Journal of Accounting in Emerging Economies: Volume 13 Issue 2

Subject: Accounting & finance > Accounting/accountancy

Subscribe to table of contents alerts

RSS feed

Table of contents

Voluntary cybersecurity disclosure in the banking industry of Bangladesh: does board composition matter?

Mohammed Mehadi Masud Mazumder, Dewan Mahboob Hossain

Cybersecurity disclosure (CSD) provides users with valuable information and significant insights about a firm's susceptibility to cyber risk and its management. It is...

HTML

PDF (422 KB)

Permissions

DOWNLOADS

ISSN: (International Standard Serial Number): 2042-1168

Online date, start – end: 2011

Copyright Holder: Emerald Publishing Limited

Open Access: hybrid

Editor:

- Dr Shahzad Uddin

Further Information

Skip to main content

Enter your search terms here

Advanced search

- Write for this journal

Board gender diversity and corporate social responsibility in an international setting

Muhammad Kamran, Hadrian Geri Djajadikerta, Saiyidi Mat Roni, Erwei Xiang, Pakeezah Butt

This study examines how board gender diversity (BGD) interacts with the "tough vs tender" trait in country cultures in influencing firms' corporate social responsibility (CSR).

HTML

PDF (407 KB)

Permissions

DOWNLOADS

369

Working capital management and board diversity towards firm performances in Indonesia's LQ45

Saarce Elsye Hatane, Jennie Winoto, Josua Tarigan, Ferry Jie

This study examines the effect of working capital management and board diversity on firm profitability and firm value for a sample of Indonesian firms listed in the LQ45...

HTML

PDF (227 KB)

Permissions

DOWNLOADS

665

The evolution and determinants of corporate social responsibility (CSR) disclosure in a developing country: extent and quality

Teerooven Soobaroyen, Dinesh Ramdhony, Afzalur Rashid, Jeff Gow

This paper examines the evolution and determinants of the extent and quality of corporate social responsibility (CSR) disclosure in a developing country (Mauritius).

HTML

PDF (378 KB)

Permissions

DOWNLOADS

554

Corporate governance reforms and risk disclosure quality: evidence from an emerging economy

Ammar Ali Gull, Ammar Abid, Khaled Hussainey, Tanveer Ahsan, Abdul Haque

The purpose of this paper is to examine the impact of corporate governance (hereafter, CG) reforms on the risk disclosure quality in an emerging economy, namely Pakistan...

HTML

PDF (203 KB)

Permissions

DOWNLOADS

297

Does the MTEF shape annual budgets in a developing country?

Tausi Ally Mkasiwa

This paper explores how the Medium-Term Expenditure Framework (MTEF) conflicts with annual budgeting and how University actors responded to such conflicting demands in a...

Journal of Accounting in Emerging Economies

Submit your paper

Table of contents

Author guidelines

Editorial team

Editor

Professor Shahzad Uddin
Essex Business School, University of Essex - UK
snuddin@essex.ac.uk

Editorial Assistant

Dr K A Shahadat
University of York - UK
shahadat.khandakar@york.ac.uk

Consulting Editor

Emeritus Professor Trevor Hopper
University of Sussex - UK and Victoria University of Wellington - New Zealand
T.H.Hopper@sussex.ac.uk

Professor Mathew Tsamenyi
Nova Business School Africa - Ghana
mtsamenyi@nova.edu.gh

Associate Editor

Professor Chandana Alawattage
University of Glasgow - UK
Chandana.Alawattage@glasgow.ac.uk

Professor Susela Devi K. Suppiah
Sunway University - Malaysia
ssuseladevi@gmail.com

Professor Dimitrios Gounopoulos
University of Bath - UK
D.Gounopoulos@bath.ac.uk

Professor Phillip de Jager
University of Cape Town - South Africa
phillip.dejager@uct.ac.za

Prof. Dr. Musa Mangena
Nottingham University Business School - UK
musa.mangena@nottingham.ac.uk

Professor David Mathuva
Strathmore University - Kenya
dmathuva@strathmore.edu

Professor Collins Ntim
University of Southampton - UK
C.G.Ntim@soton.ac.uk

Professor Teerooven Soobaroyen
Aston University - UK

Professor Venancio Tauringana
University of Southampton - UK

UPDATE PRIVACY SETTINGS
Accept all cookies

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Reject all cookies

Manage cookies

Commissioning Editor

Clare Lehane
Emerald Publishing - UK
clehane@emerald.com

Journal Editorial Office (For queries related to pre-acceptance)

Nikita Singh
Emerald Publishing
Nikita.Emerald@kwglobal.com

Supplier Project Manager (For queries related to post-acceptance)

Sivakeerthika Saravanan
Emerald Publishing
sivakeerthika.emerald@tnq.co.in

Editorial Advisory Board

Magdy Abdel-Kader
Cairo University - Egypt

Ismail Adelopo
University of the West of England - UK

Pawan Adhikari
Essex Business School - UK

Gloria Agyemang
Royal Holloway, University of London - UK

Nadia Albu
Bucharest University of Economic Studies - Romania

David Alexander
University of Birmingham - UK

Muhammad Jahangir Ali
La Trobe University, La Trobe Business School - Australia

Kris Allee
Doyle Z. Williams Chair in Professional Accounting, University of Arkansas - USA

Seraina Anagnostopoulou
University of Piraeus, Department of Banking and Financial Management, Greece

Marcia Annisette
York University - Canada

Thankom Arun
University of Essex - UK

Junaid Ashraf
Lahore University of Management Sciences - Pakistan

Diogenis Baboukardos
Audencia Business School - France

Agyenim Boateng
DeMontfort University - UK

Ahmed Diab
Prince Sultan University - Saudi Arabia

Keith Dixon
University of Canterbury - New Zealand

Silvia Gaia
Essex Business School - UK

Giuseppe Grossi
Kristianstad University – Sweden, Nord University - Norway

Pinar Guven
University of East Anglia, UK

Iman Harymawan
Universitas Airlangga - Indonesia

Jim Haslam
Durham University - UK

Jan van Helden
University of Groningen - Netherlands

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Aziz Jaafar
Bangor University - UK

Lisa Jack
University of Portsmouth - UK

Kelum Jayasinghe
University of Sheffield - UK

Iqbal Khadaroo
King Fahd University of Petroleum and Minerals - Saudi Arabia

Arifur Khan
Deakin University - Australia

Professor Wafa Khlif
TBS Barcelona - Spain

Danson Kimani
University of Sheffield - UK

Maria Krambia-Kapardis
Cyprus University of Technology - Cyprus

Robert Larson
University of Cincinnati. - USA

Philippe Lassou
University of Guelph - Canada

Jing Li
University of Bradford - UK

Ricardo Malagueno
University of East Anglia - UK

Kamran Malikov
University of Southampton - UK

Warren Maroun
University of the Witwatersrand - South Africa

David Mathuva
Strathmore University - Kenya

Dessalegn Mihret
RMIT University - Australia

Yuji Mori
Osaka Gakuin University - Japan

Olayinka Moses
Victoria University of Wellington - New Zealand

Sedzani Musundwa
University of South Africa - South Africa

Tam Nguyen
Nottingham Business School, Nottingham Trent University - UK

Stephen Nkundabanyanga
Makerere University Business School - Uganda

Hakim Ben Othman
ICN Business School - France

Radiah Othman
Massey University - New Zealand

Victoria Patsika
Cardiff Business School - UK

Daniela Pianezzi
University of Essex - UK

Tobias Polzer
Wirtschaftsuniversitat Vienna - Austria

Boris Popesko
Tomas Bata University in Zlín - Czech Republic

Marcela Porporato
York University - Canada

David Power
University of Dundee - UK

Sherliza Puat Nelson
International Islamic University Malaysia (IIUM) - Malaysia

Abu Shiraz Rahaman
Haskayne School of Business, University of Calgary, Canada - Canada

Vania Sena
Essex Business School, University of Essex - UK

Greg Shailer
The Australian National University - Australia

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Javed Siddiqui
Manchester Business School, University of Manchester - UK

Karim Sorour
Northumbria University, Faculty of Business and Law - UK

Lesley Stainbank
University of Kwa-Zulu Natal, South Africa

Subhan Ullah
Nottingham University Business School - UK

Bedanand Upadhaya
Essex Business School, University of Essex - UK

Claudio Wanderely
Federal University of Pernambuco - Brazil

Nelson Waweru
York University - Canada

Danture Wickramasinghe
University of Glasgow - UK

Chaminda Wijethilake
University of Essex - UK

Andy Wynne
University of Leicester - UK

David Yates
Sheffield University Management School - UK

Kemi Yekini
Aston University - UK

Liafisu Sina Yekini
Derby Business School, University of Derby - UK

Mahbub Zaman
Queensland University of Technology - Australia

Zhifang Zhang
Warwick Business School, University of Warwick - UK

Indexing & metrics

Reviewers

Calls for papers & news

The Journal of Accounting in Emerging Economies (JAEE) provides an authoritative overview of accounting research and progress in emerging economies. The journal encourages research relevant to development policy makers.

ISSN: 2042-1168
eISSN: 2042-1176

You can choose to publish your article open access in this journal by indicating on the editorial system when you submit your paper.

SJR Scimago Journal & Country Rank
Enter Journal Title, ISSN or Publisher Name
Home Journal Rankings Journal Value Country Rankings Viz Tools Help About Us
Ads by Google
Stop seeing this ad Why this ad?

Journal of Accounting in Emerging Economies

COUNTRY

United Kingdom

Universities and research institutions in United Kingdom

Media Ranking in United Kingdom

SUBJECT AREA AND CATEGORY

Business, Management and Accounting
- Accounting

Social Sciences
- Development
- Sociology and Political Science

PUBLISHER

Emerald Group Publishing Ltd.

SJR 2024

0.700
Q1

H-INDEX

34

PUBLICATION TYPE

Journals

ISSN

20421168, 20421176

COVERAGE

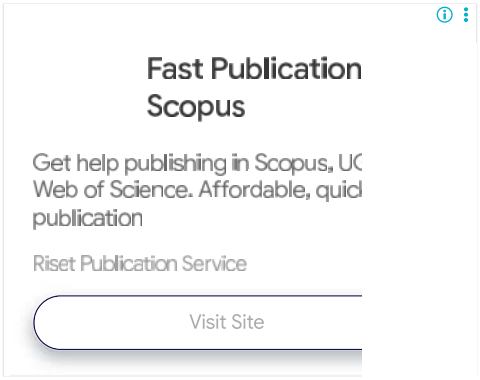
2015-2025

INFORMATION

Homepage

How to publish in this journal

snuddin@essex.ac.uk



SCOPE

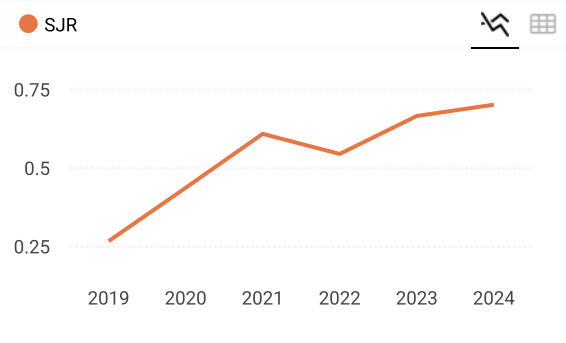
Education, training, and the role of professional accounting bodies. Financial reporting and accounting standards. Auditing. Corporate governance. Management accounting issues. The impact of structural adjustment programmes and international financial agencies on accounting practices. Accounting, regulation, and privatization. Accounting and accountability issues in the public sector, NGOs, multinational corporations. Accounting practices in family businesses. The impact of culture, ethnicity, and history on accounting. The role of accounting in socio-economic development and poverty reduction. Theoretical approaches to accounting.

