THE FUTURE OPPORTUNITIES AND CHALLENGES OF BUSINESS IN DIGITAL ERA 4.0

Edited by
Satria Bangsawan, Mahrinasari MS, Ernie Hendrawaty,
Rindu Gamayuni, Nairobi, Hendrati Dwi Mulyaningsih,
Ani Wahyu Rachmawati and Santi Rahmawati

ROUTLEDGE

THE FUTURE OPPORTUNITIES AND CHALLENGES OF BUSINESS IN DIGITAL ERA 4.0

PROCEEDINGS OF THE 2ND INTERNATIONAL CONFERENCE ON ECONOMICS, BUSINESS AND ENTREPRENEURSHIP (ICEBE 2019), BANDAR LAMPUNG, INDONESIA, 1 NOVEMBER, 2019

The Future Opportunities and Challenges of Business in Digital Era 4.0

Edited by

Satria Bangsawan, Mahrinasari MS, Ernie Hendrawaty, Rindu Rika Gamayuni & Nairobi

Faculty of Economics and Business, University of Lampung, Indonesia

Hendrati Dwi Mulyaningsih

Universitas Islam Bandung, Bandung, Indonesia
Research Synergy Foundation, Bandung, Indonesia

Ani Wahyu Rachmawati

International Women University, Bandung, Indonesia
Research Synergy Foundation, Bandung, Indonesia

Santi Rahmawati

Research Synergy Foundation, Bandung, Indonesia

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

Routledge is an imprint of the Taylor & Francis Group, an informa business

Typeset by Integra Software Services Pvt. Ltd., Pondicherry, India

Library of Congress Cataloging-in-Publication Data

Names: International Conference on Economics, Business and Entrepreneurship (2nd : 2019 : Bandar Lampung, Indonesia) | Bangsawan, Satria, editor.
Title: The future opportunities and challenges of business in digital era 4.0 : proceedings of the 2nd International Conference on Economics, Business and Entrepreneurship (ICEBE 2019), Bandar Lampung, Indonesia, 1 November, 2019 / edited by Satria Bangsawan [and seven others].
Other titles: Proceedings of the 2nd International Conference on Economics, Business and Entrepreneurship
Description: Leiden, The Netherlands : CRC Press/Balkema, [2020] | Includes bibliographical references and index.
Identifiers: LCCN 2020028655 (print) | LCCN 2020028656 (ebook) | ISBN 9780367425944 (hardback) | ISBN 9780367853778 (ebook)
Subjects: LCSH: Technological innovations–Economic aspects–Congresses. | Information technology–Economic aspects–Congresses.
Classification: LCC HC79.T4 I57745 2019 (print) | LCC HC79.T4 (ebook) | DDC 658.4/063–dc23
LC record available at https://lccn.loc.gov/2020028655
LC ebook record available at https://lccn.loc.gov/2020028656

Published by: CRC Press/Balkema
Schipholweg 107C, 2316XC Leiden, The Netherlands
e-mail: Pub.NL@taylorandfrancis.com
www.crcpress.com – www.taylorandfrancis.com

ISBN: 978-0-367-42594-4 (Hbk)
ISBN: 978-0-367-85377-8 (eBook)
DOI: 10.1201/9780367853778
https://doi.org/10.1201/9780367853778

The Future Opportunities and Challenges of Business in Digital Era 4.0 – Bangsawan et al. (eds)
© 2020 Taylor & Francis Group, London, ISBN 978-0-367-42594-4

Table of contents

Foreword

The Faculty of Economics and Business of Universitas Lampung, in cooperation with the Research Synergy Foundation, organized the 2nd International Conference of Economics, Business and Entrepreneurship (2nd ICEBE). An international conference which had the theme "Future Opportunities and Challenges of Business in Digital Era" was attend by lecturers, students, and professionals from various countries, such as Indonesia, Australia, Malaysia, Macedonia, and India.

Three invited keynotes speakers were welcomed to give lecture for an audience of a hundred researchers, academics, and professionals. Dr. Muhammad Haseeb (Senior Lecturer at Taylor's Business School, Taylor's University Lakeside Campus, Subang Jaya Selangor, Malaysia), Hussain Rammal, Ph.D (Director of the Master of Business Administration (MBA) and coordinator for the Bachelor of Business - International Business programs, UTS Business School) and Gadaf Rexhepi, Ph.D. (Associate Professor at South-East European University, Republic of Macedonia).

