
**The Global
Entrepreneurship
Monitor (GEM) and Its
Impact on Entrepreneurship
Research**

The Global Entrepreneurship Monitor (GEM) and Its Impact on Entrepreneurship Research

Niels Bosma

*Utrecht University School of Economics &
Global Entrepreneurship Research Association
The Netherlands
N.S.Bosma@uu.nl*

now

the essence of **know**ledge

Boston – Delft

Foundations and Trends[®] in Entrepreneurship

Published, sold and distributed by:

now Publishers Inc.
PO Box 1024
Hanover, MA 02339
USA
Tel. +1-781-985-4510
www.nowpublishers.com
sales@nowpublishers.com

Outside North America:

now Publishers Inc.
PO Box 179
2600 AD Delft
The Netherlands
Tel. +31-6-51115274

The preferred citation for this publication is N. Bosma, The Global Entrepreneurship Monitor (GEM) and Its Impact on Entrepreneurship Research, Foundations and Trends[®] in Entrepreneurship, vol 9, no 2, pp 143–248, 2013.

ISBN: 978-1-60198-634-4

© 2013 N. Bosma

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the publishers.

Photocopying. In the USA: This journal is registered at the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by now Publishers Inc for users registered with the Copyright Clearance Center (CCC). The 'services' for users can be found on the internet at: www.copyright.com

For those organizations that have been granted a photocopy license, a separate system of payment has been arranged. Authorization does not extend to other kinds of copying, such as that for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. In the rest of the world: Permission to photocopy must be obtained from the copyright owner. Please apply to now Publishers Inc., PO Box 1024, Hanover, MA 02339, USA; Tel. +1-781-871-0245; www.nowpublishers.com; sales@nowpublishers.com

now Publishers Inc. has an exclusive license to publish this material worldwide. Permission to use this content must be obtained from the copyright license holder. Please apply to now Publishers, PO Box 179, 2600 AD Delft, The Netherlands, www.nowpublishers.com; e-mail: sales@nowpublishers.com

**Foundations and Trends[®] in
Entrepreneurship**
Volume 9 Issue 2, 2013
Editorial Board

Editors-in-Chief:

Zoltan J. Acs

George Mason University
zacs@gmu.edu

David B. Audretsch

Indiana University
daudrets@indiana.edu

Editors

Howard Aldrich, University of North Carolina

Sharon Alvarez, Ohio State University

Mark Casson, University of Reading

Per Davidsson, Queensland University of Technology

William B. Gartner, Clemson University

Sharon Gifford, Rutgers University

Magnus Henrekson, The Research Institute of Industrial Economics

Michael A. Hitt, Texas A&M University

Joshua Lerner, Harvard University

Simon Parker, University of Durham

Paul Reynolds, George Washington University

Kelly G. Shaver, College of William and Mary

David Storey, University of Warwick

Patricia Thornton, Duke University

Roy Thurik, Erasmus University

Gregory Udell, Indiana University

Sankaran Venkataraman, Batten Institute

Paul Westhead, Nottingham University Business School

Shaker Zahra, University of Minnesota

Editorial Scope

Foundations and Trends[®] in Entrepreneurship will publish survey and tutorial articles in the following topics:

- Nascent and start-up entrepreneurs
- Opportunity recognition
- New venture creation process
- Business formation
- Firm ownership
- Market value and firm growth
- Franchising
- Managerial characteristics and behavior of entrepreneurs
- Strategic alliances and networks
- Government programs and public policy
- Gender and ethnicity
- New business financing
 - Business angels
 - Bank financing, debt, and trade credit
 - Venture capital and private equity capital
 - Public equity and IPO's
- Family-owned firms
- Management structure, governance and performance
- Corporate entrepreneurship
- High technology
 - Technology-based new firms
 - High-tech clusters
- Small business and economic growth

Information for Librarians

Foundations and Trends[®] in Entrepreneurship, 2013, Volume 9, 6 issues. ISSN paper version 1551-3114. ISSN online version 1551-3122. Also available as a combined paper and online subscription.

Foundations and Trends® in
Entrepreneurship
Vol. 9, No. 2 (2013) 143–248
© 2013 N. Bosma
DOI: 10.1561/03000000033



The Global Entrepreneurship Monitor (GEM) and Its Impact on Entrepreneurship Research

Niels Bosma

*Utrecht University School of Economics & Global Entrepreneurship Research
Association and Vlerick Business School, The Netherlands,
N.S.Bosma@uu.nl*

Abstract

The Global Entrepreneurship Monitor (GEM) is a project carried out by a research consortium dedicated to understanding the relationship between entrepreneurship and national economic development. Since 1999 GEM reports have been a key source of comparable data across a large variety of countries on attitudes toward entrepreneurship, start-up and established business activities, and aspirations of entrepreneurs for their businesses. The growing databases increasingly allow for in-depth academic research and this is mirrored by the rapidly increasing amount of GEM-based scientific publications in a wider range of academic journals. At this point it is appropriate to provide an overview on these publications, to summarize their main contributions, and to provide some directions for obtaining promising GEM-based academic contributions in the future. This publication provides a review of 89 GEM-based academic publications in SSCI-listed journals since 2004, with the objectives to highlight the particular advantages of GEM data, their quality and usability, as well as their limitations. It also recommends a number

of ways in which the GEM project might evolve further and make more impact on entrepreneurship research, on entrepreneurship policy and practice, and ultimately on getting more grip on the complex relation between entrepreneurship and economic development.

