Editorial

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The financial industry has changed tremendously over the last decades. And so has the usage of financial products and services. A large part of this development has been technology-driven, giving rise to the digitalization of the industry with profound changes for established processes and products. Moreover, innovative business models have become possible that, by rendering formerly necessary infrastructure obsolete, have created new markets. Cost-effective ways of processing large sets of information allow the tailoring of services and products that many have found the “analog” banking world wanting. The opportunities of digitalization also pose new demands on employees, market participants, and customers, however. Within the ever-widening gap between automatization on the one hand and customization on the other, the digitally-induced universe of choices can easily become overwhelming, exhausting the capabilities of decision makers at different positions inside and outside the industry.

At the same time, fundamental weaknesses of the social security and pension systems have left private individuals with much higher responsibility for their own financial well-being than ever before. Many observers have therefore begun to question whether consumers possess the necessary knowledge and competence to make increasingly complex financial decisions. As financial literacy is still rarely taught at school, but rather acquired “by doing”, the changing financial environment will certainly affect the influence that any lack of financial sophistication may have on households’ financial well-being.

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Against this background, this special edition tries to bring together research articles on the frontier of both developments: digitalization of the financial industry and individual literacy in dealing with financial decisions within this industry. Currently, the two research streams seem to co-exist rather than to mingle. It may not be a bold guess to expect this to change: As private households become ever more wealthy, their demands should shape the design of financial products and services at least as much as the availability of digital technology. A certain degree of financial literacy may be necessary, however, to voice these demands. While this gives a certain spin on the dynamic relation between financial digitalization and education that can be expected to be covered in future research, it also leaves room for the analog role of financial educators and advisors which is already a strongly-researched topic.

The first article in this special issue is coauthored by P. Gomber, J.-A. Koch, and M. Siering and entitled “Digital Finance and FinTech: Current research and future research directions”. Digital Finance encompasses a multitude of new financial products, financial businesses, finance-related software, and novel forms of customer communication and interaction—delivered by so-called FinTech companies and innovative financial service providers. This contribution reviews the current state of research in Digital Finance that deals with these novel and innovative business features. The survey is organized along the three central Digital Finance dimensions: Digital Finance business functions, relevant technologies, and technological concepts as well as institutions providing Digital Finance solutions. In this way, the Digital Finance Cube is derived, which makes it possible to identify cross-linkages and research gaps. It is found that the number of articles on Digital Finance topics published in important journals and conference proceedings has increased noticeably over the last years. Nearly half of the articles address Digital Financing, i.e., digital types of making available financial capital, and nearly all of the articles in this group focus on crowdfunding. However, relatively few articles deal with crowdinvesting. Concerning Digital Insurances, no relevant research article could be found. Moreover, the authors identify specific sub-categories of research that are addressed more often: user behavior, platforms/providers, and aspects of performance. However, there are some business functions that do not reveal any research on specific sub-categories. For example, concerning Digital Money, the authors could not discover any research article that addresses the relevant platforms, i.e., bitcoin exchanges. Another aspect that is under-researched is robo-advice. Summarizing, though being rather a quickly developing subject in theory and practice, there is still ample room for future research on Digital Finance.

The second article, entitled “Financial literacy, financial advice, and financial behavior”, by O. A. Stolper and A. Walter presents a review of the (empirical) literature on the measurement and the determinants of financial literacy. The authors try to support their findings by referring to evidence from Germany according to the new “Panel on Household Finances” initiated by the Deutsche Bundesbank. Stolper and Walter document that the level of financial literacy is generally rather low and they also find substantial differences between national economies and demographic cohorts. Furthermore, low levels of financial literacy have been linked to suboptimal financial behavior likely to have long-term implications. As a consequence, the

assessment of consumers' financial competence as well as the effect of financial education initiatives on economic outcomes has attracted considerable attention in recent years and the academic literature on financial literacy is rapidly evolving. Although policy makers and interest groups around the world have put considerable effort in increasing peoples' financial literacy, the educational initiatives produced rather disappointing results so far and, accordingly, their capability to improve the quality of financial behavior seems to be limited. Thus, improving the effectiveness of the programs seems essential to literate individuals to sufficient levels. Stolper and Walter also point out the necessity for more non-US related research on financial literacy. The majority of research on financial literacy has been conducted with a geographic focus on the US and—according to Stolper and Walter—this may pose an issue to our knowledge about individuals' financial literacy, because financial decisions faced by US citizens and German citizens, for example, differ to a great extent.

In their article “Towards more sustainable debt attitudes and behaviors: The importance of basic economic skills”, M. Goedde-Menke, C. Erner, and M. Oberste start by pointing out that there is a rising number of individuals who take on large amounts of debt and face financial distress which has become a serious concern to policy makers during the past two decades. The most important approach to address this issue seems to be to improve individual financial literacy in order to facilitate sustainable borrowing behavior. Nevertheless, studies examining the link between financial literacy and debt behavior show mixed results. As a consequence (and as already learnt from the survey article by Stolper and Walter in this special issue), current financial literacy programs are commonly found to be mostly ineffective in preventing individuals from incurring debt-related financial distress. Therefore, rather than only focusing on the transmission of highly specific financial details, the authors suggest the addition of basic economic skills (“an economic way of thinking”) to the curriculum. To examine whether basic economic skills systematically relate to more beneficial debt attitudes and behaviors, they conduct a large survey of approximately 1500 German adolescents. The outcomes of this study confirm that basic economic skills are significantly related to both a more sustainable attitude towards debt-financed consumption as well as more sustainable behavior with respect to taking on debt. In contrast, the authors do not find a significant impact of financial literacy on debt attitude or the propensity to take on debt. Taken together, these findings hint at the potential of adding basic economic skills to the curriculum of financial literacy programs.

The empirical study “Do individual investors learn from their mistakes?” by M. Koestner, B. Loos, S. Meyer, and A. Hackethal is motivated by empirical evidence which suggests that, in aggregate, investment mistakes result in significant underperformance of individual investors not just compared to institutional investors, but also in comparison to the overall market. While it is well documented that the average investor underperforms the market, there is also evidence that some individual investors persistently outperform their peers. Against this background, the question arises where this skill comes from. Recent studies suggest that learning may play a significant role in explaining the heterogeneity in investment performance. The authors conjecture that the specific mechanism through which

experience translates into better investment performance is closely connected to learning from investment mistakes. In order to put their hypotheses to the test, the authors use an administrative dataset which covers the complete trading history of 19,487 German retail investors over a period of eight years who start trading with a certain large German direct bank. With these new investors, learning may be stronger and easier to detect than for investors for which there is no complete trading history. Based on this dataset, there is also a linkage to Digital Finance, as online banking is the typical way for customers of direct banks to place orders, and the authors are able to investigate the relationship of three well documented investment mistakes—underdiversification, overtrading, and the disposition effect—with investment experience. The results show that underdiversification and the disposition effect do not decline, as investors get more experienced. Nevertheless, there is evidence that gains in experience are associated with less portfolio turnover, suggesting that investors learn from excessive trading which is related to overconfidence. Usually three channels by which financial literacy and ultimate outcomes could be affected are being discussed in the literature: education, decision support, and default options. The authors suggest that investors also learn from experience and therefore act more in accordance with the prescriptions of the theory of finance as long as outcomes are observable and salient.

Summarizing, we hope that the articles of this special issue may help to spur the interest in both research fields, digital finance and financial literacy, and their various interrelations which will gain even more importance in the years to come.