

# Business Creation Stability: Why is it so Hard to Increase Entrepreneurship?

---

**Paul D. Reynolds**

Aston Business School, Birmingham, UK  
pauldavidsonreynolds@gmail.com

**now**

the essence of knowledge

Boston — Delft

## Foundations and Trends<sup>®</sup> in Entrepreneurship

*Published, sold and distributed by:*

now Publishers Inc.  
PO Box 1024  
Hanover, MA 02339  
United States  
Tel. +1-781-985-4510  
[www.nowpublishers.com](http://www.nowpublishers.com)  
[sales@nowpublishers.com](mailto: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

P. D. Reynolds. *Business Creation Stability: Why is it so Hard to Increase Entrepreneurship?*. Foundations and Trends<sup>®</sup> in Entrepreneurship, vol. 10, no. 5–6, pp. 321–475, 2014.

*This Foundations and Trends<sup>®</sup> issue was typeset in L<sup>A</sup>T<sub>E</sub>X using a class file designed by Neal Parikh. Printed on acid-free paper.*

ISBN: 978-1-68083-011-8

© 2015 P. D. Reynolds

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](http://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](http://www.nowpublishers.com); [sales@nowpublishers.com](mailto: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](http://www.nowpublishers.com); e-mail: [sales@nowpublishers.com](mailto:sales@nowpublishers.com)

**Foundations and Trends<sup>®</sup> in Entrepreneurship**  
Volume 10, Issue 5–6, 2014  
**Editorial Board**

**Editors-in-Chief**

**Zoltan J. Acs**  
George Mason University  
United States

**Mike Wright**  
Imperial College London  
United Kingdom

**David B. Audretsch**  
Indiana University  
United States

**Editors**

Howard Aldrich  
*University of North Carolina*

Jeff McMullen  
*Indiana University*

Sharon Alvarez  
*University of Denver*

Maria Minniti  
*Syracuse University*

Per Davidsson  
*Queensland University of Technology*

Simon Parker  
*University of Western Ontario*

Michael Frese  
*National University of Singapore*

Holger Patzelt  
*TU Munich*

William B. Gartner  
*Copenhagen Business School*

Saras Sarasvathy  
*University of Virginia*

Magnus Henrekson  
*IFN Stockholm*

Roy Thurik  
*Erasmus University*

Michael A. Hitt  
*Texas A&M University*

Joshua Lerner  
*Harvard University*

## Editorial Scope

### Topics

Foundations and Trends<sup>®</sup> in Entrepreneurship publishes 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
- Family-owned firms
- Management structure, governance and performance
- Corporate entrepreneurship
- High technology
- Small business and economic growth

### Information for Librarians

Foundations and Trends<sup>®</sup> in Entrepreneurship, 2014, Volume 10, 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. 10, Nos. 5–6 (2014) 321–475  
© 2015 P. D. Reynolds  
DOI: 10.1561/03000000058



## **Business Creation Stability: Why is it so Hard to Increase Entrepreneurship?<sup>1</sup>**

Paul D. Reynolds  
Aston Business School, Birmingham, UK,  
[pauldavidsonreynolds@gmail.com](mailto:pauldavidsonreynolds@gmail.com)

<sup>1</sup>This is a much revised and expanded version of Reynolds et al. [2014], “National Values and Business Creation: Why is it so difficult to increase indigenous entrepreneurship?”. Chapter 6. In: Pontus Braunerhjelm (ed.): *20 Years of Entrepreneurship Research*, Swedish Entrepreneurship Forum, Stockholm, SE, pp. 71–94. This version has benefited from the comments of two anonymous reviewers.

## Contents

---

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>National Variation in Business Creation</b>	<b>10</b>
<b>3</b>	<b>Economic Development and Business Creation</b>	<b>15</b>
<b>4</b>	<b>Business Creation and Economic Growth</b>	<b>19</b>
<b>5</b>	<b>Within Country Consistency</b>	<b>23</b>
5.1	Cross-year correlations . . . . .	23
5.2	Temporal stability . . . . .	24
<b>6</b>	<b>National Characteristics and Business Creation</b>	<b>39</b>
6.1	Measures of business creation . . . . .	42
6.2	National characteristics . . . . .	43
6.3	Economic characteristics . . . . .	48
6.4	Growth . . . . .	49
6.5	Business structure . . . . .	50
6.6	Government role in the economy . . . . .	51
6.7	Population capacity . . . . .	55
6.8	Cultural, social context . . . . .	58