Keywords: Global Entrepreneurship Monitor, Entrepreneurial Activity, Economic Development.

JEL Codes: E02, J24, L26, O11

Contents

1	Introduction	1
2	GEM Framework and Methodology	5
2.1	Structure of the Questionnaires	13
3	Constructing an Overview of GEM-Based Academic Publications and an Initial Assessment	17
3.1	Waves of GEM-based Research	18
3.2	Revisiting GEM's Objectives and its Potential to Monitor Entrepreneurship	20
4	GEM-based Evidence: Factors Determining the Level of Entrepreneurial Activity	27
4.1	Determinants of Entrepreneurship — Micro Level Studies	27
4.2	Determinants of Entrepreneurship — Macro-Level Studies	39
4.3	Policies Leading to Appropriate Types and Levels of Entrepreneurial Activity	48
5	GEM-based Evidence: Linking Entrepreneurship to Economic Performance	53

6 Overview and Implications	59
Acknowledgments	65
References	95

1

Introduction

It is common wisdom that venture creation is an essential element of dynamic economic systems and that individuals pursuing perceived business opportunities are required to maintain and develop economic dynamism. However, the process of venture creation can take on many forms. Historical, cultural, economic, sociologic, and demographic factors lead to vastly different characteristics of venture creation across the globe. Yet the process of venture creation and its variance across regions and nations has been understudied in economic theory, certainly up to the 1990s (Baumol, 1968; Barreto, 1989).

In the 1990s, interest in the role of entrepreneurship in economic development increased and the lack of comparable international data on entrepreneurship and venture creation became recognized as a serious issue (Reynolds et al., 1994). Government databases were not comparable, and in many countries data on new venture creation was not systematically collected. This led to the establishment of a research initiative by a small group of academic scholars.

2 *Introduction*

The initiative was called the Global Entrepreneurship Monitor (GEM) and as it grew, three main objectives were set for it:

- To measure differences in the level of entrepreneurial activity between countries.
- To uncover factors determining national levels of entrepreneurial activity.
- To identify policies that may enhance national levels of entrepreneurial activity.

Achieving the three GEM objectives would also help establish how entrepreneurship relates to economic growth and, in a longer-term perspective, economic development. Entrepreneurship is believed to contribute to economic development because entrepreneurs create new businesses, and new businesses create jobs, intensify competition, and may even increase productivity through technological change. Some studies argue that in recent decades, the development of new technologies and in consequence the emergence of new business models has shifted from large corporations to small and new ventures (Blau, 1987; Audretsch and Thurik, 2001; Thurow, 2003). However, we have still much to learn about why entrepreneurship rates differ not only among countries at different stages of economic development but also among regions in a single country, and why not all entrepreneurial efforts have the same impact on economic development. As the GEM data collection efforts allow for comparisons across widely varying sets of countries and regions and for making distinctions between several types of entrepreneurship, future GEM-based studies may help in substantiating the impact of (specific types of) entrepreneurship on economic growth and economic development.

GEM was created in September 1997 by Michael Hay and William D. Bygrave as a joint research initiative by London Business School and Babson College. The first effort in 1999 analyzed 10 countries: the G7 countries (i.e., Canada, France, Germany, Italy, Japan, United Kingdom, and United States) and three small countries: Denmark, Finland, and Israel. Under Paul D. Reynolds, who was Principal Investigator of the project between 1998 and 2003, the project expanded to 32 participating countries in 2003.

As with any new venture's growth, the expansion of GEM required a restructuring of the organization. The growing number of participating teams led to the establishment of the Global Entrepreneurship Research Association (GERA) in 2004. GERA, a charity registered in the United Kingdom, is a consortium consisting of all national teams participating in GEM research, the two founding organizations and global sponsors. Global Entrepreneurship Monitor is owned and managed by GERA. By 2011, GEM had conducted annual assessments in 88 economies, covering more than 80% of world population and almost all nations with globally significant economies. The 2012 GEM cycle included 69 economies, with a fairly even balance in terms of the three main stages of national economic development recognized by the World Economic Forum (Schwab, 2009).

In this publication, we review the academic contributions of the GEM project since its inception. We do this by first providing a basic overview of the GEM methodology in Section 2, as well as updates to the extensive assessment of the GEM design and implementation during the first five years in Reynolds et al. (2005). Sections 3–5 review all 89 identified GEM-based empirical papers that have been published in journals listed in the Social Science Citation Index (SSCI), by categorizing these contributions along the main GEM objectives. Section 6 concludes and provides suggestions for future GEM-based research.

