2016).

The political discourse in Germany has always favored an ownership- and value-driven understanding of the *Mittelstand*, thus – albeit more implicitly – emphasizing its contribution to both economy and society. When introducing the very first economic policy measures for SMEs in the 1970s, the German government stated that a “general and schematic definition of SMEs is not meaningful”, because the German government wished to support enterprises that are “[...] led by their contributory owners bearing the entrepreneurial risks and liabilities of their business decisions” (Deutscher Bundestag 1970: 2, Fn. 1). This has not changed until today. While denoting the *Mittelstand* as backbone of the German economy, the Federal Ministry for Economic Affairs and Energy (2016: 2) still underlines the presence and importance of “[...] a business culture [in Germany] which brings together ownership, liability and management.”

The model emerging here puts longevity and independence as well as values of mutuality and trust, passion and a sense of belonging to the forefront. As such, it stands, at least conceptually, in stark contrast to the Silicon Valley model which generally refers to entrepreneurship as “starting a business with lots of funding from outside investors, scaling up rapidly, and then taking the venture public” – although even for firms in Silicon Valley the odds for any startup following this path are infinitesimally small (Aldrich and Ruef 2017: 9).

A typical German phenomenon?

Politicians and media all around the world, and, to some extent also researchers, seem to agree that *Mittelstand* is something so deeply ingrained in Germany's history, society and economy that it is difficult to emulate elsewhere as much as governments around the world would like to copy the model. We therefore turn to briefly discuss how historical and institutional contexts may have contributed to the specific features of the *Mittelstand* model. Historians trace some of its features back to medieval times. Landes (2006) points to the importance of place as reflected both in knowledge, values and the aspirations of people as well as the institutional setup. This can be seen in the regulatory and normative institutions dominating in medieval Europe, which not only governed businesses but also large parts of social life. For example, vocational training, seen as particular strength of the *Mittelstand* (Jahn 2015), has "traditionally been a stronghold of the guilds and trades" (Wengenroth 2010: 276). Guilds also established strict rules for who could create, own and inherit a business. *Mittelstand* values such as its sense for responsibility that extends to its employees and the region the business is situated in, its emotional attachment or its preference for independence – all of them appear to have (some of) their origins in that era as well.

In the 19th century, the *Mittelstand* came to be regarded as "backward" and old-fashioned: The "Old *Mittelstand*"² was seen as a regressively orientated antimodern group, given to dreams of a revival of the golden age of the guilds and a stable precapitalist economic order." (von Saldern 1992: 31). During industrialization, Germany developed its specific variety of family capitalism (James 2008): owner- and/or family driven, with a strong focus on small and medium-sized enterprises and with specific values and attitudes. The rapid industrialization changed business practices and threatened the guilds' power. Whilst guilds

² von Saldern (1992: 28) explains that "The term "Old *Mittelstand*" was commonly used in the nineteenth century. It included small shopkeepers, self-employed artisans, and owners of small businesses, sometimes also farmers."

lost their role in regulating not only the business but also social life of their members, the industrialization was characterized by a pronounced paternalism of the new business owners towards their workers (Berghoff 1997), pre-empting modern social welfare systems. Also, other institutions emerged which still influence the *Mittelstand* model of today. For example, in 1897 chambers of crafts took over responsibility for apprenticeships (Rinneberg 1985). After the Second World War, Germany introduced the *Soziale Marktwirtschaft* as a model of a socially oriented and inclusive market economy which reflect values and attitudes such as efficiency, responsibility or freedom already inherent in the historical *Mittelstand* model.³

As a consequence, Germany's variety of capitalism differs from, for example, the United States. While the competitive managerial capitalism in the U.S. favors large companies (Chandler 1994), Germany is characterized by a strong focus on corporatist structures (i.e., a pronounced role for trade unions, employer associations, chambers of crafts and industries etc.), relational banking structures, cooperative and consensus-oriented stakeholder relationships, both reflected in and a result of its *Mittelstand* structure. Put differently: Germany's variety of capitalism determines and simultaneously perpetuates the strengths of the *Mittelstand* model (and maybe also its weaknesses) and vice versa. From this short overview, we can deduce why the *Mittelstand* is often seen as an exclusively German phenomenon: It has deep roots in history, it stands for a specific German variety of capitalism, and it is strongly influenced by previous and current institutional arrangements in Germany.

A drawback: Too many different definitions of the *Mittelstand*

Although by now, the identity of ownership and management has been accepted as an important criterion to study *Mittelstand* ventures (e.g., De Massis et al. 2017; Lehrer and Celso

³ See Welter et al. (2016) for a detailed discussion on the importance of the *Soziale Marktwirtschaft* for the German *Mittelstand*.

2016; Lehrer and Schmid 2015; Venohr 2010; Venohr et al. 2015), empirical research had and still has a pronounced tendency to simplify the *Mittelstand* model, drawing on criteria that are easy to operationalize and/or driven by data availability. In their literature review, Baker and Mazzarol (2015) identify a small size as the most frequent attribute ascribed to the German *Mittelstand*, followed by family ownership. One practical advantage of using employee or turnover figures is the good measurability and availability of such data. In addition, definitions of SMEs by the total number of employees and/or annual sales are easily comprehensible. However, over time, these and similar measurable proxies were obviously mistaken as constituent features of *Mittelstand* ventures, not least because of their permanent use in the literature (Wolter and Hauser 2001).

