

De Gruyter Handbook of Entrepreneurial Finance



Edited by
David Lingelbach

DE GRUYTER

ISBN 978-3-11-072675-6
e-ISBN (PDF) 978-3-11-072631-2
e-ISBN (EPUB) 978-3-11-072635-0
ISSN 2748-016X
e-ISSN 2748-0178

Library of Congress Control Number: 2021952434

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available on the internet at <http://dnb.dnb.de>.

© 2022 Walter de Gruyter GmbH, Berlin/Boston
Typesetting: Integra Software Services Pvt. Ltd.
Printing and binding: CPI books GmbH, Leck.

www.degruyter.com

Acknowledgments

I've incurred a lot of debts in putting together this book. David Repetto, the commissioning editor at De Gruyter, reached out to me in the midst of the pandemic to see if I would be interested in submitting a proposal. I was shocked – and grateful – when my proposal survived the review process and was selected. Thank you, Dave.

Once in the good hands of De Gruyter, Stefan Giesen, editorial director for business and economics, and Maximilian Gessler, content editor for economics and social sciences, provided gentle advice as the manuscript moved forward to publication. Thanks to both of them for making this first solo editor effort so painless and, can I say, enjoyable.

Of course, none of this book would have been possible without the 35 contributors who generated its content. What an amazing group of academics and practitioners! I am so grateful for what they have done. I'm proud to be associated with their efforts.

In a larger sense, none of this book would have been possible without those who have supported my development as an academic: Gordon Murray, Hans Landström, Colin Mason, Harry Sapienza, Roger Leeds, and Celso Brunetti, among others. The University of Baltimore's Merrick School of Business – my home institution since 2010 – has supported me in large ways and small. Particular thanks to Kurt Schmoke, president; Murray Dalziel, dean; and Ven Sriram, department chair, for watching out for my best interests.

As always, the love and support of my wife Jenny, daughter Catie, and soon-to-be son-in-law Jacob mean the world to me.

This book is dedicated to Vale, who inspired its opening story. The world is lucky to have you in it.

Contents

Acknowledgments — V

Editor and contributor biographies — XI

David Lingelbach

Introduction — 1

Part I: The individual level

Jan P. Warhuus

1 The role of founders' tangible resources in founding new ventures — 15

Matthew Rutherford, Duygu Phillips, and Jorge Arteaga-Fonseca

2 The bootstrapping-bricolage interface — 37

Sussie Morrish

3 Effectuation and entrepreneurial finance — 55

Antonio Malfense Fierro and Peter Rosa

4 Portfolio entrepreneurs: The role of risk — 75

Part II: The inner circle

Franklin Allen, Meijun Qian, and Jing Xie

5 Informal financing of entrepreneurs — 91

Jonathan Marks and Aleia Bucci

6 Funding entrepreneurs within business groups: An emerging market view — 107

Tiago Ratinho

7 How business incubators and accelerators finance startups — 119

Part III: The wider world

Steven Si, Wan Liu, Yushan Yan, and Jet Mboga

8 Formal debt as a source of entrepreneurial finance — 139

Jonathan Kimmitt

- 9 Microfinance and entrepreneurial finance: A review and future research agenda — 153**

Darek Klonowski and Silas Lee

- 10 Venture capital as a source of entrepreneurial finance — 171**

Paul Asel

- 11 Corporate venture capital: A literature review and research agenda — 195**

Sofia Avdeitchikova and Hans Landström

- 12 The role of business angels in the new financial landscape — 223**

Judit Karsai

- 13 Government financing of startups — 245**

Antonia Schickinger, Alexandra Bertschi-Michel,
and Nadine Kammerlander

- 14 Family offices as startup investors: A synergetic relationship of the old and new economy? — 265**

Part IV: Emerging perspectives

Minh-Hoang Nguyen and Quan-Hoang Vuong

- 15 A scoping review of most influential entrepreneurial finance studies in developing countries — 293**

Janine Swail

- 16 Conceptualizing gender in entrepreneurial finance: Past trends, current developments and future opportunities — 317**

Ana María Peredo, Bettina Schneider, and Audrey Maria Popa

- 17 Indigenous entrepreneurial finance: Mapping the landscape with Canadian evidence — 335**

Rebecca Namatovu

- 18 Financing entrepreneurs in post-conflict and disaster zones — 359**

Yves Fassin

19 Ethics and entrepreneurial finance — 375

David Lingelbach

Conclusion — 391

List of figures — 401

List of tables — 403

Index — 405

Editor and contributor biographies

Franklin Allen is Professor of Finance and Economics and Executive Director of the Brevan Howard Centre at Imperial College London. He was at the Wharton School of the University of Pennsylvania and is now Emeritus Professor there. He was Vice Dean and Director of Wharton Doctoral Programs, Co-Director of the Wharton Financial Institutions Center, Executive Editor of the *Review of Financial Studies* and Managing Editor of the *Review of Finance*. He was President of the American Finance Association, the Western Finance Association, the Society for Financial Studies, the Financial Intermediation Research Society and the Financial Management Association, and a Fellow of the Econometric Society. He received his doctorate from Oxford University. Dr. Allen's research interests are corporate finance, asset pricing, financial innovation, comparative financial systems, and financial crises. He is a co-author with Richard Brealey and Stewart Myers of the eighth through twelfth editions of the textbook *Principles of Corporate Finance*.

Jorge Arteaga-Fonseca is a Fulbright and UK-Chevening scholar from Nicaragua. Jorge has more than 15 years of industry experience in finance, management and entrepreneurship in Latin America. Currently he is pursuing a PhD in Entrepreneurship at Oklahoma State University. His main research interests are entrepreneurial finance and combining finance and organizational theories in entrepreneurship. Jorge has a MSc in Investment and Finance from University of Strathclyde in Glasgow, UK; MBA from EAE Business School in Barcelona, Spain; BPhil in Business Administration from Ave Maria College in Michigan, USA; and received a scholarship to participate in the 2019 Senior Executive Fellows program at Harvard Kennedy School.

Paul Asel is Managing Partner of NGP Capital, a global venture firm operating in Europe, China and the United States with \$1.2 billion assets under management. NGP Capital was named the Fund of the Year by Global Corporate Venturing in 2016. Previously, Paul led technology investments at the International Finance Corporation. Paul is an Adjunct Professor at the George Mason Schar School of Policy and Government and earlier at the China Europe International Business School in Shanghai. He has lectured at the Stanford Graduate School of Business, Wharton at University of Pennsylvania and School of Advanced International Studies at Johns Hopkins University. He received an MBA from Stanford and BA from Dartmouth. Paul is co-author of *Upward Bound: Lessons of How Nine Leaders Achieved their Summits*. His articles have appeared in *Barron's*, *CB Insights*, *Forbes*, *Global Corporate Venturing*, *Journal of Private Equity*, *Knowledge@Wharton*, *Stanford Business Magazine*, *TechCrunch* and *Venture Capital Journal*.

Sofia Avdeitchikova holds a doctorate (2008) and a master's degree (2003) in social sciences from Lund University. In her doctoral thesis, she studied informal venture capital in Sweden, with focus on the role of proximity in investment decision-making. She has published extensively in international journals on the topics of venture capital, business angels and ambitious entrepreneurship. In addition, she has worked at the UN as advisor on Agenda 2030, headed the Department of Entrepreneurship and Enterprise at the Swedish Agency for Growth Policy Analysis, and conducted over 80 consulting assignments for government offices and various authorities in Sweden, European Commission, Nordic Council of Ministers, local and regional governments, science parks and universities.

Alexandra Bertschi-Michel, PhD, is a postdoctoral researcher at the University of Bern, Switzerland. She received her PhD in philosophy of management at the Center for family business, University of St. Gallen, Switzerland. Her research interests focus on advisors in family firms, family firm succession, private equity in family firms, and turnaround management in family firms

and her articles have been published, amongst others, in *Entrepreneurship Theory & Practice*, *Family Business Review*, *Long Range Planning*, and *Small Business Economics*. Besides her academic career, Alexandra Bertschi-Michel is also active as a family firm advisor in succession related matters (e-mail: alexandra.bertschi@iop.unibe.ch).

Aleia Bucci completed her PhD at the University of Pretoria's Gordon Institute of Business Science. Her thesis identified the ways social entrepreneurs in South Africa utilise informal learning to advance their knowledge while part of an incubation programme. Aleia's research interests include social entrepreneurship, entrepreneurial learning, and entrepreneurial ecosystems.

Yves Fassin (Belgium) holds a Master of Science in Engineering from Ghent University, a management degree from Vlerick Business School, and a PhD in Applied Economics from Ghent University. He combined his academic interests with an entrepreneurial career. He was director of the Industrial Liaison Office at Ghent University and Secretary-General of the European Venture Capital Association. He has been Managing Director of a small company and has also launched and participated in a few business start-ups. He followed the Executive Program for Growing Companies at Stanford Business School. He has been a member of the SME Committee of the Federation of Belgian Industries. He is a part-time professor at the Faculty of Economics and Business Administration, Ghent University, and Honorary Partner of Vlerick Business School. His research interests include corporate responsibility, business ethics, stakeholder management and corporate governance, and ethical issues in these fields of innovation and entrepreneurship.

Nadine Kammerlander is chaired professor of family business at WHU – Otto Beisheim School of Management in Germany where she also serves as co-director of the Institute of family business & Mittelstand. Prof. Kammerlander earned her PhD in management from the University of Bamberg and her master's degree in physics from the Technical University of Munich. Her research focuses on family firms and family offices and has been published in journals such as AMJ, AMR, JMS, JBV and ETP. She has also received international prizes such as the Carolyn Dexter Award. Nadine Kammerlander serves as Editor of Family Business Review. Family Capital named her as one of the Top 100 Global Family Influencers.

