Sustainability accounting, management and policy in China: recent developments and future avenues

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Received 17 March 2020
Revised 29 March 2020
18 April 2020
10 May 2020
Accepted 12 May 2020

Abstract

Purpose – This paper aims to reflect on the special issue that has collected studies by the research community in China pertinent to the country's recent developments in sustainability accounting, management and policy, as well as to suggest possible future avenues of studies.

Design/methodology/approach – This paper articulates the current status of researching sustainability accounting, management and policy in China that is instigated by the country's regulatory initiatives under its political economy. It highlights the papers accepted for the special issue, their areas of focus and the underlying characteristics.

Findings – It points out that the accepted research papers concentrate on issues related to corporate social responsibility disclosures, sustainability reporting and environmental management in China from the perspectives of the domestic stakeholders.

Research limitations/implications – Future studies are likely to be increasingly interdisciplinary in nature and requires academia, policymakers and practitioners to make better collaborative efforts in researching about China's sustainability and the efficacy of their engagement with stakeholders.

Practical implications – Studies on alignment between China's further developments and UN's sustainable development goals (SDGs) are particularly considered desirable as the country continues its

The corresponding author would like to acknowledge that he is the Principal Investigator of the Project titled "From Social and Environmental Accounting to Sustainability Accounting and Responsible Investment: Emerging Research Agendas" (Ref. UGC/IIDS24/B02/16) funded under the Inter-Institutional Development Scheme by the Research Grants Council of the Hong Kong Special Administrative Region. The Project provided financial support to the CSEAR North Asia Conference held in December 2017 which led to the development of this Special Issue on China.

The first author would like to acknowledge that this work was supported by the Special Fund Project for Science and Technology Innovation Strategy of Guangdong Province (Grant No. 2019B121205004).

Sustainability Accounting, Management and Policy Journal
Vol. 11 No. 5, 2020
pp. 825-839

2040-8021
DOI 10.1108/SAMPJ-03-2020-0077

globalization initiatives. Education about sustainability accounting for the working professionals and their next generation is much needed for China in support of developing a more sustainable economy aligned with UN's SDGs.

Social implications – Scholars in China actively developing their research interests in this field reflect critical thinking about the country's pursuit of sustainable development within a social-political economy that is dissimilar to the West. In the meantime, the country continues to develop into a significant stakeholder of the world's sustainability implying expectation of transparency in sustainability performance.

Originality/value – With reference to the review exercise conducted for the special issue, it suggests that there are surging interests in researching accountability for sustainability across the local and international communities to facilitate much needed knowledge exchange. The country and indigenous culture of China, as well as its institutions in relation to sustainability, would require much further exploration in our world under globalization.

Keywords China, Globalization, Sustainability accounting, Sustainability policy, Sustainability management

Paper type Viewpoint

1. Sustainability accounting, management and policy in China

Over the past four decades, China has achieved unprecedented, sustained economic growth that the world has ever experienced; however, its increasingly severe environmental problems, which arise with the rapid economic development, are being deliberated domestically and internationally (Zhao and Patten, 2016; Weber, 2017; Yu and Rowe, 2017). As the world's second largest economy enters the "new era," China attempts to shift its focus from quantitative economic targets to more sustainable economic development, which requires a compatible institutional setting to facilitate a more balanced growth substantiated by social, environmental and economic sustainability. Being the most populous country with the largest energy consumption in the world, China's development has such a profound global impact that it would need to be more sustainable to align with a wider group of stakeholders beyond China.

China's sustainable development hinges on two institutional features. First, its underlying traditional culture is being amalgamated with internationalization. Concepts of sustainability and business ethics among contemporary Chinese organizations are rooted in traditional Chinese philosophies and cultures, principally represented by the Taoist notion about unity of human and nature and the Confucian view on the salience of balancing social justice and benefits within a hierarchical social-political setting (Bond, 1986; Hofstede and Bond, 1988; Wang and Juslin, 2009; Chatzkel and Ng, 2013; Ma and Tsui, 2015). Human being is regarded as an integral part of nature under Taoism, whereas Confucius' value system of hierarchy is essentially based on seniority. It is conceived that China's corporate social responsibility (CSR) is influenced by its social and indigenous background (Xu and Yang, 2010). Since joining the World Trade Organization in the 21st century, China has become increasingly active in global developments while embracing the modern concept of CSR in its international business language.