<b>7 Predicting National Business Creation (Link A)</b>	<b>65</b>
<b>8 Predicting Individual Participation in Business Creation (Link B)</b>	<b>71</b>
<b>9 Exploring Readiness for Entrepreneurship (Link C)</b>	<b>82</b>
<b>10 Stability of National Values</b>	<b>88</b>
<b>11 National Values and Business Creation</b>	<b>92</b>
11.1 National Values and Income Inequality . . . . .	97
<b>12 Conclusions and Implications</b>	<b>106</b>
12.1 Short term implications . . . . .	108
12.2 Long term implications . . . . .	111
12.3 Future work . . . . .	114
<b>A Appendix A</b>	<b>115</b>
<b>B Appendix B: Sources of National Attributes</b>	<b>119</b>
<b>C Appendix C: Values of National Attributes</b>	<b>133</b>
<b>D Appendix D: Development of Multi-Level Models</b>	<b>149</b>
<b>References</b>	<b>151</b>

## Abstract

The substantial diversity among countries in the level of business creation is accompanied by a high level of year-to-year consistency for individual countries. It would appear that the national value structures are relatively stable over time, are related to a wide range of national characteristics, and have a major impact on the readiness of individuals to pursue business creation. Countries with a strong emphasis on traditional rather than secular-rational values and an emphasis on self-expressive rather than survival values have more adults ready for entrepreneurship. This leads directly to a higher national prevalence of nascent entrepreneurs and new firm owner-managers; more business creation is followed by greater economic growth. The difficulty in adjusting these national values may be the reason that the multitude of policy initiatives to increase entrepreneurship have met with limited success.



# 1

---

## Introduction

---

Business creation is good! Good for the economy and good for the successful entrepreneurs.<sup>1</sup> New businesses are associated with job creation, improved productivity, innovations, and structural adaptation.<sup>2</sup> Further, they provide important career options for millions of people<sup>3</sup>;

---

<sup>1</sup>Several summaries of the extent of “entrepreneurial” contributions have developed [Parker, 2005], including a review of 57 studies provides an overview of research indicating new and small firms area, but not the only source, of contributions [van Praag and Versloot, 2007]. While the conclusions support the nature of the contributions, the measures of “entrepreneurship” comingle new firms, self-employment, and small firms, complicating inferences related to the stage in the firm creation process.

<sup>2</sup>The initial claims regarding the contributions of small firms [Birch, 1981] mis-specified the source of the impact; small firms are not the critical agents, the major source of impact are new firms. Assessments of small versus large firms [Brown et al., 1990, Parker, 2001] or the “self-employed” versus employee firms [Henrekson and Sanandaji, 2014] find few advantages for small firms. Subsequent assessments, focusing on new firm creation, or new entries in established markets, have found much more consistent evidence of the positive impact on net job creation (Acs and Armington, 2004; Haltiwanger et al., 2010, Table 1, p. 46); sector productivity (Aghion et al., 2009; Foster et al., 1998, 2002, 2005); and innovation [Audretsch, 1995].

<sup>3</sup>As many as 220 million may be involved with start-up ventures and 236 million managing firms less than 3.5 years old [Reynolds, 2012].

established business owners are more satisfied with their careers than wage and salary workers.<sup>4</sup> It is no wonder that efforts to promote entrepreneurship and new firms are found everywhere in city, regional and national politics, save for a few command economies, such as North Korea. In many countries substantial public resources are devoted to encouraging more citizens, especially young adults, to pursue business creation.

While much attention has been given to the dramatic global diversity in business creation — some countries have over 10 times the activity of others — there has been less attention to the year-to-year consistency found in individual countries. This stability has occurred despite considerable government efforts in many countries to increase the level of activity. This leads to a major question:

What accounts for the high level of temporal stability in business creation?

The answer has considerable implications for policies oriented toward increasing new firm creation.