References

- Acs, Z. J. (2006), ‘How is entrepreneurship good for economic growth?’. *Innovations* **1**(1), 97–107.
- Acs, Z. J. and J. E. Amorós (2008), ‘Entrepreneurship and competitiveness dynamics in Latin America’. *Small Business Economics* **31**(3), 305–322.
- Acs, Z. J., S. Desai, and L. F. Klapper (2008), ‘What does “entrepreneurship” data really show?’. *Small Business Economics* **31**(3), 265–281.
- Acs, Z. J., C. O’Gorman, L. Szerb, and S. Terjesen (2007), ‘Could the irish miracle be repeated in hungary?’. *Small Business Economics* **28**(2-3), 123–142.
- Acs, Z. J. and L. Szerb (2009), ‘The Global Entrepreneurship Index (GEINDEX)’. *Foundations and Trends® in Entrepreneurship* **5**(5), 341–435.
- Acs, Z. J. and L. Szerb (2011), *Global Entrepreneurship and Development Index 2011*. Cheltenham, UK; Northampton, MA, USA: Edward Elgar.
- Acs, Z. J. and A. Varga (2005), ‘Entrepreneurship, agglomeration and technological change’. *Small Business Economics* **24**(3), 323–334.

- Aidis, R., S. Estrin, and T. Mickiewicz (2008), 'Institutions and entrepreneurship development in Russia: A comparative perspective'. *Journal of Business Venturing* **23**(6), 656–672.
- Aidis, R., S. Estrin, and T. M. Mickiewicz (2010), 'Size matters: Entrepreneurial entry and government'. *Small Business Economics* pp. 1–21.
- Allen, I. E., A. Elam, N. Langowitz, and M. Dean (2007), 'GEM Global 2007 Report on women and entrepreneurship'. Babson Park, MA: Babson College. UK: Global Entrepreneurship Research Association.
- Amorós, J. E., M. Atienza, and G. Romani (2008), 'Formal and informal equity funding in Chile'. *Estudios De Economia* **35**(2), 179–194.
- Amorós, J. E., N. Bosma, and J. Levie (2011), 'Ten years of Global Entrepreneurship Monitor: Accomplishments and prospects'. *International Journal of Entrepreneurial Venturing*. in press.
- Anokhin, S. and W. S. Schulze (2009), 'Entrepreneurship, innovation, and corruption'. *Journal of Business Venturing* **24**(5), 465–476.
- Arellano, M. and S. Bond (1991), 'Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations'. *Review of Economic Studies* **58**, 277–297.
- Arenius, P. and D. D. Clercq (2005), 'A network-based approach on opportunity recognition'. *Small Business Economics* **24**(3), 249–265.
- Arenius, P. and S. Ehrstedt (2008), 'Variation in the level of activity across the stages of the entrepreneurial startup process-evidence from 35 countries'. *Estudios De Economia* **35**(2), 133–152.
- Arenius, P. and A. Kovalainen (2006), 'Similarities and differences across the factors associated with women's self-employment preference in the Nordic countries'. *International Small Business Journal* **24**(1), 31–59.
- Arenius, P. and M. Minniti (2005), 'Perceptual variables and nascent entrepreneurship'. *Small Business Economics* **24**(3), 233–247.
- Audretsch, D. B. (2007), 'Entrepreneurship capital and economic growth'. *Oxford Review of Economic Policy* **23**(1), 63–78.
- Audretsch, D. B. and R. Thurik (2001), 'What is new about the new economy: Sources of growth in the managed and entrepreneurial economy'. *Industrial and Corporate Change* **10**(1), 267–315.

- Autio, E. (2007), *GEM 2007 High Growth Entrepreneurship Report*. Wellesley, MA and London, UK: Babson College and London Business School.
- Autio, E. and Z. J. Acs (2010), 'Intellectual property protection and the formation of entrepreneurial growth aspirations'. *Strategic Entrepreneurship Journal* **4**(3), 234–251.
- Autio, E., S. Pathak, and K. Wennberg (2011), *Culture's Consequences for Entrepreneurial Behaviours*. Mimeo.
- Barreto, H. (1989), *The Entrepreneur in Microeconomic Theory*. Routledge, London and New York.
- Baughn, C. C., B. Chua, and K. E. Neupert (2006), 'The normative context for women's participation in entrepreneurship: A multicountry study'. *Entrepreneurship: Theory and Practice* **30**(5), 687–708.
- Baumol, W., R. Litan, and C. Schramm (2007), *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity*. New Haven: Yale University Press.
- Baumol, W. J. (1968), 'Entrepreneurship in economic theory'. *American Economic Review* **58**(2), 64–71.
- Baumol, W. J. (1990), 'Entrepreneurship: Productive, unproductive and destructive'. *Journal of Political Economy* **98**(5), 893–921.
- Bergmann, H. and R. Sternberg (2007), 'The changing face of entrepreneurship in Germany'. *Small Business Economics* **28**(2–3), 205–221.
- Bjørnskov, C. and N. J. Foss (2008), 'Economic freedom and entrepreneurial activity: Some cross-country evidence'. *Public Choice* **134**(3–4), 307–328.
- Blachflower, D. and A. Oswald (1998), 'What makes an entrepreneur?'. *Journal of Labor Economics* **16**, 26–60.
- Blau, D. M. (1987), 'A time series analysis of self employment in the United States'. *Journal of Political Economy* **95**(3), 445–467.
- Blundell, R. and S. Bond (1998), 'Initial conditions and moment restrictions in dynamic panel data models'. *Journal of Econometrics* **87**, 115–143.
- Bosma, N. (2009). *The Geography of Entrepreneurial Activity; Multi-level analyses for Dutch and European Regions*, Dissertation, Utrecht University.