Judit Karsai is a Doctor of Science, Hungarian Academy of Sciences. She works as a scientific advisor at the Institute of Economics, Centre for Economic and Regional Studies, Hungary. She has published regularly on the subjects of private equity and venture capital financing, management buy-outs, enterprise behavior and business incubation. She has participated in numerous joint international research activities and has acted as coordinator and participant in several projects supported by the World Bank and the Commission of the European Union. She provided a thorough analysis of the venture capital and private equity industry in the Central and Eastern European (CEE) region in her three books: *Private Equity in CEE* (2010); *The new kings of capitalism. Venture capital and private equity in the CEE region* (2012, in Hungarian) and *The Odd Couple. Government participation in the CEE venture capital market* (2017, in Hungarian).

Jonathan Kimmitt is a Senior Lecturer in Entrepreneurship at Newcastle University Business School, UK. His research focuses on issues related to (social) entrepreneurship, international development, and poverty. In particular, his research has looked at recipients of microfinance and how this seeds entrepreneurial opportunities as well as how microfinance Institutions meet their diverse and complex goals. He is similarly interested in aspects of alternative investment, particularly Social Impact Bonds as well as social entrepreneurial behaviour. He has published in several international journals including Journal of Management Studies, Journal of Business

Venturing, *International Small Business Journal*, *Entrepreneurship & Regional Development*, *Management and Organization Review*, *Technological Forecasting and Social Change*, and *Policy & Politics*.

Darek Klonowski is Professor of Business Administration at Brandon University in Canada. Prior to working in academia, Klonowski was involved in the private equity and venture capital industry. He is the author and editor of six books on private equity and venture capital with Palgrave MacMillan.

Hans Landström is Professor Emeritus in Business Administration at Lund University, Sweden; Co-founder of two large research centres on innovation and entrepreneurship at Lund University: CIRCLE and Sten K. Johnson Centre for Entrepreneurship; President of the European Council for Small Business (ECSB) 1999–2001; and historian within the ENT Division of the AOM 2011–2016. Since 2010 he is ECSB Fellow, and in 2017 he was awarded as the Wilford L. White Fellow of the International Council for Small Business (ICSB). His research interests include entrepreneurial finance, venture capital and business angels, entrepreneurial education, and the history of entrepreneurship theory. His articles have been published in journals such as *Research Policy*, *Journal of Business Venturing*, *Small Business Economics*, *Entrepreneurship Theory and Practice*, *Entrepreneurship and Regional Development*, and *Journal of Small Business Management*.

Silas Lee holds an Honours Bachelor of Business Administration from Brandon University and is currently pursuing a JD/MBA at Osgoode Hall Law School and the Schulich School of Business. During his undergraduate degree, he developed an interest in social entrepreneurship and venture capital under the tutelage of Dr. Darek Klonowski. Silas previously worked as a strategy advisory intern at Ceridian HCM, a global software-as-a-service company, and will be completing his articles at Norton Rose Fulbright Canada LLP in Toronto, Ontario. He is the co-founder and CMO of ReNu Hygienics, a soap recycling startup, and is one of seven children.

David Lingelbach (B.S., M.S., Massachusetts Institute of Technology; Ph.D., University of Exeter) is an associate professor of entrepreneurship at the Merrick School of Business, The University of Baltimore. His research focuses on entrepreneurship and entrepreneurial finance in emerging and developing economies, and oligarch studies. His research has been published in journals such as *Journal of Management Inquiry*, *Venture Capital: An International Journal of Entrepreneurial Finance*, and *International Journal of Entrepreneurship and Innovation*. He is also co-author of *Entrepreneurship in Africa: Context and Perspectives*, the first international textbook in the discipline focused on that continent. He has founded or co-founded nine startups in the for- and non-profit sectors and previously served as CEO of Bank of America's businesses in the former Soviet Union and President of one of post-communist Russia's first venture capital funds. He has advised the World Bank, Asian Development Bank, the Asia Foundation, and the government of Indonesia on venture capital and entrepreneurship development. He was awarded a Fulbright Scholar grant to Myanmar and a Fulbright Specialist to Colombia and has been nominated twice for an Andrew Carnegie Fellowship. He is currently writing a commercial nonfiction book about oligarchs.

Wan Liu is a doctoral student at Zhejiang University. She has published papers in prestigious journals such as *International Journal of Conflict Management*, *Journal of Engineering and Technology Management*, *Management Decision* and others. She has also reviewed papers for management/business journals such as *Technovation* and others.

Antonio C. Malfense Fierro is a senior lecturer (Associate Professor) in entrepreneurship at Hull University Business School. Antonio's research focuses on large scale, entrepreneur owned business portfolios; family business & risk (Africa and other contexts). His capabilities extend to the development, design and undertaking of bespoke market research in challenging contexts, executive education in the areas of business opportunities, challenges (Africa/elsewhere), general entrepreneurship, venture creation, firm growth, entrepreneurship policy and market opportunity assessment. In the area of market opportunity assessment, Antonio has led a number of feasibility studies focused on determining markets for new technologies or exploring new markets for existing industries. These studies have been focused on EV charging, Carbon Nanofibers, Drone, remote sensing and Ph reduction technologies for agriculture. Antonio has undertaken a number of projects focused on entrepreneurial ecosystems and SMEs. Antonio has won a significant number of research grants focused on diverse areas of exploration.

Dr Jonathan Marks works at University of Pretoria Gordon Institute of Business Science in the entrepreneurship and innovation domain. His primary areas of research are high-growth entrepreneurship, entrepreneurial learning and education, and entrepreneurial finance. He is faculty lead for the MBA Entrepreneurship Focus, and is an innovative and award-winning educator, having developed courses and programmes across the higher-education spectrum. He brings a strong practitioner focus to his work, having started and exited a number of high-growth start-up ventures. He was founding director of the Ackerman Academy of Entrepreneurship at the University of Cape Town, from where he has an MBA and PhD focused on entrepreneurship education.

Dr. Jet Mboga is an Assistant Professor in the Management & International Department at Ziegler College of Business, Bloomsburg University of Pennsylvania. Her Research Interests include International Business: Sub-Saharan Africa; Entrepreneurship, Organizational Leadership Impact on Business and Society; Organizational Behavior: Ethical Decision Making; Cross-Cultural Management; and Corporate Governance (Strategy). Her education is credited to PhD, University of Bolton – United Kingdom; Doctor of Business Administration, Walden University –Minneapolis, MN.

Sussie C. Morrish is Professor of Marketing in the Department of Management, Marketing and Entrepreneurship at the University of Canterbury Business School. Sussie teaches undergraduate to post-graduate strategic marketing and entrepreneurship. She gained her PhD from the University of Canterbury while simultaneously teaching at the University of Auckland Business School. Her main research interests revolve around the marketing and entrepreneurship disciplines including various strategic approaches to internationalisation and sustainability. Her more recent research explores the effects of disasters on entrepreneurial business and ecosystems.

Rebecca Namatovu (PhD Gordon Institute of Business Science, University of Pretoria) is a post-doctoral researcher at the Department of Strategy and Innovation at the Copenhagen Business School. Her research interests lie at the intersection of entrepreneurship and development studies. She has conducted extensive research on entrepreneurship in resource-constrained and fragile environments. Her research quest is to understand the role of entrepreneurship in responding to global challenges like poverty, inequality and sustainability. Her work is published in the Journal of Business Venturing, Entrepreneurship and Regional Development and Academy of Management Learning and Education. Rebecca serves at the editorial review board of the Africa Journal of Management. Before joining CBS, Rebecca was a senior lecturer at Makerere University Business School, Uganda.

Minh-Hoang Nguyen holds an MSc in Sustainability Science from Ritsumeikan Asia Pacific University, Beppu, Japan, where he continues his Ph.D. track. He works as a researcher in the Centre for Interdisciplinary Social Research, Phenikaa University, Hanoi, Vietnam. He has published around 35 articles in journals and books by multiple publishers: Cell Press, De Gruyter, Elsevier, Emerald, MDPI, MIT Press, Nature Research, Oxford University Press, Springer, and Wiley. His research interest is psychological issues. He believes understanding human mental constructs and mechanisms is a fundamental approach for achieving sustainability in multiple disciplines.

Ana María Peredo, Ph.D., is a Social and Inclusive Entrepreneurship Professor at the Telfer School of Management, University of Ottawa. Prior to that, she was Professor of Political Ecology and Business and Sustainability (2000–2021) and Director of the Centre for Co-operative and Community-Based Economy (2008–2014) at the University of Victoria. She is a Peruvian anthropologist and critical management scholar, focusing on community alternatives, social economy, social justice and participatory action research, particularly among Indigenous peoples and disadvantaged communities. She has published in the areas of community-based entrepreneurship, poverty alleviation, commons and resistance movements. Ana María has published her research in top management and organizational journals and received numerous research, teaching and community engagement awards

Duygu Phillips is a Postdoctoral Researcher in Entrepreneurship at Oklahoma State University. She received her PhD in Business Administration with a major in Entrepreneurship from Oklahoma State University. Previously, she acquired her Master's in Marketing from the University of Birmingham, UK and her Bachelor's in Communications from Galatasaray University. Dr. Phillips has 15 years of experience in consulting start-ups as well as small and medium-sized businesses. She is the founder of a consulting firm specializing on start-up strategy and naming. She is the author of the first book on naming published in Turkey. Her research focuses on new venture strategy, institutional theory, organizational identity, cultural entrepreneurship, entrepreneurial finance, and family business.

Audrey Maria Popa is a graduate student at the University of Victoria obtaining her Master's in Environmental Studies, where her research will explore conservation finance and conservation economies in Canada. After completing a Bachelor of Commerce in Sustainability and Social Impact at the University of British Columbia, Audrey worked in sustainability advisory and social finance research positions in Vancouver, Toronto and Montreal. Most recently, Audrey has worked with the Table of Impact Investment Practitioners (TIIP) to co-develop a report on the *State of Social Finance in Canada*. Additionally, Audrey is currently a social finance researcher for the Canadian Network of Partner Research on Philanthropy (PhiLab) investigating how foundations across Canada can integrate social finance within their investment and granting strategy.