For example, in his seminal research on the so-called “hidden champions” (i.e., global market players of small enterprise size), Simon (1992, 1996) understood Germany’s midsize giants operating globally as representative of the German *Mittelstand*, thus studying an arguably interesting, but very small part of the whole phenomenon. Similarly, Block and Spiegel (2011) equate family businesses and the German *Mittelstand*, respectively, with so-called hidden champions. Other studies restrict the *Mittelstand* to owner- or family-managed SMEs (e.g., Berlemann and Jahn 2016; Decker and Günther 2017; Pistrui et al. 2000).

Such a narrow empirical perspective also has informed studies on *Mittelstand*-like ventures in other countries. They associate a *Mittelstand* company mainly with its size and/or a particular industry (manufacturing), ownership and longevity are seen as secondary but not constituent criteria. For example, Ali-Yrkkö and Rouvinen (2015) describe *Mittelstand* companies in Finland as industrial companies that globally employ 250-499 people. Similarly, Logue et al. (2015) use industry as main distinguishing criterion, in order to discuss the transferability of the German *Mittelstand*, in particular its organizational and management features, as possible model for the Australian manufacturing sector.

One conclusion from empirical research on the *Mittelstand* in Germany and elsewhere is that a common, widely accepted and applied understanding of what constitutes the *Mittelstand* is (still) missing. Obviously, data availability plays an important (and, from our perspective, a bit too important) role in determining the criteria applied to operationalize the *Mittelstand*. Whilst this is understandable from a pragmatic point of view, the implications for our understanding of these businesses are more severe. To put it bluntly: current research, with a few notable exceptions, paints a very one-sided picture of the *Mittelstand*, neither acknowledging its variety and heterogeneity nor its changing nature and contributions to both economy and society. For our investigation of the extent to which the *Mittelstand* is distinctive in the next section we therefore have to take into account the limitations of empirical research stemming from different understandings of the *Mittelstand* model and varying definitions.

3 THE DISTINCTIVENESS OF THE MITTELSTAND

So far, we have outlined our conceptualization of the *Mittelstand*, illustrating that and why it is more than a size-delineated segment of the economy. The *Mittelstand* reflects an ownership-, management- and value-driven model which applies to a heterogeneous group of enterprises. Its core segment comprises solo entrepreneurs, small retail and craft businesses, medium-sized and global manufacturing companies as well as larger family enterprises. We now investigate to which extent the *Mittelstand* is distinctive in its contributions to economy and society.

Important for economy

In general, the *Mittelstand* is considered backbone of the German economy not least because of its economic contribution with respect to employment, annual sales, export turnover, net

value added, and apprenticeship training – and since the 1990s, this has been a popular topic for both German and international researchers.⁴ Berghoff (2006: 270) concludes on the basis of data from 1999 that “the economic significance of the *Mittelstand* is indisputable, and its actual clout is even higher than these data.” A close look at the same key figures fifteen years later confirms the considerable economic contribution of the *Mittelstand* in Germany. In 2014, more than 99% of all enterprises are still SMEs with less than 500 employees and less than 50 million euros in annual sales. Together, these 3.63 million enterprises generated 35% of the total turnover of German enterprises and the greater part of the total net value added (55%), accounted for around 18% of the total German export turnover, offered jobs to nearly 60% of all employed persons, and trained 82% of all apprentices in Germany (IfM Bonn, 2017). Altogether, in many of its economic contributions, the *Mittelstand* is providing equivalent value; in some such as vocational training, it may even surpass the Silicon Valley model.

Moreover, the economic importance of the *Mittelstand* is likely to be higher than the presented figures imply. These (quite prominent) data of the German Federal Statistical office – which researchers and officials regularly use to evaluate the economic importance of the *Mittelstand* – refer to SMEs, i.e., enterprises with up to 500 employees. Of the remaining c. 15,000 large enterprises in Germany, approximately 3,700 belong to the *Mittelstand* because they are family-owned and family-controlled enterprises (Schlömer-Laufen et al. 2014). In comparison to large non-family firms, Schlömer-Laufen et al. (2014) show that these large *Mittelstand* ventures tend to have higher returns on equity and a relative high growth in employment. If statistical data were to consequently take into account that core *Mittelstand* also

⁴ To list but a few of the early studies in the 1990s: Acs and Audretsch (1993); Audretsch and Elston (1997); Leicht and Stockmann (1993); Schwalbach (1989); Wagner (1994).

comprises firms beyond the SME size band, an oftentimes perceived low performance of the *Mittelstand* vanishes.

Many researchers have analyzed the macroeconomic role of the *Mittelstand* in more detail, illustrating its substantial contribution beyond the provision of employment, goods and services to both economy and society. For example, the *Mittelstand* has been shown to have had a major role in the fast recovery of the German economy after the financial crisis of 2007/2008 (Storm and Naastepad 2015), not least because larger family businesses kept their employees even throughout the crisis (Schlömer-Laufen et al. 2014). Start-up firms also produce considerable spill-over effects (Schneck and May-Strobl 2015): Of 1 Euro turnover in the start-up, 66 cents go into products and services of incumbent firms. Hence, start-ups substantially promote economic prosperity of already existing firms.