The conference particularly encouraged the interaction of mostly practitioners and some academics with the developing academic community in the public sector to present and discuss their current work. Their contributions helped to make the Conference as fruitful as expected. The papers presented the most recent scientific knowledge available in the field of Business Administration, Behavioural Economics, Economic Development, Econometrics, Financial Accounting, Management, Management Accounting, Micro, Small and Medium Entrepreneurship, Public Sector Accounting, Social Entrepreneurship and Startup Entrepreneurship Research.

These Proceedings will enrich the academic environment with the latest developments in public sector research. I believe that this will be a pathway to collaborate with other researchers from various disciplines and various parts of the world.

We hope that knowledge and best practices discussed in the seminar and published in its proceeding will enrich the reference for all experts in the field of education and accordingly stimulate further researches in wider areas.

We thank all authors and participants for their contributions.

Conference Chair,

Dr. Mahrinasari MS

Organizing committee

Conference Chair:
Dr. Mahrinasari MS

Co-Conference Chair:
Dr. Hendrati Dwi Mulyaningsih

Conference Coordinator
Santi Rahmawati
Ani Wahyu Rachmawati

Conference Support
Diah Kusumastuti
Astri Amanda
Rifi Wijayanti Dual A.

Information and Technology Support by Scholarvein Team

Scientific review committee

The Future Opportunities and Challenges of Business in Digital Era 4.0 – Bangsawan et al. (eds)

Convergency of revenue per capita regional New Autonomy (NAR) in Indonesia

Ambya
Universitas Lampung, Lampung, Indonesia

ABSTRACT: The purpose of this study is to analyze the sigma and absolute beta convergence and measure the speed of per capita income merging occurring in the New Autonomous Region in Western Indonesia. The independent variable used is the Gross Domestic Product (GDP) per capita, while panel data with model fixed effect were the data used. The results showed that sigma convergence did not occur during the study period. Primarily, absolute convergence does not occur as evidenced by the lower level of income per capita NAR, which does not grow as faster as the NAR. The speed of absolute beta convergence is fifteen percent per year, while the time needed to close half of the initial gap between the New Autonomous Region (NAR) in Western Indonesia is four years.

Keywords: panel data, convergence, income per capita

1 INTRODUCTION

According to Bucul (2012), convergence occurs in case an impoverished region with low income grows faster than a place with high income. This leads to the same level of convergence in the long run. However, this condition occurs since the economy of a region reaches a steady-state position. The results of the research stated the same assertion by Li and Xianbo (2011), Brandt et al. (2012), and Kaitila (2013).

Li's research (2013) argues that the convergence of ASEAN regional income is faster than in the European Union (EU). Similarly, Jayanthakumaran & Lee (2013) established that there is a convergence of income in the Association of Southeast Asian Nations (ASEAN) and the region South Asian Association of Regional Cooperation (SAARC). This condition is attributed to the differences in economic potential for several countries, leading to conditional convergence arises (Schmitt & Starke, 2011). According to Fan and Casetti (1994), the inequality of economic development among high-income regions is lower than in the low-income regions, and this constitutes convergence.

The western part of Indonesia has the best economic growth conditions compared to the central and eastern regions. The formation of the New Autonomous Region is a strategic effort by the government to establish good fiscal and equitable economic decentralization, and economic mobility is expected. Nevertheless, decentralization often does not occur as expected since there are differences in development outcomes, economically and non-economically. This occurs due to differences in regional potential, the role of government, natural resources, and human resources. The difference in conditions leads to economic disparities between new autonomous regions in western Indonesia.

There is a need to prove the alleged economic imbalances between regions. The purpose of this study is to prove whether the convergence of sigma and beta occurs. Also, it aims to analyze the speed of convergence and establish the half-life of convergence of income per capita, especially in western Indonesian NARs.

2 LITERATURE REVIEW

Barro and Sala-i-Martin (1995) stated that a convergent economy has a lower income. It reduces the gap with regions that have higher incomes each year. Primarily, the concept of convergence is divided into two, sigma and beta convergences. The sigma convergence illustrates the decreasing per capita income gap over time. However, beta convergence establishes the effect of factors estimated in determining the degree of convergence. Beta convergence can be divided into two, including absolute and conditional convergences (Lall and Yilmaz, 2000; Paas et al. 2007). Absolute convergence assumes that the economies between countries or regions have similarities in terms of structure, demographic conditions, saving rates, and other economic variables. Conversely, conditional convergence assumes that structural characteristics between countries or regions have inequality. For this reason, the convergence is influenced by the structural characteristics of the country or region.