Meijun Qian is a Professor of Finance, and a Research Fellow at the Wharton Financial Institution Center. She was also a consultant economist for Asian Development Bank and a visiting scholar at the Becker and Friedman Institute at the University of Chicago. Meijun's research interests include comparative financial system, economic development in China and India, state capitalism, alternative finance, mutual funds, infrastructure and productivity, and leadership diversity. Her research has appeared in top-tier academic journals including *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Management Science*, and *Journal of Financial Intermediation*. It has also been presented to regulators including The Stock Exchange Committee, Federal Reserve Banks, People's Bank of China, The Capital Market Board of Turkey, World Economy Forum, and The Wilson Center. Meijun's work has had a high impact amongst academics, the financial industry, and policymakers and is widely cited.

Tiago Ratinho is Associate Professor in Entrepreneurship at IESEG School of Management, Univ. Lille, CNRS. He holds a PhD from the University of Twente (The Netherlands) and maintains a global profile conducting research and teaching in the USA, Brazil, and France on topics such as business incubation, effectuation, and technology entrepreneurship. His work can be read in international publications such as the *Journal of Business Venturing*, *Technological Forecasting and Social Change*, and *Technovation*. Google Scholar profile: shorturl.at/opdJK

Peter Rosa is the Emeritus Professor & George David Chair of Entrepreneurship and Family Business at the University of Edinburgh and held the George David Chair as a full professor before retiring in 2016. He was also the Director of the Edinburgh University Center for Entrepreneurship and Innovation and Head of the Entrepreneurship and Innovation Group. He has been a Visiting Professor at the Makerere University Business School (Uganda) and the Witten Herdecke University Institute of Family Business (Germany). He has published extensively in the field of portfolio entrepreneurship and family business groups and in 2019 co-edited a book, *The Family Business Group Phenomenon: Emergence and Complexities*.

Dr. Matthew Rutherford is Professor, Johnny Pope Chair, and Riata Entrepreneur in Residence at Oklahoma State University. Previously, Dr. Rutherford was Associate Professor of Management at Virginia Commonwealth University where he oversaw the entrepreneurship program. He has also served on faculty at Gonzaga University. He received his PhD from Auburn University. He has published 40 peer reviewed articles in top entrepreneurship and management journals, and is the author of the book: *Strategic Bootstrapping*. Additionally, he has presented over 100 manuscripts at international, national, and regional conferences. Dr. Rutherford's experience is in new and small firm consulting. He has provided consulting services to over 100 organizations of all sizes. His research foci are corporate entrepreneurship and innovation, family business, and new venture finance.

Antonia Schickinger is a manager within the Private Equity Group at Bain & Company in Berlin. Previously, she was a doctoral student with Prof. Dr. Nadine Kammerlander at the Institute of Family Business at WHU – Otto Beisheim School of Management. In her dissertation, which was supported by the Friedrich Naumann Foundation, Antonia focused on “Private Equity Investments of Family Firms and Family Offices”. Amongst others, her research was published in the *Journal of Family Business Strategy* as well as in *Small Business Economics*. Before starting her dissertation, Antonia studied Business Administration at the University of Mannheim and worked several years as an analyst at Goldman Sachs in Frankfurt.

Dr. Bettina Schneider is the Associate Dean of Community, Research & Graduate Programs at the First Nations University of Canada (FNUiv) and is also an Associate Professor in Indigenous Business and Public Administration at FNUiv. She received her MS in community development and her PhD in Native American Studies from the University of California, Davis. She has worked at FNUiv since 2007. Dr. Schneider has also worked as a consultant for the First Nations Development Institute, First Nations Oweesta Corporation, and Opportunity Finance Network. Her research has predominantly focused on Indigenous community and economic development strategies, Native and Aboriginal financial institutions in the U.S. and Canada, Indigenous business and financial literacy curriculum, and Indigenous qualitative business research methodologies and methods.

Steven X. Si is a distinguished professor (entrepreneurship/innovation) at Zhejiang University and research professor at Bloomsburg U. of Pennsylvania. Professor Si has published about 100 peer-reviewed articles in journals such as JBV, SEJ, JAP, AMP and others. He serves/served as guest editor for seven Special Issues for the prestigious journals such as Technovation, JETM, ERD, SEJ, JBV, IJCM, APJM. Professor Si currently serves as an associate editor for the journal Technovation.

Dr Janine Swail is a senior lecturer in Entrepreneurship and Innovation at Auckland University Business School. Prior to relocating to New Zealand in 2016, Janine worked as an Assistant Professor at Newcastle University (2007–2013) and University of Nottingham (2013–2016). Her research interests focus on the impact of gender upon entrepreneurial activity, most recently in the area of entrepreneurial finance and business exit. She teaches across undergraduate and postgraduate levels and contributes to the design, delivery and coordination of courses in the area of innovation and entrepreneurship. Her recent publications can be found in *Entrepreneurship, Theory and Practice*, *Gender, Work and Organisation*, *Entrepreneurship and Regional Development* and *International Small Business Journal*. She serves on the Editorial Board of the *International Small Business Journal* and the *International Journal of Entrepreneurial Behaviour and Research*.

Quan-Hoang Vuong (Ph.D., Université Libre de Bruxelles) is Distinguished Scientist of Phenikaa University, Hanoi, Vietnam. He is also a Distinguished Associate Member of the Vietnam Institute for Advanced Study in Mathematics. He has published nearly 200 academic papers and books with many leading publishers.

Jan Warhuus is assistant professor of entrepreneurship at the School of Economics and Business Administration at St. Mary's College of California. His research interests include entrepreneurship education, entrepreneurship and gender, and new venture finance. Prior to joining St Mary's in 2018, Jan was an assistant professor of entrepreneurship at Aarhus University. From 1999 to 2013 he worked in the private sector in the San Francisco Bay Area where he was involved with several start-ups, including a role as founding management team member at GuardianEdge, a venture-capital backed data security company acquired by Symantec. Jan earned his Ph.D. from University of Southern Denmark in 2000 and his research has appeared in *International Journal of Entrepreneurial Behavior and Research*, *Journal of Small Business and Enterprise Development*, *The International Journal of Management Education*, *Education & Training*, *Industry and Higher Education*, and *Frontiers of Entrepreneurship*.

Jing Xie is an assistant professor of finance at Hong Kong Polytechnic University. He obtained his PhD of Finance from National University of Singapore. Jing's research interests include empirical corporate finance, behavioural asset pricing, institutional investor behavior, and tax avoidance. His research has appeared in top-tier academic journals including *Journal of Financial Economics*, *Journal of Financial Intermediation*, and *Journal of Corporate Finance*.

Yushan Yan is a doctoral student at Zhejiang University. She has published papers in the prestigious journals such as *Management Decision*, *International Journal of Conflict Management* and top-tier Chinese Management Journal – *Management World*. She has also reviewed papers for management/business journals such as *Journal of Engineering and Technology Management* and others.

David Lingelbach

Introduction

December 22, 2030. As her plane descended carefully through Bogotá's now-perpetually stormy cloudbank, Mu Tha readied herself for the meeting of her life. The city's rapid emergence as the new center of startup finance had caught everyone off guard, most especially the old guard on Sand Hill Road in Silicon Valley choking on that region's near-constant wildfires and the hubris and overreach of the techbro culture of the 2020s. Colombia's capital hadn't been the first pick as a finance center, but with New York, London, Shanghai, Hong Kong, and Singapore now underwater from rapid searise, governments and international organizations around the world had scrambled to make more resilient the global financial system, especially that part of it that would finance the only hope the globe had to get out of the now-cascading existential crises it faced.

Mu Tha was typical of the new generation of financiers that had arisen in the new world order. A member of the Kayan Padaung ethnic minority of the now-failed state of Myanmar, Daw Mu (Daw is a title of respect for women in that country) had been a leader in the resistance to the military junta that took power in 2021, suffering hideously disfiguring torture at their hands that had left her in near-constant pain. But as indigenous people like her gained power in the topsy turvy world of the late 2020s, Mu's disadvantages in the Western-, and then Chinese-dominated, world suddenly became advantages. Because neither the Western models of neoliberal capitalism nor Chinese models of state capitalism were working to save the planet. And as global warming accelerated, and vaccine-resistant pandemics became an annual event, ancient ways of thinking were coming to the fore again. And people like Daw Mu – indigenous people, women, people of color, marginalized people in general – were the key actors in getting financial resources to innovative startups that could save the planet.

Mu's meeting in Bogotá was with the board of the UN's Fund to Save the Planet (UNFSP). Established by UN Secretary General Greta Thunberg and inspired by Kim Stanley Robinson's *The Ministry for the Future*, UNFSP had been capitalized at \$100 trillion through the confiscation of wealth of the world's wealthiest people. The fund had one purpose: to fund innovations to arrest climate change, pandemics, and any other existential threats facing the planet, and to do so as quickly and efficiently as possible.

As UNFSP's chief executive, Mu's meeting today was the most important of her life. For she would be proposing a massive investment in the only startup she and her team felt could stop the world from spinning out of control. Afterward, she was looking forward to celebrating the 30th birthday of her best friend Vale at a cozy vegetarian restaurant. Until then, the bumps she felt as her plane navigated Bogotá's turbulence were only a taste of what was to come.

In reality, will things turn out the way that this fictional story suggests? Who knows! But this story helps to open the mind to some of the themes that motivated this new Handbook of Entrepreneurial Finance. First, the sense that the ground is shifting under the feet of both researchers and practitioners. Next, that existential questions like climate change are increasingly shaping the opportunity set with which these practitioners and those who study them work. And, finally, that previously marginalized voices are coming quickly to the fore, as are aspects of entrepreneurial finance that didn't exist a decade ago.

Dear readers! Welcome to entrepreneurial finance, and to the De Gruyter Handbook of Entrepreneurial Finance. The aim of this book is to provide readers with an up-to-date survey about what we know about entrepreneurial finance in all its forms, and to suggest where our knowledge about this field might head next. The book is very much an academic survey, but one informed by practice. Its nineteen chapters are authored by a diverse, global body of thirty-five contributors including leading researchers, emerging voices, and practitioners. These contributors are currently based at universities or organizations located in sixteen countries and one indigenous people's land: Australia, Belgium, Canada, China, Denmark, France, Germany, Hong Kong, Hungary, New Zealand, South Africa, the Star Blanket Cree Nation Urban Indian Reserve, Sweden, Switzerland, United Kingdom, United States, and Vietnam. These colleagues have research agendas or work programs that take them across the world.

