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Corporate Social Responsibility in China: The Influence of Dynamic Capability and the Implications on Financial Performance and Investment

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Corporate Social Responsibility in China: The Influence of Dynamic Capability and the Implications on Financial Performance and Investment

By

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Abstract

The thesis explores the determinants of corporate social responsibility (CSR) adoption and its implications on company financial performance (CFP) and investment in China. In doing so, we aim to answer two primary research questions: (1) how a company's dynamic capabilities—its ability to respond to the changing environment—can influence the company at incorporating CSR into its operations; and (2) how corporate social performance (CSP) is associated with a company's financial accounting and investment performance. The study is divided into three empirical research papers as outlined below.

The purpose of paper one is to investigate the determinants that influence a company to incorporate CSR into its operations, which is to adopt strategic CSR (SCSR). The paper primarily examines how a company's dynamic capability can affect the adoption of SCSR. This study draws on the stakeholder, dynamic capability, and neo-institutional theories. Data were collected from 134 Chinese companies listed on the Shenzhen stock exchange (SZSE) and Shanghai stock exchange (SHSE) over the period 2017 to 2019 to examine the role of dynamic capability on SCSR adoption. The findings suggest that a higher level of dynamic capability than the average industrial level negatively affects SCSR adoption. The findings also reveal that dynamic capability, stakeholder pressures, and regional culture are important predictors of the adoption of SCSR. The empirical findings provide valuable insights into how CSR can affect company performance if used strategically. The use of dynamic capability theory in the study explains SCSR adoption from the perspectives of dynamic capabilities. The study partially supports DCT by focusing on the impacts of dynamic capability on SCSR adoption within companies operating in a developing country, China.

Paper two aims to investigate how CSP relates to CFP across the company life cycle (CLC) stages, including the introduction, growth, maturity, and decline/shake-out stages. This paper also examines how the focus of CSP, in terms of stakeholder dimensions, shifts across the CLC stages. To examine the two research objectives, we used quantitative data collected from 1,628 large, listed Chinese pharmaceutical

companies from 2010 to 2018. Drawing on the resource-based view (RBV), stakeholder theory and CLC theory, the study finds supporting evidence that CFP is improved with better CSP across the CLC stages. It also finds, on the basis of different stakeholder groups and across the CLC stages, that the effects of CSP are different. Investors, employees, suppliers, and the government are the most influential stakeholder groups influencing CFP. The study results suggest that CFP is directly linked to CSP and CLC and that the link is associated with stakeholder dimensions of CSR. Overall, the findings highlight the important role of CLC and CSP, which are often cited as important factors for enhancing CFP. This study provides valuable insights into the influence of CLC on CSP, which in turn may shed light on management practices to allocate resources and improve CFP.

Paper three explores the association between CSP and company performance through capital market effects and the role of cash flow volatility (CFV). This paper uses investment–cash flow sensitivity (ICFS) to capture the capital market effects. Drawing on the RBV and stakeholder theory, the association between CSP and ICFS was tested in this paper. To investigate the research objective, this paper used quantitative data collected from 4,082 companies listed on the SZSE and SHSE in China over the period 2010 to 2020. The study finds that companies with better CSP tend to have a greater and significant ICFS in a developing economy such as China. It also finds that the positive association between CSR and ICFS is weaker for companies with a more volatile current CFV and stronger for companies with a more volatile expected CFV. This demonstrates that CFV partially mediates or moderates the relationship between CSP and ICFS. The role of CFV on the association between CSP and ICFS highlights the need for regular management attention and evaluation on the investments and performance in non-financial engagements. This management attention should also be paid when making decisions relating to resource allocation and investment policies. In addition, managers should consider the company's cash flow stability and uncertainty sides in the competitive market environment. These findings suggest that the emphasis on the role of CFV is important in evaluating the performance effect of CSR through the capital market's response. This study contributes to the CSR, financial accounting and investment literature by responding to the call for research in ICFS in the context of developing countries in general and research on the role of CFV on CSP–ICFS association in particular.

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Declaration

I, Jing Li, declare that this thesis has been composed by myself and has not been presented or accepted in any previous application for a degree. This work has been carried out by me unless otherwise stated, and where the work is mine, it reflects personal views and values. All quotations have been distinguished by quotation marks, and all sources of information, including those of the internet, have been acknowledged using references.

Claire Li

List of Abbreviations

2SLS – Two-stage least-squares

AIDS – Acquired immunodeficiency syndrome

CAGR – Compound annual growth rate

CDC – Common dynamic capability

CEO – Chief executive officer

CFP – Company financial performance

CFV – Cash flow volatility

CLC – Company life cycle

COVID-19 – Coronavirus disease 2019

CSMAR – China Stock Market & Accounting Research

CSP – CSR performance

CSR – Corporate social responsibility

DCT – Dynamic capability theory

FCF – Cash flows from financing activities

FGLS – Feasible Generalised Least Square

GDP – Gross Domestic Product

GLOBE – Global leadership and organizational behavioural effectiveness

GLS – Generalised Least Square

GMM – Generalised method of moments

HAC – Heteroskedasticity

HDC – Higher dynamic capability

ICF – Cash flows from investing activities

ICFS – Investment–cash flow sensitivity

KPI – Key performance indicators

LDC – Lower dynamic capability

OCF – Cash flows from operating activities

OLS – Ordinary least squares

OTC – Over-the-counter

PSM – Propensity score matching

R&D – Research and development

RBV – Resource-based view

ROE – Return on equity

SCSR – Strategic CSR

SMEs – Small and medium-sized enterprises

SZSE and SHSE – Shenzhen and Shanghai stock exchanges

TRBC – Thomson Reuters Business Classification

U.K. – United Kingdom

U.S. – United States

VIF – Variance inflation factor

VRIN – Valuable, rare, imperfectly imitable, and non-substitutable

WTO – World Trade Organization

Chapter 1: Introduction

Managing a business accountably and ethically is important to ensure companies fulfil their social responsibilities and remain competitive in the current global market (Adams and Zutshi, 2004). The conventional view of creating value for investors has been called in doubt by companies' environmental and social influences (Gadenne et al., 2012). Extensive concern for poverty, health and wellbeing, gender equality, resources scarcity, and climate change is stimulated by numerous high-profile industrial accidents (e.g., the Qiqihar medicine disaster of 2006 and the BP oil spill in 2010) and an increasing number of company scandals, including the Enron scandal and WorldCom case (McWilliams and Siegel, 2000; Porter and Kramer, 2006). Companies' social and environmental consequences and corporate scandals have gained increased public attention (Porter and Kramer, 2006; Lund-Thomsen and Lindgreen, 2014). All of these stress the necessity of responsible business practices.