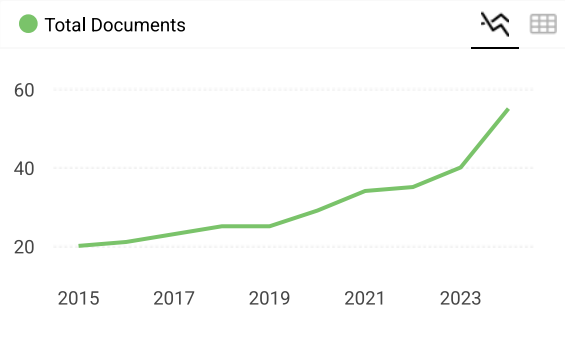
Join the conversation about this journal

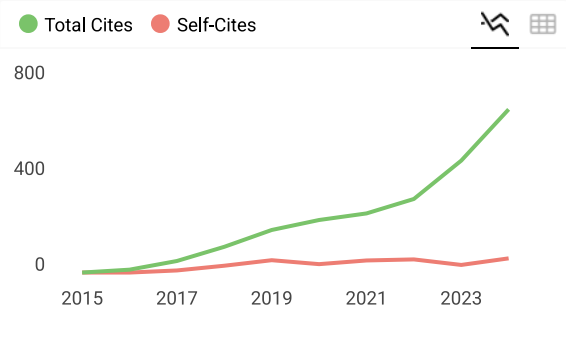
Quartiles

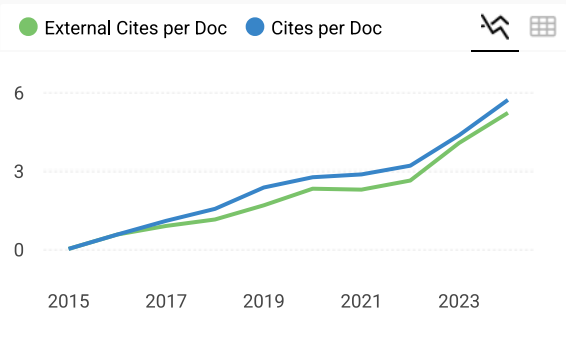
FIND SIMILAR JOURNALS

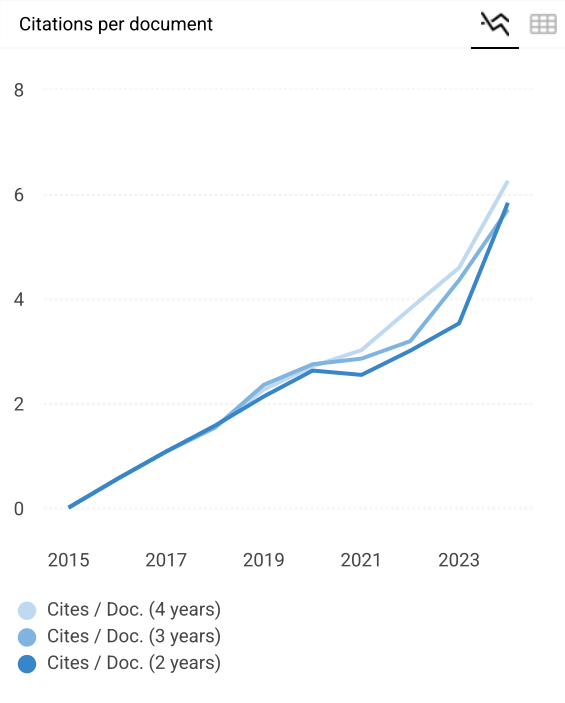
1	2	3	4
Journal of Financial Reporting and Accounting	**Journal of Applied Accounting Research**	**Accounting Forum**	**Accounting Rese**
GBR	GBR	GBR	GBR
72%	**69%**	**66%**	**64**
similarity	similarity	similarity	simila

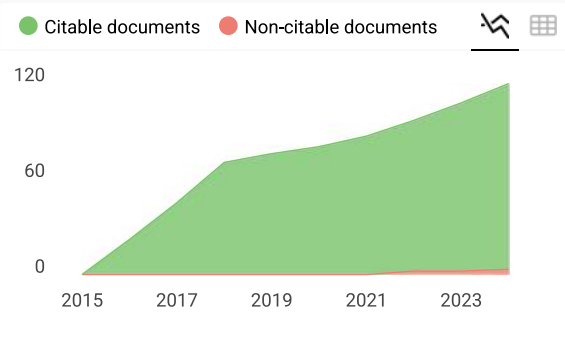


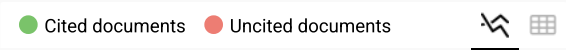


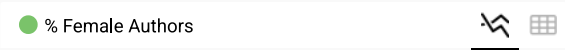


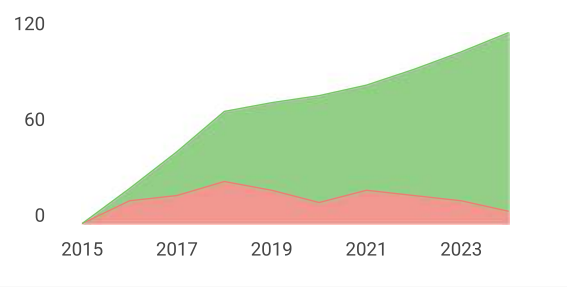


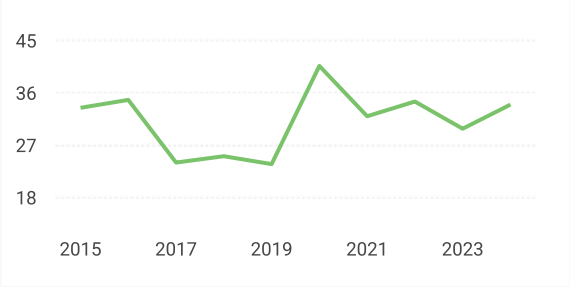




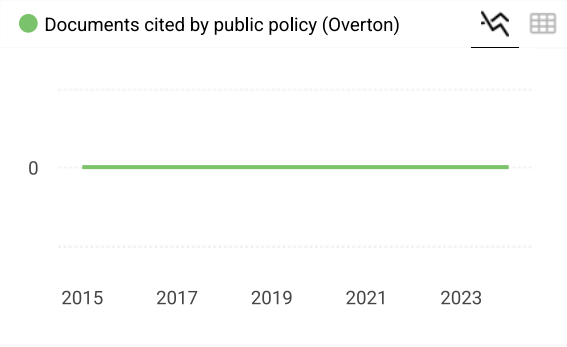




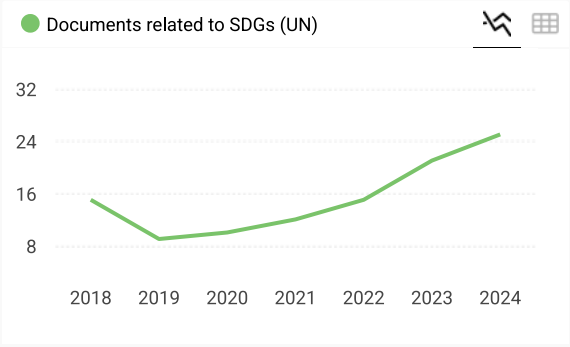




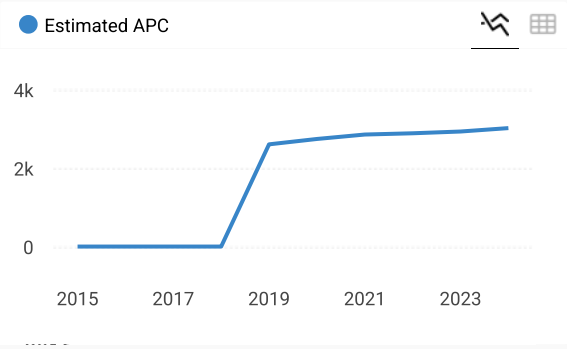
Documents cited by public policy (Overton)



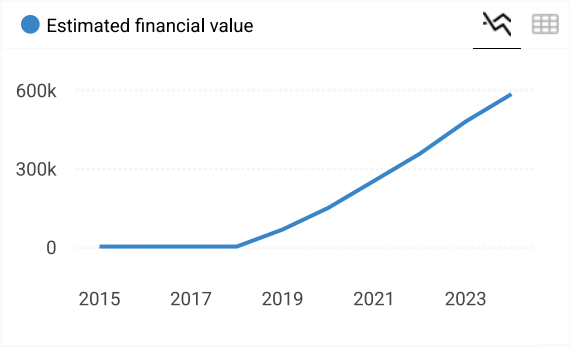
Documents related to SDGs (UN)



Estimated APC



Estimated financial value



← Show this widget in your own website

Just copy the code below and paste within your html code:

```
<a href="https://www.scimag
```

SCImago Graphica

Explore, visually communicate and make sense of data with our **new data visualization tool**.

Source details

Journal of Accounting in Emerging Economies

Years currently covered by Scopus: from 2015 to 2025

Publisher: Emerald Publishing

ISSN: 2042-1168 E-ISSN: 2042-1176

Subject area: Social Sciences: Sociology and Political Science | Social Sciences: Development | Business, Management and Accounting: Accounting

Source type: Journal

View all documents > | Set document alert | Save to source list

CiteScore 2024
6.9

SJR 2024
0.700

SNIP 2024
1.493

CiteScore | CiteScore rank & trend | Scopus content coverage

CiteScore 2024

$$6.9 = \frac{1{,}046 \text{ Citations } 2021 - 2024}{152 \text{ Documents } 2021 - 2024}$$

Calculated on 05 May, 2025

CiteScoreTracker 2025

$$6.8 = \frac{998 \text{ Citations to date}}{147 \text{ Documents to date}}$$

Last updated on 05 July, 2025 • Updated monthly

CiteScore rank 2024

Category	Rank	Percentile
Social Sciences — Sociology and Political Science	#100/1497	93rd
Social Sciences — Development	#32/309	89th
Business, Management and		

View CiteScore methodology > | CiteScore FAQ > | Add CiteScore to your site

The current issue and full text archive of this journal is available on Emerald Insight at:
https://www.emerald.com/insight/2042-1168.htm

Working capital management and board diversity towards firm performances in Indonesia's LQ45

Saarce Elsye Hatane, Jennie Winoto and Josua Tarigan
Accounting Department, Universitas Kristen Petra, Surabaya, Indonesia, and
Ferry Jie
School of Business and Law, Edith Cowan University, Perth, Australia

Received 25 November 2018
Revised 30 December 2019
15 August 2020
29 November 2020
1 February 2021
7 June 2021
31 December 2021
6 March 2022
Accepted 31 March 2022

Abstract

Purpose – This study examines the effect of working capital management and board diversity on firm profitability and firm value for a sample of Indonesian firms listed in the LQ45 index. The interaction of board diversity components with working capital management adds a comprehensive discussion to enhancing working capital management efficiency.

Design/methodology/approach – This study engages a panel multiple regression method. Data from a sample of LQ45 companies from 2010 to 2016 are analysed using a fixed and a common effect model. Board diversity is further analysed in interaction variables, whether it holds the moderating role in the relationship of working capital and firm performances. This study operates return on capital employed (ROCE) as the proxy of profitability performance and EVA-Spread for the firm's value performance. The simultaneous effect test is used for the robustness test.

Findings – The results indicate that working capital management and board diversity have no significant impact towards profitability. However, they significantly positively impact firm value, meaning that the market is attracted by effective working capital management and board diversity. However, the interaction variable analysis shows that gender diversity and education level diversity weaken the impact of working capital management towards firm value.

Research limitations/implications – This study is not limited to one industry; therefore, future studies may focus on one industry and detect the pattern of working capital components in the particular industry. This study focuses on quantitative numbers to explain board diversity's interaction in working capital management to maximise shareholders' wealth. Future studies may consider a qualitative discussion to describe the quality of women's presence on the board, education level and educational background of board members.

Originality/value – Unlike most studies in which authors relate working capital and board diversity to firm performances separately, this study combines both components and analyses whether board diversity can act as a moderator effect. As part of corporate governance, it is expected that board diversity can enhance working capital management efficiency.

Keywords Working capital, Board diversity, Gender diversity, Education diversity, Profitability, Firm value, LQ45

Paper type Research paper

1. Introduction

In recent years, there has been increasing growth in the Indonesian economy. Several shreds of evidence could be found, for instance, through the 22.6% increase of market capitalisation in the Indonesian Stock Exchange (IDX) in 2017 (IDX, 2018). As the competition in the market is getting stronger, companies are striving to attract new investors and satisfy current shareholders by elevating their performance. In light of this, it is becoming crucial to determine what basis could help a company boost its performance. Existing studies recognised the critical role played by capital structure (external, long-term financing) and working capital (internal, short-term financing) in explaining a firm's performance (Vo and Ellis, 2016; Altaf and Shah, 2017; Kusuma and Bachtiar, 2018; Setianto and Pratiwi, 2019; Amponsah-Kwatiah and Asiamah, 2020; Kayani *et al.*, 2020).