Second, the development of sustainability in China over the past decades was driven by a top-down pathway of directives as reinforced by its political system and institutions (Marquis and Qian, 2014; Yang *et al.*, 2015). Under a centrally planned economy, the country relies on its government to make key investment and production decisions within a hierarchical system (Ziegler, 1982). The term *sustainable development* was mentioned for the first time as a strategy in the 1997 policy report of the 15th National Congress of the Communist Party of China (NCCPC) [1]. CSR was first enshrined in China's legal system in the 2006 Company Law [2]. The 2012 report of the 18th NCCPC included a separate chapter on ecological civilization [3].

On the other hand, sustainability accounting involves "new information management and accounting methods that attempt to create and provide high quality, relevant information to support corporations in relation to their sustainable development" (Schaltegger and Burritt, 2010). Development of sustainability accounting that thoroughly engages broader stakeholders on issues about companies' sustainability performance beyond CSR legitimacy would play a significant role in China's sustainable development. For external stakeholders, domestic and international ones alike, sustainability accounting creates meaningful indicators and information and thereby provides a credible basis for evaluating the sustainable performance of business and for decision-making on many sustainability issues. For society, sustainability accounting enables pertinent information to be disclosed in a more transparent and accountable way under a growingly globalized environment. Under the unique institutional setting, the practices of sustainability accounting and management in China displaying certain differentiated features have gradually caught the attention of contemporary researchers in the field of sustainability as a global concern. The following section would highlight some of the country's recent developments in sustainability policy that in turn influences the practices of sustainability accounting and management of various organizations and business entities, which are increasingly accountable for their sustainability performance. A summary of the articles accepted in this special issue on China, reflecting the underlying significance of engaging wider local and regional stakeholders that is emergently complementary to a top-down regulatory approach to sustainability, is then presented in Section 2, which is followed by our articulation of future studies and limitations of this article.

1.1 Towards sustainability disclosures

1.1.1 Coexistence of mandatory and voluntary corporate social responsibility reporting. The terminology of "CSR" has been initially adopted by three respective regulatory bodies in the country. Since December 2008, Shanghai Stock Exchange (SSE) has required three types of public firms to disclose their CSR reports: firms in the Corporate Governance Index, dual listing firms and firms in the financial industry. Around the same period, Shenzhen Stock Exchange (SZSE) required the firms listed in the SZ100 index to issue CSR reports. By November 2011, the State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) released a guideline for all central state-owned enterprises (SOEs) to publish CSR reports within three years. Because of these mandatory requirements on CSR disclosure, the number of CSR reports has increased rapidly. It is worth noting that Health Safety and Environmental Reports (e.g. Petro China 2001) and Sustainability Reports (e.g. COSCO 2006) were also prepared by some SOEs voluntarily during early 2000s.

The KPMG survey report in 2013 highlighted growth of CSR reporting in China, as 75% of the surveyed companies published their CSR reports, up from 59% in 2011 (KPMG, 2013). This is considered closely associated with the trend as influenced by the regulators.

In accordance with the current regulatory requirements, approximately 650 Chinese enterprises are required to publish independent CSR reports [4]. A total of 2,097 CSR reports were issued in 2018 among which two-third were voluntary disclosures [5]. Following the "Guideline for CSR Reporting" by Chinese Academy of Social Sciences, and particularly the national standard of "Guidance on Social Responsibility Reporting" (GBT 36001–2015), many enterprises now publish CSR reports voluntarily. Alternatively, Chinese firms listed in Hong Kong issue Environmental, Social and Governance (ESG) reports as required by Hong Kong Exchanges and Clearing Limited (HKEX) on a comply-or-explain basis, which adopts

ESG as a terminology that is current with the international capital market [Hong Kong Exchanges and Clearing Limited (HKEX), 2015].