Important for society

The specific ownership-management structure of the *Mittelstand* is seen as going hand-in-hand with social, intergenerational and regional responsibility. *Mittelstand* companies are closely embedded in their regions, locally contributing to economic and social welfare and stability (e.g., Audretsch and Keilbach 2004; Berlemann and Jahn 2016; Lehrer and Schmid 2015). In contrast to the Silicon Valley model with its focus on “human capital” instead of people, the *Mittelstand* has a pronounced sense of responsibility towards people and places. For example, in the 19th century, Friedrich Harkort, who pioneered the industrial development in the Ruhr region (Germany’s later steel and coal mining region), fought against children’s work and for better health conditions for workers. Alfred Krupp, who in the early 19th century built up Germany’s then largest industrial enterprise, established the first health insurance and built houses for his workers – in return expecting their lifelong loyalty and dedication to his business. Today, that people and place attachment still is visible, in, for example,

the large share of *Mittelstand* companies involved in vocational training in their respective regions (Jahn 2015), the retention of employees throughout crisis times (Fendel and Frenkel 1998, 1999) and the regional contribution of hidden champions, many of which are located in rural or peripheral regions, to employment, sometimes across generations of worker families (Lehrer and Schmid 2015; Simon 2009).

However, the classic *Mittelstand* model as Berghoff (2005) calls it, with its dominance of manufacturing and family-owned enterprises of medium-size, and with a pronounced long-term orientation, also has come under pressure because of overall and global structural changes towards service and experience-based economies, rapid globalization and digitization – to name but a few. Organizational boundaries are dissolving; boundaries between work life and private life are increasingly blurred – entrepreneurship is becoming more commonplace. Hybrid entrepreneurship, where individuals are both self-employed and employed, has gained importance, but without necessarily serving as springboard into full-time self-employment or the development of more substantial business activities. In their study of entrepreneurial careers in Germany, Suprinovic et al. (2016) show both a growing share of hybrid entrepreneurs and the increasing diversity of start-up activities: Entrepreneurship is becoming much more of a short-term episode and individuals frequently move back and forth between wage- and self-employment.

Technological change also has facilitated the emergence of very small enterprise sizes: Solo entrepreneurs dominate the German economy as elsewhere in the world. Solo entrepreneurship oftentimes has been assessed as precarious entrepreneurship (Bögenhold et al. 2001), carried out as last resort by lowly qualified individuals who do not find other jobs, and resulting in low earnings which need to be supplemented by state subsidies. However, solo entrepreneurship also has a different, more modern, side. Academic entrepreneurs contribute to the push towards a knowledge-based economy, but also towards more solo entrepreneur-

ship in, for example, business-related services and the free professions such as tax consultants, lawyers, physicians, dentists. Although for the majority of solo entrepreneurs their income is lower compared to *Mittelstand* ventures with employees, it still is higher in comparison to wage-employment (Pahnke et al. 2014). In particular, solo entrepreneurs with a university entrance degree as the highest level of education earn more than their employed counterparts (Sorgner et al. 2017).

With the growing share of solo entrepreneurship and hybrid entrepreneurship, one might expect the economic contribution of the *Mittelstand* to dwindle – but the impact of everyday entrepreneurship on society may be more important in the longer run because starting and running a venture is no longer perceived as something for “the chosen few”.

Innovative or not innovative – that is a key question

Innovation and high-technology businesses are seen as a prominent feature of the Silicon Valley model (Audretsch 2005; Sternberg 1996) whilst the *Mittelstand* model tends to be equated with low innovativeness because of the role of incumbents. Research provides an ambiguous picture, not least because of differing definitions and/or narrow measurements for innovation activities such as patent applications or R&D expenditures. For example, in family businesses, dedicated family business institutions have been found to nurture innovations (Decker and Günther 2017), whilst the relatively higher risk-aversion of later generations and increases in the degree of family ownership act as impediments (Decker and Günther 2017; Werner et al. 2017). At regional level, the prevalence of family firms (Block and Spiegel 2011), and the share of owner-managed SMEs (Berlemann and Jahn 2016) have been shown to positively impact on innovation activities.

Our main caveat, regarding the debate around a perceived lack of innovativeness in *Mittelstand* firms in comparison to the Silicon Valley model, concerns a narrow view of innova-

tion – mirroring our discussion above on researching the *Mittelstand* as such. Again, in many studies data availability and the subsequent results drive our perception of whether the *Mittelstand* is considered innovative or not. As soon as we apply a wide understanding of what constitutes innovation, the *Mittelstand* is by no means less innovative.

Data from the Community Innovation Surveys (CIS) tells such a differentiated story. The CIS use a wide understanding of innovation, including both technology-driven and non-technology driven innovation activities (Behrens et al. 2017). After the financial crisis in 2008, innovation activities in Germany generally declined, until 2014 (Maaß and May-Strobl 2016). Nevertheless, data for 2014 shows that the majority of SMEs, in particular those in research-intensive manufacturing and knowledge-intensive sectors, count as innovative: 58% of those with 10 to 49 employees and 78% of those with 50 to 249 employees. Also, innovation in the *Mittelstand* is by no means dependent on research and development activities, which questions the pronounced focus of proponents of the Silicon Valley model on technology-oriented and R&D-intensive businesses as representing innovativeness. Moreover, CIS data systematically underrates the innovation activities of German *Mittelstand* because the surveys do not cover new and very small enterprises. Maaß and May-Strobl (2016) estimate only 5% of German SMEs to be represented by CIS data.