There has been research studying the high level of stability in the relative amount of activity across regions within countries, including the prevalence of new firm and new branch establishments across 382 labor market areas the United States over 12 years (1976–1988),<sup>5</sup> the prevalence of self-employment across 174 counties in the United Kingdom over 90 years (1921–2011),<sup>6</sup> and the prevalence of self-employment across 91 planning regions of Germany over 90 years (1925–2008). The German study covers 85 years that included a major depression, the World War II devastation of the infrastructure and subsequent rebuilding as well as a partitioning into Eastern and Western regions with dramatically different economic policies.<sup>7</sup> In all three cases, regions at

---

<sup>4</sup>Most assessments are based on comparisons of the self-employed with those working for salaries and wages. A recent assessment of 15 European countries finds the self-employed much more satisfied with their work, but less satisfied with career security [Millan et al., 2011].

<sup>5</sup>Reynolds and Maki [1992], Appendix A-4.

<sup>6</sup>Fotopoulos and Storey [2014].

<sup>7</sup>Fritsch and Wyrwich [2014].

the top and the bottom of the rank orders appear in the same positions over time. There is, however, less assessments at the national level that involves harmonized measures of participation in business creation.

This pervasive pattern suggests that some stable national characteristics — or basic institutional features — are affecting individual decisions to participate in the firm creation process. The central challenge, then, is how to identify national factors that are both relatively stable and likely to have a major effect on decisions to participate in business creation.

The conceptual model and strategy for assessment is presented in Figure 1.1. The first important feature is the emphasis on the two initial stages of the firm life course. The initial, pre-profit stage, where nascent entrepreneurs are working to implement a profitable new firm is separated from the owner-managers of new firms, those ventures profitable for up to three and a half years. As the prevalence of these two stages have a modest association they are treated separately where appropriate.<sup>8</sup>

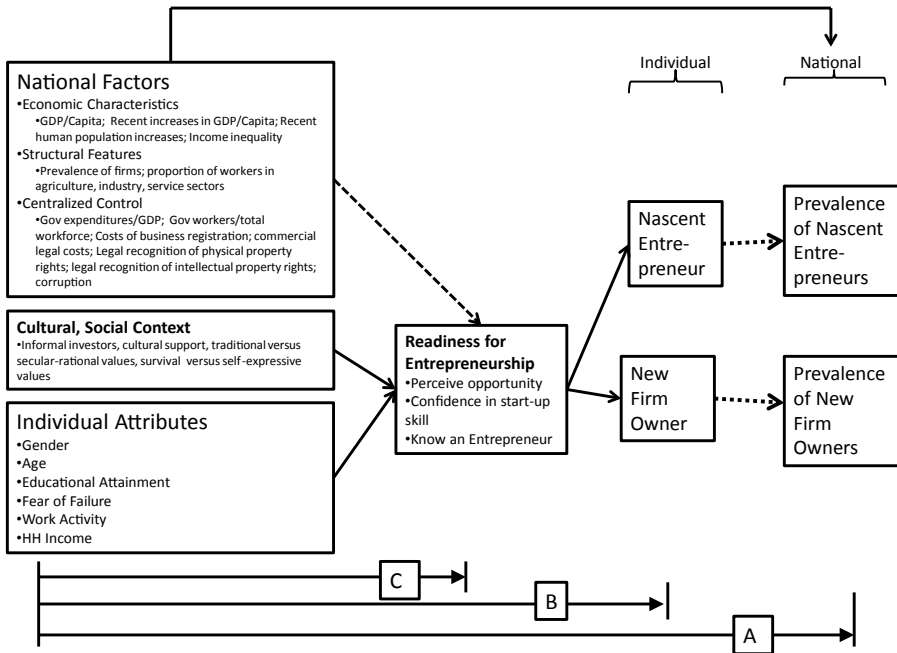
The second important feature of the model is the three stage process. It is assumed that national (or contextual) and individual factors affect individual readiness for entrepreneurship. The second stage focuses on the relationship between readiness for entrepreneurship and the impact on participation in the nascent or new firm phase of the firm life course. The third stage attends to the national level of activity, represented by the prevalence of adults in firm creation.<sup>9</sup>

The third feature of Figure 1.1 is a summary of the three phase strategy for analysis. The approach is from the outside in, so to speak.

---

<sup>8</sup>For the 93 countries in this analysis, the two prevalence rates have a correlation of 0.76, which implies that the prevalence of nascent entrepreneurs could predict 60% of the variation in the prevalence of new firm owners, leaving about 40% unexplained — or unpredicted. As shown in the following analysis, the factors predicting the prevalence of the two stages are somewhat different. Further, the variation in the ratio of new firm prevalence to nascent venture prevalence is considered to reflect variation in success at completing the firm creation process. Accounting for the variation in the proportion of nascent ventures that become profitable new firms, a very important issue, will not be discussed in this analysis.