Marques and Soukiazis (1998), Lall and Yilmaz (2000), and Paas et al. (2007) stated that there are currently two approaches used to look at convergence. This includes sigma and beta convergences. In general, sigma convergence illustrates the decreasing per capita income gap over time. Determination of the presence or absence of convergence is often based on the analysis of the dispersion through the coefficient of variation.

According to Barrientos (2007), the term economic convergence is used when two or more economies are almost at the same level of development and prosperity. On the other hand, the study of convergence is debated between three growth models, including the neoclassical, endogenous, and distribution dynamics.

The welfare of the community is a development and policy goals to be achieved by a country. Public welfare can be measured by dividing national income by the population. This quotient is referred to as per capita income. Specifically, the national income is divided into the Gross National Product (GNP) and Gross Domestic Product (GDP). Mankiw (2006) stated that GDP per capita is a better tool to measure the living standards of its citizens.

3 METHODS

This research was conducted in the entire New Autonomous Region in western Indonesia, which was formed in 2008. The variables used were secondary in the form of data cross-section and time series from 2011-2016. Essentially, the data was obtained from the Central Statistics Agency (BPS) of each NAR. The analyst model used is the Williamson Index. The Continued Beta convergence models through Absolute convergence can be measured using the following equation:

Where: Y = GRDP per capita; = GRDP per capita of the previous year (initial income); and = NAR. Measurement speed of convergence to determine the duration of the halftime convergence as follows: ln [y (t)] = (1 - e -βT). Ln (y *) + e -βT; ln [y (0)]. The time t required for ln [y (t)] to eliminate the gap between ln [y (0)] and ln (y *) needs to meet the conditions e -βT =, then half-time convergence is: $t = \frac{-\ln(0,5)}{\beta} t = \frac{-\ln(0,5)}{\beta} t = \frac{\ln(2)}{\beta} t = \frac{\ln(2)}{\beta}$ or The Individual Effect uses the Fixed Effect model, namely: Ci = C + β; Where: Ci = Individual Effect; C = constant; and β = coefficient.

4 RESULTS

4.1 *Reporting research results*

4.1.1 *Williamson Index*

The results of the Williamson Index calculation for 2011 to 2016 are as follows; 0.4808; 0.4872; 0.5003; 0.5047; 0.4997; 0.5048, giving an average of 0.4963. This figure indicates that the inequality of NAR income in western Indonesia is still low since the value is close to 0. The inequality that occurs every year tends to increase. However, in 2014-2015, it decreased from 0.5047 to 0.4997.

4.1.2 *Sigma convergence*

In this study, sigma convergence analysis measures the disparity by calculating the coefficient of variation in GDP per capita in Western Indonesia NARs. Then the Coefficient Variation (CV) value of sigma convergence is obtained.

Table 2. Coefficient of variation of sigma convergence.

Year	2011	2012	2013	2014	2015	2016
Coefficient Variation	0.5157	0.5217	0.5327	0.5883	0.5279	0.5295
Keterangan	-	divergent	divergen	divergen	konvergen	divergen

Source: Processed data.

The coefficient of variation of GRDP per capita shows that the NAR in western Indonesia had no convergence over four years, specifically from 2011–2016, except 2015.

4.1.3 *Beta convergence analysis*

The following are the results of the absolute convergence regression NAR in western Indonesia:

Yit = 3055954 + 0,950943Yit-1

Po = (0.0002) (0.0000)

R^2 = 0.998463

DW = 2.896291

The regression equation means that the GDP coefficient per capita per year/*initial income* NAR in western Indonesia was 0.9509. This means that an increase or decrease in per capita GRDP of 1 percent would increase or decrease GDP per capita by 0.95 percent.

5 DISCUSSION

The average inequality shown by the Williamson Index is still relatively low at 0.4963, though the NAR inequality in western Indonesia is increasing every year. This is attributed to several factors, including the lack of government and community efforts to utilize regional resources and potential. Human resources in each region are unique and cannot compete with other regions.