We see yet another point which may explain the perceived non-innovativeness of *Mittelstand* ventures in comparison to Silicon Valley entrepreneurship: The visibility of innovations contributes to the perception of who (or what) is innovative and who isn't. Silicon Valley enterprises have invented and brought to the market many of the newest gadgets and technologies of the past decades all of us are familiar with and use in daily life – just think of the smart phone. On the contrary, when asked, most of us would have difficulties identifying a *Mittelstand* company with such innovative products or technologies. Alas, many of us probably would be quick to conclude that the *Mittelstand* is low-tech and less innovative.

However, the German *Mittelstand* still consists of a large share of manufacturing companies focused on B2B. In other words, Germany's digital and disruptive technologies are first and foremost "deep-tech", i.e., hidden in products and processes of other companies (Gärtner 2016), whilst Silicon Valley innovations are much more consumer-oriented and visible to all of us. Hence, *Mittelstand* and Silicon Valley entrepreneurship differ with respect to innovations not because the one is more innovative than the other but rather because of different industry structures and target groups.

High, low or no growth?

Another common contrast between the Silicon Valley model and the *Mittelstand* centers on perceptions of growth. The former is seen as creating many jobs in a relatively short period of time. For example, between 1995 and 2015, google (an archetype of the Silicon Valley model) ran up to 60,000 employees – on average, an annual increase by 3,000 employees. But, such comparisons between the Silicon Valley and the *Mittelstand* model are problematic: they compare apples (a single high-growth company) to oranges (a whole segment of the German economy). If google was located solely in Germany, it would employ a mere 0.14% of the German workforce of roughly 43.6 million people in total – considerable less than the impressive share of 60% of total employment in small and medium-sized firms.

Growth in *Mittelstand* ventures has been shown to be slower and happening over a longer period of time. For example, Wolter et al. (2015) have analyzed the growth patterns of newly founded firms over the first seven years. Their results show that many young and small firms initially grow noticeably faster than the average. One in three new ventures grows steadily during that period, sometimes interrupted by temporary setbacks. Such steady and slower growth patterns of the *Mittelstand* have some advantages, creating more sustainable jobs in the long run. This is reflected in the above mentioned reluctance of *Mittelstand* companies to

let employees go throughout crisis periods – compared to the Silicon Valley model of high growth ventures which actually are rare events from an empirical point of view (Aldrich and Ruef 2017) and utilize short term employment contracts to preserve a high level of internal flexibility (Audretsch 1995).

And it is not as if gazelles do not exist in Germany. Schlepphorst and Schlömer-Laufen (2016) analyzed fast growth companies in Germany: Every fourth entrepreneur in their survey identified their business as a fast growing firm. Gazelles were more frequently to be found in the manufacturing and (not surprising) amongst younger and smaller enterprises. Interestingly, typical *Mittelstand* characteristics such as ownership and management structures did not generally influence fast growth. Instead, family businesses that moved towards modern corporate structures as reflected in, for example, a preference for external financing, exhibited a greater probability for fast growth.

Our brief review in this section illustrates the fundamental role the *Mittelstand* plays in Germany, demonstrating its distinctive contributions to economy and society, respectively. We particularly want to emphasize its sense of responsibility for regions and people, which goes beyond the mere business and profit orientation characterizing the Silicon Valley model.

4 WHY WE NEED MORE AND NOT LESS ATTENTION TO THE *MITTELSTAND*

Is the *Mittelstand* a model to be discontinued?

At least, those proposing the Silicon-Valley model of entrepreneurship as the single solution for Germany's perceived lack of high-growth and innovative entrepreneurship seem to think so. Interestingly, they reiterate century-old and regularly recurring discussions. Already in 1848, Karl Marx and Friedrich Engels forecasted the demise of the *Mittelstand* envisaging that in the wake of industrialization, the petty bourgeoisie (artisans, small-scale shopkeepers

and entrepreneurs) would be destroyed. To us, however, the current hype around the Silicon Valley model of entrepreneurship is something of a regular pattern in public discourse, reflecting but the latest fashion in recurring discussions in Germany around whether the *Mittelstand* is doomed, whether it is the best model for an ageing economy and whether it is actually a drag on innovation. One of us, who has been advising policy-makers for more than 25 years now, has seen this discussion come and go multiple times.

From the 19th century and its doom prophets, let's fast forward to the early 1990s when politicians, media and practitioners loudly blamed the lack of an entrepreneurial culture for the economic problems to be observed in Germany at that time. Entrepreneurs were concerned about their seemingly negative reputation in German society; politicians complained about the low innovativeness and missing competitiveness of the ageing German economy; and academics shifted their attention from small business research to entrepreneurship studies. A "Reform Committee", initiated by the Bertelsmann-Foundation in the late 1990s, assembled prominent politicians, industrialists and scholars and searched for ways to rekindle a "renaissance of entrepreneurship". Enterprise policies and support changed direction, aiming to promote a nationwide "culture of entrepreneurship". Federal and state governments established a whole array of new initiatives to foster business creation of different groups such as women, ethnic minorities and university students. Entrepreneurship was seen as the recipe to increase innovation and employment in an ageing economy.

However, neither was there general agreement on what constituted this culture of entrepreneurship nor could empirical evidence prove a lack of entrepreneurial spirit in Germany (Lageman and Welter 1999). Not to forget: this discussion happened at the same time that Hermann Simon published his first studies of Germany's hidden champions which had very successfully established themselves as global market players! Obviously, opinions were divided, not only in public, but even within academia, but all to the detriment of established

small- and medium-sized and larger family-managed companies which increasingly were disregarded as non-entrepreneurial. All of a sudden, their longevity and their typical *Mittelstand* values were no longer perceived as a strength, but, even if not openly so, seen as backward, as static, and as fundamental hindrance to Germany's economic future.