- Bosma, N., Z. Acs, E. Autio, A. Coduras, and J. Levie (2009a), *Global Entrepreneurship Monitor, 2008 Executive Report*. Babson Park, MA, USA: Babson College, Santiago, Chile: Universidad del Desarrollo. UK: Global Entrepreneurship Research Association.
- Bosma, N. and J. Levie (2010), *Global Entrepreneurship Monitor, 2009 Executive Report*. Babson Park, MA, USA: Babson College, Santiago, Chile: Universidad del Desarrollo and Reykjavík, Iceland: Háskólinn Reykjavík University, London, UK: Global Entrepreneurship Research Association.
- Bosma, N. and V. Schutjens (2007), 'Patterns of promising entrepreneurial activity in European regions'. *Tijdschrift Voor Economische En Sociale Geografie* **98**(5), 675–686.
- Bosma, N. and V. Schutjens (2011), 'Understanding regional variation in entrepreneurial activity and entrepreneurial attitude in Europe'. *Annals of Regional Science* **47**(3), 711–742.
- Bosma, N., V. Schutjens, and E. Stam (2009b), 'Determinants of early-stage entrepreneurial activity in European regions; Distinguishing low and high ambition entrepreneurship'. In: D. Smallbone, H. Landstrom, and D. Jones Evans (eds.): *Making the Difference in Local, Regional and National Economies: Frontiers in European Entrepreneurship Research*. Cheltenham (UK); Northampton, MA (USA): Edward Elgar, pp. 49–77.
- Bosma, N., E. Stam, and A. R. M. Wennekers (2010), 'Intrapreneurship — An international study'. EIM Research Report H201005, Zoetermeer: EIM.
- Bosma, N., S. Wennekers, and J. E. Amorós (2012), *Global Entrepreneurship Monitor, 2011 Extended Report: Entrepreneurial Employees Across the Globe*. Babson Park, MA, US: Babson College, Santiago, Chile: Universidad del Desarrollo, Kuala Lumpur, Malaysia: Universiti Tun Abdul Razak, London, UK: Global Entrepreneurship Research Association.
- Bosma, N., S. Wennekers, M. Guerrero, J. E. Amorós, A. Martiarena, and S. Singer (2013), *Global Entrepreneurship Monitor, Special Report on Entrepreneurial Employees*. Babson Park, MA, US: Babson College, Santiago, Chile: Universidad del Desarrollo, Kuala Lumpur, Malaysia: Universiti Tun Abdul Razak, London, UK: Global Entrepreneurship Research Association.

- Bowen, H. P. and D. De Clercq (2008), 'Institutional context and the allocation of entrepreneurial effort'. *Journal of International Business Studies* **39**(4), 747–767.
- Brixy, U., R. Sternberg, and H. Stüber (2012), 'The selectiveness of the entrepreneurial process'. *Journal of Small Business Management* **50**(1), 105–131.
- Carree, M. A. and R. A. Thurik (2003), 'The impact of entrepreneurship on economic growth'. In: Z. J. Acs and D. B. Audretsch (eds.): *Handbook of Entrepreneurship Research*. Boston: Kluwer Academic Publishers, pp. 437–471.
- Coduras Martinez, A., J. Levie, D. Kelley, R. Saemundsson, and T. Schøtt (2010), *GEM Special Report: A Global Perspective on Entrepreneurship Education and Training*. Babson Park, MA, US: Babson College, Santiago, Chile: Universidad del Desarrollo and Reykjavík, Iceland: Háskólinn Reykjavík University, London, UK: Global Entrepreneurship Research Association.
- Danis, W. M., D. De Clercq, and O. Petricevic (2011), 'Are social networks more important for new business activity in emerging than developed economies? An empirical extension'. *International Business Review* **20**(4), 394–408.
- De Clercq, D. and P. Arenius (2006), 'The role of knowledge in business start-up activity'. *International Small Business Journal* **24**(4), 339–358.
- De Clercq, D., W. M. Danis, and M. Dakhli (2010), 'The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies'. *International Business Review* **19**(1), 85–101.
- De Clercq, D., J. Hessels, and A. Van Stel (2008), 'Knowledge spillovers and new ventures' export orientation'. *Small Business Economics* **31**(3), 283–303.
- De Clercq, D., D. S. Lim, and C. H. Oh (2011), 'Individual-level resources and new business activity: The contingent role of institutional context'. *Entrepreneurship: Theory and Practice*. DOI: 10.1111/j.1540-6520.2011.00470x.
- Driga, O., E. Lafuente, and Y. Vaillant (2009), 'Reasons for the relatively lower entrepreneurial activity levels of rural women in Spain'. *Sociologia Ruralis* **49**(1), 70–96.