Companies are also facing increased pressure from their stakeholders, such as investors, employees, customers, suppliers, government, and community, to consider the possible impacts of their operational activities on the environment and the society (McWilliams and Siegel, 2000; Porter and Kramer, 2006). To respond to the environmental and social concerns and satisfy the needs of stakeholders, some companies adopt corporate social responsibility (CSR) reactively to respond to the institutional/stakeholder pressure (i.e., unwilling adoption of CSR). Others proactively adopt CSR for normative or instrumental purposes, as these companies intend to improve company performance (Aguinis and Glavas, 2012). These companies proactively incorporate CSR practices into operations with a strategic concern, referring to the adoption of strategic CSR (SCSR). The focus of this study is on the adoption of proactive CSR and SCSR, which includes designing and implementing socially beneficial activities that are strategically justified by their positive performance implications for the companies undertaking them (Rowley and Berman, 2000; Wood and Jones, 1995). The objectives of these socially beneficial activities are aligned with the company's strategy and what they do (Branco and Rodrigues, 2006). An example of the adoption of SCSR is skills-based volunteering that helps employees give more to the community and align giving with what the company knows best (McCallum, Schmid and Price, 2013).

CSR is often used interchangeably with sustainable development and company sustainability in the literature (Carroll, 1979; 1999; Epstein and Roy, 2001). However, they share a common premise that business and society are interconnected rather than different bodies (Wood, 1991). Moreover, society has expectations towards the right company behaviours (Epstein and Roy, 2001). Although there are various CSR definitions in the literature (Carroll, 1999; Dahlsrud, 2008), this study adopts the definition of CSR proposed by Chandler (2019) as the responsibility of companies to satisfy the interests of stakeholders and the responsibility of stakeholders to hold companies accountable. Chandler's definition of CSR is the most recent definition of CSR. Meanwhile, this definition emphasises on the interaction between the stakeholders and companies, which is the most relevant to the research objective underpinning this study.

Researchers have examined a broad stream of research on CSR in the accounting literature, such as CSR disclosure and nonfinancial information reporting (Dhaliwal et al., 2011), environmental management accounting (Burritt, 2004; Bebbington et al., 1994). Although these studies provide significant insights, they typically focus on either CSR disclosures (the former stream) or only one aspect (i.e., environmental management and performance) of CSR (the latter stream). While different aspects of CSR (disclosures and environmental management) have been extensively studied in the accounting literature (Lisi, 2015; Arjaliès and Mundy, 2013), little empirical research has been conducted on CSR within the strategic management accounting and investing literature.

More specifically, some research has examined the determinants of CSR adoption (Lin and Ho, 2011; Lee et al., 2018). However, little is known about how a company's ability to respond to the dynamic changing environment, i.e., dynamic capability, can incorporate CSR into operations and strategy in the strategic accounting literature. Moreover, although an extensive body of research has examined the link between CSR and company performance (McWilliams and Siegel, 2000; Porter and Kramer, 2006), little is known about how CSR relates to a company's financial performance (CFP), cash flow, and investment policies. Therefore, this study aims to investigate the determinants of SCSR adoption and the implications of CSR on CFP, cash flow, and investment policies.

Dynamic capability includes a company's ability to integrate, build, and reconfigure internal and external competencies to create a long-term competitive advantage (Teece, 2019). This is because dynamic capability creates intangible and valuable assets, such as knowledge that is scarce and difficult to imitate (Teece, 2019). This can enhance business processes, exploit more company possibilities, form a better strategy, and make a company's competitive advantage sustainable (Teece, 2018). Therefore, the dynamic capability is related to other resources and capabilities to achieve fitness with the changing environment, which influences the behaviours of managers regarding resources reconfiguration and operations towards maintaining a sustainable competitive advantage (Teece, 2018). The level of dynamic capability may help managers assess their company competency, allocate resources, and make decisions.

Dynamic capability is an essential factor in integrating CSR's social, environmental, and economic dimensions into business strategy, which may help companies realise their CSR goals and create value (Teece, 2018). This is because dynamic capability can reflect a company's sensing, seizing, and transforming capabilities (Teece, 2018), which can be used to develop and implement CSR strategies in an effective way (Epstein and Roy, 2001). For example, sensing capability involves incorporating external information into the internal company system, which helps managers identify possible company problems and new opportunities (Teece, 2018). The seizing capability focuses on the responsiveness of the company system to external opportunities and threats (Teece, 2018). Transforming capability attempts to align the company system components and other strategies (Teece, 2018). These three components of dynamic capability indicate the extent of the companies' behaviours in the value creation and obtainment processes. A high level of dynamic capability is considered an important competency for successfully adopting and implementing CSR, improving company performance. Therefore, the first motivation of this study contributes to the literature by investigating the impact of dynamic capability on SCSR adoption.

The company life cycle (CLC) perspective was proposed by Adizes (1979), stating that a company's development path is like an organism, experiencing stages from birth to growth, maturity, and death. Changes in the resources level and company performance in this development path are considered as dynamic locus. Cash flow

patterns can indicate a company's life cycle stage (Dickinson, 2011), which may help managers evaluate their current CLC stage and influence the behaviours of managers in terms of resources allocation, decision making, planning and evaluation/control purpose. CLC perspective can provide a new and dynamic perspective to evaluate the balance between CSR performance (CSP) and CFP, which may help managers determine the allocation of company resources to financial or non-financial project engagements. This is because cash flow patterns can reflect a company's risk, profitability, and growth opportunities, thereby can be used as a proxy of a company's CLC stage and related to CSR and CFP (Dickinson, 2011). Examining the CSP – CFP relationship from the CLC perspective can also reflect the shifts of the CSR focus in terms of stakeholder groups. This can help managers understand and satisfy the demands and needs of stakeholders in an early stage by associating with the company's situation. Therefore, the second study motivation draws the advantages of the CLC research and contributes to the literature by examining CSR's financial and non-financial consequences.

Cash flow volatility (CFV) is opposite to cash flow stability and includes current and expected CFV (Sun and Ding, 2020). Current CFV is related to cash flow uncertainties and risks by drawing on the cash flows in the past years; expected/predicted CFV is associated with cash flow risks by drawing on the forecasted cash flows in the future years (Sun and Ding, 2020). These CFV patterns are related to the market reactions and stakeholder responses to a company's CSR investments, which can be indicated by investment – cash flow sensitivity (ICFS) (Hovakimian, 2009). The use of CFV patterns provides managers useful cash flow information and market situation before investing in CSR. CFV is important to consider for a company when investing the social, environmental and economic dimension of CSR, which can transmit a signal of good citizenship to the public (Su et al., 2016). This is because the existing and potential investors and other stakeholders concerned about CSR may use this information to make future investments to improve company resources, positively affecting company performance. This sheds light on the third study motivation and contributes to the literature by investigating the impacts of CSR on investment and the role of CFV on the relationship between CSP and ICFS.

The purpose of this thesis is to (1) explore how a company's dynamic capabilities, meaning the capabilities of a company to respond to the changing environment (Teece, 2018), can influence the company to incorporate CSR into operations at a strategic level, i.e., adopt CSR with a strategic concern, or, SCSR; (2) investigate the implications of CSP on a company's accounting and investing performance, which is, to examine how CSP relates to CFP, cash flow and investing policies.