The estimated GDP per capita coefficient results indicate a positive value, which means that there is a lack of absolute convergence in NAR throughout western Indonesia in 2011-2016. During this period, the NAR, which had a lower per capita Gross Regional Domestic Product (GRDP), had not grown faster than the NAR, which had better initial conditions. The disparity can be measured by calculating the coefficient of variation per capita GDP per year. In case the coefficient of variation in a particular year is smaller than the coefficient of variation in the previous year, the convergence of sigma occurs (Barro and Salla-i-martin, 1992). Conversely, in case the coefficient of variation in certain years is higher than the previous year, then there is no sigma convergence. Therefore, where the coefficient of variation in certain years is smaller than the previous year, the disparity that occurs in new autonomous regions in western Indonesia decreases in certain years.

The speed of convergence explains the time needed to close half the gap from the initial is four years. It takes two years to fill the gap of per capita GRDP that occurs in new autonomous regions in western Indonesia. According to Barro and Sala-I-Martin (2004: 56), it is essential to be acquainted with the speed of convergence. In case it happens more quickly, the economy nears the steady-state. Conversely, where the convergence is too slow, the economy increasingly steers clear of steady-state.

6 CONCLUSION

From the results, the convergence of sigma in western Indonesia NAR does not occur, with an average CV value of 0.5359. Sigma convergence occurs in case the coefficient of variation in GRDP per capita of a particular year is smaller than its variation in the previous year. This means a decrease in disparity in income per capita. In this study, almost every year, the disparity increases, meaning sigma convergence does not occur.

There is no absolute convergence in western Indonesia NAR since the coefficient of GDP per capita in the previous year shows a positive value. This means that the level of GDP per capita of lower-income NARs does not grow faster than higher-income. Absolute convergence speed is 15% percent per year, and the time needed to close half of the initial gap (the half-time convergence) is four years.

REFERENCES

Barrientos, Paola (2007). "Theory, History, and Evidence of Economic Convergence in Latin America." Institute for Advanced Development Studies. Development Research Working Paper Series. No. 13/2007.

Barro. R. J., & Xavier, S., 1992. „Convergence." Journal of Political Economy, Vol. 100 (2), 223–251.

Barro, R.J dan X Sala-i-Martin. 1995. Economic Growth. McGraw Hill.

Brandt, Loren, et al. (2012). From Divergence to Convergence: Re-evaluating the History Behind China's Economic Boom. January 2012. Working Papers No. 158/12. Department of Economic History London School of Economics.

Fan, C. C., & Casetti, E. (1994). The Spatial and Temporal Dynamics of US Regional Income Inequality, 1950-1989. Annals of Regional Science, 28(1), 177–196.

Fei Chen, Xiangwei Sun. 2013. "Analysis on the changes of convergence of regional economic growth in China: 1984-2010". Journal of Cambridge Studies Volume 8, No. 1.

Kaitila, Ville. (2013). Convergence, Income Distribution, and The Economic Crisis in Europe. ETLA Working Papers No 14.

Lall, Somik dan Serdar Yilmaz (2000). "Regional Economic Convergence: Do Policy Instruments Make a Difference?". IBRD. World Bank Institute. Washington.

Li, H. (2013). Convergence or Divergence?-Rethinking Regional Integration of the Past Two Decades. Frontiers of Economics in China, 8(4), 592–607.

Li, Kui-Wai., and Xianbo Zhou. (2011). Cross-country Convergence and Growth: Evidence from Nonparametric and Semiparametric Analysis. Submitted paper. September 22 – 23, 2011. SanFrancisco, USA.

Jayanthakumaran, K., & S. W. Lee. (2013). Evidence on the Convergence of Per Capita Income: A Comparison of Founder Members of the Association of Southeast Asian Nations and the South Asian Association of Regional Cooperation. Pacific Economic Review, 18(1), 108–121.

Marques, Alfredo dan Elias Soukiazis. 1998. "Per Capita Income Convergence Across Countries and Across Region in The European Union: Some New Evidence." Paper 2nd International Meeting of European Economy. CEDIN (ISEG). Lisbon.

Schmitt, C., & P. Starke. (2011). Explaining the convergence of OECD welfare states a conditional approach. Journal of European Social Policy, 21(2), 120–135.