The field of entrepreneurial finance studies how new ventures obtain and manage external financial resources. Entrepreneurial finance employs theoretical insights from entrepreneurship and finance. Initial interest in the field was driven by the venture capital (VC) phenomenon and the startups funded by its participants, a phenomenon that continues to evolve (The Economist, 2021). For example, as of January 26th, 2022 seven of the ten largest companies in the world by market capitalization were funded by VCs: Apple, Microsoft, Amazon, Alphabet, Meta, Tencent, and Tesla. At that date those companies had a cumulative market capitalization of USD 10.2 trillion. Some observers contend that VC is one of the three great institutions of modern capitalism, alongside markets and companies (Mallaby, 2022).

More recently, academic and practitioner interest in entrepreneurial finance has shifted to financial innovations such as accelerators and crowdfunding. Even so, the fundamentals of startup financing have not changed. Most startups, in most of the world, and most of the time, obtain funding mainly from their founders and other individuals and businesses to which they are close.

And thus the problem that this book takes on. The bulk of the academic research on entrepreneurial finance has focused to date on phenomena that most entrepreneurs have found largely irrelevant or, at best, aspirational – VC and angel financing. Most entrepreneurs in the world, today and in the past, will never access VC, angel financing, or even more democratized forms of finance such as crowdfunding. As the editor of this Handbook, I am as guilty as many others in this discipline for focusing mainly on popular, sexy, and data-rich phenomena such as

venture capital, at the expense of the distinctly much less sexy and considerably more opaque financial reality faced by founders around the world.

And yet, entrepreneurial finance is maturing as a field. This Handbook – one of several published over the past decade – is one evidence of that maturity. Another evidence is the number of literature reviews, editorials, and special issues seeking to make sense of where the field is at present, and where it might and should head.

Table I.1 indicates how early-stage scholarly work on the field has evolved since the 1950s.

Table I.1: Ph.D. Dissertations and Theses on Topics Related to Entrepreneurial Finance.

Decade	Entrepreneurial finance	Venture capital	Business angels	Crowdfunding	Corporate venturing	Total
1950–1959		2				2
1960–1969						0
1970–1979		11			1	12
1980–1989		15			2	17
1990–1999	2	46	2		1	51
2000–2009	3	448	5		11	467
2010–2019	22	229	4	91	6	352
2020–present*	26	88	8	38	3	163

Source: ProQuest Dissertations & Theses Global.

Note: *Through September 23, 2021.

Entrepreneurial finance has been fortunate to attract the interest of some of the leading researchers in entrepreneurship and finance. As is true in many other academic fields, some of these colleagues have a disproportionate impact on the field's development, as Table I.2 indicates:

Table I.2: Some Impactful Publications in Entrepreneurial Finance, Ranked by Total Citations.

Author(s)	Institutional Affiliation (at time of publication)	Date	Total Citations (a/o 9/24/21)	Citations/year
Sahlman	Harvard	1990	4,087	132
Mollick	Louvain	2015	4,065	678
Gompers & Lerner	Harvard	2004	3,566	210
Belleflamme, Lambert & Schwienbacher (2014)		2014	3,118	445

Table I.2 (continued)

Author(s)	Institutional Affiliation (at time of publication)	Date	Total Citations (a/o 9/24/21)	Citations/year
Kaplan & Stromberg	Chicago	2003	2,870	159
Kortum & Lerner	Chicago, Harvard	2001	2,833	142
Gompers & Lerner	Harvard	2001	2,290	114
Gompers	Harvard	1996	1,868	75
Bygrave & Timmons	Babson	1992	1,686	58
Ahlers et al.	MTI North America, York, WHU, Concordia	2015	1,572	262
Lerner	Harvard	1994	1,554	58
Cochrane	Chicago	2005	1,260	79

Note: Ranked by total citations (greater than 1000 total citations)

What is entrepreneurial finance? A discipline? A field? A phenomenon?

At a bare minimum, entrepreneurial finance is an established phenomenon. Depending on how one defines a new venture, entrepreneurial finance has been observed as far back as ancient Greece.

And there is little doubt that entrepreneurial finance is a proper academic field. Bird, Welsch, Astrachan, and Pistrui (2002) define three criteria for an academic field: a professional association, career opportunities through Ph.D. or certification programs, and a systematic theory and an established body of literature, evidenced by an academic journal, annual conferences, or bibliographies. Entrepreneurial finance has some of these elements. Two professional associations have been established in the field. The ENTFIN Association was formally established in 2018 by seven leading researchers in the field and have been holding annual meetings since 2016.

There is no doctoral degree program in entrepreneurial finance, but there are certificate programs in venture capital. Entrepreneurial finance has three established academic journals. *Venture Capital: An International Journal of Entrepreneurial Finance*, founded in 1999, is Scopus and Web of Science-indexed, and ranked 2 (on a scale from 4* to 1) in the 2021 Academic Journal Guide (AJG) and ranked B (on a scale of A* to C) in the 2019 Australian Business Deans Council (ABDC) Journal Quality List. *The Journal of Private Equity*, founded in 1997, publishes some academic studies on venture capital and is ranked C on the ABDC list. *The Journal of Entrepreneurial Finance*, established in 1991, is not indexed by either Scopus or Web of Science and is not ranked on either the

AJG or ABDC lists. The Academy of Entrepreneurial Finance has been organizing academic conferences since 1989 and is now associated with the Academy of Behavioral Finance and Economics. The Emerging Trends in Entrepreneurial Finance conference has been organized twice since 2017. The Institute for Small Business and Entrepreneurship has a special interest group dedicated to entrepreneurial finance.

In determining the extent of an academic field, Plaschka and Welsch (1990) put forward some guiding questions. Table I.3 provides a brief assessment along the dimensions suggested by these questions.

Table I.3: Assessing the boundaries of entrepreneurial finance as a field.

Dimension	Assessment
Boundaries	Clearly defined
Major forces	Entrepreneurship, finance
More sophisticated research designs, methods, and analyses	Yes
Shift to larger samples and datasets	Yes
Moving from exploratory to causal research	Yes

Various forces work to contribute to an academic field's institutional infrastructure (Aldrich, 2012). These include social networking mechanisms, publication opportunities, collective training and mentoring, major foundations and smaller funding sources, new mechanisms to recognize and reward individual scholarship, and globalizing trends. Some of these forces can be observed in entrepreneurial finance, such as social networking, publication opportunities, and globalizing trends. Others, such as collective training and mentoring, funding sources, mechanisms to reward scholarship, are less visible.

What are the field's proudest accomplishments?

Entrepreneurial finance's proudest accomplishment has been to define carefully the causes and processes of venture capital, which has been described as the single greatest contributor to economic efficiency (Arrow, 1995). We have a good understanding of 1) how investors evaluate prospective deals, 2) why some new ventures are funded while others are not, 3) how VCs and entrepreneurs interrelate, 4) how VCs mitigate risk, 5) the effects of VC intermediation on their portfolio companies, 6) how VC certification impacts firms, 7) how market factors shape VC organizational-level decisions and outcomes, and 8) the country-level outcomes associated with VC (Drover et al., 2017). We also understand that only a very narrow range of technological innovations are amenable to VC investment, and that a relatively

small number of VCs shape the capital funding radical technological change (Lerner and Nanda, 2020). And we have identified the principal theoretical perspectives that will help us to better understand the VC phenomenon, including agency theory, resource-based theory, institutional theory, and transaction cost economics (Bellavitis et al., 2017).

What are the basic assumptions? What are valid criticisms of these assumptions?

In entrepreneurial finance the principal existing assumptions reflect the ongoing struggle between the effectual and causal worldviews (Sarasvathy, 2001), with the entrepreneurship part of the field generally informed, directly or indirectly, by effectuation and the finance part of the field by causation. Initially, the field was largely driven by assumptions reflecting the uncertainty associated with financing innovation. However, as entrepreneurial finance practice has become institutionalized, the assumptions have become increasingly causal. One valid criticism of these assumptions relates to when effectual versus causal worldviews should be utilized.

What are the main puzzles, challenges, and controversies in the field?

The main theoretical puzzle in entrepreneurial finance is derived from the main puzzle in entrepreneurship: despite our increasing knowledge, why does entrepreneurship remain so uncertain? How can we reduce that uncertainty? Should we? So for entrepreneurial finance, that puzzle translates to this: how to finance startups in ways that go beyond just a few gazelles or home runs? Or are those wins enough for entrepreneurial finance to have served its purpose?

Writing from an American perspective, Nicholas (2019) identified five challenges facing VC: 1) the systematic achievement of out-sized investment returns, 2) the limitations of the limited partnership organizational structure, 3) the sustainability of Silicon Valley's dominance in VC investing, 4) the influence of government on the industry in the future, and 5) the industry's truly awful diversity record. Globally, the key challenge is to marshal entrepreneurial finance using institutionally appropriate mechanisms to continue poverty reduction and, as signaled at the start of the introduction, begin tackling the multiple global existential crises through entrepreneurship and innovation.

The main controversy in the field relates to the criticism of the social utility of tech-enabled startup activity funded by entrepreneurial financing mechanisms, including

corporate frauds such as WeWork (Brown and Farrell, 2021) and Theranos (Carreyrou, 2018); a hypergrowth exit mindset (Lam and Seidel, 2020); and the broader criticism of technology firms such as Google and Facebook and their impact on privacy and human agency (Zuboff, 2019). Entrepreneurial finance has served a significant role as a supporting actor in tech-enabled startups.

How is the handbook organized?

The Handbook is organized differently than earlier efforts to sum up this field. We start with the fundamental premise that entrepreneurial finance needs to be studied now and going forward from the entrepreneur's perspective. So we begin at THE INDIVIDUAL LEVEL (Part I), examining what we know and want to know about how entrepreneurs finance themselves without looking externally. These forms include founder financing (Jan Warhuus from St. Mary's College of California), bricolage and bootstrapping (Matthew Rutherford, Duygu Phillips, and Jorge Arteaga-Fonseca from Oklahoma State), effectuation (Sussie Morrish from University of Canterbury), and portfolio entrepreneurship (Antonio Malfense Fierro and Peter Rosa from University of Edinburgh).