This thesis follows the 'thesis by publication' format, including three separate but interrelated empirical research papers. The first paper examines whether and how a company's dynamic capabilities can affect the company's decision to adopt SCSR, using a sample of 134 Chinese listed companies from 2017 to 2019. This study finds that dynamic capabilities are an essential factor in SCSR adoption.

The second paper explores how CSP relates to CFP across the CLC stages, namely the introduction, growth, maturity, and decline/shake-out stages, using 1,628 large, listed Chinese pharmaceutical companies from 2010 to 2018. The study finds supporting evidence that CFP is improved, with better CSP across the CLC stages. The study also finds that the effects of CSP based on different stakeholder groups and across the CLC stages are different, and investors, employees, suppliers, and the government are the most influential stakeholder groups in influencing CFP.

The third paper investigates the implications of CSP on the cash flow and investing policies by (1) exploring the mechanisms for CSP to affect ICFS in developing economies, in which ICFS is a crucial indicator for companies in making investing policies, referring to the response of company investment expenditures to internal cash flows (Carpenter and Petersen, 2002; Attig et al., 2014); (2) examining the effect of CFV, which is an indicator of cash flow instability and uncertainties (Sun and Ding, 2020), on the association between CSP and ICFS. Using a sample of 4,082 listed companies in China for the period 2010 to 2020, this study finds that better CSP is more likely to correlate with more sensitive investment – cash flow relationships in the context of developing economies. Moreover, CFV can play an important role in enhancing such a capital market effect of CSP.

The contribution of this study to the CSR, accounting and finance literature is threefold. First, this study contributes to the CSR literature by suggesting that researchers consider dynamic capabilities in CSR research. Previous studies shed light on the

influence of dynamic capabilities on company strategies (Teece, 2018), but little is known about the association with CSR at the strategic level. Our results complement these previous studies by including dynamic capabilities as one important factor of SCSR adoption performance.

Second, this is the first study in the CSR literature to reveal the positive impact of CSP on CFP while taking into account the CLC, at least within the pharmaceutical industry and in the context of an emerging market such as China, supporting the view that CLC is a critical factor in CSP. Moreover, the study underlines the central role of ethics in stakeholder management and resources allocation decision-making processes.

Third, this study contributes to the CSR, cash flow, and investing literature by providing empirical evidence, from a developing country context, about the mediating role of CSR in the relationship between investment spending and internally generated funds, as well as the role of CFV in the mediating effect of CSR, while most prior studies are based on a sample of companies in the context of developed countries and paid no attention to the role of CFV (see Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014).

The first and third papers use quantitative data collected from a sample of listed companies in China, while the second paper is based on a quantitative research method using a sample of listed companies operating in the pharmaceutical sector of China.

This chapter is structured as follows: Section 1.1 is the research context, which reviews the literature relating to CSR components, the CSR context in China, and the literature about CSR and corporate governance. This section also includes the literature review about the main themes in this study, including the CSR literature relating to SCSR, CFP, and cash flows and investment policies and performance. Section 1.2 discusses the underlying theories used in the study and how these theories are related to the CSR literature. The research aims and objectives are outlined in Section 1.3, followed by the research methodology and data collection in Section 1.4. Section 1.5 gives the main findings and study contributions. The overarching thesis structure is displayed in Section 1.6. Finally, a chapter summary is presented in Section 1.7.

1.1. Literature Review

1.1.1 Introduction

CSR is defined as the responsibility of companies to satisfy the interests of stakeholders and the responsibility of stakeholders to hold companies accountable (Chandler, 2019). CSR is often intertwined with business strategy and corporate governance (Chang et al., 2020). SCSR is one type of CSR (Lantos, 2001) and is defined as an implementation tool to ensure that the CSR activities of the company and business operations are aligned and generate social good and financial values (Vishwanathan et al., 2020). Since companies have social responsibilities to consider CSR issues and concerns and make better resource allocation decisions, they may be curious about the interaction between CSR, management, accounting and finance (Carroll, 1991). This may include questions such as how their capability to respond to the changing environment may affect CSR adoption, how CSP can be related with CFP over a company's development path, and whether and how CSP may be related with cash flow and the investing policies of a company. To help the reader to understand these questions, this thesis begins by discussing the components of CSR and the implications of CSR relating to accounting and corporate governance, explaining what CSR consists of and how CSR relates to companies.

Regarding CSR implications, this section provides insight into the existing literature by critically reviewing prior studies on CSR components, the CSR context in China, and CSR and corporate governance. The literature review in this chapter begins with the definitions and critiques of CSR and discusses the key research findings of the prior relevant empirical studies. This chapter provides an overview of the existing literature by critically reviewing prior studies on CSR, SCSR, dynamic capability, CFP, and ICFS. The literature review in this chapter begins with the literature on the association between dynamic capability and SCSR, followed by the relationship between CSP and CFP across the CLC stages and on ICFS. The chapter establishes the relevance of this study and identifies the significant gaps in the existing literature. To establish the relevance of the study and the literature, this section is devoted to understanding the association between CSR, dynamic capability and SCSR, which is the first research objective of this study. Following this analysis, the second research

objective, which is focused on the role of CLC in the association between CSP and CFP, is discussed. Then, the role of CFV on the association between CSP and ICFS is highlighted as the third research objective.

1.1.2 CSR Components

This section is a literature review of CSR components by differentiating between developing and developed economies. This section starts with Carroll's (1979) CSR pyramid, then discusses Visser's (2008) critics regarding the contents and ranking of CSR components in developing economies.

Carroll (1979) proposes a pyramid of CSR components based on the motives or actions of the business, arguing that a company's social responsibilities should include economic responsibility that maximises the shareholders' wealth and legal, ethical, and discretionary responsibilities. However, Visser (2005) argues that Carroll's pyramid can only be applied to developed countries such as the United States (U.S.), while developing countries, such as China, have different rankings and priorities of CSR components. Therefore, Visser (2005) proposes a new ranking pyramid for developing countries, with economic responsibility first and philanthropic responsibility second, followed by legal and ethical responsibilities. The ranking is different from Carroll's pyramid in that CSR is commonly related to charity or philanthropy in developing countries (Visser, 2005). This section provides a brief discussion of the scope of CSR and CSR components for a better discussion of the factors of adopting CSR at the strategy level.

Consistent with CSR definitions reviewed by scholars (Chandler, 2019), the scope of CSR includes the relationship between companies and the stakeholders in society. Inherently, CSR covers the responsibilities of both companies and stakeholders over time and at levels. Carroll (1991) proposed the CSR hierarchy to differentiate responsibilities and modelled CSR as a pyramid (see Figure 1.1). Figure 1.1 displays the four social responsibilities in the pyramid of CSR: economic, legal, ethical, and philanthropic responsibilities. The responsibilities form a hierarchy following the nature of discretionary and voluntary behaviour. The higher the level towards the top, the more discretionary responsibilities there are. Carroll argues that the four responsibilities can be satisfied at the same time.