1.1.2 Regulated disclosure requirements on sustainability. On October 18, 2017, the country's President, Jinping Xi, indicated the need to win "three battles" in his report to the 19th NCCPC: forestalling and defusing major risks, carrying out targeted poverty alleviation, as well as preventing and controlling pollution. Accordingly, the China Securities Regulatory Commission (CSRC) revised the annual report disclosure requirements for all listed public companies in December 2017, instituting mandatory requirements on disclosure of environmental issues and poverty alleviation efforts in the country [6].

First, the revised pertinent guidelines explicitly require a multi-tier system of information disclosure, making disclosure mandatory for key polluters, while demanding other companies to follow the principle of "complying or explaining." The key polluters are required to disclose the following information on environmental issues: pollutant discharged; construction and operation of pollution prevention and control facilities; environmental impact assessment of construction projects and other administrative permissions for environmental protection; pre-plan for environmental emergencies; self-monitoring plans for environmental protection.

Second, these guidelines encourage companies to disclose their efforts relating to targeted poverty alleviation, including: a plan for targeted poverty alleviation; an annual summary of the efforts in targeted poverty alleviation; a report of progress made in targeted poverty alleviation; follow-up plans for targeted poverty alleviation.

The newly added disclosure requirements relating to environmental protection and poverty alleviation complement existing CSR disclosure in companies' annual reports. This is an indication that regulators are proactively responding to the extended sustainability disclosure trend in the international capital markets. Considering China's A-shares have been included in the Morgan Stanley Capital International (MSCI) index and the interconnection between the capital markets of Mainland China and Hong Kong, it is desirable to enhance sustainability disclosure in China's capital market to meet international standard. Hong Kong as the global financial centre of China is a step ahead in this regard.

As the global financial center of China, Hong Kong has initiated the development of its own ESG disclosure guidelines that embraces extended CSR and sustainability issues for the listed companies developed over three main stages. In the initial stage, the HKEX recommended that all listed companies should commence developing ESG disclosures starting from January 1, 2013. In the next stage, the HKEX mandated that all listed companies should disclose the general disclosure content in the ESG Reporting Guide in the financial year after January 1, 2016 or explain any non-compliance. Subsequently, the HKEX required listed companies to disclose specific environmental matters as well, including key performance indicators, starting from January 1, 2017 [Hong Kong Exchanges and Clearing Limited (HKEX), 2018].

1.1.3 Pertinent prior studies. The coexistence of mandatory and voluntary disclosure practices in China has presented intriguing questions:

- Could the implemented mandatory disclosure requirement improve the quality of information disclosure?
- Does the market have a different understanding and reaction to mandatory and voluntary disclosures of CSR information (Patten and Shin, 2019)?

Several recent studies have examined these issues.

Wang *et al.* (2014) compared the impacts of mandatory and voluntary CSR disclosure on capital market from the perspective of financial analysts. They found that CSR disclosure is positively related to analysts following, and such relation only exists in voluntary disclosure firms and voluntary CSR disclosure is associated with lower stock price synchronicity. Collectively, mandatory CSR disclosure requirement has not seemed to improve the information environment of the capital market.

Yu and Rowe (2017) interviewed managers of Chinese enterprises and provided an overview of China's imminent mandatory CSR disclosure practices. Yu and Rowe (2017) used the interpretive tenets of engagement research and semi-structured in-depth interviews to explore the perceptions of senior managers from 21 large companies in various industries in China. Their findings identified the main enablers driving Corporate Social and Environmental Report (CSER), an alternate term adopted by the local industries, in China as follows: regulations and government influence; management awareness; benefits to company image; peer pressure/reporting by peers and public pressure on controversial companies.

Nevertheless, Tian and Wang (2017) suggested that mandatory CSR disclosure would significantly increase the risk of stock price crash for listed companies. They argued that, without well-developed rules of law, companies' CSR activities may become managers' self-interest behavior to cover up bad news, such as poor performance. Chen *et al.* (2018) examined how mandatory disclosure of CSR impacts firm performance and social externalities. They found that firms experience a decrease in profitability subsequent to mandatory CSR reporting. On the other hand, the cities most impacted by the disclosure mandate experience a decrease in their industrial waste water and SO_2 emission levels. Such findings suggested that mandatory CSR disclosure alters firm behavior and generates positive externalities at the cost of the shareholders.