<sup>9</sup>This model was developed on the basis of several prior assessments with a smaller number of countries Reynolds [2011, 2012].



**Figure 1.1:** Conceptual model and strategy for assessment.

The first phase is to consider national attributes, national factors and the cultural and social context that may affect the prevalence of adults involved in the first two stages of business creation.<sup>10</sup> The unit of analysis for this phase is the individual country and the dependent variables, prevalence of active participants, are national attributes. This is represented by the A arrow at the bottom of the model.

The second phase of the analysis is to consider the national and individual attributes associated with participation in the firm creation process. This assessment, represented by the B arrow, utilizes multi-level modeling to incorporate both national features and personal attributes in predicting whether or not individuals are involved in the first two

<sup>10</sup>The choices of variables included in the conceptual model reflect a combination of factors expected to be significant and, particularly regarding individual attributes, those available in the existing data sets.

stages of the business life course. It turns out that an individual's readiness for entrepreneurship has a major impact on participation.

This leads to the third phase, considering the national and personal attributes that lead to greater readiness for entrepreneurship, represented by the C arrow. It is this final phase where one of the more stable and significant national features — such as the country's value structure — has a major impact. These values have a strong association with perceived readiness for entrepreneurship.

The assessment utilizes two types of data on 93 countries, which represent all major regions of the world and the majority of the global population.<sup>11</sup> Data on business creation, represented by prevalence rates of those active in each country are taken from the Global Entrepreneurship Monitor [GEM] project. The information is based on responses of representative samples of individuals. Data from 1.7 million individuals was assembled from annual surveys from 2000 through 2012; for some countries there is annual data for all 13 years.<sup>12</sup> The second type is data on national attributes which are assembled from a wide

---

<sup>11</sup>Some recent analyses utilizing GEM data have grouped countries as factor, efficiency or innovation driven (Kelly et al., 2010), based on classifications develop in The Global Competitiveness Reports [Schwab and Sala-i-Martin, 2012]. The implementation of the classification procedure is somewhat flexible, as different criteria are employed in making decisions about different thresholds and uncertainty about application has resulted in a shift from three to five categories. The major goal of this scheme appears to be maintaining the credibility of the overall competitive index, rather than provide a framework for understanding factors affecting national economic wellbeing. This is similar to efforts to distinguish countries and the business creation process based on the level of economic development, measured by GDP per Capita [Wennekers et al., 2005]; this assuming the process varies for countries with low, intermediate, and high levels of development. Any strategy that involves separate treatment of different kinds of countries will complicate direct comparisons based on more precise measures.

<sup>12</sup>The GEM national data is processed by consolidating and harmonizing all responses to individual items in a single file covering all years. This compensates for year-to-year adjustments in some details of the interview procedures and item response alternatives. The transformations to determine those respondents that qualify as nascent entrepreneurs or new firm owners are then applied to the multi-year harmonized file, ensuring that the same criteria are used for all years of data collection. For some countries and some years, the resulting prevalence rates are different from those in the published GEM global reports.

range of databases with varying degrees of completeness, consistency and reliability.<sup>13</sup>

While many inferences about causal processes are included in the assessment, all data analysis is cross-sectional, representing attributes of countries, characteristics of individuals, and participation in business creation from the year 2000 through 2012. This is for two reasons. First, there is considerable diversity in the number of years for which measures of business creation are available, for one third of the 93 countries data is only available for one year. In order to maximize the range of national diversity, all countries are included in the analysis. However, as will be seen in the assessment of relatively stability, there are only a few countries without substantial year to year consistency. Consolidating estimates across these 13 years increases the level of precision for the national estimates. Estimates of participation in business creation are based on the average value for all years for which data was available.<sup>14</sup>

The second major reason is the lack of temporal precision for most independent variables, the national attributes. In some cases, such as the legal system adopted for a country, the characteristic reflects a fundamental attribute that may be stable for centuries. Others, such as gross domestic product (GDP) per person corrected for purchasing power parity, are accurately estimated on an annual basis. But for some of the most important aspects, such as the size of the human population or the level of educational attainment, it is not possible to assemble precise annual measures for individual countries. Gross measures representing a decade are all that are available for many national features at this time. As temporal precision in the measures of both business creation and national attributes improves, analyses utilizing precise time lags will be possible and should increase confidence in causal inferences.