Figure 1.1. The Pyramid of CSR
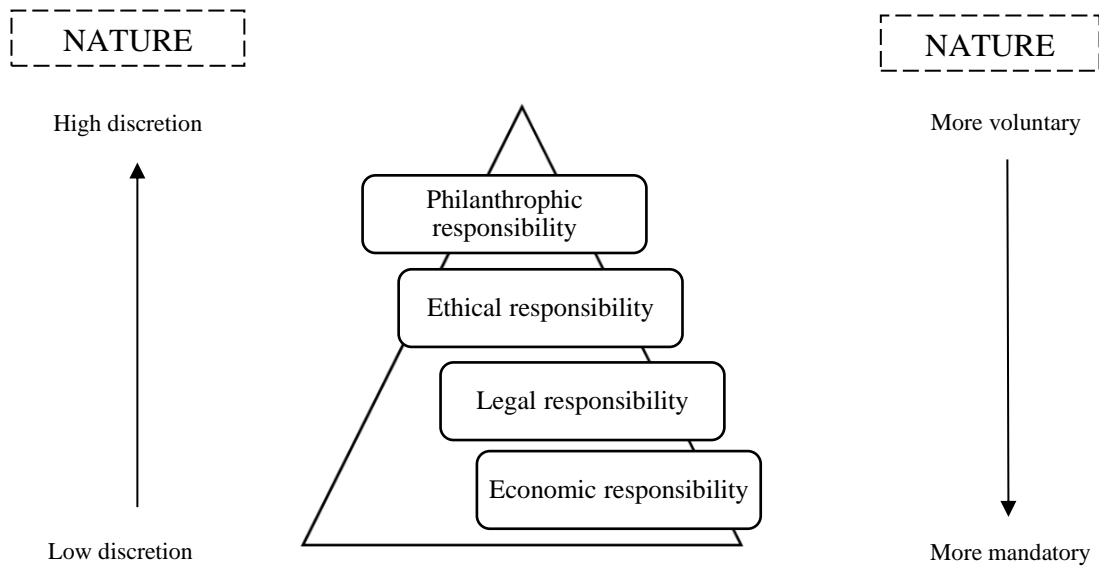
Source: adapted from Carroll (1991).

The first type of social responsibility is economic responsibility, which is the responsibility of a company to produce goods or services to meet society's needs and wants and sell them for a profit (Carroll, 1979). Economic responsibility is fundamental for companies as they are expected to profit and provide considerable returns for investors. Economic responsibility requires companies to operate and be committed to maximising economic interests (Carroll, 1991). Also, companies need to operate efficiently and be competitive in the market. Since profit is the mandatory business goal for most companies in developed countries, companies have the lowest discretion over their economic responsibilities.

The second type of social responsibility is the legal responsibility, which is the responsibility of a company to produce goods or services that conform with laws and regulations (Carroll, 1979). A company has a legal responsibility to act in accord with the law. Companies have legal responsibilities to comply with local and market regulations and laws. In particular, countries such as India and the United Kingdom (U.K.) are making companies more involved in CSR spending and assurance through means such as legislation and listing rules. Obeying laws and regulations is also a mandatory responsibility for a company. A company has little or no discretion over legal responsibility.

While the first two responsibilities are mandatory for companies, the following two types are relatively voluntary. The last two components are voluntary responsibilities for companies but are closer to societal expectations. Ethical responsibility is beyond the expectations of legal requirements; it is the responsibility of a company to act following moral and ethical norms, meeting the expectations of society's members. Behaving integrally and ethically beyond minimum legal requirements is the primary expectation of this component. Due to the voluntary nature of ethical responsibility, a company has a relatively high level of discretion over actions satisfying their ethical responsibility.

The last type of social responsibility is philanthropic responsibility, which is a company's responsibility to be a good citizen, that is, society's expectations (Carroll, 1991). At the philanthropic level of CSR, companies act more proactively and strategically to benefit either themselves or society or both. The philanthropic component is a higher expectation than the ethical component due to its voluntary nature. Companies are expected to be involved in social activities that improve the quality of life (Carroll, 1991). Due to the voluntary nature of philanthropic responsibility, a company has a high level of discretion over actions satisfying its philanthropic responsibility.

Carroll's CSR pyramid provides a typical classification of CSR components (Crane and Matten, 2004). The pyramid explains the motives leading a company to satisfy its responsibilities at different levels. Economic and legal responsibilities are mandatory for companies, so profit and laws/regulations are the motives of the two components of CSR. Ethical and philanthropic responsibilities have a relatively voluntary nature compared to the previous two responsibilities. Social norms can influence a company to perform its ethical responsibility. However, performing philanthropic responsibility is purely a proactive action with a strategic concern. Extant literature implies the importance of sustainable development at the company level through CSR (Lee et al., 2018; Lin and Ho, 2011). Also, the United Nations calls for more actions to improve sustainable development (Dahlmann et al., 2019).

After introducing the CSR components, the next part discusses how to incorporate CSR into business operations to achieve a company's sustainable development. SCSR is one way to contribute to this goal due to the three main characteristics of SCSR

(Chang et al., 2020; Kuokkanen and Sun, 2020). First, SCSR concerns the interests of stakeholders (Kuokkanen and Sun, 2020). Since companies' operating activities and stakeholders' interests affect each other, it is important to consider the needs of stakeholders when operating companies. Therefore, carrying out SCSR is an interactive process since companies need to consider social responsibility activities to benefit and satisfy stakeholders at a strategic level (Kuokkanen and Sun, 2020; Freeman and McVea, 2001).

Second, SCSR stresses the coexistence of business and social benefits (Vishwanathan et al., 2020; Porter and Kramer, 2011; Rodrigo et al., 2018). Since SCSR incorporates social objectives into business and links social and economic goals in the long term (Porter and Kramer, 2006), companies need to perform a cost-benefit analysis before carrying out a CSR initiative (Yu and Liang, 2020). The motivation of SCSR is to benefit society and the company simultaneously, improving the social and company value and achieving a win-win situation (Porter and Kramer, 2011, 2006). Therefore, companies conduct SCSR to achieve strategic and social objectives for long-term economic benefits (Lantos, 2001).

Third, companies integrate SCSR into their core operating activities (Brammer and Pavelin, 2006; Michelon et al., 2013; Vallaster, 2017). Since SCSR lays a foundation for creating and maintaining a sustainable competitive advantage, SCSR creates a shared value for society and companies (Porter and Kramer, 2011). This is important for a company carrying out SCSR since combining CSR with business processes contributes to its internal value chain activities and improves its external competitiveness (Gelbmann, 2010; Székely and Knirsch, 2005).

These characteristics suggest that adopting SCSR can bring value to the companies. Pursuing financial and non-financial benefits simultaneously, in the long run, is a critical motive for companies to integrate CSR into business strategy and adopt SCSR (Vishwanathan et al., 2020). Therefore, these three characteristics make SCSR a valuable tool to improve sustainable development.

A good example to illustrate the adoption of SCSR is the effective use of a poverty alleviation campaign to eliminate poverty in China. In 2016, China started a poverty

alleviation campaign to eliminate poverty by 2020.[1] Many Chinese companies responded to the call from the government and helped the low-income families in distant areas to produce and then sell goods through e-commerce platforms. The outcome of the campaign is a win-win. On the one hand, the companies performed CSR to help to reduce poverty, improving sustainable development of the country and the globe.