Further, there have been a number of studies focusing on CSR disclosures by SOEs in China suggesting potential limitations in such legitimacy. Zhao and Patten (2016) found that the managers almost uniformly see the purpose of CSR disclosure as being about image enhancement and examined insufficiency in quality of reporting as articulated in other prior studies (Liu and Anbumozhi, 2009; Guan and Yu, 2011; Yu *et al.*, 2011). Another study on CSR disclosures by SOEs in the country's railway industry adopted legitimacy, stakeholder and institutional theories to reveal the notable influence of the social and political environment in China (Noronha *et al.*, 2015). Other studies have suggested contesting goals with local and international stakeholders in CSR initiatives over the course of internationalization among SOEs (Dai *et al.*, 2013; Miska *et al.*, 2016; Whelan and Muthuri, 2017). A more recent study by Li and Belal (2018) further examined quality issues linked with relevance of CSR disclosures by Chinese SOEs under the state's influence as they go through international development.

1.2 Development of carbon emission trading market and carbon accounting practice

1.2.1 Carbon emission trading market. Between the contending options of a carbon tax and a carbon emission market, China chose the carbon emission market as its strategy for emission reduction with active engagement in developing such a trading mechanism (Shi *et al.*, 2013; Wu *et al.*, 2014). Starting June 2013, pilot carbon emission trading markets have been launched gradually in Shenzhen, Shanghai, Beijing, Guangdong, Tianjin, Hubei and Chongqing. Approximately 3,000 companies from the heavy industry sector, manufacturing sector and the tertiary industry have participated in the markets with an aim to control carbon emission. By the end of October 2019, the total accumulated trading amount of carbon emission allowance at China's secondary markets had reached 0.347 billion tons, with a monetary value of ¥7.68bn [7]. The accumulated trading amount of certified emission reduction (CER) was 0.2 billion tons. The national carbon emission market is expected to be officially launched within 2020; close to 2,700 electrical power enterprises will participate in the market. They include a total of 1,700 electrical power enterprises engaged in regional carbon trading pilot programs and approximately 1,000 new electrical power enterprises that were not in pilot programs (Shi *et al.*, 2013; Wu *et al.*, 2014).

Some other researchers have examined the micro-economic effects of China's carbon emission markets. For responses from the capital market, Ye *et al.* (2013) and Shen and Huang (2019) substantiated that, on the day the *Notice on Launching the Carbon Emission Trading Pilot Scheme* was released, the cumulative abnormal returns of companies in the pilot regions were found significantly higher than those outside of the pilot regions. For carbon emission disclosure, Yuan and Wang (2015) and Luo *et al.* (2018) indicated that carbon emission trading increased companies' transparency on carbon emissions. For green innovation, Liu and Zhang (2017) and Hu *et al.* (2020) found that carbon emission trading enhanced companies' green innovation initiatives. For companies' values, Shen and Huang (2019) evidenced that carbon emission trading increased a company's short-term value, but had no effect on the company's long-term value.

1.2.2 Carbon accounting practice. The carbon emission trading markets have been in operations for nearly 20 years around the world covering various countries and regions, with numerous participating enterprises. Given the lack of authoritative financial reporting guidance, there is diversity in practice in the accounting for emission reduction programs (Ertimur *et al.*, 2010). A survey by PwC and International Emissions Trading Association (IETA) (2007) identified as many as 15 variations of carbon accounting. As reported in a prior study, all participants of China's pilot carbon emission trading scheme receive an allocation of emission allowances free of charge, from the government, which is intended to cover at least part of their obligations to remit allowances up to the quantity of emission produced during the period (Ye *et al.*, 2013). This free allocation has raised main accounting issues about whether allocated emission allowances should be recognized as assets, and when a liability should be recognized [International Financial Reporting Standard (IFRS), 2014].

The current practice in China reveals that emission allowances issued by the government free of charge are not recognized as assets by most participants [8]. Only purchased emission allowances are recognized as assets but in various categories, such as carbon emission right, intangible asset or inventory, similar to the practice described by Wambsganss and Sanford (1996). The popular view of the timing of liability recognition is that a liability should be recognized when the quantity of emissions produced exceeds the free allowances, following the net approach as defined by Cook (2009) and Ertimur *et al.* (2010).