With its praise for an entrepreneurial culture in contrast to established enterprises, today's focus on the Silicon Valley model of entrepreneurship repeats the same argumentation as the 1990s: The *Mittelstand* is seen as consisting of "tired pioneers" (to borrow from a description of British businesses in the early 20th century, see Berghoff and Möller 1994), whilst the Silicon Valley type of entrepreneurship is celebrated as "dynamic newcomer".

To us, however, who have been researching very different aspects of *Mittelstand* businesses for several decades by now there is a different answer to the question whether the *Mittelstand* is doomed because it does not resemble Silicon Valley entrepreneurship. Of course, on one side the *Mittelstand* model is the antithesis to the Silicon Valley model: in its diversity, it is a good representation of everyday entrepreneurship. Does this imply that we need less *Mittelstand* and more Silicon Valley entrepreneurship in Germany (and elsewhere)? Not really! Our review in this paper illustrates that the *Mittelstand* is also a vibrant segment of the economy, and many of its ventures are competitive, innovative, growth oriented. But, and this is important, we consider the value orientation of the *Mittelstand* an even more important asset, especially in today's rapidly changing economies – and it well may be the pivotal element determining the future of the German model as such as well as a contribution to more inclusive and fair-minded societies.

A future research agenda

Discussions that build on dichotomies such as *Mittelstand* versus Silicon Valley entrepreneurship are reinforcing a one-sided and restrictive picture of what constitutes entrepreneur-

ship. We strongly believe that – as scholars – we are responsible for providing more evidence that illustrates and showcases the diversity and heterogeneity of entrepreneurship because such evidence is needed for informed policy-making and informed public debates that go beyond favoring one model over the other. Below, we set out a few ideas for a future research agenda on the *Mittelstand* model.

First, given the importance of a feeling of belonging to the *Mittelstand*, we need more research on the role of self-identification with the *Mittelstand* in relation to its contributions to economy and society and other success factors. Related to this, we also need research that study the role of emotions and passions for the success and sustainability of the *Mittelstand*.

Second, core characteristics of the classic *Mittelstand* model (identity of ownership and management, independence, long-term orientation and value-orientation) have proven quite robust in the past. Given the current speed of economic and societal changes, the question arises whether, to what extent and with which impact values such as longevity, independence and responsibility will be superseded by more temporary entrepreneurial orientations.

Third, there are interesting research questions in relation to the context-specificity of the *Mittelstand*, for example, because of its strong historical and institutional roots. We suggest that a contextualized view helps us to gain a deeper understanding of its generic features that could be translated to other contexts, and those features that may be context-dependent. This opens up many avenues for internationally comparative studies.

Implications for policy

As we have shown throughout this paper, the *Mittelstand* is heterogeneous, spanning different sizes and industries: it comprises solo-entrepreneurs as long as they can earn their income and are not dependent on state subsidies, entrepreneurs in the free professions, craft entrepreneurs as well as large family-owned and –managed industrial ventures. *Mittelstand* also is a sense

of belonging. Therefore, policymakers face key challenges in relation to targeting, communication and the goals they want pursue with fostering the *Mittelstand*.

For example, how to approach those entrepreneurs who feel they do not belong to *Mittelstand*? “Let’s get rid of the concept ‘Mittelstand’ and let’s call all of them SMEs; that’s way more modern.” was the spontaneous suggestion a high-level ministry representative had for one of the authors. We suggest otherwise, proposing to acknowledge the diversity of the *Mittelstand* and to openly showcase much more of its fundamental contribution not only to economy but also to society.

5 CONCLUSION

The perception of the *Mittelstand* as a possible antithesis to the Silicon Valley model disregards its diversity and considerable contributions to economy and society. For us, the *Mittelstand* is an excellent example of everyday entrepreneurship, demonstrating how entrepreneurship that builds on a sense of responsibility and solidarity, can shape an economy and society and contributes to its world standing. What remains to be seen is whether and to what extent the ongoing digitization of our economy and society will undermine that typical *Mittelstand* mindset. We suggest that the everydayness of the *Mittelstand* is something to be cherished, not to be rejected, and probably also something Silicon Valley entrepreneurs should take to heart and consider incorporating into their ventures. Obviously, also German entrepreneurs and policymakers can learn something from the Silicon Valley model, but this learning needs to be contextualized, recognizing the historical, institutional and regional foundations of the *Mittelstand* as its strength and not its weakness.