On the other hand, when distributing wholesale or retail goods, the companies acted as agencies and earned the agency fee as a profit. In this case, the companies have aligned their economic and philanthropic goals, so they adopt SCSR and improve sustainable development at the company level. However, this poverty campaign is conducted at the urging of the government. What other possible factors, such as a company's dynamic capabilities, could influence the companies to adopt CSR at the strategic level is unclear. Many Chinese companies have not realised the social value brought to the sustainable development of the companies themselves through making company objectives in line with CSR (Moon and Shen, 2010). Also, due to the one-sided understanding of CSR, there is a lack of management mechanisms for implementing social responsibility at the company level.

Based on the literature (Lee et al., 2018; Lin et al., 2016; Tseng and Lee, 2014; Zhang, 2019), this study proposes that through understanding companies' dynamic capabilities, companies can know the value of incorporating CSR in strategic operations, as dynamic capabilities are closely related to the internal characteristics. Meanwhile, companies want to know more about integrating CSR in operational strategy by using their dynamic capabilities to respond to the changing environment (Gugler and Shi, 2009). Therefore, this thesis explores the association between a company's dynamic capability level and the adoption of SCSR and attempts to address this concern in its first empirical study.

Based on Carroll's CSR pyramid, Carroll (2004) and Aminu, Harashid and Azlan (2015) incorporate the concept of stakeholders in CSR by expanding the requirements

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[1] See the official news report at https://www.gov.cn/xinwen/2015-12/07/content_5020963.htm.

of locals and society to stakeholders' expectations. They extend Carroll's (1991) model to consider stakeholders' management when a company performs CSR.

Besides being a theoretical foundation, Carroll's pyramid of CSR has many empirical applications (Lu et al., 2020). For example, CSR components can be varied for companies with different company sizes, as the various structures and management styles can lead to different content, nature and extent of CSR activities (Tilley, 2000). Small and medium-sized enterprises (SMEs) have more concentrated ownership and management than large companies (Spence and Rutherfoord, 2001). Hence, the implementation of CSR activities and responsibilities depends on the personal preference of managers in SMEs because these managers have control over the allocation of constrained company resources such as time and financial resources (Spence, 1999). With a focus on Irish SMEs and large companies, Sweeney (2007) conducted semi-structured interviews with 13 companies to find that SMEs and large companies cannot define CSR clearly, with the main problem lies in the meaning of the corporate and social elements of CSR. However, unlike the large Irish companies responsible mainly to four groups of stakeholders (employees, customers, community and the environment), SMEs in the context of Ireland are concerned mainly with the local community's interests, with financial constraints as the main barrier.

Apart from the influences of company size, company culture can affect CSR components (Edmondson and Carroll, 1999). By surveying 503 large companies owned by Blacks in the U.S., Edmondson and Carroll (1999) argue that companies owned by Blacks prioritise economic responsibility as the first before others. These companies viewed ethical responsibility as their second important one. The philanthropic and legal responsibilities are almost of the same importance for them as the last ones. A recent study surveying the views of Hong Kong and U.S. students on CSR by Burton, Farh and Hegarty (2000) was conducted for comparison. They find that Hong Kong people are more concerned with economic responsibility than U.S. people and place almost the same importance on legal and ethical CSR components.

The CSR pyramid can relate to the management types (Carroll, 1991; Cai, Jo and Pan, 2012). Cai, Jo and Pan (2012) provide U.S. evidence to investigate the relationship between company value and CSR engagement in controversial industries, including those involved with emerging CSR ethical issues. In line with Carroll's CSR pyramid,

they associate the following management types with CSR (Carroll, 1991): moral, immoral, and amoral management. Using a sample of U.S. companies from 1995 to 2009, they find a positive relationship between CSR engagement and company value in controversial industries, even though their products are harmful to society and the environment.

In sum, Carroll's (1991) CSR pyramid is the most widespread basis for many CSR studies (Crane and Matten, 2004). Although Carroll's pyramid of CSR provides a foundation of CSR components, there are some limitations of Carroll's pyramid, as pointed out by many researchers (Visser, 2006; Chandler, 2019; Blowfield and Murray, 2019).

First, Carroll's CSR pyramid was based on conditions in the U.S., while the applicability to other emerging countries was questioned (Visser, 2006). Different countries can have various cultural systems, political and economic environments. Therefore, to apply the model from one developed country to other economies, it is necessary to include more supporting evidence. Crane and Matten (2004) discuss CSR in Europe and emphasise the differences in CSR components between Europe and the U.S. They find that it is more compulsory for European companies to perform philanthropic responsibility through meeting the requirements of regulations and legislations than companies in the U.S. (Visser, 2005). Moreover, ethical responsibility is more important in Europe than in the U.S. (Visser, 2004, p44).

Visser (2005) doubts the applicability of the CSR pyramid in developing economies such as Africa. In particular, economic responsibility is still the most important component, but philanthropic responsibility is the second, with legal and ethical responsibilities coming last in Africa. There are three possible reasons for the importance of philanthropic responsibility in Africa. The first reason may be that there is a need in African society, which expects companies to treat philanthropic responsibility as the norm. Philanthropy is the simplest way for companies to improve communications with society. The second reason may be that local societies have a reliance on foreign assistance, consequently expecting funds for CSR projects in Africa. The third reason is the infant state of CSR development, as well as philanthropy.

Second, Carroll's pyramid of CSR has a problem of conceptual clarity, meaning that the pyramid is unclear and inconsistent in its meaning (Visser, 2005). The first clarity issue is that the rationale to describe the pyramid as a hierarchy is unclear. In particular, the rationale Carroll used includes the historical CSR development path (Carroll, 1979, 1991), a sequence of dependence (Carroll, 1991, 2004), and the perceived order viewed by the management (Edmondson and Carroll, 1999). He once argued that economic and ethical responsibilities should be accorded the same importance but then the hierarchy of the CSR components (Carroll, 2000). The second clarity issue is that Carroll's pyramid does not provide clear coverage of competing themes, so it has limited instrumental value (Visser, 2005). According to Visser (2005), Carroll has vacillated among company citizenship, philanthropy (Carroll, 1991) and the CSR notion (Carroll, 1998). Carroll seems unsure whether to equate these concepts, and he once changed the model to the four aspects of company citizenship, only to later return to the original pyramid (Carroll, 2000). Hence, the scope of coverage is unclear because Carroll attempts to create an umbrella notion of CSR but fails to distinguish the themes existing in the link between companies and society (Elkington, 1994, 1997; Visser and Sunter, 2002; Visser, 2005). The third issue is that it is not clear whether the pyramid is descriptive or normative. According to Visser (2005), the pyramid is retrospective, looking back at historical development. The basis for such a perspective is that "the history of business suggests an early emphasis on the economic and then legal aspects and a later concern for the ethical and discretionary aspects" (Visser, 2005, p33). Thus, there is a descriptive bias based on its retrospective perspective. However, the later empirical evidence which supports simultaneity arguments makes the pyramid normative (Visser, 2005, p46).