In mid-2017, World Bank and IFC launched the Joint Capital Markets Program (J-CAP), intending to support the development of local capital markets. Indonesia is one of the targeted

Journal of Accounting in Emerging Economies
© Emerald Publishing Limited
2042-1168
DOI 10.1108/JAEE-11-2018-0130

countries. As the capital market improves, the intangible factors become more critical. The soft factors include the quality of human capital, the culture of trading and risk-taking and the appreciation of transparency (Demekas and Nerlich, 2020). Therefore, this study is interested in discussing the role of corporate governance, particularly the diversity of board characteristics, in enhancing the firm performance that can develop Indonesia's capital market. The specification of board characteristics is narrowed to gender diversity, education level and education background. Purkayastha *et al.* (2021) argue that education level and background are valuable resources so then positively associated with firm performance.

Meanwhile, a common condition that often occurs in developing countries is the high dependence of companies to rely on banks as a source of funding, because in addition to high volatility of capital flow, capital markets in developing countries have not fully developed (Estwick, 2016; Demekas and Nerlich, 2020). The primary issue in an emerging country like Indonesia is the increasing restriction on external financing, igniting the importance of working capital management as short-term financing for many companies. Companies in emerging markets could not follow the optimal working capital management policy due to future uncertainties in emerging countries (Chauhan and Banerjee, 2018).

Because the discussion continues to develop, working capital management is still interesting to discuss in Indonesia as a country included in the emerging market. Various measurements can be used as a proxy for working capital, and quite a few studies in Indonesia have used the cash conversion cycle. This study develops a discussion of working capital management in Indonesia with several novelties. The novelties shown in this study are the measurement of working capital with the ratio to total assets and measuring company performance through return on capital employed and Eva-Spread.

Working capital management (WCM) is a measure of liquidity that can identify the company's short-term condition, that is, to see whether the company can fund its day-to-day operation. Higher interest rates, greater political instability and an underdeveloped financial market are the characteristic of emerging economies. Those characteristics lead to working capital management's necessity to face liberalisation and rapid globalisation (Chauhan and Banerjee, 2018). Efficient working capital management would help the company quickly respond to unexpected changes in the market, like volatility in the interest rate and prices, and, therefore, to gain competitive advantages against its competitors (Abuzayed, 2012; Kusuma and Bachtiar, 2018; Gołaś, 2020). The exhaustive studies on this topic could be concluded that many factors affect working capital management and firm performances, including corporate governance. Separation of control (managers) and ownership (shareholders) creates an agency problem within the firms (Siagian *et al.*, 2013). An arrangement of governance instruments can be implemented to minimise this problem, in which a supervisory board to be put in place to monitor the agents (directors).

To be more effective in performing their roles, the board of directors should comprise a team of individuals who can incorporate their skills and capabilities. However, board characteristic, such as board diversity, is one factor that essential in supporting the role of board in achieving the goals of company (Ujunwa, 2012). According to the resource dependence theory, companies can enhance their performance by having board diversity (Fidanoski *et al.*, 2014; Purkayastha *et al.*, 2021). While most studies in board diversity have only focused on the gender diversity issue, such expositions are unsatisfactory because many diversity factors could be brought into analysis, such as the educational and intellectual capital on board. So far, however, there has been little discussion about the educational background diversity on the board.

As this study's scope is Indonesian companies, the LQ45 index is chosen as the research subject. Leading stocks in Indonesia, known as LQ45 stocks, are 45 blue-chip stocks companies that are well known and have good performance in terms of market capitalisation

and market liquidity. Andriansyah (2017) found that liquidity affects the level of information. As the stock is getting more liquid, the price will be more informative, and thus the stock prices will be more relevant in investment decisions. The index covers at least 70% of the stock market capitalisation and transaction values in IDX, which could be fit to represent the whole market. Larger market capitalisation companies lead to greater market efficiency; therefore, the LQ45 index companies attain higher market efficiency than the Indonesia composite index companies (Yang and Pangastuti, 2015; Kusuma and Bachtiar, 2018). Therefore, every company included in the list between 2010 and 2016 will be categorised as the population in this study. There is no intention to analyse the influence of different industrial sectors in LQ45 since this study focuses on companies' ability to maintain their liquidity. This study only excludes the financing sectors from the observation. The ability of companies in LQ45 to manage cash liquidity performance in improving their financial performance remains an exciting concern because it is an attraction for investors; thus, it keeps the company's shares liquid on the stock exchange. Most previous studies analyse board diversity and working capital management's direct effect on firm performance. This study selects board gender, board education level and board education background as the board diversity components that moderate the working capital management in effect on firm performance and value. As part of an excellent corporate governance act, the board diversity components are expected to be moderating variables that can either enhance or weaken the impact of efficient working capital management on firm performance and firm value. Combining these elements is vital as the primary goal of corporate governance is to maximise the shareholder's wealth.

This paper is arranged as follows: Section 2 reviews the literature and hypotheses formulation; the research methodology presented in Section 3; results analysis and discussion along with the practical implications performed in Section 4; and Section 5 as the concluding remarks and limitations as well as suggestions for future studies.

2. Literature review and hypotheses development

2.1 Theoretical background of WCM

Working capital is considered the life-giving force of an economic entity (Wasiuzzaman, 2015). Inefficient handling of working capital can deteriorate the entity (Singhania and Mehta, 2017); therefore, it is desired to maintain a balanced working capital, which can elevate a company's liquidity rating as well as accelerate the growth of shareholders' value. However, the underlying question has always been what kind of working capital management is considered excellent. Working capital management has two main objectives: liquidity and profitability (Ashworth, 2017). Several studies have argued that companies must maintain a low level of working capital (Abuzayed, 2012; Vural *et al.*, 2012), which means liquidity is at risk, but profitability can be enhanced. Other authors found that a high working capital level is better (Singhania and Mehta, 2017), which means liquidity is sufficient. However, profitability is at risk since the money is tied up inside the working capital. Several empirical studies regarding working capital management have been done in emerging markets, as listed in Table 1.

Table 1 displays that there are many proxies used to measure working capital management. The most famous tool is the cash conversion cycle (CCC), the time needed to collect the cash from selling the inventories. CCC is beneficial for small companies that are usually operated using few financial resources, in contrast to larger companies with better access to both money and capital markets (Baños-Caballero *et al.*, 2019). Nevertheless, CCC is an absolute measure that is incapable of being used as a comparison metric for companies of different sizes (Ryan, 2018). Chuan-guo *et al.* (2014) define the working capital ratio as current assets minus current liabilities ratio to total current assets. The study argues that the index

The authors	Results
Chuan-guo *et al.* (2014)	The study argues that the net-working capital ratio reveals a company's financial strategy. The results explained that the influence of strategic choice on working capital would impact profitability. The study was done in China
De Almeida and Eid (2014)	The working capital ratio was found positively on the company's market return in Brazilian public listed companies
Jamil *et al.* (2015)	Cash conversion cycle (CCC), current assets turnover, current ratio and net working capital ratio (NWCR) were the proxies for working capital management efficiency. The results disclosed that only NWCR that net operating profit and profit before interest and tax. The study was done in the industrial companies in Oman
Wasiuzzaman (2015)	For financially constrained firms in Malaysia, the firm value was significantly increased by improving working capital management. As a result, the firm value was measured by economic value-added, while working capital was proxied by net working capital ratio
Singhania and Mehta (2017)	Non-linear relationship between profitability and working capital management existed in the companies from emerging Asian countries. The cash conversion cycle and return on assets (ROA) measured working capital and profitability
Altaf and Shah (2017)	There is an inverted U-shape relationship between working capital management and firm performance in India's companies. Working capital management metrics were CCC, CCC^2, inventory days, receivable days and payable days. The firm performance was measured by ROA and Tobin's Q
Kusuma and Bachtiar (2018)	Working capital management representations were CCC, inventory turnover ratio, payment period, current ratio, net working capital ratio and collection period. In addition, ROA was used to measure firm performance. Inventory turnover and working capital ratio were favourable for the firm's performance of Indonesia's manufacturing companies listed in LQ45
Setianto and Pratiwi (2019)	The net working capital was unfavourable to a firm's performance. However, the higher investment in working capital leads to a lower firm's risk. The study was conducted in Indonesia's manufacturing companies
Laghari and Chengang (2019)	There was a U-shaped association between working capital and corporate performance. High investment in working capital management increases the corporate values in the Chinese listed non-financial firms. The net trade cycle was the proxy for working capital, while ROA and Tobins' Q measured the firm performance
Amponsah-Kwatiah and Asiamah (2020)	Working capital management is proxied by inventory management, account receivables, account payables, cash conversion cycle, current assets and current ratios. Those indicators were favourable for the profitability (ROA and ROE) of manufacturing firms in Ghana
Gołaś (2020)	Working capital management is measured by inventory days, sales outstanding days, payable outstanding days, and the cash conversion cycle (CCC). Each indicator had a different influence on the ROA of companies in the Polish dairy industry
Kayani *et al.* (2020)	Working capital management metrics were CCC, inventory conversion cycle, average collection period and average payment period. CCC was found to be positive for financial performance in Australasian and New Zealand firms. However, other metrics influences were found to vary on the financial performance in both countries

Table 1.
The empirical studies of working capital management in emerging markets

reveals the financial strategy of a company. The net working capital ratio is also useful for measuring working capital efficiency as it indicates the percentage of total assets in carrying the net working capital (Jamil *et al.*, 2015). That study finds that only CCC and NWCR positively impact net operating profit. Baños-Caballero *et al.* (2019) deploy NWCR to compare

the working capital efficiency among thirty countries. The results imply that shareholders appreciate firms' NWC in developed countries.

The different methods in measuring working capital management and firm performance lead to different empiric results. The gap provided in Table 1 is why this study chose Net Working Capital Ratio (NWCR) as the proxy for working capital management. NWCR is defined as the proportion of the company's networking capital compared to its total assets. Altman initially used it in 1968 as part of Altman's Z score calculation (Bei and Wijewardana, 2012). They stated that NWCR is statistically proven to be the most valuable compared with other liquidity measurements. The formula is as follows (Bei and Wijewardana, 2012):

$$\text{NWCR} = \frac{\text{Account Receivables} + \text{Inventory} - \text{Account Payables}}{\text{Total Assets}} \quad (1)$$

The efficiency of WCM is crucial to meet both liquidity and profitability. It also takes planning and control to mitigate the risk of inability to service short-term obligations (Jamil *et al.*, 2015). Acquiring trade credit has several advantages; companies do not have to take short-term debt or overdraft as well as if the payment period is long enough, then the cash could be used for other needs. In addition, paying the account payables on time will improve the company's image; therefore, it will likely get a longer future credit limit or period and avoid any contract breach. Occasionally, the company might benefit from early settlement discounts if it pays account payables early.

The novelty in this study is to present working capital management and board diversities as the main variables that affect profit performance and firm value. Working capital is a resource for companies to achieve their goals, namely increasing the welfare of shareholders. On the other hand, board diversity is also a resource to face the challenges of a dynamic business environment. Diversity within the board shows that the supervisory function carried out can represent various interests to reduce information asymmetry between management and shareholders. Moreover, this study displays board diversity components as moderating variables in the relationship of working capital with profitability and firm value. This study examines the diversity in board members' educational level and background, which are rarely discussed as part of corporate governance in working capital management. This study provides a different view from Kusuma and Bachtiar (2018) and Setianto and Pratiwi (2019), limited to the manufacturing industry in Indonesia's working capital management scope. This current study does not limit the scope to specific industries; it only excludes the financial sector.

Furthermore, this study operates Return on Capital Employed (ROCE) as a proxy for profit performance. Besides, this study applies EVA-spread as a proxy for firm value. EVA directly shows how much the company has created value for shareholders and debt holders as a measure of performance.

2.2 Theoretical background of corporate governance

Many theories ground corporate governance mechanisms in organisations. For this research, two related theories are explained here: agency theory and resources dependency theory.