On the other hand, the phenomena of focus — business creation activity — is a major human activity with robust characteristics. The

---

<sup>13</sup>The sources and processing are discussed in detail in Appendix B.

<sup>14</sup>The 2000–2012 average is based on first computing the values for each year and then taking the average across years; this avoids the possibility that years with larger samples may have more impact on the national averages.

result is an effort that utilizes imperfect measures to develop an approximate answer to an important question.

An overview of the substantial diversity in national business creation sets the context for the assessment. The relationship between a widely used measure of economic development, GDP per capita, and subsequent levels of business creation is examined; it is clear that there is much less business creation among wealthy countries. Attention to the relationship between business creation and subsequent economic growth indicates that, once again, firm creation has a significant association with economic growth; this justifies attention to the business creation process. A discussion of within country stability in business creation focusing on the 51 countries with five or more years of data on the prevalence of business creation, provides an overview of the basic issue being addressed.

This background provides a basis for consideration of those national factors that may predict the prevalence of business creation, represented by the “A” arrow in Figure 1.1. National attributes are then used to develop linear additive models of factors affecting participation in start-up ventures and management of new firms. These models are relatively successful, explaining over 80% of the variation among 93 countries. These models do not, however, provide details about the intervening processes.

The second analysis involves the use of multi-level modeling to identify those individual and national factors that appear to affect individual participation in the business life course; attending to the relationship illustrated by arrow “B” in Figure 1.1. The units of analysis are the 1,572,402 individuals 18 to 64 years old from 93 countries.<sup>15</sup> The major result is that readiness for entrepreneurship is a critical personal attribute associated with involvement in business creation.

The third phase, reflecting the relationship illustrated by arrow “C” in Figure 1.1, again uses multi-level modeling to explore the impact of national factors and personal attributes on the major aspects of readiness for entrepreneurship — perception of opportunity, confidence in

---

<sup>15</sup>Missing data on GDP per capita for the year 2000 for West Bank/Gaza reduced the count to 92 for some assessments.

personal skills to start a business, and participation in entrepreneurial networks. National values turn out to have a major impact on these aspects.

Attention to national values indicates they are highly related to the majority of national characteristics.<sup>16</sup> The 93 GEM countries in the analysis have somewhat different national value profiles; these profiles have a systematic relation to the level of business creation. National values, in turn, appear to be related to whether or not a country has inclusive institutions, which encourage all to participate and share in economic growth, or extractive institutions, which facilitate appropriation of most national wealth for a privileged few.

The final result is a more complete understanding of both the critical national features and the underlying processes affecting participation in business creation. The major policy implication, that substantial increases in business creation will require a sustained multi-faceted approach — perhaps for decades — are discussed in the conclusion.

---

<sup>16</sup>As shown in Tables 9.2 and 11.1.



## References

---

- D. Acemoglu and J. A. Robinson. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. Crown, New York, 2012.
- Z. Acs and C. Armington. Employment growth and entrepreneurial activity in cities. *Regional Studies*, 38(9):911–927, 2004.
- P. Aghion, R. Blundell, R. Griffith, P. Howitt, and S. Prantl. The effects of entry on incumbent innovation and productivity. *The Review of Economics and Statistics*, 91(1):20–32, 2009.
- C. Álvarez, D. Urbano, and J. E. Amorós. Gem Research: Achievements and challenges. *Small Business Economics*, 42(3):445–465, 2014. [Available on Gem Research Gate website].
- J. E. Amorós, N. Bosma, and J. Levie. Ten years of global entrepreneurship monitor: Accomplishments and prospects. *International Journal of Entrepreneurial Venturing*, 5(2):120–152, 2013.
- C. Armington and Z. Acs. The determinants of region variation in new firm formation. *Regional Studies*, 36(1):33–45, 2002.
- D. B. Audretsch. *Innovation and Industry Evolution*. MIT Press, Cambridge, MA, 1995.
- R. J. Barro and J. W. Lee. A new data set of educational attainment in the world, 1950–2010. *Journal of Development Economics*, 104:184–198, 2013.
- H. Bergmann and U. Stephan. Moving on from nascent entrepreneurship: Measuring cross-national differences in the transition to new business ownership. *Small Business Economics*, 41(4):945–959, 2013.