- Du, Q. and I. Vertinsky (2011), 'International patterns of ownership structure choices of start-ups: Does the quality of law matter?'. *Small Business Economics* **37**(2), 235–254.
- Elam, A. and S. Terjesen (2010), 'Institutional logics'. *European Journal of Development Research* **22**(3), 331–348.
- Estrin, S. and T. Mickiewicz (2011), 'Institutions and female entrepreneurship'. *Small Business Economics* **37**(4), 397–415.
- Feldman, M. P. (2001), 'The entrepreneurial event revisited: An examination of new firm formation in the regional context'. *Industrial and Corporate Change* **10**, 861–891.
- Fernandez, J., F. Linan, and F. J. Santos (2009), 'Cognitive aspects of potential entrepreneurs in Southern and Northern Europe: An analysis using GEM-data'. *Revista de Economía Mundial* **23**, 151–178.
- Frederick, H. and E. Monsen (2011), 'New Zealand's perfect storm of entrepreneurship and economic development'. *Small Business Economics* **37**(2), 187–204.
- Gartner, U. B. (1989), 'Some suggestions for research on entrepreneurial traits and characteristics'. *Entrepreneurship: Theory and Practice* **14**(1), 27–38.
- Gartner, W. B., K. G. Shaver, N. M. Carter, and P. D. Reynolds (2004), *Handbook of Entrepreneurial Dynamics*. London: Sage.
- Godin, K., J. Clemens, and N. Veldhuis (2008), 'Measuring Entrepreneurship Conceptual Frameworks and Empirical Indicators'. *Studies in Entrepreneurship Markets* 7 June. Fraser Institute.
- Greene, W. (2004), *Econometric Analysis*. New York: Prentice Hall, 5 edition.
- Gries, T. and W. Naude (2008). Entrepreneurship and Structural Economic Transformation. UNU-Wider Research Papers 2008/62.
- Henrekson, M. and D. Johansson (2009), 'Competencies and institutions fostering high-growth firms'. *Foundations and Trends in Entrepreneurship* **5**(1), 1–80.
- Henrekson, M. and M. Stenkula (2010), 'Entrepreneurship and public policy'. Working Paper Series 804, *Research Institute of Industrial Economics*.

- Hessels, J., I. Grilo, R. Thurik, and P. van der Zwan (2011), 'Entrepreneurial exit and entrepreneurial engagement'. *Journal of Evolutionary Economics* **21**(2), 447–471.
- Hessels, J., M. Van Gelderen, and R. Thurik (2008), 'Entrepreneurial aspirations, motivations, and their drivers'. *Small Business Economics* **31**(3), 323–339.
- Hessels, J. and A. Van Stel (2011), 'Entrepreneurship, export orientation, and economic growth'. *Small Business Economics* **37**(2), 255–268.
- Hindle, K. (2006), 'A measurement framework for international entrepreneurship policy research: From impossible index to malleable matrix'. *International Journal of Entrepreneurship and Small Business* **3**(2), 139–182.
- Ho, Y. and P. Wong (2007), 'Financing, regulatory costs and entrepreneurial propensity'. *Small Business Economics* **28**(2–3), 187–204.
- Hofstede, G. (2001), *Culture's Consequences; Comparing Values, Behaviors, Institutions and Organizations Across Nations*. Sage, Beverly Hills, CA, 2 edition.
- Hox, J. J. (2002), *Multilevel Analysis: Techniques and Applications*. Erlbaum, Mahwah, New Jersey.
- Jones-Evans, D. and P. Thompson (2009), 'The spatial dispersion of informal investment at a regional level: Evidence from the UK'. *European Planning Studies* **17**(5), 659–675.
- Jones-Evans, D., P. Thompson, and C. Kwong (2011), 'Entrepreneurship amongst minority language speakers: The case of wales'. *Regional Studies* **45**(2), 219–238.
- Kelley, D., N. S. Bosma, and J. E. Amorós (2011a), *Global Entrepreneurship Monitor 2010 Executive Report*. Babson Park, MA: Babson College, Santiago, Chile: Universidad del Desarrollo. UK: Global Entrepreneurship Research Association.
- Kelley, D., M. Herrington, and S. Singer (2012), *Global Entrepreneurship Monitor 2011 Executive Report*. Babson Park, MA: Babson College, Santiago, Chile: Universidad del Desarrollo, Kuala Lumpur, Malaysia: Universiti Tun Abdul Razak, UK: Global Entrepreneurship Research Association.