To support the construction of China's carbon emission trading market, the Ministry of Finance (MoF) issued the "Interim Provisions on Accounting Treatment of Carbon Emission Rights Trading Pilots" in December 2019 [Ministry of Finance, China (MoF), 2019]. Meanwhile, the China Accounting Standards Committee has started actively promoting the development of accounting standards for carbon emission trading, which is aligned with the initiative of the World Bank to promote the long-term development of a low carbon economy in China (Baeumler *et al.*, 2012).

1.3 Development of green financial system

In August 2016, seven departments and agencies of the central government jointly issued the Guidelines for Establishing a Green Financial System, which cover green loans, green insurance, green bonds, green development funds, green information disclosure, pilot zones and international cooperation (People's Bank of China, 2018). Among all the initiatives, in addition to environmental information disclosure the authors discussed earlier, the most significant progress has been achieved in green credit and green bonds that would have much influence over the practice of allocating resources into sustainability management.

Green bond issuance from China reached US$31.2bn in 2018, representing a 33% increase from the US$23.5bn in 2017 and accounting for 18% of global issuance. Nearly three quarters of green bonds are issued on the China interbank bond market, which is overseen by People's Bank of China [Climate Bonds Initiative and China Central Depository and Clearing Company (CCDC), 2018]. By the end of 2018, the total outstanding green loans granted by Chinese banks was ¥8.23tn, an increase of 16% from the previous year; ¥1.13tn in green loans was issued in 2018, accounting for 14.2% of loan growth in 2018 (People's Bank of China, 2018).

Lian (2015) found that debt financing cost of green businesses is reduced due to the implementation of green credit policy and argued that green credit policy effectively promotes the development of green businesses and constrains the development of "two high" businesses. Su and Lian (2018) showed that green credit policy leads to a significant decrease in interest-bearing liabilities and long-term debt and an increase in the cost of debt financing for firms in pollution-intensive industries. Their evidence suggests that green credit policy effectively constrains the development of pollution-intensive firms. Chen *et al.* (2019) furthered that the implementation of the green credit policy made it more difficult for heavily polluting enterprises to obtain bank loans but also stimulated the overall increase of commercial credit.

2. Special issue on China

Against the evolution of distinct sustainability policies and practices in the country, this special issue calls for research papers that look into the institutional settings and organizational practices in relation to the status of sustainability accounting, management and policy in China[9]. The six papers accepted in this special issue cover two main areas of social and environmental issues through looking into a wider scope of data and cases in-depth among the local organizations from various sectors in China. Each paper offers a different contribution to the extant literature through the perspectives of a broad range of domestic stakeholders on sustainability concerns.

First, three papers discuss CSR and sustainability reporting among listed firms and universities, as well as a study related to corporate philanthropy. The three articles expanded the CSR research perspective by considering a broader range of stakeholders, including employees (Zhang *et al.*, 2019) and external media (Zhang and Chen, 2019), illustrating a bottom-up approach emerging with the awakening of stakeholders, which differs from previous company-centered CSR research, An *et al.* (2019) analyzed sustainability reporting by universities. Information disclosure by Chinese non-profit organizations that are pertinent to the public stakeholders, including tertiary and healthcare institutions, is a research area that deserves growing attention. With top-down institutional background, the cooperation of government and NGOs examined by these papers illustrates a dissimilar scene of stakeholders' interaction in sustainability.

Second, the other three papers focus on environmental information disclosure and environmental performance. Pan *et al.* (2020) and Zhou *et al.* (2019a) examined the impact of China's unique political institutions on companies' environmental performance and disclosure, enriching the understanding of companies' environmental behaviors in transitioning countries. Zhou *et al.*'s (2019b) research is one of the few contemporary studies on companies' information disclosure about water pollution. These studies uncover the role of prosecuted corrupt officials Chinese People's Political Consultative Conference (CPPCC) involved in environmental issues, which has been rarely explored in the extant literature.