References

- Acs, Z. J., & Audretsch, D. B. (1993). *Small firms and entrepreneurship: an East-West perspective*. New York: Cambridge University Press.
- Aldrich, H., & Ruef, M. (2017). Unicorns, Gazelles, and Other Distractions on the Way to Understanding Real Entrepreneurship in America. Invited by David Audretsch and Rosa Calazza to address the issue of "Have We Oversold the Silicon Valley Model of Entrepreneurship? The (Re-)Emergence of Main Street Entrepreneurship". *The Academy of Management Perspectives*, <https://doi.org/10.5465/amp.2017.0123>
- Ali-Yrkkö, J., & Rouvinen, P. (2015). The Finnish Mittelstand - Can growth be found from this group of companies? *ETLA B*. Helsinki: Next Print Oy.
- Audretsch, D. B. (1995). *Innovation and Industry Evolution*. Cambridge: MIT Press.
- Audretsch, D. B. (2005). Building high-tech clusters: Silicon valley and beyond. *Journal of Economic Literature*, *43*(2), 519-520.
- Audretsch, D. B., & Elston, J. A. (1997). Financing the German Mittelstand. *Small Business Economics*, *9*(2), 97-110.
- Audretsch, D. B., & Keilbach, M. (2004). Does entrepreneurship capital matter? *Entrepreneurship-Theory and Practice*, *28*(5), 419-429.
- Baker, S., & Mazzarol, T. (2015). *The Australian manufacturing Mittelstand: an initial exploration*. Paper presented at the 28th Annual SEAANZ Conference, Melbourne,
- Behrens, V., Berger, M., Hud, M., Hünermund, P., Iferd, Y., Peters, B., et al. (2017). Innovation Activities of Firms in Germany – Results of the German CIS 2012 and 2014. Background Report on the Surveys of the Mannheim Innovation Panel Conducted in the Years 2013 to 2016. *ZEW-Documentation No. 17-04*. Mannheim: ZEW.
- Berghoff, H. (1997). Unternehmenskultur und Herrschaftstechnik. Industrieller Paternalismus: Hohner von 1857 bis 1918. *Geschichte und Gesellschaft*, *23*(2), 167-204.
- Berghoff, H. (2005). Abschied vom klassischen Mittelstand. Die Ordnung der Wirtschaft. *Frankfurter Allgemeine Zeitung*, 5 February 2005, p. 15.
- Berghoff, H. (2006). The End of Family Business? The Mittelstand and German Capitalism in Transition, 1949-2000. *The Business History Review*, <https://doi.org/10.2307/25097190>
- Berghoff, H., & Möller, R. (1994). Tired pioneers and dynamic newcomers? A comparative essay on English and German entrepreneurial history, 1870-1914. *The Economic History Review*, *47*(2), 262-287.
- Berleemann, M., & Jahn, V. (2016). Regional importance of Mittelstand firms and innovation performance. *Regional Studies*, *50*(11), 1819-1833.

- Block, J., & Spiegel, F. (2011). Family firms and regional innovation activity: Evidence from the German Mittelstand. *MPRA Paper* (Vol. 28604). Munich: University Library of Munich.
- Bögenhold, D., Fachinger, U., & Leicht, R. (2001). Self-Employment and wealth creation: Observations on the German case. *The international journal of entrepreneurship and innovation*, 2(2), 81-91.
- Chandler, A. (1994). *Scale and Scope. The Dynamics of Industrial Capitalism*. Cambridge, Mass.: Harvard University Press.
- Da-ye, K. (2013): Why ‘Mittelstand’ matters to Korea. *The Korea Times*.
http://www.koreatimes.co.kr/www/news/biz/2016/01/330_143802.html. Accessed 28 November 2017.
- De Massis, A., Audretsch, D., Uhlaner, L., & Kammerlander, N. (2017). Innovation with Limited Resources: Management Lessons from the German Mittelstand. *Journal of Product Innovation Management*, <https://doi.org/10.1111/jpim.12373>
- Decker, C., & Günther, C. (2017). The impact of family ownership on innovation: evidence from the German machine tool industry. *Small Business Economics*, <https://doi.org/10.1007/s11187-016-9775-0>
- Deutscher Bundestag (1970). Grundsätze einer Strukturpolitik für kleine und mittlere Unternehmen. *Drucksache VI/1666*. Bonn.
- DIHK (2013). *Damit Unternehmer nicht zu Exoten werden - Deutschland braucht mehr Unternehmertum*. DIHK-Sonderpublikation zum Gründungsgeschehen und zur Zukunft des Mittelstands. Berlin: DIHK.
- DIHK (2017). *Talfahrt mit Lichtblicken*. DIHK-Gründerreport 2017. Berlin: DIHK.
- Ellyat, H. (2014). *Can the ‘Brittelstand’ rival Germany?* <https://www.cnbc.com/2014/11/04/can-the-brittelstand-rival-germany.html>. Accessed 28 November 2017.
- Engel, J. S. (2015). Global clusters of innovation: Lessons from Silicon Valley. *California Management Review*, 57(2), 36-65.
- Fear, J. (2014). The secret behind Germany’s thriving ‘Mittelstand’ businesses is all in the mindset. *The Conversation*. <http://theconversation.com/the-secret-behind-germanys-thriving-mittelstand-businesses-is-all-in-the-mindset-25452>. Accessed 28 November 2017.
- Federal Ministry of Economic Affairs and Energy (2016). *Future of the German Mittelstand: Action Programme*. Berlin: BMWi.
- Fendel, R., & Frenkel, M. (1998). Do Small and Medium-Sized Enterprises Stabilize Employment? *Zeitschrift für Wirtschaft- und Sozialwissenschaft*, 118(2), 163-184.
- Fendel, R., & Frenkel, M. (1999). How Important is the Mittelstand for the German Economy?. *Structure and Dynamics of the German Mittelstand*. Heidelberg: Physica-Verlag.