- Kelley, D. J., C. G. Brush, P. G. Greene, and Y. Litovsky (2011b), *Global Entrepreneurship Monitor; 2010 Women's Report*. Babson Park, MA, US: Babson College, UK: Global Entrepreneurship Research Association.
- Klapper, L. and S. Parker (2010), 'Gender and the business environment for new firm creation'. *World Bank Research Observer*.
- Koellinger, P. (2008), 'Why are some entrepreneurs more innovative than others?'. *Small Business Economics* **31**(1), 21–37.
- Koellinger, P. and M. Minniti (2006), 'Not for lack of trying: American entrepreneurship in black and white'. *Small Business Economics* **27**(1), 59–79.
- Koellinger, P. and M. Minniti (2009), 'Unemployment benefits crowd out nascent entrepreneurial activity'. *Economics Letters* **103**(2), 96–98.
- Koellinger, P., M. Minniti, and C. Schade (2007), "I think I can, I think I can": Overconfidence and entrepreneurial behavior'. *Journal of Economic Psychology* **28**(4), 502–527.
- Koellinger, P., M. Minniti, and C. Schade (2011), 'Gender differences in entrepreneurial propensity'. *Oxford Bulletin of Economics and Statistics*. DOI: 10.1111/j.1468-0084.2011.00689.x.
- Koellinger, P. D. and A. R. Thurik (2012), 'Entrepreneurship and the business cycle'. *Review of Economics and Statistics* **94**(4), 1143–1156.
- Korosteleva, J. and T. Mickiewicz (2011), 'Start-up financing in the age of globalization'. *Emerging Markets Finance and Trade* **47**(3), 23–49.
- Kwon, S. and P. Arenius (2010), 'Nations of entrepreneurs: A social capital perspective'. *Journal of Business Venturing* **25**(3), 315–330.
- La Porta, R., F. López-de-Silanes, A. Shleifer, and R. Vishny (1998), 'Law and Finance'. *Journal of Political Economy* **106**(6), 1113–1155.
- Lafuente, E., Y. Vaillant, and J. Rialp (2007), 'Regional differences in the influence of role models: Comparing the entrepreneurial process of rural Catalonia'. *Regional Studies* **41**(6), 779–795.
- Langowitz, N. and M. Minniti (2007), 'The entrepreneurial propensity of women'. *Entrepreneurship: Theory and Practice* **31**(3), 341–364.

- Larroulet, C. and J. P. Couyoumdjian (2009), 'Entrepreneurship and growth: A Latin American paradox?'. *Independent Review* **14**(1), 81–100.
- Lepoutre, J., R. Justo, S. Terjesen, and N. Bosma (2013), 'Designing a global standardized methodology for measuring social entrepreneurship activity: The Global Entrepreneurship Monitor social entrepreneurship study'. *Small Business Economics*, forthcoming. DOI: 10.1007/s11187-011-9398-4.
- Lerner, M. and A. Malach-Pines (2011), 'Gender and culture in family business: A ten-nation study'. *International Journal of Cross Cultural Management* **11**(2), 113–131.
- Levie, J. (2007), 'Immigration, in-migration, ethnicity and entrepreneurship in the United Kingdom'. *Small Business Economics* **28**(2–3), 143–169.
- Levie, J. and E. Autio (2008), 'A theoretical grounding and test of the GEM model'. *Small Business Economics* **31**(3), 235–263.
- Levie, J. and E. Autio (2011), 'Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study'. *Journal of Management Studies* **48**(6), 1392–1419.
- Levie, J. and M. Lerner (2009), 'Resource Mobilization and Performance in Family and Nonfamily Businesses in the United Kingdom'. *Family Business Review* **22**(1), 25–38.
- Lilischkis, S. (2011). Policies in support of high-growth innovative SMEs. INNO-Grips Policy Brief No. 2.
- Malecki, E. J. (2009), 'Geographical environments for entrepreneurship'. *International Journal of Entrepreneurship and Small Business* **7**(2), 175–190.
- Martiarena, A. (2013), 'What's so entrepreneurial about intrapreneurs?'. *Small Business Economics* **40**(1), 27–39.
- Maula, M., E. Autio, and P. Arenius (2005), 'What drives micro-angel investments?'. *Small Business Economics* **25**(5), 459–475.
- McMullen, J. S., R. D. Bagby, and L. E. Palich (2008), 'Economic freedom and the motivation to engage in entrepreneurial action'. *Entrepreneurship: Theory and Practice* **32**(5), 875–895.
- Minniti, M. (2006), *Global Entrepreneurship Monitor, 2005 Executive Report*. Babson Park, MA, USA: Babson College, London, UK: London Business School.