Third, Carroll's pyramid has problems with descriptive accuracy (Visser, 2005). One problem is the universality of the context. As mentioned above, it is questionable whether the model can be applied to countries other than the U.S. Culture plays an important role in the model's applicability (Burton et al., 2000; Crane, 2000; Edmondson and Carroll, 1999; Chandler, 2019). One specific example is that in Africa's context, the delimitations among four CSR components are unclear, and the rank of order is different from that in Carroll's pyramid (Visser, 2005).

Fourth, the pyramid does not consider the dynamic complexity of the changing environments, and consequently, the moving CSR components (Visser, 2005). The environment is moving fast, so there are possible changes in the nature of obligations and responsibilities (Chandler, 2019). Today's ethical responsibility may become tomorrow's legal obligation. However, Carroll's pyramid describes a simplistic situation and assumes the environment to be static. Also, several responsibilities may conflict with each other (Crane and Matten, 2004). Even Carroll later provides empirical evidence to show that "the more economically oriented a company is, the less emphasis it places on ethical legal, and discretionary issues" (Carroll, 2000, p461); however, he fails to identify any solutions to solve such conflicts (Visser, 2005). Chandler (2019) argues that the pyramid is not rigid, although it is useful. The high levels of the responsibilities are becoming more necessary and mandatory, so they are moving in a descending trend. For instance, past ethical responsibilities are quickly turning into economic and legal responsibilities. This is due to rising expectations from the stakeholders. Hence, companies must include stakeholders' perspectives in their strategic plans to ensure the satisfaction of responsibilities.

In addition, it may be questionable to include the economic responsibility as part of social responsibilities. Managers are mainly responsible for shareholders because managers are employed by the company directors to improve the profitability and satisfy the economic goals of companies, which are the main concerns of shareholders (Hill and Jones, 1992). However, companies perform CSR activities to satisfy demands of the stakeholders instead of shareholders only (Freeman, 1984). Therefore, it may only be said that economic responsibility is one motive of companies, instead of a component of CSR. The Carroll's pyramid classified the responsibilities of companies, instead of the social responsibilities. Hence, this thesis study separated the profitability/economic responsibility from the social responsibility and excluded the economic responsibility from the definition of CSR.

Although these criticisms have been levelled against Carroll's CSR pyramid, there is no new and better model dealing with all the limitations of Carroll's pyramid. Even if some models are proposed, they have not been tested and supported by empirical evidence (Blowfield and Murray, 2019). Moreover, in developing economies such as China, the feasibility of Carroll's CSR pyramid is still uncertain. To satisfy the

research objective of exploring factors of adopting SCSR and impacts of CSR on financial performance, this thesis includes the main CSR components of economic, legal, ethical, and philanthropic responsibilities, with less concern about the priority or ranking of these responsibilities. Moreover, this thesis bridges the limitations of applicability in developing countries and the dynamic complexity of the company and environment in the context of China, which is a large developing country. The following section introduces the reason why China is worth examining.

1.1.3 CSR in China

This section introduces the CSR issues and regulation implementation in China. By looking at the current situation about CSR in China, this section discusses the research context concerning CSR issues and practices.

Since developing countries have less knowledge and experience in developing CSR practices and implementations, there is scant research but increasing concerns about CSR in developing economies for three main reasons (Jamali and Miushak, 2007; Chapple and Moon, 2005; Moon and Shen, 2010; Yin and Zhang, 2012; Upadhaya, 2016). First, developing countries have more than 80% of Earth's total population and almost 50% of the world's Gross Domestic Product (GDP) (International Monetary Fund, 2012), so their CSR concerns are essential due to their fast growth speed and attractive investment environment (Peng et al., 2008, Upadhaya, 2016). Second, as developing countries generally have low/medium income and human development (Belal et al., 2013; Visser, 2008), widespread CSR-related issues and crises can be found in developing countries at present due to globalisation and rapid economic growth (Visser, 2008). Third, CSR practices are in an infant stage in developing countries, so more research into CSR issues needs to be done.

CSR motivations and practices in developing countries are different from developed countries in institutional regulations and contexts, stakeholder demands and company cultures (Matten and Moon, 2008). Moreover, there is "no single pattern of CSR" among developing countries, even Asian countries (Upadhaya, 2016, p35). This is due to different "regulatory enforcement, stakeholder pressure, and socio-economic and environmental context" among developing countries (Upadhaya, 2016, p39). For example, Moon and Shen (2010) investigate the development of research in CSR in

China. They find that scholars have been transferring research focus from concerns about ethical issues only to more specific social, environmental, and stakeholder issues (Moon and Shen, 2010). Factors for such transformation may include the promotion of the Chinese government and business leaders. For instance, a new law passed in 2006 encourages the disclosure of CSR information of listed companies. Consequently, continuous listing rules on mandatory disclosure of CSR information have been published since 2008, requiring listed companies to disclose relevant CSR information.

In the context of China, Yin and Zhang (2012) use case studies to explore CSR practices and implementation. They find that the national business system and cultural and historical traditions can affect CSR adoption and implementation effectiveness.

Moyeen and West (2014) investigate perceptions of senior management through interviews and find that CSR practices in Bangladesh companies are philanthropy-driven. In Nigeria, companies that adopt CSR are "philanthropic and altruistic" driven because they want to "address socio-economic development challenges" (Amaeshi et al., 2006, p94).

There is a need for researchers to explore CSR initiatives in the context of China (Yin and Zhang, 2012). CSR adoption can be influenced by China's economic environment and institutional pressures within the institutional environment (North, 1990). First, there is a significant change in the economic environment of China from a state-controlled economy to a socialist market (Yin and Zhang, 2012). During the transition, companies tend to maximise profit and face intense competition (Harvey, 1999), causing them to act in a less than ethical and socially responsible way (Lu, 2009). Second, there has been a significant change in the institutional environment in China as well (Yin and Zhang, 2012). On one side, the Chinese government promotes CSR practices to gain social legitimacy (Moon and Shen, 2010). For example, Wenzhou city in Zhejiang province has created China's first CSR evaluation system for private companies (Accountability and World Trade Organization (WTO) Tribune, 2009). On the other hand, Chinese companies are still trying to learn CSR initiatives and implementations. To be specific, managers and business leaders in China, with a sense of the importance of CSR, are integrating CSR initiatives into their daily operations to obtain a potential competitive advantage (Gugler and Shi, 2009).

Developing countries such as China have a different ranking and priority of CSR components from Carroll's (1991) CSR pyramid, which is based on the U.S. context. As mentioned previously, Visser (2008) proposes a new ranking pyramid for developing countries different from Carroll's pyramid. With the economic responsibility of an organisation at the bottom, philanthropic responsibility is at the next-highest level, followed by legal and ethical responsibilities. The ranking is different from Carroll's because "in developing countries, CSR is most commonly associated with philanthropy or charity" (Visser, 2008, p493). This conclusion is further supported by Yin and Zhang (2012) in the context of China.