2.2.1 Agency theory. Public limited companies' arrangement consists of a separate control (managers) and ownership (shareholders), which creates a problem within the firms (Siagian *et al.*, 2013). Managers may make decisions that are not beneficial to the shareholders. As the shareholders generally consist of many groups or individuals, they cannot directly monitor and control its management. In the end, firm performance can be harmed. According to Fama and Jensen (1983), the separation between ownership and control creates the need for an agency relationship, a contract between shareholders as principals and management as agents (cited in Fidanoski *et al.*, 2014). This theory has encouraged the implementation of

numerous corporate governance principles and codes in some countries. These principles and codes' common traits suggest that an independent board is the core tactic for this conflict of interest between principals and agents (Fidanoski *et al.*, 2014; Purkayastha *et al.*, 2021). Thus, agency theory suggests that the board has independent or outside board members to supervise directors or management and guide the company towards shareholders' interest. They are also expected not to conspire with directors to threaten shareholder interests because directors have incentives to build reputations as expert monitors.

2.2.2 Resource dependency theory (RDT). Companies operate in an open system and therefore need to trade and acquire resources to survive, which creates a dependency between firms and external units (Kılıç and Kuzey, 2016). There are four significant benefits of external connection as a source of resources: expertise and information, communication channels with an essential principle of the firm; commitments for support from relevant organisations or groups; legitimacy for the firm in the external environment. RDT stated that the board is a vital link between the company and the external resources that a company needs to maximise its performance (Fidanoski *et al.*, 2014). Theorists broadened the claim by stating that board members with diverse backgrounds, such as different skills, cultural backgrounds and gender, will play strategic resources to the company, resulting in enhanced performance (Purkayastha *et al.*, 2021). Trade credit is an essential resource of working capital as receivables' level directly influences inventory and cash (Paul *et al.*, 2018). A company with high cash levels tends to reduce its accounts receivable levels. However, a company tends to increase its receivable level when the inventory levels rise (Paul *et al.*, 2018).

Based on these theories, board diversity is usually seen as a positive trait for a company and a booster for higher firm performance. Therefore, in this research, three characteristics of board diversity are observed. The first is gender diversity. Gender diversity on board has been an increasingly prevalent issue attracting much attention from numerous parties, such as academicians, corporations, governments and the public. It has been preserved as a high public profile issue because of press reports, shareholder proposals and investors' statements (Kılıç and Kuzey, 2016). According to PwC's (2016) Annual Corporate Directors Survey, the percentage of directors regarding gender diversity as an essential attribute increased from 2014 to 2015. The second is education level diversity. Companies face a challenge in the dynamic business environment where intellectual capital becomes an increasing need to enhance firm performance (Purkayastha *et al.*, 2021). Educational and intellectual skills on the board, measured by the presence of executives with PhD or equivalent degrees, are linked with a reduction in risk-taking (Fidanoski *et al.*, 2014).

Moreover, qualified board members with PhD titles can be deemed the respected companies' most valuable strategic resources. These executives would ensure a functional board with high experience levels, reliability of judgment, intellectual ability and integrity. Better qualifications of board members can increase firm performance and competitive advantage through professional expertise and advice.

The third is education background diversity. After many accounting scandals occurred, regulators have emphasised the demand for extra financial experts on board, as they can oversee accounting controls and reporting, thus preventing possibilities of failures (García-Sánchez *et al.*, 2017). It is expected that firms with more finance or business expertise on the Board of Commissioners will be more profitable than others who have less. Executives with accounting/finance expertise may be more sensitive to financial issues and can readily communicate their opinions to directors with similar work experience (Purkayastha *et al.*, 2021). Therefore, it is expected that the board could mitigate any financial issues and improve its performance. In addition, the existence of financial and accounting professionals among the board members can boost the board's monitoring role in order to recognise accounting and risk problems (García-Sánchez *et al.*, 2017). Among other board members, these executives can best distinguish between accounting policies' good or bad practices.

2.3 Corporate governance in Indonesia

Sinnadurai (2018) revealed that the quality of corporate governance in several ASEAN countries, including Indonesia, Malaysia, the Philippines and Thailand, operationalised corporate governance quality in the form of a board of directors' characteristics. Some very often used characters include board size, board independence, board education and the number of committee meetings. The Jokowi government, since 2014, has implemented deregulation packages intending to boost private sector investment, but on the other side, it raised restrictions on foreign investment in particular industries. Public infrastructure development also involves the participation of private sector investment. This condition will undoubtedly affect government policies related to corporate governance. Product market competition is getting higher, so agency problems in companies are also getting higher. The high level of foreign ownership in Indonesia allows foreign shareholders to bring corporate governance practices in their country to Indonesia so that the quality of CG practices can differ from Indonesian government-owned companies. This study does not discuss ownership structure as an indicator of CG. Nevertheless, all companies that have been listed in the LQ45 index have a portion of foreign ownership. Hence, the companies that become the sample in this study can have good corporate governance practices.

Indonesia's Corporate Governance Code mainly requires limited liability companies in Indonesia to adopt two board systems: Board of Commissioners and Board of Directors. The Board of Commissioners' primary responsibilities supervise the management policy and advise the Board of Directors. Board of Commissioners is prohibited from participating in any operational decision-making. Their focus is on protecting the shareholders' rights and watching over the Board of Directors. On the other hand, the Board of Directors is fully responsible for the management and operation (IFC and OJK, 2014). In Indonesia, board terms in CG measurement refer to the Board of Commissioner (BOC). IFC Advisory Services in Indonesia (2014) formulates the article to set the qualification criteria for commissioners. Three of the qualifications are the professional expertise and education needed to be effective; international business experience, knowledge of the market, products, and competitors, and the ability to translate knowledge and experience into solutions. In addition, at least one member must know and have experience running finance and accounting in the listed companies. Centre for Governance, Institutions and Organisations NUS Business School (2012) reveals that in 2012 the percentage of female board members in Indonesia was 11.6%. It was favourably compared with other emerging markets, with an average of 7.2% women on their boards. Despite the highest level in the region, 40% of the IDX-listed companies did not have a single woman on the board. In 2017, the number of female BOC members in Indonesia reached 14.9% (IFC, 2018). In 2017, 40 companies had at least one woman on the board, and 31 companies had at least 30% female board members (IFC, 2018).

2.4 Firm performances

In today's business competition, the main aim of companies is to enhance their performance. There are two dimensions of a firm's performance; accounting profitability and firm market value (Vural *et al.*, 2012). Accounting profitability has a historical and inward-looking focus that the companies use to track their internal concerns. Accounting profitability is created as part of the reporting mechanism, therefore, "distortable." Nevertheless, many authors still use it, and consequently, this research adopts accounting profitability. On the other hand, firm market value is the forward-looking indicator, and it is the value placed on the company by the market. Therefore, this value is objective in the sense that the company cannot distort it.

While there are many firm performance measures, especially profitability, this research uses Return on Capital Employed (ROCE). It describes the management's ability to efficiently utilise the company's capital, which ultimately belongs to the shareholders (Ujunwa, 2012). The formula used is (ACCA F7, 2016):

$$\text{ROCE} = \frac{\text{Profit Before Interest \& Tax}}{\text{Capital Employed}} \tag{2}$$

ROCE is a measure of management's efficiency in using the company's funds or resources in a given time. It is measured by comparing the firm's profits with the capital employed in making the profit and set as a percentage or fraction (Dalayeen, 2017). Profit before interest and tax (PBIT) measures the company's profit, including all expenses except interest and income tax expenses. Creditors usually use PBIT in order to measure a company's earning and paying capacity. On the other hand, capital employed can be derived by subtracting current liabilities from total assets. It is the total amount of capital used to acquire profits and the value of all the assets employed in a business. Generally, the higher the ROCE figure, the better it is for investors. It should be compared with returns on offer to investors on alternative investments of similar risk. ROCE has not been a popular proxy in existing research of working capital management and corporate governance (board diversity) despite its advantages. Some empirical studies use ROCE as the profitability tool, such as Dalayeen (2017) for the working capital topic, also Singh (2015) for corporate governance. Singh (2015) found a positive correlation between board diversity and ROCE in non-financial Indian companies.

The other category of firm performance, firm value, is measured using Economic Value Added (EVA) spread as it looks at the company's value left after making the required return. This metric can be used to assess the performance of the company's directors. The idea is that the directors will be motivated to improve EVA by investing in areas where the return is higher than the capital cost (Ryan, 2018). Compared to the other measures of performance that are based only on the concept of accounting profits, the EVA spread acquires a new significance because it considers the cost of invested capital, as shown in the following formulation (Anderson *et al.*, 2011):

$$\text{EVA Spread} = \frac{\text{NOPAT}}{\text{IC}} - \text{WACC} \tag{3}$$

The first component of EVA Spread is the net operating profit after tax (NOPAT) is the PBIT adjusted for the income taxes. It measures the profit after excluding the costs and tax benefits of debt financing. The second one, invested capital (IC), has the same concept as capital employed. It is the funds invested in a business by shareholders, bondholders and lenders. The last component, weighted average cost of capital (WACC), is the average rate of return expected by the investors measured in the market value instead of book value. The weights are the fraction of each financing source in the company's capital structure.

$$\text{WACC} = \frac{E}{D+E}R_e + \frac{D}{D+E}(1-\tau)R_d \tag{4}$$

where D is the total debt, E is total equity, and R_d, R_e and τ are cost of debt before tax, cost of equity and tax, respectively. The cost of equity (R_e) is measured in the capital asset pricing model (CAPM) by employing this formula:

$$R_e = R_f + \beta(\text{Expected Return} - R_f) \tag{5}$$

where Expected Return $- R_f$ is the risk equity premium; R_f is risk-free rate (government's treasury bills); and β is the firm's risk factor.

2.5 Working capital management and firm performance

According to the conservative approach of working capital investment, which refers to high working capital, companies that apply this approach will allow their customers longer

payment terms to stimulate demand, which creates a large account receivable balance (ACCA F9, 2016). Inventory reserves are always high to ensure customers' availability and minimise the risk of running out of material. It is hoped that the manufacturing process will run smoothly without any downtime. On the other hand, suppliers are paid on time to guarantee goodwill and relationship with them so that the risk of running out of materials will be minimised. As a result, it will establish a low balance of account payables.

Higher working capital indicates the increased inventories that can reduce the production breakdown and loss of demand. Moreover, increased receivables might increase sales because customers are given more time to pay. Therefore, accounting profitability can be improved. On the other hand, having a higher level of working capital means that the company is more liquid, thus seen as a lower risk investment by the market, and eventually increases its market value. Several authors have proved this theory. Wasiuzzaman (2015) found that improvements in NWCR significantly increase the firm value for financially constrained firms. Abuzayed (2012) and Dalayeen (2017) found a positive impact of working capital management towards firm performance. Mosazadeh *et al.* (2015) observed 127 Iran companies in 2009–2012 and discovered that working capital has a significant positive impact on EVA. In Indonesia, as displayed in Table 1, Setianto and Pratiwi (2019) studied the NWC in Indonesian manufacturing companies in 2010–2014, showing that the NWC's excess leads to lower company performance. Kusuma and Bachtiar (2018) studied the five proxies of working capital management of LQ45's manufacturing companies. The results indicated that inventory turnover and net working capital turnover are the best models in explaining the increase in firms' profitability. Charitou *et al.* (2012) examined companies from various industries in emerging ASIAN countries in 1998–2010, finding that after the global financial crisis, NWC could increase company profitability. This is because the company can utilise its resources efficiently, including working capital, thereby increasing its value. Hence, the hypothesis is postulated below:

H1. NWCR has a positive impact towards firm performance

2.6 Board diversity and firm performance

2.6.1 Gender diversity. Female directors are believed to be much more likely to improve company performance and board effectiveness (PwC, 2016). Discussions about board diversity, and the demand for diversity in the board of directors, especially gender diversity, have been increasing since the 2000s (Oakley, 2000; Vinnicombe *et al.*, 2013; Chapple and Humphrey, 2014). Opportunities for women to be nominated in board positions increase when they gain public trust through their education and experience (Hillman *et al.*, 2002). A study revealed that female directors in large companies were chosen because of their international experience and postgraduate qualifications (Singh *et al.*, 2008). Research at JSE Top 40 South African companies shows that gender diversity is a significant criterion in selecting directors. A policy that requires companies to have female directors represents 30% of the total number of directors (Mans-Kemp and Viviers, 2019).