In Chapter 1 on founder financing, Jan Warhuus discusses what we know about the role of founders' tangible resources in founding new ventures. He shows how these resources are difficult to study using positivist frameworks favored in disciplines such as corporate finance and suggests different paths forward. Chapter 2 by Matthew Rutherford, Duygu Phillips, and Jorge Arteaga-Fonseca looks at the interface between two leading theoretical perspectives on founder financing – bricolage and bootstrapping – and identifies similarities and divergences between these frameworks. Sussie Morrish takes on another theoretical perspective of use in understanding the individual level of entrepreneurial finance – effectuation – in her Chapter 3, showing how this perspective may influence our understanding of entrepreneurial financing decisions. Chapter 4 by Antonio Malfense Fierro and Peter Rosa focuses on portfolio entrepreneurship and how entrepreneurs use this approach to control risk.

Then we move to THE INNER CIRCLE (Part II), looking at those close-in financing forms that entrepreneurs are most likely to turn to when they need more than they currently have. These include informal financing (Franklin Allen from Imperial College London, Meijun Qian from Australian National University, and Jing Xie from Hong Kong Polytechnic University), startup funding within business groups (Jonathan Marks and Aleia Bucci from University of Pretoria), and incubators and accelerators (Tiago Ratinho from IESEG School of Management).

In Chapter 5, Franklin Allen, Meijun Qian, and Jing Xie map out the terrain of informal entrepreneurial financing, showing how this form is a complement (rather than a substitute) for formal entrepreneurial financing. Then Jonathan Marks and Aleia Bucci show us what we know about how business groups in emerging markets

create internal capital markets to fund startup ventures. The role of incubators and accelerators in startup financing is elaborated by Tiago Ratinho in Chapter 8, identifying an important gap in our knowledge about the financial aspects of these actors.

Next we consider THE WIDER WORLD (Part III), which are all of the external financing instruments that the field has studied predominantly over the past few decades. These instruments include formal debt (Steven Si and Jet Mboga from Bloomsburg University of Pennsylvania and Wan Liu and Yushan Yan from Zhejiang University), microfinance (Jonathan Kimmitt from Newcastle University), venture capital (Darek Klonowski and Silas Lee from Brandon University), corporate venture capital (Paul Asel from NGP Capital), angel financing (Sofia Avdeitchkova from Oxford Research and Hans Landström from Lund University), government financing (Judit Karsai from the Hungarian Institute of Economics), and family offices (Antonia Schickinger from Bain & Co., Nadine Kammerlander from the WHU – Otto Beisheim School of Management, and Alexandra Bertschi-Michel from the University of Bern). We also briefly consider other instruments in this space – crowdfunding and initial coin offerings – in the Handbook's conclusion.

Chapter 8 by Steven Si, Wan Liu, Yushan Yan, and Jet Mboga complements Chapter 5, noting that formal debt is a double-edged sword with both risks and benefits for startups. Jonathan Kimmitt shows in Chapter 9 how the study of microfinance can provide new insights into entrepreneurial behavior, pointing out future research directions at the micro-, meso-, and macro levels. The important role of venture capital in entrepreneurial finance is developed in Chapter 10 by Darek Klonowski and Silas Lee, who identify several promising directions for future research. Paul Asel, a leading corporate venture capitalist, maps out the intellectual landscape of corporate venture capital in Chapter 11, pointing out how the benefits of this significant phenomenon remain hotly contested. Chapter 12 by Sofia Avdeitchikova and Hans Landström addresses another major source of external startup funding, business angels, calling attention to the changing role of these actors in the new financial landscape. Judit Karsai takes on government financing of startups in Chapter 13, correcting the misperception that this funding source is unimportant in the entrepreneurial financing world. Family offices as a source of startup finance is discussed by Antonia Schickinger, Alexandra Bertschi-Michel, and Nadine Kammerlander in Chapter 14, where the conditions under which these actors are appropriate as entrepreneurial financing sources are elaborated.

Having looked at these three levels of funding, the final section of the Handbook considers EMERGING PERSPECTIVES (Part IV). This is a somewhat edgier and more divergent section than the others, and its contributors have taken license to explore how the field might be shaped by perspectives that have been relatively neglected to date. These perspectives include non-Western worldviews (Minh-Hoang Nguyen and Quan-Hoang Vuong from Phenikaa University), gender (Janine Swail from University of Auckland), indigenous entrepreneurship (Ana Maria Peredo from University of Ottawa, Bettina Schneider from First Nations University, and Audrey Maria Popa from University of Victoria), disaster and conflict zones (Rebecca Namatovu

from Copenhagen Business School), and ethics (Yves Fassin from University of Ghent University).

Minh-Hoang Nguyen and Quan-Hoang Vuong take on a scoping review of entrepreneurial financing studies set in developing countries in Chapter 15, calling attention to the ideological homogeneity in the field of entrepreneurial finance. Chapter 16 by Janine Swail begins to redress the imbalance in the literature around gender. Rebalance is also the topic of Chapter 17 on indigenous entrepreneurial finance by Ana Maria Peredo, Bettina Schneider and Audrey Maria Popa, who use Canadian data to explore how the broader field might benefit from this perspective and practice. Chapter 18 by Rebecca Namatovu looks at the difficult-to-research activity of entrepreneurial financing in post-conflict and disaster zones, asking how the broader field can benefit from the extreme uncertainty faced by actors in these settings. Ethics and its underappreciated role in entrepreneurial finance is elaborated by Yves Fassin in Chapter 19.

At its best, entrepreneurial finance provides a bridge from a past in which capital has been accumulated to a future that is more productive and liveable. At its worst, entrepreneurial finance focuses exclusively on short-term returns on invested capital to a small group of already-wealthy investors, and makes the future more nasty and unequal. Our expanding knowledge of this important economic and social phenomenon can help us to avoid dystopian futures like the one faced by Mu Tha at the beginning of this introduction.

Can entrepreneurial finance help bring all of us a better future? The readers of this Handbook may help to answer that question in the affirmative. On behalf of the contributors, I wish each of you fair winds on your intellectual journey.

References

- Ahlers, G.K.C., Cumming, D., Günther, C. & Schweizer, D. (2015). Signaling in equity crowdfunding. *Entrepreneurship Theory & Practice*, 39(4), 955–80.
- Aldrich, H.E. (2012). The emergence of entrepreneurship as an academic field: A personal essay on institutional entrepreneurship. *Research Policy*, 41(7), 1240–48.
- Arrow, K. (1995). *Interview with Kenneth Arrow, Federal Reserve Bank of Minneapolis*. <https://www.minneapolisfed.org/article/1995/interview-with-kenneth-arrow>.
- Bellatvitis, C., Filatotchev, I., Kamuriwo, D.S. & Vanacker, T. (2017). Entrepreneurial finance: New frontiers of research and practice. *Venture Capital: An International Journal of Entrepreneurial Finance*, 19(1/2), 1–16.
- Belleflamme, P., Lambert, T. & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing*, 29(5), 585–609.
- Bird, B., Welsch, H., Astrachan, J.H. & Pistrui, D. (2002). Family business research: The evolution of an academic field. *Family Business Review*, 15(4), 337–50.
- Brown, E. & Farrell, M. (2021). *The cult of we: WeWork, Adam Neumann, and the great startup delusion*. Crown.

- Bygrave, W.D. & Timmons, J.A. (1992). *Venture capital at the crossroads*. HBS Press.
- Carreyrou, J. (2018). *Bad blood: Secrets and lies in a Silicon Valley startup*. Vintage.
- Cochrane, J.H. (2005). The risk and return of venture capital. *Journal of Financial Economics*, 75(1), 3–52.
- Drover, W., Busentiz, L., Matusik, S., Townsend, D., Anglin, A. & Dushnitsky, G. (2017). A review and road map of entrepreneurial equity financing research: Venture capital, corporate venture capital, angel investment, crowdfunding, and accelerators. *Journal of Management*, 43(6), 1820–53.
- The Economist. (2021). The bright new age of venture capital. *The Economist*, November 27.
- Gompers, P.A. (1996). Grandstanding in the venture capital industry. *Journal of Financial Economics*, 42(1), 133–56.
- Gompers, P. & Lerner, J. (2001). The venture capital revolution. *Journal of Economic Perspectives*, 15(2), 145–68.
- Kaplan, S.N. & Stromberg, P. (2003). Financial contracting theory meets the real world: An empirical analysis of venture capital contracts. *The Review of Economic Studies*, 70(2), 281–315.
- Kortum, S. & Lerner, J. (2001). Does venture capital spur innovation? In Libecap, G.D. (Ed.), *Entrepreneurial inputs and outcomes: New studies of entrepreneurship in the United States (Advances in the study of entrepreneurship, innovation and economic growth, vol. 13)*, 1–44. Emerald.
- Lam, L. & Seidel, M. (2020). Hypergrowth exit mentality: Destroying societal wellbeing through venture capital biased social construction of value. *Journal of Management Inquiry*, 29(4), 471–74.
- Lerner, J. (1994). The syndication of venture capital investments. *Financial Management*, 23(3), 16–27.
- Lerner, J. and Nanda, R. (2020). Venture capital's role in financing innovation: What we know and how much we still need to learn. *Journal of Economic Perspectives*, 34(3), 237–61.
- Mallaby, S. (2022, January 27). Behind the 'power law': How a forgotten venture capitalist kick-started Silicon Valley. *The Washington Post*, Opinions section.
- Mollick, E.R. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, 29(1), 1–16.
- Nicholas, T. (2019). *VC: An American history*. Harvard University Press.
- Plaschka, G.R. & Welsch, H.P. (1990). Emerging structures in entrepreneurship education: Curricular designs and strategies. *Entrepreneurship Theory and Practice*, 14(3), 55–71.
- Robinson, K.S. (2020). *The ministry for the future*. Orbit.
- Sahlman, W.A. (1990). The structure and governance of venture-capital organizations. *Journal of Financial Economics*, 27(2), 473–521.
- Sarasvathy, S.D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–63.
- Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. PublicAffairs.