According to Yin and Zhang (2012), Visser's CSR pyramid is more suitable than Carroll's pyramid for developing countries (including China) with two possible explanations. First, since the institutional environment in transitional China leads to imperfect market and legal systems, "stockholder interest" and "legal compliance" are rarely considered in Chinese CSR by Chinese companies, although they do exist. Hence, several problems, such as the lack of procedural protection of legitimate rights, result in weak legal enforcement and civic accountability (Xu and Yang, 2010; Snell and Tseng, 2003). Another explanation lies in the influence of ethical leadership. The most typical cultural tradition in China is the Confucian culture with its principles of Ren and Li, meaning benevolence, philanthropy, humaneness, and social rules and norms (Liu, 1998; Lu, 1997; Yin and Zhang, 2012). Confucian culture is observed by many Chinese business leaders and indeed is a substitute for ethics (Zadek and Wickerham, 2009).

Previous studies provide an insight into external factors influencing the adoption of CSR in developing countries (e.g. institutional and stakeholder pressures). However, there is a lack of exploration of a company's capability that may influence CSR adoption. Therefore, this thesis fills this gap in its first study based on Visser's pyramid and Yin and Zhang (2012).

Regarding CSR development and regulations in China, there are three stages (Ba, 2019): voluntary adoption of CSR phase (before 2008), a combination of voluntary and mandatory adoption of CSR phase (2008 – 2015), and a further improvement phase (after 2015). The current stage of China is the further improvement phase when China further improves CSR regulations in the capital market in both Shenzhen and

Shanghai stock exchanges (SZSE and SHSE). The SZSE requires companies to disclose information in five main areas: (1) protection of the interests of shareholders and creditors, (2) protection of workers' rights, (3) protection of suppliers, customers, and consumers, (4) environmental protection and sustainable development, and (5) public relations and social welfare services (Ba, 2019). The stock exchange also announced several notices on other areas of CSR requirements. For example, the SHSE published *Notice on Further Improving the Information Disclosure of Poverty Alleviation Work of Listed Companies* at the end of 2016, requiring listed companies to disclose information on poverty alleviation work. The continuous improvements in CSR regulations in China show the increasing concerns on CSR issues, and the regulators are trying to call for Chinese companies to incorporate CSR initiatives into operational strategy, i.e., adopt SCSR for impact evaluations.

However, the legal system and regulations of CSR are not perfect and are challenging to implement (Noronha et al., 2013). Although companies have laws and regulations to fulfil their social responsibilities, these regulations are mainly in principles and lack operational content. Therefore, the legal system of CSR in China is not perfect and even lags behind the needs of social and economic development, which further leads to the lack of motivation for companies to adopt CSR in company strategies (Ba, 2019).

In addition, Chinese companies have not realised the social value brought to the sustainable development of companies themselves through making company objectives in line with CSR (Moon and Shen, 2010). Due to the one-sided understanding of CSR, there is a lack of management mechanisms for implementing social responsibility at the company level. However, some managers and business leaders with a sense of CSR integrate CSR initiatives into daily operations to obtain a potential competitive advantage, so these companies are interested in CSR initiatives and implementations (Gugler and Shi, 2009). In particular, companies may want to know more about integrating CSR in operational strategy and how to implement SCSR (Gugler and Shi, 2009). Therefore, this study fills this gap to examine the company's dynamic capabilities and the impact on SCSR adoption to enable companies to understand SCSR adoption in China better.

1.1.4 CSR and Corporate Governance

After reviewing CSR components and CSR context in China, this section discusses empirical literature and theories related to CSR and corporate governance around three questions: *What should a company be responsible for? To whom should a company be responsible? How can a company be responsible?* The section then introduces the main theories related to CSR and corporate governance.

1.1.4.1 For What Should A Company Be Responsible?

The first important question about relating CSR with corporate governance is*: What should a company be responsible for?* The previous discussion of CSR components provides insights for answering the question. According to the pyramid of CSR in developing countries, a company should take CSR behaviours to fulfil economic, legal, ethical, and philanthropic responsibilities (Visser, 2005; Carroll, 1991). These CSR responsibilities are closely related to the second question in this section: *To whom a company should be responsible?* Once the target subjects to be responsible for are identified, a company can prioritise the subjects' needs and perform its responsibilities (Blowfield and Murray, 2019).

Critics of the pyramid of CSR point out the importance and necessity of the dynamic environment on CSR when identifying the target subjects and performing responsibilities (Blowfield and Murray, 2019) as these vary with time, industry, and location. For example, the first factor, time, is easy to understand. As previously mentioned, more and more countries require CSR behaviours by law or stipulate them for listing on the stock exchange. Some ethical responsibilities in the past may be categorised as legal responsibilities now. The second factor, industry, indicates that responsibilities are different for various industries. Companies in sinful and controversial industries, such as the mining industry, may have more social responsibilities than other industries (Cai, Jo and Pan, 2012; Jenkins, 2004). The third factor, location, means that geographical distinctions and cultural differences can affect the inclusion of CSR components. For instance, companies in the US adopt "explicit CSR", where a company expresses its explicit purpose for social benefits when performing activities.

In contrast, companies in Europe prefer "implicit CSR", where a company is under social expectations to serve social interests and meet social consensus. Unlike developed countries, China, as a developing economy with a different culture, is in the early stage of CSR development. These differences in CSR types originate from the geographical and economic differences between countries (Blowfield and Murray, 2019). Therefore, this study uses a sample of listed companies in China as research subjects and context.

1.1.4.2 To Whom A Company Should Be Responsible?

The first question is closely related to the second question, *To whom a company should be responsible?* Determining the subject target groups to be responsible and prioritising the needs can help a company plan and allocate resources early (Blowfield and Murray, 2019). A company has the power to allocate its resources for financial benefits or social benefits. Either case contributes to the view that companies can act as citizens of society through involvement in social affairs. If a company pursues financial benefits, the company is fulfilling its economic responsibility. The leading target group, in this case, is the company's shareholders (Friedman, 1970). However, there may be a conflict of interests between shareholders and the rest of society. For example, shareholders may want a higher return at the expense of the environment. Hence, the company should consider the interests of other groups, such as the societal community, since these parties that affect or are affected by the company's behaviours are stakeholders (Freeman, 1984). When a company considers stakeholders' interests, it can utilise its resources for social benefits (Davis, 1973). During their consideration, a company should target stakeholders' rights and their expectations of CSR practices. The company should trade-off and take social costs and benefits into consideration in operations (Davis, 1973). To make the trade-off between social costs and benefits, the company has to understand two main objectives: identifying and classifying the stakeholders; prioritising the stakeholders and their interests.