2.1 Corporate social responsibility and sustainability reporting

The first study, by Zhang *et al.* (2019), examined the disclosures by 151 Chinese listed firms on their corporate philanthropy in response to the Sichuan earthquake disaster that took place in May 2008. Adopting the Heckman two-stage selection model, this research looked into the significance of employees' donation activities as a bottom-up approach to CSRs among these firms. The results pinpointed the salient role of diversity of top executives, namely, the presence of females and seniors, in positively influencing employees' donations on corporate philanthropy.

The second study, by Zhang and Chen (2019), examined issues related to impression management among the CSR reports by the listed firms on the SSE and SZSE from 2009 to 2015. The researchers used regression modeling to examine the effects of media coverage on such impression management from the perspective of self-interest among the management. The study revealed media coverage and the existence of institutional investors as relevant factors engaging in such impression management. The study corroborates the need to engage with "independent and authoritative certification agencies" as a future direction, which is comparable with the international trend for professional assurance services on CSR or ESG disclosures.

Unlike the former two studies, which focused on listed commercial firms, the third study, by An *et al.* (2019), examined sustainability report by public universities in the Hong Kong Special Administrative Region of China and adopted a multiple-case study method. The authors were affiliated with institutions in Australia, China and New Zealand. With a focus on these government-funded universities in Hong Kong, the study unveiled their proactivity in disclosing sustainability information online that is relevant to various local and international stakeholders, covering educational issues related to climate change.

2.2 Environmental management

Pan *et al.* (2020) examined whether and how policy uncertainty surrounding prosecuted corrupt officials affects corporate environmental information disclosure. Specifically, the authors focused on the uncertainty resulting from political corruption, as measured by the number of prosecuted corrupt officials in a city. The researchers found that more corruption leads to a lower level of environmental disclosure. This relationship is especially strong for firms in less developed areas and highly polluting industries. These findings disclose the important role of policy certainty in environmental information disclosure.

Zhou *et al.* (2019a) investigated the relationship between the product market competition and firms' water information disclosure, alongside how firms' ownership type affects this relationship. The authors adopted a sample of 303 listed companies in highly water-sensitive industries to provide evidence on this relationship through the impact of product market competition on corporate disclosure of water usage. The findings suggest that firms with the highest market power, particularly SOEs, are more willing to disclose water usage information, serving as benchmarks in the product market. The study is timely in the context of lax regulation on water usage in China and contributes to the literature in exploring the regulatory environment of water management for enterprises (Zhou *et al.*, 2019a).

Zhou *et al.* (2019b) explored the role of the Chinese People's Political Consultative Conference (CPPCC) in dealing with environmental challenges. The authors sampled 457

CPPCC environmental proposals across 160 cities during the period 2013 to 2015 and found that CPPCC environmental proposals helped improve environmental quality as measured by air quality in the cities. Further, their study showed that this relationship was moderated by the strength of regulatory enforcement in the cities. The study suggests that CPPCC members take active roles in protecting environment and that the CPPCC serves a bridging role between government and the public by reflecting public's environmental concerns to the government and helps the government take regulatory actions to address public concerns on the environment.

3. Potential contributions and future avenues

This special issue is meant to provide a snapshot of recent studies of sustainability accounting, management and policy in China, and to explore the way forward in researching pertinent issues, with a hope to engage researchers in this growing regional community to connect with the global society in search of sustainability. In particular, the studies in the special issue evoke comparable and significant findings on sustainability reporting and performance by organizations in China as revealed in the other countries. This special issue intends to contribute to the existing body of knowledge by examining intensely into efficacy of different local practices, including current environmental practice that is critical for enhancing sustainability management by various types of entities. Such evidence submits the imperative of China as a centrally planned economy to proactively engage various economic entities and multiple stakeholders within the country in the course of implementing sustainability policy and related regulations. The concept of stakeholder engagement adopted in prior international studies on sustainability is found emergently relevant to the country undergoing rapid economic development.

While this special issue has collated studies that leverage on broad theoretical and conceptual perspectives and empirical analysis, future research on sustainability accounting, management and policy in China could be expanded to develop integrative theories of corporate sustainability that contribute to sustainable development of its economy and society in alignment with the *UN Sustainable Development Goals* (Adams, 2019). There are four pertinent areas encouraged for future research. In particular, they are respectively related to reporting, assurance, finance and management, which would extend the current focus to impending efforts of Chinese enterprises' in pursuing sustainable development. These studies would demand a multidisciplinary research team and potential collaboration with the international community (Adams and Larrinaga, 2019).