- Minniti, M. (2011), *The Dynamics of Entrepreneurial Activity*. Oxford University Press.
- Minniti, M. and C. Nardone (2007), 'Being in someone else's shoes: The role of gender in nascent entrepreneurship'. *Small Business Economics* **28**(2–3), 223–238.
- Naudé, W., T. Gries, E. Wood, and A. Meintjies (2008), 'Regional determinants of entrepreneurial start-ups in a developing country'. *Entrepreneurship and Regional Development* **20**(2), 111–124.
- Nissan, E., M. Castaño, and I. Carrasco (2012), 'Drivers of non-profit activity: A cross-country analysis'. *Small Business Economics* **38**(3), 303–320.
- North, D. (1990), *Institutions, Institutional Change, and Economic Performance*. New York: Cambridge University Press.
- Pinillos, M. and L. Reyes (2011), 'Relationship between individualist-collectivist culture and entrepreneurial activity: Evidence from global entrepreneurship monitor data'. *Small Business Economics* **37**(1), 23–37.
- Porter, M. E., J. J. Sachs, and J. McArthur (2002), 'Executive summary: Competitiveness and stages of economic development'. In: M. Porter, J. Sachs, P. K. Cornelius, J. W. McArthur, and K. Schwab (eds.): *The Global Competitiveness Report 2001–2002*. New York: Oxford University Press, pp. 16–25.
- Rabe-Hesketh, S. and A. Skrondal (2005), *Multilevel and Longitudinal Modeling Using Stata*. Stata Press, College Station, Texas.
- Ramos-Rodríguez, A. R., J. A. Medina-Garrido, J. D. Lorenzo-Gómez, and J. Ruiz-Navarro (2010), 'What you know or who you know? The role of intellectual and social capital in opportunity recognition'. *International Small Business Journal* **28**(6), 566–582.
- Ramos-Rodríguez, A. R., J. A. Medina-Garrido, and J. Ruiz-Navarro (2012), 'Determinants of hotels and restaurants entrepreneurship: A study using GEM data'. *International Journal of Hospitality Management* **31**(2), 579–587.
- Reynolds, P. D., N. Bosma, E. Autio, S. Hunt, N. De Bono, I. Servais, P. Lopez-Garcia, and N. Chin (2005), 'Global Entrepreneurship Monitor: Data collection design and implementation 1998–2003'. *Small Business Economics* **24**(3), 205–231.

- Reynolds, P. D. and R. T. Curtin (2011), *New Business Creation; An International Overview*. International Studies in Entrepreneurship, Volume 27, New York Dordrecht Heidelberg London: Springer.
- Reynolds, P. D., M. Hay, and S. M. Camp (1999), *Global Entrepreneurship Monitor: 1999 Executive Report*. Kansas City, MO: Kauffman Foundation.
- Reynolds, P. D., D. J. Storey, and P. Westhead (1994), 'Cross-national comparisons of the variation in new firm formation rates'. *Regional Studies* **28**(4), 443–456.
- Rocha, H. O. and R. Sternberg (2005), 'Entrepreneurship: The role of clusters theoretical perspectives and empirical evidence from Germany'. *Small Business Economics* **24**(3), 267–292.
- Roper, S. and J. M. Scott (2009), 'Perceived financial barriers and the start-up decision: An econometric analysis of gender differences using GEM data'. *International Small Business Journal* **27**(2), 149–171.
- Schøtt, T. (2010), *Training and Network Organization in Entrepreneurship in Denmark 2010 — studied via Global Entrepreneurship Monitor*. University of Southern Denmark 2010.
- Schøtt, T. and K. Wickstrøm Jensen (2008), 'The coupling between entrepreneurship and public policy: Tight in developed countries but loose in developing countries'. *Estudios de Economía* **35**(2), 195–214.
- Schumpeter, J. A. (1942), *Capitalism, Socialism and Democracy*. Harper and Row, New York, NY, USA.
- Schwab, K. (2009), *The Competitiveness Report 2009–2010*. Geneva, Switzerland: World Economic Forum.
- Schwab, K. and J. Sachs (1997), *The Global Competitiveness Report: 1997*. Geneva, Switzerland: World Economic Forum.
- Serida, J. N. and O. T. Morales (2011), 'Using the theory of planned behavior to predict nascent entrepreneurship'. *Academia, Revista Latinoamericana de Administración* **46**, 55–71.
- Shane, S. (2009), 'Why encouraging more people to become entrepreneurs is bad public policy'. *Small Business Economics* **33**(2), 141–149.
- Snijders, T. and R. Bosker (1999), *Multilevel Analysis: An Introduction to Basic and Applied Multilevel Analysis*. Sage.