The topic of gender diversity on boards in Indonesia is still interesting because of the patriarchal culture that assumes that males are more decent placed in essential positions in companies (Yuliana and Kholilah, 2019). This patriarchal culture places men in a higher dignity and substantial control, not only in the community and the family but also in the scope of work. Family controls some of the listed companies in Indonesia; hence, there is a high possibility that women's existence on the board is driven by family relationships (Darmadi, 2010). The study argued the negative influence of female boards on all listed companies' market performance in Indonesia. Passaribu *et al.* (2019) mentioned that female directors' composition in the 100 biggest Indonesian listed companies remained the same from 2012 to 2014 at 11%–12%. The study found that even though females on board can

positively impact firm profit, women's participation on the board is still low. It might be due to females lacking practice, proficiency, and connection. Moreover, it might be because of the gender bias in the boards.

Fidanoski *et al.* (2014) found that the higher the number of female directors on board, the better the profitability and firm value. Kılıç and Kuzey (2016) discussed that gender diversity on the board positively impacts firm performance. Anderson *et al.* (2011) also argued that more women on board would enhance firm performance. Some literature stated that women are usually risk-averse than men to choose better investment decisions. In other words, males and females perceive the world differently; thus, they can find opportunities and utilise them differently (Fidanoski *et al.*, 2014). As they interpret information differently, they will make other choices.

Nguyen (2020) argued that women directors are associated with a lower cost of equity; thus, women's existence on the board can increase the company's value. Therefore, the gender diversity variable is calculated as the proportion of women on the management board. In this research, the figure is found by dividing the number of female commissioners by the Board of Commissioners' total size. Hence, the hypothesis is postulated below:

H2. Gender diversity has a positive impact towards firm performance

2.6.2 Education level diversity. The executives with PhD titles make board decisions more moderate because they rely increasingly on appropriate evidence, preventing excessive risk-taking. Ujunwa (2012) found that board education level diversity positively impacts financial performance. Fidanoski *et al.* (2014) discovered that education level diversity is favourable for profitability and firm value. Suhardjanto *et al.* (2017) argued that education level is vital to maximising the board of commissioners' role in Indonesia. They explained that the higher education level (doctoral level) makes the board members more rational in responding to the information. Darmadi (2013) proves that board members' educational qualifications in Indonesia enhance the company's profitability and values. The level of education describes board members' intellectual abilities, strengthening managerial skills to take risks and make business decisions.

To respond to Darmadi's (2013) suggestion, the education level diversity variable in this study focuses on one educational qualification, the doctoral level. Therefore, the education level diversity is calculated as how many commissioners possess a PhD, doctoral or equivalent degree. This research finds the figure by dividing the number of commissioners who have the degree by the board's total size. Therefore, the hypothesis is postulated below:

H3. Education level diversity has a positive impact towards firm performance

2.6.3 Education background diversity. García-Sánchez *et al.* (2017) showed that education background diversity affects accounting quality positively. Purkayastha *et al.* (2021) argued that board education and professional experience are significant factors in firm performance. The education background diversity variable is calculated as how many commissioners possess financial/accounting/business education backgrounds. The figure is found by dividing the number of commissioners who has studied in those backgrounds with a supervisory board's total size. The hypothesis is postulated below:

H4. Education background diversity has a positive impact towards firm performance

2.6.4 The moderating effect of board diversity. The previous studies discussed in hypotheses two until four have shown the significant impact of board diversity on firm performance. The gender diversity, represented by the proportion of women on the board, was significant in enhancing the firm performance (Fidanoski *et al.*, 2014; Kılıç and Kuzey, 2016; Nguyen, 2020). Moreover, as Kagzi and Guha (2018) mentioned, the board with a higher number of females can approach a more diverse customer

base and closer relationship with stakeholders. Eventually, this will enable the company to market in the broader market share with lower reliance on a small number of suppliers. Companies can also get more access to higher-quality resources to provide better product value. Purkayastha *et al.* (2021) explained that companies with high education levels and professional experience imply that they have productive strategic resources, resulting in effective monitoring roles to reduce agency costs. Due to the positive relation of board diversity in gender and education on firm performance, this research believes that these board characteristics can play their moderating role in the relationship of working capital and firm performance. The hypothesis is postulated below:

H5. Board diversities have a moderating impact on the relationship of working capital and firm performance

3. Data and methodology

3.1 Source of data and sample

This research deploys archival data from the Bloomberg database and the firm's annual reports. The population is 95 companies in the LQ45 Indonesia index between 2010 and 2016. The sampling criteria are presented in Table 2.

3.2 Empirical models

This study inspects the association of working capital, board diversity, and firm performance. The components of board diversity are predicted to be the moderator in the association of working capital management with firm performance. The board's expertise is one of the keys to efficient working capital management. The firm performance is separated into two forms: ROCE and EVA. ROCE is the accounting performance measure is deployed as the proxy of firm profitability. EVA is used as the proxy of firm performance to measure investors' financial performance. The firm's profitability is compared to the cost of capital measured from market value. When the EVA is higher than 0, the investors gain additional values from the profit. The results of previous studies, which have been discussed in terms of the relationship between variables, have provided evidence of the influence of gender diversity, educational levels, and educational backgrounds on company performance and value. Therefore, this study opens new ideas to assess the three diversity's role as moderating variables. This interaction is tested to prove board diversity's ability to increase working capital management efficiency to generate profits and increase firm value.

Sampling criteria	Number of observations
Firms listed in LQ45 index between 2010 and 2016	95
Firms that are listed after 2010	(8)
Financial firms	(8)
Firms have no completed annual reports	(3)
Firms that fulfil the criteria	76
Total samples used (76 firms x 7 years)	532

Table 2.
Observation details

Hence, two linear regressions models can be constructed:

$$\begin{aligned}\mathrm{ROCE}_{it} = {} & \alpha_0 + \beta_1 \mathrm{NWCR}_{it} + \beta_2 \mathrm{BGENDER}_{it} + \beta_3 \mathrm{BLEVEL}_{it} + \beta_4 \mathrm{BBACK}_{it} \\ & + \beta_5 (\mathrm{NWCR} * \mathrm{BGENDER})_{it} + \beta_6 (\mathrm{NWCR} * \mathrm{BLEVEL})_{it} \\ & + \beta_7 (\mathrm{NWCR} * \mathrm{BBACK})_{it} + \beta_8 \mathrm{SIZE}_{it} + \beta_9 \mathrm{AGE}_{it} + \varepsilon_{it}\end{aligned} \quad \text{(model 1)}$$

$$\begin{aligned}\mathrm{EVA}_{it} = {} & \alpha_0 + \beta_1 \mathrm{NWCR}_{it} + \beta_2 \mathrm{BGENDER}_{it} + \beta_3 \mathrm{BLEVEL}_{it} + \beta_4 \mathrm{BBACK}_{it} \\ & + \beta_5 (\mathrm{NWCR} * \mathrm{BGENDER})_{it} + \beta_6 (\mathrm{NWCR} * \mathrm{BLEVEL})_{it} \\ & + \beta_7 (\mathrm{NWCR} * \mathrm{BBACK})_{it} + \beta_8 \mathrm{SIZE}_{it} + \beta_9 \mathrm{AGE}_{it} + \varepsilon_{it}\end{aligned} \quad \text{(model 2)}$$

where:

ROCE_{it} = Return on capital employed of i company in t period

EVA_{it} = Economic value-added spread of i company in t period

NWCR_{it} = Net working capital of i company in t period

$\mathrm{BGENDER}_{it}$ = Gender diversity in Board of Commissioners of i company in t period

BLEVEL_{it} = Education level diversity in Board of Commissioners of i company in t period

BBACK_{it} = Education background diversity in Board of Commissioners of i company in t period

$\mathrm{NWCR*BGENDER}_{it}$ = NWCR times BGENDER of i company in t period

$\mathrm{NWCR*BLEVEL}_{it}$ = NWCR times BLEVEL of i company in t period

$\mathrm{NWCR*BBACK}_{it}$ = NWCR times BBACK of i company in t period

SIZE_{it} = Firm size of i company in t period

AGE_{it} = Firm age of i company in t period

α_0 = Constant of the regression

ε_{it} = Error

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ = Regression coefficient of each variable

Firm size and firm age are the control variables deployed in this study, as those variables are also used in Ujunwa (2012), and Kılıç and Kuzey (2016). Firm size is a common determinant of firm performance (Kılıç and Kuzey, 2016). It is a relevant control variable in this research since many shreds of evidence stated that its size could influence its ability to make a profit. Firm size represents the scope of the company, which is measured from the logarithm of total assets. As time goes by, companies discover their strengths and weaknesses. They find more efficient and more effective ways to operate the company, reducing costs, improving quality and improving the overall business process. Studies have shown that a firm's age depicts the firms' financial growth cycle and capital structures (Ujunwa, 2012). Firm ages represent the years' company listed in the stock exchange market (Kılıç and Kuzey, 2016).

4. Research results and discussion

4.1 Descriptive statistics

The average, standard deviation, maximum, and minimum values of sample data are summarized in descriptive statistics.

Table 3 shows that the dependent variable ROCE has a minimum score of −3.321, which is obtained from BNBR in 2014, and a maximum score of 2.33 from company LPPF in 2014. The negative ROCE indicates that some companies have negative profits. The second dependent variable, EVA spread, has a minimum score of −8.398, which belongs to company LPPF in 2011, and a maximum score of 1.16 belongs to LPPF in 2013. It has an average of −0.032, which means some companies were not generating value from the business's capitals invested. The independent variable, the negative NWCR showed in the minimum score of −0.358, is due to the company's negative working capital in 2012. On average, the sample companies' level of working capital is 12.7% of their total assets. The first moderating variable, BGENDER, which stands for female commissioners' ratio on total members of commissioners, has a minimum value of 0, indicating there are no female executives on board and a maximum value of 60%, which is obtained from MAPI in 2010–2013. The second moderating variable, BLEVEL, stands for the ratio of commissioners with a PhD degree on the total members of commissioners, has a minimum value of 0, which belongs to quite many companies and a maximum of 0.833, which belongs to ANTM in 2012 and PGAS from 2015 to 2016. There are 16.7% of PhD degree holders in the sample average. The last one, BBACK, which stands for the percentage of commissioners with financial or accounting education background in the total members of commissioners, has a minimum value of 0 and a maximum value of 1, which both belong to various companies. The maximum of 1 indicates that all board of commissioner members have financial or accounting background. The control variables, SIZE, representing the company's size, have a minimum value of 11.125, obtained from MYRX in 2010, and a maximum weight of 14.418, obtained from ASII in 2016. AGE represents the company's age, with a minimum value of 1 year and the maximum value of 40 years by SMCB in 2016.

4.2 Panel data model estimation method

The first thing in examining panel multiple regression is to determine the best panel effect model. The best panel model is defined from the Fixed-Effect test, Breusch-Pagan test, and Hausman test. The tests are run twice because there are two regression models. The detailed findings for each test are listed in Table 4.

These multiple regression models have met the normality, collinearity and heteroscedasticity tests. However, EVA spread model, which contains a heteroscedasticity problem.