Part I: **The individual level**

The contributions in Part I consider the most under-researched part of the field: the individual level. Most startups around the world and over time are financed primarily from their founders' resources. What those resources may be and how they are gathered are the subject of this part's four chapters.

In Chapter 1 Jan Warhuus takes on the role of founders' financial resources in the startup process. He finds that our knowledge about this important topic is constrained somewhat by the theoretical frameworks from corporate finance and data collection challenges in part imposed by editors and reviewers.

In Chapter 2 Matthew Rutherford, Duygu Phillips, and Jorge Arteaga-Fonseca examine two leading theoretical perspectives of relevance to the individual level of entrepreneurial finance: bricolage and bootstrapping. They suggest that the nexus of these perspectives may be a useful focus for future research.

Chapter 3 by Sussie Morrish looks at another individual level theoretical perspective – effectuation – and considers how it may influence a startup's financing decisions.

Finally, in Chapter 4 Antonio Malfense Fierro and Peter Rosa discuss how entrepreneurs construct portfolios of businesses to manage risk.

Taken together, these four chapters help to rebalance the entrepreneurial finance field.

Jan P. Warhuus

1 The role of founders' tangible resources in founding new ventures

Abstract: This chapter explores our knowledge and lack thereof about the role of founders' resources in new venture emergence. We focus on early-stages entrepreneurship because it is here that the founders' resources play the most important role as the venture typically does not yet have assets of interest to investors. We know that is the situation for most founders and because of the raw number of founders, their resource commitment is likely to be sizable and thus important. However, we know little about the actual size or the role these resources play in the process or in acquiring outside resources and financing. This lack of knowledge is in part because early-stage new ventures do not lend themselves well to corporate finance frameworks and partly because the micro-foundational actions of interest are hard to investigate based on the positivist stance that the field of finance and its reviewers and editors typically favor.

Keywords: founders' resources, insider financing, early-stage entrepreneurship, micro-foundational actions, context

Introduction

Driving over the San Francisco Bay Bridge towards Oakland on her way home from work at a leading medical trials center, Chanel, age 33, had tears in her eyes – tears of anger, frustration, and disappointment. That same afternoon she had cheerfully gone to her boss' office with an idea for a medical trial that could potentially lead to a cure of one of the cancers they were working on combatting; only to be lectured on that “we are part of the pharmaceutical industry” and, as such, “not really interested in cures.” Rather, her boss wanted to focus on treatments that required the purchase of drugs. Three years earlier, Chanel had been diagnosed with Crohn's disease. In the period since, she had experienced the limitations of pharmaceuticals and the benefits of supplementary alternatives. Combining traditional treatments with detoxing body and mind through yoga, meditation, dieting, breath work, and

Acknowledgements: Many thanks to editor David C. Lingelbach and to my colleagues and dear friends Casey J. Frid, Claus Thrane, and William B. Gartner for great conversations, insightful comments, and moral support in drafting this manuscript. Without their valuable contributions during different parts of the process, this chapter would not have been what you have in front of you today.

Jan P. Warhuus, Department of Management and Entrepreneurship, St. Mary's College of California

<https://doi.org/10.1515/9783110726312-003>

other tools had been her only narrow path to remission. In the process, not only had she earned an MBA and become a certified yoga teacher and wellness coach; she had also been telling her story to her family, friends, and her broad and active network within the volunteering community in Oakland and helping those of them interested in healing alternatives. She knew, firsthand, that aiming for the singular approach of providing pharmaceuticals to people was rarely the right solution to complex illness and trauma.

Over dinner that night at their house in the Laural district of Oakland, Chanel shared her frustration with her boyfriend and their two friends and roommates. After a while, her two roommates, Kimi and Jacob, looked at each other, smiled and Jacob said “do you want to, or shall I?” to Kimi. Kimi replied “Let me give it a go” and turned to Chanel: “This is not the first time. You clearly do not see yourself in that line of work forever. Why don’t you take the yoga and wellness clients that you already have on the side and team up with Jill and Char? They need a place for their breathwork and meditation clients as well. You could get a studio together. There is nothing affordable like that in Oakland for the 99%. I saw this great place today down on 33rd Avenue next to my chiropractor, it’s for rent. You can totally do it!” Now it was Chanel’s turn to smile. She could see that she had subconsciously been begging her friends to tell her just that for quite some time.

“If you are in, I’m signing the lease!” she texted Jill and Char after the three of them had toured the space on 33rd Ave. and met a very enthusiastic chiropractor earlier the same Saturday morning. She instantly got more happy emojis back from both than anyone would ever need. After three low-key years focused on recovery and school, combined with a very well-paid job, she had about \$40k in the bank, and Chanel was thinking that with the space already booked by the three of them about 30–40%, the risk was limited to the remaining capacity, and she could always cover part of that with her savings. She figured that she would need about \$5k for equipment and materials – they could paint it themselves, but the space needed some TLC to work out right – and probably the same for a website with a reservation system. Even if it would take a bit of time for business to pick up and more practitioners to join them, with her current living situation and existing clients, she would be able to make the one-year lease payments, cover the startup costs, and live within the means of her savings. “What better way to spend the money?” she thought. “If it doesn’t work out, I can always go back and get a six-figure pharma-job” she said out loud to herself as she took a deep breath and opened the DocuSign lease agreement.

Today, four years later, 33&Rising is a striving wellness center for the 99% with about 20 participating practitioners, a large and growing loyal following and a business model that has allowed the venture to establish itself and to grow without external financing.

The subject of this chapter is important because practically all entrepreneurs are likely to use their own personal financial and other tangible resources in the

attempt to start their new venture (Gartner et al., 2012). In addition to the immediate effect of injecting funds and other resources into the startup, the ability and willingness of founders to commit resources to their startups has been shown to affect new ventures' trajectories in a number of other short- and long-term ways, including survival, growth, and the ability to get buy-in from stakeholders such as potential team members and outside financiers (Ang, 1991; Bhidé, 2000; Frid et al., 2015; Hechavarría et al., 2016).

This chapter will focus on the early stages of new venture emergence, because it is during these stages that other sources are not typically readily available and thus it is here that founder resources play the most important role (Winborg & Landström, 2001). As the firm establishes itself and grows, informal and formal sources of external financing become more readily available and both the founder's ability to match the needs of the firm and the importance of their own resources are reduced. It is important to specify the situation and context of early-stage founders because both are remarkably different from that of established businesses (Ang, 1991; Bellavitis et al., 2017; Waleczek et al., 2018; Weigand, 2016). There are many ways to define the emergence of a new venture and little practical or theoretical agreement on how best to define such events (Reynolds, 2017). In this chapter, I borrow from the U.S. Panel Study of Entrepreneurial Dynamics II (PSEDII) in defining when someone becomes an entrepreneur. Through this lens, a person is an entrepreneur if they: 1) consider themselves to be creating a new business, 2) have been active in firm creation over the past 12 months, and 3) are expected to own at least part of the new firm (Reynolds & Curtin, 2008, 2011). In the same manner, I am inspired by the Global Entrepreneurship Monitor (GEM) in defining the difference between an entrepreneur and an established business owner-manager as three and a half years after the startup becomes operational by paying wages to owners for at least six out of the last 12 months and breaking even for at least three months in a row (GEM, 2021; Kelley et al., 2016; Reynolds & Curtin, 2008). We acknowledge that the founder of the firm remains the founder forever, a founder-manager remains the founder-manager until they step down, and many ventures remain entrepreneurial and transformative past the startup phase. However, in this chapter, we will mainly focus on research on the nature and effects of founders' resource commitments during the nascent (pre-operational) and startup phases (first three and a half years after becoming operational). Finally, we differentiate founder's resources from other resources by simply considering whether the resources are controlled and owned by founder(s) prior to committing them to the startup. All other resources are considered external – below I will discuss this definition further and we will see why this is not quite as simple as it may seem.

This chapter proceeds as follows. In the first section of the literature review, we discuss the challenges in defining founder(s) resources and the importance of these resources to the economic vitality of entrepreneurship. We then discuss how the nascent-and-startup phase is unique in comparison with later stages of venturing and

the corporate financial frameworks we typically use to describe and understand established companies' finances. I proceed by accounting for the typical need for founder resources and how it may impact the nascent-and-startup phase; followed by an account of what we know about the impact of founders' resource commitments on firm survival, success, and growth. Based on the literature review, we then discuss research gaps and future research directions and conclude by highlighting the most important elements of the chapter.

Literature review

Challenges in defining insider financing and the importance of founder resources: What do we know?

By the definitions outlined in the introduction, all founders commit resources towards the startup; at a minimum with intangible assets such as providing access to their network, volunteering time, and in a social and intellectual capacity. In this chapter, we will mainly focus on resources in the form of cash (including money from founding team members and/or their ability to go without pay) and other tangible assets, such as office space, production and storage facilities, materials, and vehicles. While these delimitations may sound straight forward, there are at least three grey areas of overlap with other chapters in this book: First, in the use of the entrepreneurs' private assets as collateral for external debt financing; with the definition of bootstrapping and how entrepreneurs use it; and, third, the use of bricolage and social cooptation.