- H. Bergmann, S. Mueller, and T. Schrettle. The use of global entrepreneurship monitor data in academic research: A critical inventory and future potentials. *International Journal of Entrepreneurial Venturing*, 6(3):242–276, 2014.
- D. A. Birch. Who creates jobs. *The Public Interest*, 65:3–14, 1981.
- C. Brown, J. Hamilton, and J. Medoff. *Employers Large and Small*. Harvard U. Press, Cambridge, MA, 1990.
- P. Davidsson and S. R. Gordon. Panel studies of new venture creation: A methods-focused review and suggestions for future research. *Small Business Economics*, 39(4):853–876, 2012.
- H. De Soto. *The Other Path: The Invisible Revolution in the Third World*. Harper, NY, 1990.
- H. De Soto. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails everywhere Else*. Basic Books, NY, 2003.
- G. Fotopoulos and D. J. Storey. The location of entrepreneurship in england and wales: What, if anything, changes in the long run? Sheffield, UK: University of Sheffield, Management School, Working Paper, 2014.
- M. Fritsch and M. Wyrwich. The effect of regional entrepreneurship culture on economic development-evidence for Germany. Jena, Germany: Jena Economic Research Papers, 2014-014 (ISSN 1864-7057), 2014.
- I. Grilo and R. Thurik. Latent and actual entrepreneurship in europe and the US: Some recent developments. *The International Entrepreneurship and Management Journal*, 1(4):441–459, 2005.
- D. M. Hechavarria and P. D. Reynolds. Cultural norms and business start-ups: The impact of national values on opportunity and necessity entrepreneurs. *International Entrepreneurship Management Journal*, 5:417–437, 2009.
- M. Henrekson and T. Sanandaji. Small business activity does not measure entrepreneurship. *Proceedings of the National Academy of Sciences*, 111(5): 1760–1765, 2014.
- D. A. Hofmann. An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23(6):723–744, 1997.
- D. A. Hofmann and M. B. Gavin. Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, 24(5):623–641, 1998.
- R. Inglehart. *Cultural Shift in Advanced Industrial Society*. Princeton U. Press, Princeton, NJ, 1990.

- R. Inglehart and C. Welzel. *Modernization, Cultural Change and Democracy*. Cambridge University Press, New York, 2005.
- R. La Porta, F. L. de Silanes, and A. Shleifer. The economic consequences of legal origins. *Journal of Economic Literature*, 46(2):285–332, 2008.
- R. Michels. *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. Free Press, New York, 1962.
- J. M. Millan, J. Hessels, R. Thurik, and R. Aguado. Determinants of job satisfaction: A European comparison of self-employed and paid employees. Zoetermeer, Netherlands: EIM Research Report H201106, 2011.
- D. C. North. *Institutions, Institutional Change, and Economic Performance*. Cambridge U. Press, New York, 1990.
- D. C. North. Economic performance through time. nobel prize in economic science lecture. In L. Alston, T. Eggertsson, and D. C. North, editors, (1996). *Empirical Studies in Institutional Change*, pages 342–355. Cambridge U. Press, Cambridge, UK, 1993.
- R. Parker. The myth of the entrepreneurial economy: Employment and innovation in small firms. *Work, Employment and Society*, 15(2):373–384, 2001.
- S. Parker. The economics of entrepreneurship. *Foundations and Trends in Entrepreneurship*, 1(1):1–55, 2005.
- S. Raudenbush, A. Bryk, Y. F. Cheong, R. Congdon, and M. du Toit. *HLM7: Hierarchical Linear and Nonlinear Modeling*. Scientific Software International, Inc, Lincolnwood, IL, 2011.
- S. W. Raudenbush and A. S. Bryk. *Hierarchical Linear Models: Applications and Data Analysis Methods*. Sage, Thousand Oaks, CA, 2nd edition, 2002.
- P. D. Reynolds. New firm creation: A global assessment of national, contextual, and individual factors. *Foundations and Trends in Entrepreneurship*, 6(5–6):315–496, 2011.
- P. D. Reynolds. Entrepreneurship in developing economics: The bottom billions and business creation. *Foundations and Trends in Entrepreneurship*, 8(3):141–277, 2012.
- P. D. Reynolds. Enterprise development and entrepreneurship in the middle east. In *OECD and International Development Research Centre. New Entrepreneurs and High Performance Enterprises in the Middle East and North Africa*, volume Chapter 3, pages 35–70. OECD, Paris, France, 2013.