- Gantzel, K.-J. (1962). Wesen und Begriff der mittelständischen Unternehmung. *Abhandlungen zur Mittelstandsforschung, 4*. Wiesbaden: Springer.
- Gärtner, C. (2016). Deep-tech in Good Old Germany: Digitale Hidden Champions. *XING Insider*. <https://www.xing.com/news/insiders/articles/deep-tech-in-good-old-germany-digitale-hidden-champions-532499>. Accessed 28 November 2017.
- Hamel, G. (1999). Bringing Silicon Valley Inside. *Harvard Business Review*, 77(5), 70-84, 183.
- IfM Bonn (2017). Macro-economic significance of SMEs. <https://en.ifm-bonn.org/statistics/#accordion=0&tab=0>. Accessed 28 November 2017.
- Jahn, V. (2015). The importance of Mittelstand firms for regional apprenticeship activity: Lessons for policy. *Helmut Schmidt University Working Paper Series* (Vol. 158). Hamburg: Helmut Schmidt University.
- James, H. (2008). Family Values or Crony Capitalism? *Capitalism and Society*. <https://doi.org/10.2202/1932-0213.1031>
- Lageman, B., & Welter, F. (1999). Eine „neue Kultur“ der Selbständigkeit? Zur Diskussion einer wirtschaftspolitischen Idee. In D. Bögenhold (Ed.), *Unternehmensgründungen und Dezentralität - Eine Renaissance der beruflichen Selbständigkeit* (pp. 111-126). Opladen: Westdeutscher Verlag.
- Landes, D. S. (2006). *Dynasties: Fortunes and Misfortunes of the World's Great Family Businesses*. New York: Viking.
- Lehrer, M., & Celo, S. (2016). German family capitalism in the 21st century: patient capital between bifurcation and symbiosis. *Socio-Economic Review*, 14(4), 729-750.
- Lehrer, M., & Schmid, S. (2015). Germany's industrial family firms: Prospering islands of social capital in a financialized world? *Competition & Change*, 19(4), 301-316.
- Leicht, R., & Stockmann, R. (1993). Die Kleinen ganz groß?: Der Wandel der Betriebsgrößenstruktur im Branchenvergleich. *Soziale Welt*(2), 243-274.
- Lerner, J. (2013). The Boulevard of Broken Dreams: Innovation Policy and Entrepreneurship. *Innovation Policy and the Economy*. <https://doi.org/10.1086/668239>
- Logue, D. M., Jarvis, W. P., Clegg, S., & Hermens, A. (2015). Translating models of organization: Can the Mittelstand move from Bavaria to Geelong? *Journal of Management & Organization*, 21(01), 17-36.
- Maaß, F., & May-Strobl, E. (2016). Der Stellenwert nicht-technologischer neuerungen im Innovationsgeschehen der mittelständischen Wirtschaft. *IfM-Materialien* (Vol. 250). Bonn: IfM Bonn.
- May-Strobl, E., & Welter, F. (2016). KMU, Mittelstand, Familienunternehmen: Eine Klarstellung. In H. H. Hinterhuber, & H. K. Stahl (Eds.), *Erfolgreich im Schatten der Großen. Wettbewerbsvorteile für kleine und mittlere Unternehmen* (pp. 1-11). Berlin, Germany: Erich Schmidt Verlag.

- Pahnke, A., May-Strobl, E., & Schneck, S. (2014). Die Einkommenssituation von Selbstständigen und die Inanspruchnahme staatlicher Leistungen auf Basis des SGB II. *IfM-Materialien* (Vol. 226). Bonn: IfM Bonn.
- Pfotenhauer, S., & Jasanoff, S. (2017). Traveling imaginaries: The “practice turn” in innovation policy and the global circulation of innovation models. In D. Tyfield, R. Lave, S. Randalls, & C. Thorpe (Eds.), *The Routledge Handbook of the Political Economy of Science* (pp. 416-428). London: Routledge.
- Pichet, E., & Lang, G. (2012). The German Mittelstand and its fiscal competitiveness: Lessons for France. *La Revue de droit fiscal* (n°14), 46-55.
- Pistruì, D., Welsch, H. P., Wintermantel, O., Liao, J., & Pohl, H. J. (2000). Entrepreneurial orientation and family forces in the new Germany: Similarities and differences between East and West German entrepreneurs. *Family Business Review*, 13(3), 251-263.
- Rinneberg, K.-J. (1985). *Das betriebliche Ausbildungswesen in der Zeit der industriellen Umgestaltung Deutschlands*. Köln: Böhlau.
- Ross Range, P. (2012). The German Model. Report. *Handelsblatt*. <http://www.handelsblatt.com/politik/konjunktur/report-the-german-model/6966662.html>. Accessed 28 November 2017.
- Saxenian, A. (1990). Regional networks and the resurgence of Silicon Valley. *California Management Review*(Fall), 89-112.
- Schlepphorst, S., & Schlömer-Laufen, N. (2016). Schnell wachsende Unternehmen in Deutschland: Charakteristika und Determinanten ihres Wachstums. *IfM-Materialien* (Vol. 246). Bonn: IfM Bonn.
- Schlömer-Laufen, N., Lamsfuß, C., Große, J., & Chlosta, S. (2014). Wirtschaftliche Entwicklung großer Familien- und Nichtfamilienunternehmen – eine Bilanzdatenanalyse für den Zeitraum 2008 bis 2012. *IfM-Materialien* (Vol. 235). Bonn: IfM Bonn.
- Schneck, S., & May-Strobl, E. (2015). The Economic Contribution of Start-Up Firms in Germany. In A. C. Corbett, J. A. Katz, & A. Mckelvie (Eds.), *Entrepreneurial Growth: Individual, Firm, and Region* (pp. 231-263). London: Emerald Group Publishing Limited.
- Schwalbach, J. (1989). Small Business in German Manufacturing. *Small Business Economics*, 1(2), 129-136.
- Simon, H. (1992). Lessons from Germany’s Midsize Giants: An inside look at how smaller German companies have come to dominate their markets worldwide. *Harvard Business Review*, 70(2), 115-122.
- Simon, H. (1996). You don't have to be German to be a “hidden champion”. *Business Strategy Review*, 7(2), 1-13.