In terms of ROCE as the dependent variable, a fixed-effect model is more appropriate to be applied. The regression model of EVA spread has three possibilities: fixed effect pooled OLS,

Variable	Mean	SD	Min	Max
ROCE	0.169	0.328	−3.321	2.33
EVA	−0.032	0.551	−8.398	1.16
NWCR	0.127	0.172	−0.358	0.702
BGENDER	0.076	0.121	0	0.6
BLEVEL	0.167	0.187	0	0.833
BBACK	0.514	0.243	0	1
SIZE	13.125	0.483	11.125	14.418
AGE	15.852	17	8.2	1

Table 3.
Descriptive statistics

Dependent variables	ROCE *p*-values	EVA *p*-values
Fixed effects estimator	6.926E−51	0.0313964
(A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the fixed effects alternative)		
Result	Fixed effect	Fixed effect
Random effects estimator		
Breusch-Pagan test statistic	1.9162E−73	0.0924615
(A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the random effects alternative)		
Result	Random effect	Pooled OLS
Hausman test statistic	0.000106987	0.854648
(A low *p*-value counts against the null hypothesis that the random-effects model is consistent, in favour of the fixed effects model)		
Result	Fixed effect	Random effect
Heteroskedasticity test	Test statistic: $TR^2 = 64.528050$, with *p*-value = $P(\chi^2(48) > 64.528050) = 0.055793$ (>0.05, model has no heterokedasticity problem)	Test statistic: $TR^2 = 154.450097$, with *p*-value = $P(\chi^2(48) > 154.450097) = 0.000$ (<0.05, model has heterokedasticity problem)

Table 4. Summary of panel effect tests

or random effect. Due to the heteroskedasticity problem, the Pooled OLS model must be treated as a Heteroskedasticity Corrected model. Table 6 shows that the heteroscedasticity model is the most appropriate in EVA spread. The *p*-value of the *F*-test in this model is the smallest one compared to other models. Table 5 depicts the result of the fixed-effect model in the ROCE model.

Tables 5 and 6 indicate that in terms of the determinant coefficient test, regression with EVA spread and ROCE as dependent variable has R^2 of 3.07% and 4.175%, respectively. It means that ROCE is defined by the independent and moderating variables by 4.175%. The remaining 95.825% comes from other aspects than the independent and moderating variables. The same thing for EVA can only be described by independent and moderating variables as much as 3.073%, while factors outside this research explain the rest of 96.927%.

4.3 Hypothesis test

Table 7 portrays the coefficients and *t*-test's *p*-value of each variable. Firstly, NWCR has an insignificant influence on ROCE. However, NWCR has a significant positive impact on EVA.

Next is the influence of the moderating variables towards dependent variables. All board diversity variables are insignificant to ROCE as the *p*-values are higher than the significance level. On the contrary, there is a significant positive impact on EVA from BGENDER (0.0940) and BLEVEL (0.0161). On the other hand, BBACK is insignificant towards EVA.

Similarly, the impact of interaction variables with the dependent variables follows a similar pattern with the moderating ones. All interaction variables are discovered to have no significant effect on ROCE. Both NWCR*BGENDER and NWCR*BLEVEL are unfavourable for EVA, while the NWCR*BBACK has an insignificant effect on EVA. Therefore, from this interaction, it can be concluded that only BGENDER and BLEVE moderate the relationship of NWCR towards EVA. SIZE as the control variable has insignificant impact on ROCE, but it

	Fixed effect	Random effect	Heteroskedasticity corrected	*Collinearity (VIF < 10,0)*
Constant	0.6054	−1.3827*	0.3401	
NWCR	0.1063	0.4421	0.3104***	5.220
BGENDER	0.1491	0.3372	0.1130*	2.085
BLEVEL	0.3537	0.3080*	0.1415**	1.762
BBACK	−0.3511	−0.1714	0.0089	1.546
NWCR*BGENDER	−0.8873	−1.5798	−0.6022	2.940
NWCR*BLEVEL	−2.2647	−1.3978	−0.7617**	2.022
NWCR*BBACK	1.1789*	0.5413	0.0100***	4.131
SIZE	−0.0595	0.1042*	−0.0307	1.216
AGE	0.0139	−0.0031	−0.0002*	1.171
Adjusted *R*-squared	0.0200	0.0368	0.0307	There is no collinearity
p-value(F)	0.0077	0.0621	0.0026	problem

Note(s): *** Significant at the level 1%; ** significant at the level 5%; * significant at the level 10%

Table 5.
Comparison of models in EVA spread model

	Coefficient	Std. error	*p*-value
Constant	1.6642**	0.7611	0.0293
NWCR	−0.3918	0.2649	0.1398
BGENDER	0.0969	0.2030	0.6333
BLEVEL	−0.1152	0.1004	0.2518
BBACK	−0.1541	0.0940	0.1017
NWCR*BGENDER	0.4137	0.8560	0.6292
NWCR*BLEVEL	0.6284	0.5164	0.2242
NWCR*BBACK	0.1050	0.4248	0.805
SIZE	−0.0940	0.0609	0.1234
AGE	−0.0092*	0.0054	0.0914
Within *R*-squared		0.04175	
p-value(F)		9.63E-58	

Note(s): *** Significant at the level 1%; ** significant at the level 5%; * significant at the level 10%

Table 6.
Fixed effect model of ROCE

	ROCE		EVA	
Variable	Coefficient	*p*-value	Coefficient	*p*-value
Constanta	1.6642**	0.0293	0.3401	0.1462
NWCR	−0.3918	0.1398	0.3104***	0.0008
BGENDER	0.0969	0.6333	0.1130*	0.0940
BLEVEL	−0.1152	0.2518	0.1415**	0.0161
BBACK	−0.1541	0.1017	0.0089	0.8358
NWCR*BGENDER	0.4136	0.6292	−0.6022**	0.0377
NWCR*BLEVEL	0.6284	0.2242	−0.7617***	0.0061
NWCR*BBACK	0.1050	0.8050	0.0100	0.9364
SIZE	−0.0940	0.1234	−0.0307*	0.0928
AGE	−0.0092*	0.0914	−0.0002	0.8737

Note(s): *** Significant at the level 1%; ** significant at the level 5%; * significant at the level 10%

Table 7.
Regression results summary

is significantly adverse for EVA. On the contrary, AGE is adverse for ROCE, but it has a negligible impact on EVA.

4.4 Discussion and theory analysis

The regression results imply that NWCR does not significantly influence ROCE. The result is consistent with Nobanee *et al.* (2011) and Thuvarakan (2014), which suggest that the efficiency of working capital management has no significant consequence in enhancing the company's profitability. In this particular research, as the companies observed are listed firms from different industries, they might have various working capital management strategies, so the pattern could not be clearly seen. Moreover, as these companies have been included in the LQ45 index, they are large and have liquid shares. In turn, it will give them more access to external financing so that they might not give enough attention to the working capital. They are supported by the fact that the sample's NWCR average is only 12.7%, with a 17.2% standard deviation. It means that, on average, only 12.7% of the company's total assets are working capital. The low working capital level might indicate two possibilities. First, the company is having cash flow difficulty, as its account payables are high. Second, the high account payables might be caused by favourable payment terms. The reason seems to be the latter for LQ45 companies considering their size and reputation. Nevertheless, it is apparent from the regression result that their level of working capital does not hold any meaning towards firm profitability.

Singhania and Mehta (2017) mention that working capital management will not affect the firms' profitability when the government grants credit facilities to the industries. When the government provides credit facilities to the industry, working capital management will not affect the company's profitability. 2014 and 2015 were the transition years for a presidential change in Indonesia. President Jokowi's administration, in the middle of 2014, has been trying to reduce Bank Indonesia's credit interest rates, even to the 1-digit level in 2016 (Hill and Negara, 2019). This policy was carried out to strengthen the economic growth stimulus. Financing provision by non-financial firms, known as trade finance, is an essential source of finance for companies in emerging markets (Huang *et al.*, 2019; Wang *et al.*, 2019; Devalkar and Krishnan, 2019). In the low growth of financial competition, such as Indonesia, trade credit financing strongly impacts firm sustainability growth (Huang *et al.*, 2019).

Moreover, NWCR has a favourable impact on EVA spread. It is consistent with Wasiuzzaman (2015) and Mosazadeh *et al.* (2015), implying that a higher working capital level will increase firm value. It suggests that the market values liquidity. The shift in the economies into market-oriented ones should be noted, directly impacting the enterprise's management (Wolski and Bolek, 2016). Investors are looking at the return; the higher the risk, the higher the return expected. As the NWC increases, the company's liquidity will also increase, which creates a lower risk for investors. Therefore, the expected return rate will be lower, and EVA can increase as the cost of capital (WACC) drops. Alternatively, trade financing can be a source of working capital financing (Paul and Boden, 2014; Devalkar and Krishnan, 2019). It has been proved that high liquid companies that utilise the trade financing, can increase their investment in accounts receivable, thus can enhance their firm performance (Paul *et al.*, 2012; Abuhommous, 2017; Huang *et al.*, 2019; Pattnaik *et al.*, 2020).

The regression results show no significant influence of gender diversity on ROCE, which means that the number of female commissioners will not impact the company's accounting profitability. It might be due to the low number of women on board. Julizaerma and Sori (2012) argued that only a few females are not enough to be taken seriously, but the company can benefit from women's talents with higher numbers. As seen from the descriptive statistics, the percentage of women on board in LQ45 companies is only 7.6% on average, which is lower than that of Asia's average figure of 14 (Groysberg *et al.*, 2017). Srivastava *et al.* (2018) mentioned that the number of female directors insignificantly towards firms' profitability is patriarchal. Indonesia has that kind of nature, which puts men on the top. Female members' influence brings multiple social outcomes rather than accounting performance (Hoobler *et al.*, 2016). Suhardjanto *et al.* (2017) found that women members on the board of commissioners of

Indonesia's mining companies are insignificant in the firm's profit. Compared to other emerging countries, Suhardjanto *et al.* (2017) also found the same result for mining companies in Pakistan. Women on the board of commissioners can only be a company effort to comply with government regulations. However, the patriarchal culture is still quite strong in companies in Indonesia and perhaps in other emerging countries with the patriarchal culture. Therefore, the role of female directors in the company is not vital enough compared to men.

The regression shows a significant positive influence of gender diversity on EVA Spread. It is consistent with Fidanoski *et al.* (2014) and Anderson *et al.* (2011). A woman is likely to be more risk-averse than man (García-Sánchez *et al.*, 2017). Francis *et al.* (2014) argued that the risk aversion of female executives is linked with lower equity-based compensation and less risk. Nguyen (2020) mentioned that women on board provide more excellent monitoring, thus persuading investor confidence and leading to a lower cost of equity. Syamsudin *et al.* (2017) claimed that the higher the percentage of women in the commissioner board in Indonesia's manufacturing companies, the more diverse the board and the more successful the company. Critical Mass Theory mentions that at least three women are required to make a fundamental difference, a distinctive perspective, competencies, and better financial performance (Strydom *et al.*, 2016; Catalyst, 2013). Based on the data result, this research also showed a similar pattern. As the BGENDER goes up, the level of equity (W_e) decreases, and the level of debt (W_d) increases. As the cost of equity is higher than the cost of debt, female executives choose to use debt as the risk is lower than equity. Therefore, WACC decreases, and in turn, EVA will increase.

Research findings show no influence from education level diversity towards ROCE. Either having more or fewer executives with PhD degree will not impact profitability. It is often found that high-performing companies are led by not highly educated people (Darmadi, 2013). Unobservable characteristics, for instance, entrepreneurial and leadership skills, may also play a significant role. Hiring board members with high education qualification are costly. Therefore, the effect of profitability increases by having PhD level executives might be offset with the cost of hiring them, and in the end, there is no financial impact.

On the contrary, education level diversity was favourable for EVA. The result is consistent with Fidanoski *et al.* (2014), which means that when the number of executives on board with a PhD degree increases, the firm value will also increase. Furthermore, educational and intellectual skill on board, measured by the presence of executives with PhD or equivalent degrees, is linked with a reduction in risk-taking (Fidanoski *et al.*, 2014). It is proven in this research, as the BLEVEL increases, risk aversion increases, as could be observed through the declining pattern of equity level (W_e), so that WACC decreases and EVA increases.

This study failed to find the significant impact of education background diversity on ROCE and EVA. It is in line with Gottesman and Morey (2010), which means that having more or fewer executives with a financial background does not hold any meaning towards firm performance. Syamsudin *et al.* (2017) also argued that the commissioner board's education background has no impact on firm value. The possible explanation for this occurrence is that the supervisory board's task is only for monitoring purposes, and they have no right to make any operational decision (IFC and OJK, 2014).

4.5 Managerial implications

The regression showed varied results. In most cases (i.e. for NWCR, BGENDER and BLEVEL), these variables show no significant effects towards ROCE, while their influence towards EVA showed significant results. In BBACK case, it showed no impact on both ROCE and EVA.