The use of private assets as collateral is complicated because making an investment and acquiring financing are not separated in the early startup phases. For example, an entrepreneur with a net worth of \$250k may be willing to invest \$50k in their startup, but \$225k of their net worth is tied up in a house, two cars, and a recreational vehicle (RV) and only \$25k is currently available as "cash" in a savings account. If the entrepreneur sells the RV to free up an additional \$25k and invests it along with the savings in the startup, that is clearly internally sourced financing. If the entrepreneur uses a personal credit card to come up with the additional \$25k, then we enter a grey area. Since the charge only amounts to 10% of the entrepreneur's net worth, no external party is involved in the decision making, and the funds could have been sourced in other ways, many scholars would consider the use of a credit card internal funds; but the funds do flow to the emerging business from the private banking arm of a financial institution. A third equally grey option would be for the entrepreneur to take out a \$25k second mortgage on their house, and most scholars and practitioners would probably classify this option the same way they would classify the credit card option. A fourth option may be to reach out

to a relative for a loan – which does not involve any “outsiders,” but resources not controlled by the entrepreneur. Finally, the entrepreneur may approach the commercial arm of a financial institution with a request for a \$25k business loan for the startup and since the bank is actively deciding to fund the startup, this is clearly a case of external debt financing. However, that clarity erodes quickly (because of the lack of separation of investment and financing) if, for example, the entrepreneur personally co-signs for the business loan, or their house or vehicle is used as collateral, which is quite common (Frid et al., 2016). In all these cases the entrepreneur is personally liable, and from their perspective, it would make sense that they simply regard these scenarios as strategic alternatives to selling the RV – a resource fully owned and controlled by the entrepreneur beforehand.

We can leverage the discussion and scenarios in the previous paragraph to discuss founder resources vis-à-vis bootstrapping. According to Winborg and Landström (2001, p. 235–236), bootstrapping consists of “methods for meeting the need for resources without relying on long-term external finance from debt holders and/or new owners”. By this definition, founder resource commitment is one type of bootstrapping, and the authors find empirical support for this as one of five distinct types of bootstrapping. Leaning on the implicit delimitation that bootstrapping is not giving up ownership or putting debt positions on the books of the new venture, Harrison et al. (2004, p. 307) define bootstrapping “as access to resources not owned or controlled by the entrepreneur” and Block et al. (2021, Abstract) talk about “measures that entrepreneurial ventures undertake to preserve liquidity.” By these two definitions, the use of founders' resources is not bootstrapping. Winborg and Landström (2001) is one of the most cited papers on bootstrapping and thus their definition has been brought forward by other researchers. However, upon closer examination, many would probably question the inclusion of founders' resources in bootstrapping. Bhidé (1992, p. 110) talks about bootstrapping as “having the wits and hustle to do without” external funding. Lahm and Little (2005, p. 61) describe bootstrapping as “the transformation of human capital into financial capital” through a “highly creative process” and Waleczek et al. (2018, p. 535; my emphasis) see bootstrapping research as concerned with how entrepreneurs “acquire *new* resources creatively at minimal costs.” Committing existing resources already under the control of the entrepreneur is hardly hustling, transformational, creative, or new. The situation gets even more complicated when we dig further into the Winborg and Landström definition and find that, in their definition of founder resources, they include resources from “relatives”; that is, resources actually not owned and controlled by the entrepreneur.

On another interesting dimension, Harrison et al. (2004, p. 308) divide bootstrapping into two types of “creative ways of acquiring finance” and “minimising or eliminating the need for finance by securing resources at little or no cost.” With both types we see that the entrepreneur's intellectual and social capital are in play to be creative and to make the cost of resources go away. However, it is especially

the latter type that does not involve traditional financing that is of interest in this chapter. There are at least two ways to make the need for, or cost of, resources go away, namely: a) making do with and repurposing what you've already got, and b) gaining access (not ownership!) (as emphasized by Stevenson & Gumpert (1985)) to resources when they are needed. Making do with and repurposing what you got has been termed "bricolage." Bricolage, conceptualized in the 1960s to aid in understanding certain human behaviors, made its way into the management literature in the 1990s, and was succinctly and firmly adopted by the field of entrepreneurship by Baker and Nelson (2005). Bricolage can be defined as the act of "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker and Nelson, 2005, p. 333). Five types of bricolage can be observed in the entrepreneurial process, including seeing artifacts as resources where others overlook or undervalue them (Baker & Nelson, 2005; Clough et al., 2019). Here, many acts of upcycling serve as illustrative examples (Wegener, 2016). This type of bricolage overlaps with social recourse cooptation – an unappreciated concept with strong explanatory power, first presented in a seminal paper by Starr and MacMillan back in 1990, in which entrepreneurs use social contracting and social assets (such as friendships, trust, and reciprocity) that exist *independently* of the venture (Rawhouser et al., 2017) in coopting underutilized resources.

The importance of founder resources is hard to overstate because founders make many of these resource investments very early on in the entrepreneurial process under true "Knightian uncertainty" (Knight, 1921; Sarasvathy, 2008) before the venture represents value to formal or informal investors (Bhidé, 1992). We can use data from Aldrich and Ruef (2018) to illustrate the power of these normal and everyday investments in new venture emergence. The 12,100,000 people who were involved *as owners* in 2005 in 7,000,000 startup attempts resulted in approximately 500,000 new ventures that started hiring within a year, they *all* made investments under uncertain, unpredictable circumstances to make these hires happen. All this against a backdrop where there is no actual market for entrepreneurs (Klein, 2008; Sarasvathy, 2004) and yet young firms (zero to five years) contribute nearly all net new job creation in the U.S. economy (Kauffman Foundation, 2015). An appreciation for the commitment of those founder resources cannot be overemphasized.

Corporate finance and early-stage entrepreneurial finance

Entrepreneurial finance is different from corporate finance on several dimensions, including risk profiles, expectations and information asymmetries (including entrepreneurs not knowing what financial options may be available to them (Seghers et al., 2012)), and the way adverse selection plays out. Pecking order theory (Myers, 1984) serves as an excellent example of how early-stage entrepreneurs escape the "logic" of corporate finance. Pecking order theory suggests that firms first use internal

financing, then external financing with debt followed by equity (Barclay & Smith, 2020; Myers, 1984). Based on information asymmetry, tax codes, and transaction costs this selection order makes theoretical, practical, and intuitive sense. However, some studies question whether it applies to entrepreneurs (Blaseg et al., 2021). Some find that the pecking order theory may be altered or extended by at least the entrepreneur's industry, age, and experience (Minola & Cassia, 2013) and wealth (Barclay & Smith, 2020; Frid, 2014). Other studies have found the pecking order theory to apply at least to operational SMEs (Sogorb-Mira, 2005). We recently found that the theory may not apply to wealthy founders of early-stage nascent startups (Warhuus et al., 2021); in that entrepreneurs with wealth actually tend to ask for and acquire external financing earlier in the process than entrepreneurs with less wealth, who otherwise, everything-else-equal should have a greater needs. Finally, the advent of crowdfunding and private and public incubator resources (see chapter 7) over the past couple of decades further blur the pecking order for early-stage ventures.

Aside from pecking order theory there are several other ways in which early-stage entrepreneurs escape the logic of corporate finance and these are mainly related to friction stemming from the nature of early-stage startups. Where, for example, high levels of uncertainty makes it impossible to calculate rates of return and compare investment across different investment targets, especially combined with high portions of human/intangible assets and with historically extremely skewed returns on investments. These topics are covered in other chapters in this book. However, one topic regarding founder's resources and very early-stage entrepreneurial finance that is especially at odds with corporate finance theory, and thus of particular importance to this chapter, is the lack of separation of investment and financing discussed in the *RV* example above about how to free up \$25k of net worth to invest in a startup. Based on the Fisher-Separation Theorem (Fisher, 1930) and Modigliani-Miller's Theorem (Modigliani & Miller, 1958, 1963), modern financial paradigms are based on a separation between investment and finance decisions, which does not exist in early-stage entrepreneurial financing (Weigand, 2016). The separation does not exist, because the entrepreneur cannot bring about the new venture instantaneously (Gartner, 1985) and thus the separation of the person from the new organization is a slow process (Dimov, 2020). Therefore, applying a corporate finance framework to early-stage startups ignores this issue, which in turn has consequences for how we interpret the data we generate in our research. This should also have ramifications for future research, which I discuss in the Future Research section below.

Financing requirements during nascent and startup phases and the prevalence of founder financing

In popular media and in the classroom, we often meet the belief that entrepreneurs marshal resources as one of their first acts – only a fool would venture out on a project that one does not have the means to see through, right? However, the literature does not support this. In a recent study of a representative sample of 1,214 nascent (pre-operational) entrepreneurs, only 12 had external financing ready from day one and 72% did not even attempt to attract external financing during their nascent phase – a level supported by other studies (Miao et al., 2017). The 20% who asked for external financing and obtained it were, on average, about two-thirds of the way through their journey as nascent entrepreneurs (in terms of number of actions tracked and time spent in the pre-operational nascent phase) before seeking and obtaining external funding (Warhuus et al., 2021). Even exceptionally successful ventures often start with founder's resources. In a study interviewing 100 of the *Inc* 500 entrepreneurs, Bhidé (2000) found that the majority of initial funding for these companies came from the founder's personal savings and only 6% originated from venture capital and angel investors, combined. Further, Welter et al. (2017) examined the Inc. 5,000 from 2010 to 2013 and found that most of these highly successful firms did not even operate in industries associated with venture capital.

Capital intensity of industries varies greatly and is linked to lead-time. For example, you can start a consulting/service sector business “tomorrow” with very little capital investment and practically no lead time between resource commitment and billing of customers. In contrast, a startup in agriculture requires much larger initial investments in land and equipment and, for multi-year crops, significant lead time between resource commitment and billing of customers (for example, asparagus has a three-year time to yield, while almond trees need seven years). For these reasons, average numbers can be deceiving. However, Seghers *et al.* (2012, p. 69) reported that in their Belgium-based sample “[a]lmost half of the ventures (44.7 percent) were founded with less than €20,000 start-up capital” and, in the U.S. in 2018, 53% of the Inc. 5,000 companies were founded with less than \$20,000 (Inc. Magazine, 2018). This certainly illustrates that starting even highflying ventures, in certain industries, is feasible within the personal savings of a successful employee, especially someone working in a high-paying industry, like Chanel in the opening case. The reality that many ventures can get off the ground with less than \$20,000 in initial capital has held surprisingly stable over the last 20 years is interesting. One plausible explanation for why this number has withstood inflation over time may be that starting a business has become significantly less resource intensive in general. Many components do not any longer require hiring a professional or the purchase of expensive equipment. Rather, taxes, human resources, customer relationship management, and accounting systems, and Internet presence, can be purchased on a pay-as-you-go basis as cloud-based offerings. Another

plausible contributing factor may be that the nature of the companies entrepreneurs start has changed and that entrepreneurs start more resource-light companies in information and services industries today than they did 20+ years ago. As one illustration, Zacharakis *et al.* (2017) draw on GEM reports to suggest that the *average* amount required to start a business in the US is \$63,000, while Zacharakis *et al.* (2020), still using GEM data, suggest that the *median* is now \$18,000. Aside from the industry and lead-time issues, an often overlooked point in discussions about the need for resources to launch a business is the fact that you rarely need the same amount of resources to *try* to launch a venture as you do to actually launch an operational business. In another study, based on the same national (U.S.) representative sample of 1,214 nascent (pre-operational, still trying) entrepreneurs as mentioned above, Gartner *et al.* (2012) found that these *nascent* entrepreneurs invested a median of \$5,500 in their start-up *attempts*.