- Simon, H. (2009). *Hidden champions of the twenty-first century: success strategies of unknown world market leaders*. Dordrecht, New York: Springer.
- Sorgner, A., Fritsch, M., & Kritikos, A. (2017). Do entrepreneurs really earn less? *Small Business Economics*. <https://doi.org/10.1007/s11187-017-9874-6>.
- Steiber, A., & Alänge, S. (2016). *The Silicon Valley Model. Management for Entrepreneurship*. Management for Professionals. Cham: Springer International Publishing Switzerland.
- Sternberg, R. (1996). Reasons for the genesis of high-tech regions - Theoretical explanation and empirical evidence. *Geoforum*, 27(2), 205-223.
- Sternberg, R., & von Loh, J. (2017). *Global Entrepreneurship Monitor (GEM), Länderbericht Deutschland*. Hannover: Leibniz Universität Hannover, Institut für Wirtschafts- und Kulturgeographie.
- Storm, S., & Naastepad, C. W. M. (2015). Crisis and recovery in the German economy: The real lessons. *Structural Changes and Economic Dynamics*, 32, 11-24.
- Stuart, T. E., & Sorenson, O. (2003). Liquidity Events and the Geographic Distribution of Entrepreneurial Activity. *Administrative Science Quarterly*. <https://doi.org/10.2307/3556656>
- Suprinovic, O., Schneck, S., & Kay, R. (2016). Einmal Unternehmer, immer Unternehmer? Selbstständigkeit im Erwerbsverlauf. *IfM-Materialien* (Vol. 248). Bonn: IfM Bonn.
- The Economist (2014). German lessons: Many countries want a Mittelstand like Germany's. It is not so easy to copy. <http://www.economist.com/news/business/21606834-many-countries-want-mittelstand-germanys-it-not-so-easy-copy-german-lessons>. Accessed 28 November 2017.
- Venohr, B. (2010). *The power of uncommon common sense management principles–The secret recipe of German Mittelstand companies–Lessons for large and small companies*. Paper presented at the 2nd Global Drucker Forum, Vienna,
- Venohr, B., Fear, J., & Witt, A. (2015). *Best of German Mittelstand - The World Market Leaders*. Köln: DAAB MEDIA.
- von Saldern, A. (1992). *The Old Mittelstand 1890-1939: How "Backward" Were the Artisans? Central European History*, 25(1), 27-51.
- Wagner, J. (1994). The Post-Entry Performance of New Small Firms in German Manufacturing Industries. *The Journal of Industrial Economics*, 42(2), 141-154.
- Walter, F., & Mey, C. (2017): Le Mittelstand. Frankreichs blinder Fleck. <http://www.3sat.de/page/?source=/makro/magazin/doks/192294/index.html>. Accessed 28 November 2017.
- Welter, F. (2011). Contextualizing Entrepreneurship - Conceptual Challenges and Ways Forward. *Entrepreneurship Theory and Practice*. <https://doi.org/10.1111/j.1540-6520.2010.00427.x>

- Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday Entrepreneurship-A Call for Entrepreneurship Research to Embrace Entrepreneurial Diversity. *Entrepreneurship Theory and Practice*. <https://doi.org/10.1111/etap.12258>
- Welter, F., Levering, B., & May-Strobl, E. (2016). Mittelstandspolitik im Wandel. *IfM-Materialien* (Vol. 247). Bonn: IfM Bonn.
- Welter, F., May-Strobl, E., Holz, M., Pahnke, A., Schlepphorst, S., Wolter, H.-J., et al. (2015). Mittelstand zwischen Fakten und Gefühl. *IfM-Materialien* (Vol. 234). Bonn: IfM Bonn.
- Wengenroth, U. (2010). History of Entrepreneurship: Germany after 1815. In D. S. Landes, J. Mokyr, & W. J. Baumol (Eds.), *The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times* (pp. 273-304, Kauffman Foundation Series on Innovation and Entrepreneurship). Princeton and Oxford: Princeton University Press.
- Werner, A., Schröder, C., & Chlosta, S. (2017). Driving factors of innovation in family and non-family SMEs. *Small Business Economics*. <https://doi.org/10.1007/s11187-017-9884-4>
- Wolter, H.-J., & Hauser, H.-E. (2001). Die Bedeutung des Eigentümerunternehmens in Deutschland. *Jahrbuch zur Mittelstandsforschung*, 1, 27-78.
- Wolter, H.-J., Werner, A., & Schneck, S. (2015). Zur Entwicklungsdynamik neugegründeter Unternehmen - Eine Längsschnittanalyse auf Basis des Umsatzsteuerpanels. *IfM-Materialien* (Vol. 238). Bonn: IfM Bonn.
- Zahra, S. A., & Wright, M. (2011). Entrepreneurship's Next Act. *Academy of Management Perspectives*. <https://doi.org/10.5465/amp.2010.0149>
- Zimmermann, V. (2017). *KfW-Innovationsbericht Mittelstand 2016. Innovationen konzentrieren sich auf immer weniger Unternehmen*. Frankfurt am Main: Kreditanstalt für Wiederaufbau.

Website

<https://www.kirchhoff-group.com>