As the interaction results of NWCR*BGENDER and NWCR*BLEVEL toward EVA showed adverse effects, management cannot just increase the numbers as they will weaken the impact of working capital firm value. On the other hand, as the influence of BGENDER

and BLEVEL as independent variables towards EVA is also positive, it means the company should have more females and more PhD holders on board to enhance firm value. It implies a double-edged sword for the company. Therefore, it backs again to the company's working capital strategy, whether they want to have a high level of liquidity or rather invest in other areas. If they prefer increased working capital, it is better to have fewer female and PhD holders. However, if they choose a low level of working capital, having more females and PhD holders can boost firm value.

Moreover, both females and PhD degree holders might prefer an aggressive working capital policy where they want the working capital level to be lower. They might want to cut the inventories, shorten the collection period from customers, and postpone payments to suppliers. While this might bring a positive impact towards profitability, the liquidity of the company is at risk. In turn, it might not be suitable for the company's value as it is determined by the market, depending on how the public perceives the company.

Thus, this research shows that the number does not always seem to be the case. There might be another component, such as quality, enhancing firm performance. For instance, instead of increasing the number of female commissioners, it might be better to hire a small number of females with a good reputation for their leadership ability or maybe with lots of experience. Therefore, the company maintains a low number of female executives. However, this small group of the minority has a higher power to influence the whole board or, even better, monitor the management.

As for the education level diversity, where the number of PhD degree holders is in question, the company can have the option to look at the quality of the degree itself. Some criteria can be applied, such as the institution's reputation where the executives received the degree or the major of the education, whether it is in line with the company's business. These traits may enhance the company's value without increasing the number of commissioners. Another possible implication is that companies might want to combine all the characteristics. For example, companies have female executives with a PhD degree and accounting background. The implication of firm performance might be different. Further analysis needs to be conducted to determine whether these combinations impact firm performance is better than only one characteristic. Nevertheless, while numbers are valuable, the quality that can create a multiplier effect is also crucial.

The education level of board members used in this study is limited to the doctoral level. The results showed that not many companies had board members with PhD. These results imply that business practitioners' interest to increase their education level to the highest level is still low. It is possible that in Indonesia and developing countries in general, the level of education is considered irrelevant to the ability to manage a business. However, along with technological developments and market openness, formal education is necessary for developing countries. The selection of board members can be limited to the level of education. However, a high level of formal education can imply a person's maturity in leading and considering risks in making decisions. The results of this study are beneficial for companies and businesspeople and provide insights for higher education providers. State universities dominate the quality of higher education in Indonesia; on the other hand, Indonesia needs to increase its competitiveness globally (WENR, 2019). Therefore, it is an investment opportunity for the private sector in the education business.

The moderation effect provided by the gender board and board education level on NWCR and EVA's relationship proved to be significantly negative. However, if observed in more detail, as shown in Table 8, gender diversity and the level of education of the PhD are more influential in increasing the cost of capital (WACC) than an increase in net operating profit after taxes (NOPAT). In addition, it shows that both types of diversity in board structure have a moderate risk-taking effect.

For the robustness test, the simultaneous effect is conducted. Table 9 depicts that from the Breusch-pagan tests, there is no simultaneous effect from board gender to ROCE (p-value 0.4569 > 0.05) and also from board gender to EVA (p-value 0.8921 > 0.05). It supports the research models that assign board gender as the independent variable to influence firm profitability and firm value.

5. Concluding remarks

5.1 Conclusion

This research aims to analyse the influence of working capital management and board diversity's influence on firm performance. In this case, board diversity acts as a moderating variable; therefore, this research also looks at the interaction between working capital management and board diversity in affecting firm performance. After implementing several sampling criteria, the sample consists of 76 non-financial companies listed in LQ45 index in 2010 to 2016, totalling 532 firm-year companies. The primary sources of the data are Bloomberg Database and the company's annual reports.

Two multiple regression models were developed for each dependent variable, ROCE and EVA spread for this research. The findings of this research conclude that: NWCR is insignificant towards ROCE but positively significant towards EVA. Gender diversity is insignificant towards ROCE but positively significant towards EVA. Besides, education level diversity is insignificant towards ROCE, but positively significant towards EVA. Education background diversity is insignificant towards both ROCE and EVA spread. Gender diversity and education level diversity are two significant moderator for EVA spread. NWC and board diversity indicators on financial performance appear to be more assertive in EVA Spread than in ROCE. EVA Spread can demonstrate the comprehensive ability of management to manage capital to produce returns. EVA Spread is the net return value after the company gives its obligations to investors through the cost of capital.

Table 8. The mean difference (Group I – Group J)

Groups	NWCR * board gender (i)	NWCR * board education level (i)
NOPAT (j)	−0.0684***	−0.0606**
WACC (j)	−0.0948***	−0.0870***

Note(s): *** Significant at the level 1%; ** significant at the level 5%; * significant at 10%

Table 9. The simultaneous effect test

Variables	ROCE Coefficient	BGENDER Coefficient	EVA Coefficient	BGENDER Coefficient
Constanta	1.2108***	−0.1764	−1.3404*	−0.1895
NWCR	−0.0512	0.0949***	0.4357***	0.0951
ROCE		−0.0120		
EVA				0.0013
BGENDER	−0.0864		0.0271	
BLEVEL	0.1265	−0.0644**	0.1304	−0.0061**
BBACK	0.2241***	0.0099	−0.0309	0.0072
SIZE	−0.0990***	0.0169	0.9842*	0.0180
AGE	0.0085***	0.0016**	−0.0029	0.0015
Breusch-Pagan test for diagonal covariance matrix: Chi-square(1)	0.5536 [0.4569]		0.0184 [0.8921]	

Note(s): *** Significant at the level 1%; ** significant at the level 5%; * significant at the level 10%

The gender and education level diversity in the board structure should be managed effectively; thus, it shows a favourable implication for firm value. The profitability is not impacted, but the main reason is that the number is too low to enjoy the benefits of having female executives and professional talent on board. Besides increasing the numbers, companies should be aware of the board's quality, such as the female commissioner's experience or the university's reputation where the commissioners get the PhD degree. As board education background diversity does not affect firm performance, the regulators and business players can focus on other proxies that may enhance firm performance.

This study provides input for authorised parties in Indonesia to increase their role in helping increase company liquidity. The government can help improve people's purchasing power so that the company's working capital turnover can also be faster. Efficient working capital will increase the company's profitability and value, providing income for the country. Another factor that needs to be considered is the role of the government and the authorities in overseeing corporate governance, especially in terms of diversity. The lack of gender diversity in important positions in the company can also affect company performance.

5.2 Limitations and suggestions for future research

Below are some result limitations of this research that have been encountered during the conduct of the study. This research can be a reference for improving future studies. Second, this study is not specified in one industry, as the primary trait for choosing the companies is those included in the LQ45 index. Although this research result can also be used as Indonesia's representative condition, the result may vary when applied to a particular industry since every industry has a unique environment and strategy. Therefore, future studies can emphasise one industry and detect the pattern in each industry. Third, this study only observes the board diversity in terms of numbers, while quality can be a more important aspect. Future research might want to explore more about this topic, such as the implication of commissioner reputation, experience and past background toward firm performance. Finally, future studies may consider a qualitative discussion to explain the quality of women's presence on the board, education level and educational background of board members.

References

Abuhommous, A.A.A.A. (2017), "The impact of offering trade credit on firms' profitability", *Journal of Corporate Accounting and Finance*, Vol. 28 No. 6, pp. 29-40.

Abuzayed, B. (2012), "Working capital management and firms' performance in emerging markets: the case of Jordan", *International Journal of Managerial Finance*, Vol. 8 No. 2, pp. 155-179.

ACCA F9 (2016), *ACCA Paper F9Financial Management*, 9th ed., BPP Learning Media, London.

Altaf, N. and Shah, F. (2017), "Working capital management, firm performance and financial constraints", *Asia-Pacific Journal of Business Administration*, Vol. 9 No. 3, pp. 206-219.

Amponsah-Kwatiah, K. and Asiamah, M. (2020), "Working capital management and profitability of listed manufacturing firms in Ghana", *International Journal of Productivity and Performance Management*, Vol. 70 No. 7, pp. 1751-1771.

Anderson, R.C., Reeb, D., Upadhyay, A. and Zhao, W. (2011), "The economic of director heterogeneity", *Financial Management*, Vol. 4 No. 1, pp. 5-38.

Andriansyah, A. (2017), "The real effects of primary and secondary equity markets on firm performance", *International Journal of Managerial Finance*, Vol. 13 No. 4, pp. 397-418.

Ashworth, M. (2017), "Working capital management", available at: http://www.accaglobal.com/gb/en/student/exam-support-resources/fundamentals-exams-study-resources/f9/technical-articles/wcm.html (accessed 24 May 2018).

Baños-Caballero, S., Garcia-Teruel, P.J. and Martinez-Solano, P. (2019), "Net operating working capital and firm value: a cross-country analysis", *Business Research Quarterly*, in press.

Bei, Z. and Wijewardana, W. (2012), "Working capital policy practice: evidence from Sri Lankan companies", *Procedia - Social and Behavioral Sciences*, Vol. 40, pp. 695-700.

Catalyst (2013), *Why Diversity Matters*, Catalyst, New York, NY.

Centre for Governance, Institutions and Organisations NUS Business School (2012), *Indonesia Boardroom Diversity Report 2012: Female Footprints in IDX-Listed Companies*, National University of Singapore.

Chapple, L. and Humphrey, J. (2014), "Does board gender diversity have a financial impact? Evidence using stock prortfolio performance", *Journal of Business Ethics*, Springer, Vol. 122 No. 4, pp. 709-723.

Charitou, M., Petros, L. and Halim, B.S. (2012), "The relationship between working capital management and firm's profitability: an empirical investigation for an emerging Asian country", *International Business and Economics Research Journal*, Vol. 11 No. 8, pp. 839-848.

Chauhan, G. and Banerjee, P. (2018), "Financial constraints and optimal working capital – evidence from an emerging market", *International Journal of Managerial Finance*, Vol. 14 No. 1, pp. 37-53.

Chuan-guo, L., Hui-min, D., Shou, C. and Yan, Y. (2014), "Working capital management, corporate performance, and strategic choices of the wholesale and retail industry in China", *The Scientific World Journal*, Vol. 2014, p. 15, 953945, doi: 10.1155/2014/953945.

Dalayeen, B. (2017), "Working capital management and profitability of real estate industry in Jordan: an empirical study", *Journal of Applied Finance and Banking*, Vol. 7 No. 2, pp. 49-57.

Darmadi, S. (2010), "Board diversity and firm performance: the Indonesian evidence", *Corporate Ownership and Control*, Vol. 9, doi: 10.22495/cocv8i2c4p4.

Darmadi, S. (2013), "Board members' education and firm performance: evidence from a developing economy", *International Journal of Commerce and Management*, Vol. 23 No. 2, pp. 113-135.

De Almeida, J.R. and Eid, W. (2014), "Access to finance, working capital management and company value: evidences from Brazilian companies listed on BM & FBOVESPA", *Journal of Business Research*, Vol. 67 No. 5, pp. 924-934.

Demekas, D.G. and Nerlich, A. (2020), *Creating Domestic Capital Markets in Developing Countries: Perspectives from Market Participants*, EMCompass, no. 77; International Finance Corporation, Washington, DC, © International Finance Corporation, available at: https://openknowledge.worldbank.org/handle/10986/33617 License: CC BY-NC-ND 3.0 IGO.

Devalkar, S.K. and Krishnan, H. (2019), "The impact of working capital financing costs on the efficiency of trade credit", *Production and Operations Management*, Vol. 28 No. 4, pp. 878-889.

Estwick, S. (2016), "Principal–principal agency and financial flexibility in transition economies", *Journal of Business Inquiry*, Vol. 15 No. 1, pp. 33-54.

Fama, E.F. and Jensen, M.C. (1983), "Separation of ownership and control", *Journal of Law and Economics*, Vol. 26, pp. 301-325.

Fidanoski, F., Simeonovski, K. and Mateska, V. (2014), "The impact of board diversity on corporate performance: new evidence from Southeast Europe", *Corporate Governance in the US and Global Settings (Advances in Financial Economics, Vol. 17)*, Emerald Group Publishing, Bingley, pp. 81-123.