Effects from founders' resource commitments

There are reasons to believe that the paths to become operational, grow, and achieve success are so plentiful that no single action is required to achieve these objectives (Arenius *et al.*, 2017). However, as we have seen, there are also reasons to believe that the entrepreneur's willingness to commit resources toward their ventures ranks very high on the list of actions taken by early-stage founders. As Bird and Schjoedt (2009) remind us, thoughts, passion, motivation, and intelligence will not create entrepreneurial value without action. These actions have to come from the entrepreneur, or nothing is founded, and these actions require allocation of resources, initially from the entrepreneurs' themselves in by far the most cases, and certainly in everyday, low-budget launch attempts of the 99% (Welter *et al.*, 2017). We will now briefly discuss what effect such commitments can have on the emergence of the new venture.

Of great relevance to this chapter and this book is that founder resource commitments impact their ability to attract and acquire further external resources. As mentioned above, entrepreneurs who do acquire external funding first invest in taking about two-thirds of the tracked actions and spend about two-thirds of their time in the nascent phase before acquiring outside resources. There is also some support for a "mini" or "embedded" pecking order, where nascent entrepreneurs tend to initiate resource-light actions before funding and resource-heavy actions after funding (Warhuus *et al.*, 2021). However, there are notable exceptions to this order. We suggest that this may be because the willingness of entrepreneurs with high levels of wealth to commit their own resources increases over time, especially when they regard an external funding event more as a *when* than an *if*. This all indicates that the entrepreneur must commit quite some time and resources to take these actions and, through them, gain the level of legitimacy needed to attract external funding.

In this situation, one question immediately comes to mind: What about entrepreneurs with low wealth? Frid *et al.* (2016, p. 531) found that “low-wealth business founders . . . are less likely to get external funds, and they receive lower amounts when they do,” which means that entrepreneurs with low wealth are more likely to experience resource constraints during business formation and to have to rely on their existing resources. From a social constructionist vantage point, that situation means that what may look like an opportunity to an individual with wealth may not look at all like an opportunity for an individual with low wealth. Potential entrepreneurs with lower wealth may gravitate toward industries and types of business that are less capital intensive and/or where options for bricolage and social cooptation are more prevalent. There is a silver lining here that may counter this trend, as Frid *et al.* (2015) found that the amount the entrepreneur needs to invest to acquire external funding is not an absolute amount, but a matter of “skin-in-the-game” relative to individual annual income. Investing what amounts to 80% of one year’s income, instead of 40%, significantly increases the chance of acquiring external financing, wealthy or not. This finding is important because the entrepreneur’s relative resource commitment, rather than their wealth, can lead to commitment from other stakeholders, and these financial commitments have been shown to correlate with survival, performance, and growth (Frid *et al.*, 2016; Gartner *et al.*, 2012; Hechavarria *et al.*, 2016; Reynolds, 2016).

Many studies have found, and many experts have argued, that resorting to internal funding can hinder the development of the emerging or young firm and thus impact performance and growth. Hustling and being creative to marshal enough resources internally can take time and attention away from product and market development efforts, stifling growth and threatening survival. We will not discuss or advance this intuitively obvious correlation but warn that one should not take this as a sign of any simple causation. We do not know if that is because capital injections strengthen the firm, or if it is because weaker start-ups do not self-identify as investment targets (Eckhardt *et al.*, 2006), or if it is because financiers are able to pick winners. More important to this chapter and less frequently advanced in the literature is the opposite argument, that *not* resorting to internal funding can be a distraction and hinder the development of the emerging firm (Bhidé, 1992) as “ . . . many entrepreneurs waste a lot of valuable time by prematurely seeking seed capital from business angels and even from formal venture capitalists – searches that come up empty-handed almost every time” (Bygrave, Hay, Ng, & Reynolds, 2003, p. 113). Timing is everything, they say, also in the entrepreneur’s judgement about when to and when not to rely on internal resources to fund their startups.

Finally, if we use Gartner *et al.*’s (2012) finding (that entrepreneurs invested \$5,500) in concert with the Aldrich and Ruef (2018) finding (that 12,100,000 people a year attempt to start a business), by simple multiplication we can start to get a sense of the combined effect of founders’ mundane, everyday resource commitments:

12,100,000 times \$5,500 equals roughly \$66,5 billion – more than double the size of the yearly US angel investments.

Future research

From the early part of the Introduction of this chapter, I've raised the issue of definitions. Defining “founders,” “resources,” and “entrepreneurship” remain challenging and affect coherent knowledge development in many areas of entrepreneurship research, including finance. For example, whether we define entrepreneurship as risk taking, opportunity pursuit, or organizing impacts future research.

We then saw those definition issues spill over into understanding founders' resources vis-à-vis bootstrapping, where those resources do not fit the description of the concept of bootstrapping yet are included in some widely adopted definitions. So we can perhaps place funders' resources at the edge of bootstrapping (depending on how the resources are applied and what definition we use) but a more accurate description may be that it is in the grey area around something fuzzy; as Miao et al. (2017, p. 1) remind us “[h]owever, after nearly three decades since the seminal publication of Van Auken and Carter (1989) we know far too little about bootstrapping and its antecedents and outcomes. To make matters worse, the extant empirical literature is exceedingly confusing.” Here is a clear call for a better understanding of founder's resources versus bootstrapping and, as I will argue further below, this research probably needs to be informed by what it feels like to the entrepreneur (Welter et al., 2016). For example, in the case of a loan from a relative discussed in the *RV* example above, some entrepreneurs may regard that loan founders' resources (if it comes from, for example, a parent or spouse) or as bootstrapping (if it originates from a more distant relative with a more transactional perspective on making the loan). From the *RV* example we have also seen that our knowledge about loans based on some sort of collateral/personal liability versus founder resources comes up short and calls for further research. Again, this research probably needs to be driven less by objective, one-reality definitions and more by subjective, multi-reality experiences by entrepreneurs and the resource holders, as I elaborate upon in the next paragraph.

Entrepreneurial finance research has very much fallen victim to the tendency of much scientific research to value what can be measured, rather than figuring out how to measure what we value. As Welter and colleagues (2017, p. 315) eloquently express it, “we systematically devalue entrepreneurship as a whole, by failing to see the pleasures and benefits of entrepreneurship unless they can be accounted for in wealth accumulation and job creation.” Yet, within early-stage entrepreneurial finance, Sahlman (1994) argued for a broader scope and Bhidé (2000, p. 39) noted that “most start-ups, however, don't have the assets that an objective investor would

consider valuable.” Despite that, to this day, the easier-to-observe-and-investigate (but also very rare and the exception-to-the-rule) venture capital events and angel network investments are receiving by far the most attention from researchers and editors alike (Aldrich & Ruef, 2018; Welter et al., 2017); and to such an extent where other normal and everyday sources of resources have quite consistently been labeled an “alternative” part of the new venture’s resource environment (Churchill & Thorne, 1989; Cumming et al., 2019; Seghers et al., 2012; Wardrop et al., 2015). And yet “[t]his big-money model has little in common with the traditional low-budget start-up” (Bhidé, 1992, p. 109). So, I want to join the early 1980s and 1990s pioneers’ in this field and the more recent 2017/2018 distinguished contributions’ calls for future research to challenge the scope of the field and the labels we use (Welter et al., 2016) – in a world where everything but the exception (angel and VC financing) is labeled “alternative,” it is hard for even the most critical and seasoned person to think straight.

This issue is further exacerbated by the fact that financial research typically comes from a positivist tradition. From this ontological and epistemological vantage point, because entrepreneurs have to venture out and “pursue opportunities without regard to the resources they currently control” (Stevenson, 1983, p. 23) they are consequently objectively resource constrained and there is an objective funding gap out there (see also Lam, 2010). Because these “facts” “objectively” exist in a positivist world, we need an outside force to help resolve the situation, and thus entrepreneurial finance has had a strong bias of focusing on the supply side and has regarded the demand side as static, objectively true, and given. This double whammy of strong bias toward the measurable and strong positivistic supply-side bias, means that today we know quite a bit about the extreme exceptions (for example, gazelles, VCs, and IPOs) but much less about the resource mobilization of everyday entrepreneurs who are driving the vitality of our economy and creating nearly all new jobs. This relentless bias in research input and output is so strong that it is easily observable in public policies and entrepreneurship education and textbooks (Aldrich & Ruef, 2018; Bhatia & Levina, 2020; Lahm & Little, 2005; Lam, 2010). So, as we broaden the scope, I call for a future focus on the demand side of the equation, including founder’s resources. And for that to include a better understanding of founder’s use of social cooptation strategies and addressing such questions as “What role do ‘helpers’ make in the emergence of a new venture?” and “When should ‘helpers’ contributions be considered or not be considered a founder resource?”

The double whammy of the past has consequences for current and future researchers (and their output) on the demand side of early-stage entrepreneurship finance, where founders’ resource commitments are most important. There are probably many ripple effects of these biases, but I will limit this discussion to three main points concerning ontological stance, methodology, and research outlets. Baker and Nelson (2005) drew on Penrose (1959) to bring forward her point that inputs do not define outputs of a firm “because of differences in their ability