3.1 Quality of corporate social responsibility reporting and third-party assurance

Extant research has revealed a distinguishing feature of CSR reporting in China, that is, companies actively emulate peers in issuing CSR reports to increase legitimacy; as a result, they focus more on the format of the reporting, rather than on the content (Liu and Anbumozhi, 2009; Guan and Yu, 2011; Yu *et al.*, 2011; Zhao and Patten,2016). When compared with the increase of CSR reports, the more meaningful issue is quality improvement of CSR reporting that makes it a communication tool between companies and their stakeholders and instituting better oversight to help companies improve CSR performance. Independent, third-party assurance is one of the useful approaches in this regard.

According to Shen *et al.* (2017), CSR assurance rates in China have been hovering near 10%, which is considerably lower than the world average (KPMG, 2015), and the Chinese accounting profession, as opposed to counterparts in other countries, has been the least important player in the CSR assurance market. Consequently, taking full advantage of the accounting profession in CSR assurance to improve CSR reporting quality in China should be an interesting research focus moving forward. For instance, the Big Four have set up their sustainability divisions in China early this century and the climate change and sustainable service (CCaSS) department of EY is the most active one in CSR reporting and green finance (EY, 2020).

3.2 Motivation of non- state-owned enterprises firms' corporate social responsibility reporting

Enterprises subject to mandatory CSR disclosure are mainly SOEs; however, many non-SOEs voluntarily disclose their CSR information. In 2018, Chinese companies issued a total of 2,097 CSR reports, of which 1,128 were issued by non-SOEs, accounting for more than 50%. The enterprises that Noronha *et al.* (2015), Yu and Rowe (2017), Zhao and Patten (2016) and Li and Belal (2018) examined were mainly SOEs. What is the motivation for non-SOEs to incur the costs for CSR disclosure, especially for medium-sized non-SOEs that are not listed in China or abroad? Is it about reducing information asymmetry over sustainability as an intangible of a publicly listed company being demanded by the international capital market (Lev, 2001; Fuhrmann, *et al.*, 2017)? In fact, non-SOEs are usually members of local federations of industry and commerce and these federations often release the CSR reports of their member companies as part of their work. Some federations, such as the All-China Federation of Industry and Commerce and the Federation of Industry and Commerce of Guangdong Province, compile and issue CSR reports on behalf of all non-SOE members. This is a phenomenon specific to China that is worthy of further examining.

3.3 Sustainable financial management

The issue on green finance raised in the authors' call for papers has not been addressed by the authors of the submitted works but provides an agenda for future research. Little research has been performed on green finance and such influence on sustainability disclosures in China, which is inconsistent with the rapid development of green finance practices.

Scarce research areas are not limited to green finance. Interrelated issues about carbon accounting and finance, as well as investment and financing for climate change, have also emerged alongside China's carbon emission market. Meanwhile, a trend of socially responsible investment in the international capital market has also clearly emerged. As such, these synergistic studies that drive allocation of resources into systemic sustainable developments can be integrated into a framework of sustainable financial management and management control measures that are pertinent to China's political economy (Ng, 2018).

3.4 Green supply chain

As a nation economically substantiated by an enormous manufacturing sector, China is dubbed the world's factory. Chinese manufacturing firms are not only subject to increasingly government oversight on environmental compliance but also compelled to address the need for green products and green production from clients and consumers, especially those from overseas. Furthermore, suppliers' environmental risks can be passed on to downstream companies through the supply chain. How should Chinese manufacturers incorporate measures to deal with environmental risks related to the supply chain into their strategic decisions and business operations? How should companies disclose green performance embedded in the supply chain? What research methods should be used to investigate companies' environmental management related to the supply chain? All these questions about integrity of green supply chain need to be addressed by researchers.