Francis, B., Hasan, I., Park, J.C. and Wu, Q. (2014), "Gender differences in financial reporting decisionmaking: evidence from accounting conservatism", *Contemporary Accounting Research*, Vol. 32 No. 3, pp. 1285-1318.

García-Sánchez, I., Martínez-Ferrero, J. and García-Meca, E. (2017), "Gender diversity, financial expertise and its effects on accounting quality", *Management Decision*, Vol. 55 No. 2, pp. 347-382.

Gołaś, Z. (2020), "Impact of working capital management on business profitability: evidence from the polish dairy industry", *Agricultural Economics (Czech Republic)*, Vol. 66 No. 6, pp. 278-285.

Gottesman, A. and Morey, M. (2010), "CEO educational background and firm financial performance", *Journal of Applied Finance (Formerly Financial Practice and Education)*, Vol. 20 No. 2, pp. 70-82.

Groysberg, B., Bell, D. and Cheng, Y. (2017), *2016 Global Board of Directors Survey. Spencer Stuart*, available at: https://www.spencerstuart.com/-/media/pdf%20files/research%20and%20insight%20pdfs/wcd-board-survey-2016_041416.pdf (accessed 8 June 2018).

Hill, H. and Negara, S.D. (2019), *The Indonesian Economy in Transition: Policy Challenges in the Jokowi Era and Beyond*, ISEAS – Yusof Ishak Institute, pp. 132-135.

Hillman, A.J., Cannella, A.A. and Harris, I.C. (2002), "Women and racial minorities in the boardroom: how do directors differ?", *Journal of Management*, Vol. 28 No. 6, pp. 747-763.

Hoobler, J.M., Masterson, C.R., Nkomo, S.M. and Michel, E.J. (2016), "The business case of women leaders: meta-analysis, research critique, and path forward", *Journal of Management*, Vol. 4 No. 6, pp. 2473-2499.

Huang, L., Ying, Q., Yang, S. and Hassan, H. (2019), "Trade credit financing and sustainable growth of firms: empirical evidence from China", *Sustainability*, Vol. 11 No. 4, p. 1032.

IDX (2018), "IDX statistics 2017", available at: http://www.idx.co.id/media/1552/20180228_idx-annually-2017.pdf (accessed 13 April 2018).

IFC (2018), "Board diversity in ASEAN", available at: https://www.ifc.org/wps/wcm/connect/21f19cfe-9cce-4089-bfc1-e4c38767394e/Board_Gender_Diversity_in_ASEAN.pdf?MOD=AJPERES&CVID=mM0qVBn (accessed 1 November 2019).

IFC and OJK (2014), "The Indonesia corporate governance manual", *International Finance Corporation*, 1st ed., available at: https://www.ifc.org/wps/wcm/connect/64185f0042cc3ab0b145fd384c61d9f7/Indonesia_CG_Manual_Feb2014.pdf?MOD=AJPERES (accessed 26 May 2018).

Jamil, S.A., Al Ani, M.K. and Alshubiri, F. (2015), "The effect of working capital management efficiency on the operating performance of the industrial companies in Oman", *International Journal of Economics and Financial Issues*, Vol. 5 No. 4, pp. 897-904.

Julizaerma, M. and Sori, Z. (2012), "Gender diversity in the boardroom and firm performance of Malaysian public listed companies", *Procedia - Social And Behavioral Sciences*, Vol. 65, pp. 1077-1085.

Kagzi, M. and Guha, M. (2018), "Does board demographic diversity influence firm performance? Evidence from Indian-knowledge intensive firms", *Benchmarking: An International Journal*, Vol. 25 No. 3, pp. 1028-1058.

Kayani, U.N., De Silva, T-A. and Gan, C. (2020), "Working capital management and firm performance relationship: an empirical investigation of Australian firms", *Review of Pacific Basin Financial Markets and Policies*, Vol. 23 No. 3, pp. 2050026-1–2050026-23.

Kılıç, M. and Kuzey, C. (2016), "The effect of board gender diversity on firm performance: evidence from Turkey", *Gender in Management: An International Journal*, Vol. 31 No. 7, pp. 434-455.

Kusuma, H. and Bachtiar, A.D. (2018), "Working capital management and corporate performance: evidence from Indonesia", *Journal of Management and Business Administration, Central Europe, Sciendo*, Vol. 26 No. 2, pp. 76-88.

Laghari, F. and Chengang, Y. (2019), "Investment in working capital and financial constraints: empirical evidence on corporate performance", *International Journal of Managerial Finance*, Vol. 15 No. 2, pp. 164-190.

Mans-Kemp, N. and Viviers, S. (2019), "The role of nomination committees in diversifying boards in an emerging market context", *Corporate Governance*, Vol. 19 No. 4, pp. 648-668.

Mosazadeh, A., Aslani, A. and Hassanzadeh, M. (2015), "The relationship between the measures of working capital and economic values added (EVA) a case study of companies listed on Tehran Stock Exchange", *International Journal of Humanities and Cultural Studies*, Vol. 2 No. 2, pp. 615-621.

Nguyen, P. (2020), "Board gender diversity and cost of equity", *Applied Economics Letters*, Vol. 27 No. 18, pp. 1522-1526.

Nobanee, H., Abdullatif, M. and AlHajjar, M. (2011), "Cash conversion cycle and firm's performance of Japanese firms", *Asian Review of Accounting*, Vol. 19 No. 2, pp. 147-156.

Oakley, J. (2000), "Gender-based barriers to senior managementpositions: understanding the scarcity of female CEOs", *Journal of Business Ethics*, Vol. 27 No. 4, pp. 321-334.

Passaribu, P., Masripah and Minosa, B. (2019), "Does gender diversity in the boardroom improve firm performance? Evidence from Indonesia", *Economics and Finance in Indonesia*, Vol. 65 No. 1, pp. 1-19.

Pattnaik, D., Kumar, S. and Vashishtha, A. (2020), "Research on trade credit–a systematic review and bibliometric analysis", *Qualitative Research in Financial Markets*, Vol. 14 No. 4, pp. 367-390.

Paul, S. and Boden, R. (2014), "Trade credit: a literature review", *British Business Bank*, Vol. 12, pp. 1-39.

Paul, S.Y., Devi, S.S. and Teh, C.G. (2012), "Impact of late payment on Firms' profitability: empirical evidence from Malaysia", *Pacific-Basin Finance Journal*, Vol. 20 No. 5, pp. 777-792.

Paul, S.Y., Guermat, C. and Devi, S. (2018), "Why do firms invest in accounts receivable? An empirical investigation of the Malaysian manufacturing sector", *Journal of Accounting in Emerging Economies*, Vol. 8 No. 2, pp. 166-184.

Purkayastha, A., Karna, A., Sharma, S. and Bhadra, D. (2021), "Board's human capital resource and internationalisation of emerging market firms: toward an integrated agency–resource dependence perspective", *Journal of Business Research*, Vol. 136 No. 2021, pp. 391-407.

PwC (2016), "2016 annual corporate directors Survey. PwC", available at: https://www.pwc.es/es/publicaciones/consejos-y-buen-gobierno/2016-annual-corporate-directors-survey.pdf (accessed 26 May 2018).

Ryan, N. (2018), "Economic value added versus profit-based measures of performance", available at: http://www.accaglobal.com/us/en/student/exam-support-resources/professional-exams-study-resources/p5/technical-articles/economic-value-added-part2.html (accessed 9 June 2018).

Setianto, R.H. and Pratiwi, A. (2019), "Working Capital Management in Indonesia: an analysis on overinvestment and underinvestment firms", *Gadjah ada International Journal of Business*, Vol. 21 No. 1, pp. 1-18.

Siagian, F., Siregar, S. and Rahadian, Y. (2013), "Corporate governance, reporting quality, and firm value: evidence from Indonesia", *Journal of Accounting in Emerging Economies*, Vol. 3 No. 1, pp. 4-20.

Singh, A. (2015), "Corporate governance and its relationship with the roce and pbit: an empirical investigation in Indian scenario", *Asian Journal of Research in Business Economics and Management*, Vol. 5 No. 4, pp. 88-95.

Singh, V., Terjesen, S. and Vinnicombe, S. (2008), "Newly appointed directors in the boardroom: how do women and men differ?", *European Management Journal*, Vol. 26 No. 1, pp. 48-58.

Singhania, M. and Mehta, P. (2017), "Working capital management and firms' profitability: evidence from emerging Asian countries", *South Asian Journal of Business Studies*, Vol. 6 No. 1, pp. 80-97.

Sinnadurai, P. (2018), "A Vision for Malaysian and other ASEAN researcher to contribute to internal agency - theory-based literature", *Asian Journal of Business Accounting*, Vol. 11 No. 2, pp. 1-54.

Srivastava, V., Das, N. and Pattanayak, J.K. (2018), "Women on boards in India: a need or tokenism?", *Management Decision*, Vol. 56 No. 8, pp. 1769-1786.

Strydom, M., Au Yong, H. and Rankin, M. (2016), "A few good (wo)men? Gender diversity on Australian boards", *Australian Journal of Management*, Vol. 42 No. 3, pp. 404-427.

Suhardjanto, D., Utami, M.E. and Syarifuddin, M. (2017), "Board of commissioners diversity and financial performance: a comparative study of listed mining industry in Indonesia and Pakistan", *Review of Integrative Business and Economics Research*, Vol. 6 No. 1, pp. 131-142.

Syamsudin, S., Setiany, E. and Sajidah, S. (2017), "Gender diversity and firm value: a study on boards of public manufacturing firms in Indonesia", *Problems and Perspectives in Management*, Vol. 15 No. 3, pp. 276-284.

Thuvarakan, S. (2014), *Impact of Working Capital Management on Profitability in UK Manufacturing Industry*, London South Bank University Press, doi: 10.2139/ssrn.2345804.

Ujunwa, A. (2012), "Board characteristics and the financial performance of Nigerian quoted firms", *Corporate Governance: The International Journal of Business in Society*, Vol. 12 No. 5, pp. 656-674.

Vinnicombe, S., Burke, R.J., Blake-Beard, S. and Moore, L.L. (2013), *Handbook of Research on Promoting Women's Careers*, Edward Elgar Publishing, Cheltenham.

Vo, X. and Ellis, C. (2016), "An empirical investigation of capital structure and firm value in Vietnam", *Finance Research Letters*, Vol. 22, pp. 90-94.

Vural, G., Sökmen, A.G. and Çetenak, E.H. (2012), "Effects of working capital management on firm's performance: evidence from Turkey", *International Journal of Economics and Financial Issues*, Vol. 2 No. 4, pp. 488-495.

Wang, X., Wu, W., Yin, C. and Zhou, S. (2019), "Trade credit, ownership and informal financing in China", *Pacific-Basin Finance Journal*, Vol. 57, 101177.

Wasiuzzaman, S. (2015), "Working capital and firm value in an emerging market", *International Journal of Managerial Finance*, Vol. 11 No. 1, pp. 60-79.

WENR (2019), "Education in Indonesia", available at: https://wenr.wes.org/2019/03/education-in-indonesia-2 (accessed 2 February 2021).

Wolski, R. and Bolek, M. (2016), "Liquidity – profitability relationship analysed once again. The case of Poland", *European Scientific Journal*, Vol. 12 No. 7, pp. 33-46.

Yang, A.S. and Pangastuti, A. (2015), "Stock market efficiency and liquidity: the Indonesia Stock Exchange merger", *Research in International Business and Finance*, Vol. 36, pp. 28-40.

Yuliana, I. and Kholilah (2019), "Investment decision, gender diversity and firm value: is gender important in Indonesia?", *Jurnal Reviu Akuntansi dan Keuangan*, Vol. 9 No. 3, pp. 387-395.

Further reading

Lee, K.T., Hooy, C.W. and Hooy, G.K. (2012), "The value impact of international and industrial diversifications on public listed firms in Malaysia", *Emerging Market Review*, Vol. 13 No. 3, pp. 366-380.

Salim, M. and Yadav, R. (2012), "Capital structure and firm performance: evidence from Malaysian listed companies", *Procedia - Social and Behavioral Sciences*, Vol. 65, pp. 156-166.

Corresponding author

Saarce Elsye Hatane can be contacted at: elsyehat@petra.ac.id

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgrouppublishing.com/licensing/reprints.htm
Or contact us for further details: **permissions@emeraldinsight.com**