- Stam, E., N. Bosma, A. van Witteloostuijn, J. de Jong, S. Bogaert, N. Edwards, and F. Jaspers (2012), *Ambitious Entrepreneurship. A Review of the Academic Literature and New Directions for Public Policy*. AWT rapport, 41.
- Stenholm, P., Z. J. Acs, and R. Wuebker (2013), 'Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity'. *Journal of Business Venturing* **28**(1), 176–193.
- Stephan, U. and L. Uhlaner (2010), 'Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship'. *Journal of International Business Studies* **41**, 1347–1364.
- Stephen, F., D. Urbano, and S. Van Hemmen (2009), 'The responsiveness of entrepreneurs to working time regulations'. *Small Business Economics* **32**, 259–276.
- Sternberg, R. (2009), 'Regional dimensions of entrepreneurship'. *Foundations and Trends in Entrepreneurship* **5**(4), Now Publishers.
- Sternberg, R. and T. Litzenger (2004), 'Regional clusters in Germany — their geography and their relevance for entrepreneurial activities'. *European Planning Studies* **12**(6), 767–791. doi:10.1080/0965431042000251855.
- Sternberg, R. and S. Wennekers (2005), 'Determinants and effects of new business creation using global entrepreneurship monitor data'. *Small Business Economics* **24**(3), 193–203.
- Storey, D. (2008), *Entrepreneurship and SME Policy*. *World Entrepreneurship Forum* 2008 Edition.
- Storey, D. J. (1994), *Understanding the Small Business Sector*. London: International Thomson Business Press.
- Szerb, L., G. Rappai, Z. Makra, and S. Terjesen (2007), 'Informal investment in transition economies: Individual characteristics and clusters'. *Small Business Economics* **28**(2–3), 257–271.
- Tamásy, C. (2006), 'Determinants of regional entrepreneurship dynamics in contemporary Germany: A Conceptual and Empirical Analysis'. *Regional Studies* **40**(4), 365–384.
- Terjesen, S. and J. E. Amorós (2010), 'Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and

- relationship to economic development'. *European Journal of Development Research* **22**(3), 313–330.
- Terjesen, S. and J. Hessels (2009), 'Varieties of export-oriented entrepreneurship in Asia'. *Asia Pacific Journal of Management* **26**(3), 537–561.
- Terjesen, S. and L. Szerb (2008), 'Dice thrown from the beginning? an empirical investigation of determinants of firm level growth expectations'. *Estudios De Economia* **35**(2), 153–178.
- Thompson, P., D. Jones-Evans, and C. Kwong (2009), 'Women and home-based entrepreneurship: Evidence from the United Kingdom'. *International Small Business Journal* **27**(2), 227–239.
- Thurow, L. (2003), *Fortune Favours the Bold: What we must do to Build a New and Lasting Global Prosperity*. New York: Harper Collins.
- Tominc, P. and M. Rebernik (2007), 'Growth aspirations and cultural support for entrepreneurship: A comparison of post-socialist countries'. *Small Business Economics* **28**(2–3), 239–255.
- Uhlaner, L. and R. Thurik (2007), 'Postmaterialism influencing total entrepreneurial activity across nations'. *Journal of Evolutionary Economics* **17**(2), 161–185.
- Vaillant, Y. and E. Lafuente (2007), 'Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial examples over entrepreneurial activity?'. *Entrepreneurship and Regional Development* **19**(4), 313–337.
- Valliere, D. and R. Peterson (2009), 'Entrepreneurship and economic growth: Evidence from emerging and developed countries'. *Entrepreneurship and Regional Development* **21**(5–6), 459–480.
- Van Praag, C. M. and P. H. Versloot (2008), 'The Economic Benefits and Costs of Entrepreneurship: A Review of the Research'. *Foundations and Trends® in Entrepreneurship* **4**(2), Now Publishers.
- Van Stel, A., M. Carree, and R. Thurik (2005), 'The effect of entrepreneurial activity on national economic growth'. *Small Business Economics* **24**(3), 311–321.
- Van Stel, A., D. J. Storey, and A. R. Thurik (2007), 'The effect of business regulations on nascent and young business entrepreneurship'. *Small Business Economics* **28**(2–3), 171–186.

- Verheul, I., A. V. Stel, and R. Thurik (2006), 'Explaining female and male entrepreneurship at the country level'. *Entrepreneurship and Regional Development* **18**(2), 151–183.
- Verheul, I. and L. Van Mil (2011), 'What determines the growth ambition of Dutch early-stage entrepreneurs?'. *International Journal of Entrepreneurial Venturing* **3**(2), 183–207.
- Wagner (2006), 'Are nascent entrepreneurs 'Jacks-of-all-trades'? A test of Lazear's theory of entrepreneurship with German data'. *Applied Economics* **38**(20), 2415–2419.
- Wagner, J. (2007), 'What a difference a Y makes—female and male nascent entrepreneurs in Germany'. *Small Business Economics* **28**, 1–21.
- Wennekers, A. R. M., A. R. Thurik, A. J. van Stel, and N. Noorderhaven (2007), 'Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976–2004'. *Journal of Evolutionary Economics* **17**(2), 133–160.
- Wennekers, S. and R. Thurik (1999), 'Linking entrepreneurship and economic growth'. *Small Business Economics* **13**(1), 27–55.
- Wennekers, S., A. van Stel, R. Thurik, and P. Reynolds (2005), 'Nascent entrepreneurship and the level of economic development'. *Small Business Economics* **24**(3), 293–309.
- Wong, P. K., Y. P. Ho, and E. Autio (2005), 'Entrepreneurship, innovation and economic growth: Evidence from GEM data'. *Small Business Economics* **24**(3), 335–350.