- P. D. Reynolds. National values and business creation: Why is it so difficult to increase indigenous entrepreneurship. In P. Braunerhjelm, editor, *20 Years of Entrepreneurship Research*, volume Chapter 6, pages 71–94. Swedish Entrepreneurship Forum, Stockholm, SE, 2014a.
- P. D. Reynolds. New growth firms and regional job growth: Impact and policy implications. Peer Review Paper Session 18863, Philadelphia, PA, USA: Academy of Management Annual Meeting, 04 August, 2014b.
- P. D. Reynolds and R. T. Curtin, editors. *New Firm Creation: An International Overview*. Springer, New York, 2011.
- P. D. Reynolds and W. Maki. Report submitted to the rural poverty and resources program, the ford foundation, in fulfillment of grant 900-013, 1992. [Available on Research Gate website].
- P. D. Reynolds, D. J. Storey, and P. Westhead. Cross-national comparisons of the variation in new firm formation rates. *Regional Studies*, 28(4):443–456, 1994.
- P. D. Reynolds, B. Miller, and W. Maki. Explaining regional variation in business births and deaths: U.S. 1976–88. *Small Business Economics*, 7: 389–407, 1995.
- P. D. Reynolds, N. M. Carter, W. B. Gartner, and P. G. Greene. The prevalence of nascent entrepreneurs in the United States: Evidence from the panel study of entrepreneurial dynamics. *Small Business Economics*, 43 (4):263–284, 2004.
- P. D. Reynolds, N. Bosma, E. Autio, S. Hunt, N. De Bono, and I. Servais et al. Global entrepreneurship monitor; data collection design and implementation. 1998–2003. *Small Business Economics*, 24:205–231, 2005.
- P. D. Reynolds, M. Hart, and T. Mickiewicz. *The UK Business Creation Process: The 20132 Panel Study of Entrepreneurial Dynamics Pretest*. Aston Business School, Birmingham, UK, 2014.
- M. Samuelson. The swedish PSED: Performance in the nascent venturing process and beyond. In P. D. Reynolds and R. T. Curtin, editors, *New Firm Creation: An International Overview*, volume Chapter 9, pages 223–253. Springer, New York, 2011.
- J. A. Schumpeter. *The Theory of Economic Development*. Harvard U. Press, Cambridge, MA, 1934.
- K. Schwab and X. Sala-i-Martin. *The Global Competitiveness Report: 2012–2013*. World Economic Forum, Geneva, 2012.
- S. Shane. Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2):141–149, 2009.

- T. A. B. Snijders and R. Bosker. *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. Sage Publications, Ltd, Thousand Oaks, CA, 1999.
- UCLA Academic Technology Services. Statistical computing seminar: Introduction to multilevel modeling using HLM. Santa Monica, CA: University of California at Los Angeles. [www.ats.ucla.edu/stat/hlm/eminars/hlm\\_mlm/608/mlm\\_hlm\\_seminar\\_v608.html](http://www.ats.ucla.edu/stat/hlm/eminars/hlm_mlm/608/mlm_hlm_seminar_v608.html), 2012. accessed 1 March 2012.
- L. Uhlander, R. Thurik, and J. Hutjes. Post-materialism as a cultural factor influencing entrepreneurial activity across nations. Zoetermeer, Netherlands: EIM Business and Policy Research Reports, HJ200202, ISBN 90-371-0861-X, 2002.
- P. van der Zwan, I. Verheul, and A. R. Thurik. The entrepreneurial ladder, gender, and regional development. *Small Business Economics*, 39(3):627–643, 2012.
- C. M. van Praag and P. H. Versloot. The economic benefits and costs of entrepreneurship: A review of the research. *Foundations and Trends in Entrepreneurship*, 4(2):65–154, 2007.
- S. Wennekers, A. van Stel, R. Thurik, and P. Reynolds. Nascent entrepreneurship and the level of economic development. *Small Business Economics*, 24(3):293–309, 2005.
- P. W. Wong, Y. P. Ho, and E. Autio. Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics*, 24:335–350, 2005.
- World Bank. *Doing Business 2013*. International Bank for Reconstruction and Development and the World Bank, Washington, DC, 2013.
- World Economic Forum. *The Global Competitiveness Report: 2012–2013*. World Economic Forum, Geneva, Switzerland, 2012.