4. Limitations

There are certain limitations in extending the above-proposed studies that are progressively interdisciplinary in nature and requires academia, policymakers and practitioners to make better collaborative efforts in future studies about China's sustainability accounting, management and policy. Engagement of a broader group of pertinent local and international stakeholders in these studies would become more inevitable.

Second, it is desirable for the researchers to be more engaged in studying the challenge of Chinese enterprises' involvement in global programs for sustainability. Despite globalization, it appears that so far only few Chinese enterprises are taking active part in pursuit of UN Sustainable Development Goals, integrated reporting, Carbon Disclosure Program and other global sustainable programs, while such significance is being realized by many emerging multinationals.

Third, in response to the emerging demand for professional knowledge about Sustainability Accounting internationally, a tremendous opportunity arises for the country to empower sustainability competence as a pioneer if ingraining such education into the knowledge body of its professional accountants could be accomplished in a timely fashion. It is desirable to transfer such contemporary knowledge to the current and next generation of accountants, as well as to build up their relevant competence through both professional and tertiary education platforms (Gray *et al.*, 2014, p. 325; Ng *et al.*, 2017). In China, there is a growing interest to integrate education about CSR and Business Ethics as compulsory courses for MBA programs in universities. Courses, such as CSR, Green Finance and Sustainability Accounting, though becoming relevant, are not yet considerably popular among undergraduate degree programs. Meanwhile, there is an initiative by the financial regulator in Hong Kong to promote education about ESG reporting for the accounting professionals due to the evolved ESG disclosure requirements by HKEX (Yung, 2020).

All in All, we are bounded by our very own country or indigenous culture that is yet to be transpired to another one. There is still no common platform or standard for transparent communication or disclosure to each other though we all inhabit one earth that is questing hard for sustainability in the meantime. Cross-cultural collaboration in sustainability research is one possible way to tackle such a real-life challenge that we are facing under globalization.

Notes

1. The Communist Party of China (CPC), the legitimate ruling party in China, convenes a national congress every five years at which the general secretary makes a public report on behalf of the CPC Central Committee and a new Central Committee is elected. According to the constitution of the CPC, the NCCPC and its elected Central Committee make up the highest body in the CPC. The NCCPC report is produced by the general secretary on behalf of the CPC Central Committee.

2. Company Law of the People's Republic of China (revised in 2006), Article 5: "in the course of doing business, a company must comply with laws and administrative regulations, conform to social morality and business ethics, as well as act in good faith, subject itself to the government and the public supervision and undertake social responsibility."

3. The 18th NCCPC defined ecological civilization as: "faced with increasing resource constraints, severe environmental pollution and a deteriorating ecosystem, we must raise our ecological awareness of the need to respect, accommodate to and protect nature. We must give high priority

to making ecological progress and incorporate it into all aspects and the whole process of advancing economic, political, cultural and social progress".

4. This includes: 98 central government-controlled companies, 277 listed companies in the Corporate Governance Index, 77 companies in the financial sector, 97 dual-listed companies, in SSE and 100 companies in the Shenzhen 100 Index. Source: China Stock Market and Accounting Research (CSMAR) database.
5. On December 27, 2018, the China Social Responsibility 100 Forum issued the *Research Report on Corporate Social Responsibility of China (2018)*. www.zerenyun.com/
6. Notice of the China Securities Regulatory Commission on Promulgating the Standards Concerning the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No. 2 – Contents and Formats of Annual Reports (Revised in 2017).
7. Speech by Yingmin Zhao, Deputy Minister of Ministry of Ecology and Environment of People's Republic of China, at the annual United Nations climate conference, UN COP25 in Madrid on December 11, 2019.
8. This observation is unveiled in a survey study on carbon accounting practice in China conducted by one of the contributing authors.
9. A call for papers of this special issue was launched subsequent to the Centre for Social and Environmental Research (CSEAR) North-Asia Hong Kong Conference that took place in December 2017 at the Hong Kong Polytechnic University. Researchers from Hong Kong, Macau as well as North, Central and South Mainland China attended the conference and communicated with international scholars interested in social and environmental accounting. Some of the papers presented at the conference were submitted to the special issue. Overall, the guest editors received and considered more than 40 papers, of which six were accepted, mostly after three rounds of revision.

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