1.1.4.2.1 Stakeholder Identification and Classification

The first thing when answering *To whom should a company be responsible when taking social responsibilities?* is to identify target stakeholders, and if possible, to classify stakeholders. Freeman (1984) defines stakeholders at two levels: Broadly

speaking, stakeholders are the identifiable groups or individuals that can affect or may be affected by the realisation of companies' goals; in a narrow sense, stakeholders are the identifiable groups or individuals that companies want to rely on for subsistence. Freeman's definition is prevalent because he made the concept pragmatic for companies since business people understand the meaning and incorporate it into their strategies. Also, he promoted it in research work, especially in corporate governance (Chandler, 2019). However, Freeman's definition is still broad and provides little guidance for managers in resource allocation decisions since it is meaningless to include "everyone" in the concept (Freeman et al., 2010). Hence, this thesis adopts a new and more specific definition of the stakeholder that is proposed by Chandler (2017, p74): Stakeholder is "any entity who is affected by the company (either voluntarily or involuntarily) and possesses the capacity to affect the company". The "capacity" mentioned in the new definition refers to the ability to act in stakeholders' interests.

One common way to identify and classify stakeholders is developed by Chandler (2017) to justify their internal or external relationships with a company. If the stakeholders are internally related to the company, they can be categorised as organisational stakeholders (Chandler, 2019). Examples of organisational stakeholders include directors, employees, and managers. At the internal level of a company, organisational stakeholders are most directly involved in the company products and services, which are the primary concern of a company. If the stakeholders are externally related to the company, they can be classified as either economic or societal stakeholders (Chandler, 2019). Economic stakeholders interact with companies driven by economic concerns. These stakeholders affect the financial aspects of the company and promote accountability between the company and the operational environment. Customers, competitors, and shareholders are examples of economic stakeholders. Societal stakeholders provide legitimacy for a company's survival and include the societal communities, the government or regulators, and the media.

Although Chandler (2019) provides a suitable identification and classification of the main stakeholders, the justification is not the strength of capacity for a potential stakeholder group to affect a company or promote the stakeholder's interests. However, the strength of capacity is important as one dimension of stakeholder classification

since it is the pivotal difference in the definition of stakeholders provided by Chandler (2017) and other scholars (Clarkson, 1995).

Metcalfe (2003) and Li (2012) suggest two different identification and classification systems of stakeholders. Metcalfe (2003) distinguishes between primary and secondary stakeholders based on the stakeholders' involvement in business operations. Primary stakeholders are those whose participation is vital to companies' operations, such as customers, employees, and shareholders. Primary stakeholders possess the capacity to promote their interests and hence influence the companies' operations. Secondary stakeholders such as the environmentalists and the media affect or are affected by business activities. Unlike primary stakeholders, secondary stakeholders are not involved in business transactions and do not possess the capacity to promote their interests.

From a contract perspective, the relationship between a company and its stakeholders is like a contract, and the company should perform relevant responsibilities according to the contract (Clarkham, 1992). In the contractual relationship, the extent of the intimacy of financial connections between companies and stakeholders is interest consistency (Li, 2012). Li (2012) uses the strength of the contractual relationship between stakeholders and the company to classify stakeholders into contracted and public stakeholders. Then, the author divides stakeholders into financial and non-financial stakeholders based on the extent of interest consistency. Consequently, the author obtains the following stakeholder classification framework, and examples are given in Table 1.1.

Table 1.1. Stakeholder classification

| | | Interest consistency | |
		Low	High
Strength of contractual relationship	High	Customers	Employees, creditors, suppliers
	Low	Community, public	Government

Source: Adapted from Li (2012).

According to Li (2012), customers are a group of stakeholders who have a high level in the strength of contractual relationship with the company. However, a customer loses connection with the company once a transaction is completed, so the customer has a low level of interest consistency with the company. On the other hand, stakeholder groups such as employees, creditors, and suppliers are strongly contractually related to the company, and they have a high level of interest consistency during the contractual relationship.

Stakeholders such as the societal community and the public do not have to sign a contract with the company, so they have a low contractual relationship with the company. Besides, they have limited financial connections with the company, so they have a low level of interest consistency. In contrast, the government is the stakeholder with a low level of contractual relationship but a high level of interest intimacy with the company since the company has to be subject to taxation.

Metcalfe (2003) and Li (2012) relate stakeholder interests with business operations and corporate governance. Hence, this study is based on their classification methods and develops a new and more specific classification framework in Table 1.2. Since this study is not based on a contractual perspective between stakeholders and the company, the dimension of the strength of the contractual relationship is not the justification for the new framework. However, this study may sometimes use the strength of contractual relationships to describe the association between stakeholders and the company.

Table 1.2. Stakeholder classification – A new framework

| | | Financial basis | |
		Financial	Non-financial
Capacity basis	Primary	Shareholders/investors; Employees	Customers
	Secondary	Suppliers; Government	Societal community

Source: the author

The new stakeholder classification framework has four groups based on two dimensions: financial basis (whether the stakeholder is financially or non-financially related to the company) and capability basis (the extent of the ability to involve in business operations to act towards the interests of stakeholders).

Stakeholders such as employees and shareholders/investors are classified as primary stakeholders financially related to a company. They have a specific financial contract relationship with the company, for instance, an employment agreement and liability contract. Meanwhile, they have a close relationship with the company. If the company makes a profit, it may lead to higher remunerations for employees and debt guarantees of creditors. The stakeholders' interests are consistent with the interests of the company.

Furthermore, they can have representation or agency such as the board to be involved in the company's operations. Hence, they possess the capacity to affect the company. Therefore, this group of stakeholders has a solid financial contractual relationship, high interest consistency, and a strong capacity of influence on the company.

Stakeholders such as the government, regulators, and suppliers are the secondary stakeholders financially related to a company. Although they may have a different financially contractual relationship with the company, they are highly interested and consistent with the company. Taking suppliers and the government as examples, suppliers have a specific contractual relationship with the company, such as procurement agreements, but there are no specific contracts and restrictions between the government and the company. Hence, this situation causes the difference of strength in contractual relationships. However, the more important dimension is interest consistency, and suppliers and the government are both highly interest-consistent with the company. For the government, its fiscal revenue is mainly sourced from the taxes paid by the company, and the company needs government support for business development. Suppliers desire to receive payments of goods or services from the company, while the company's profits help them receive the receivables on time. Nonetheless, neither stakeholder possesses the capacity to influence their stakes in the company as they are directly involved in the company's operations.

Stakeholders such as customers are classified as the primary stakeholders but have a non-financial relationship with the company. Customers purchase goods or services,

and the company provides corresponding product quality, so they have a solid contractual relationship with the company. However, the usual objective of the company is to profit, while customers want better products. When customers are not satisfied with the products, they may transfer to other companies or products. Hence, customers usually have a conflicting financial interest in the company. Moreover, pursuing a good quality of products and satisfying customers is one of the company's operational goals for survival in the market, so customers have a high level of ability to influence the business operations to act in customers' interests.

Stakeholders such as the societal community and the public are the secondary stakeholders with a non-financial relationship with the company. They have no specific financially contractual relationship with the company. The interaction between them and the company is media exposure when the company makes donations. Moreover, they do not directly participate in the business operations for their benefit.

The new framework of stakeholder classification concentrates on the financial relationship with a company and the extent of its capability to be involved in business operations. This new framework is more specific than past frameworks, and it can be applicable even when the underlying perspective is not a contract between the stakeholders and the company.

Although there are numerous benefits of the new framework, two limitations are worth noting. First, possible stakeholders can fit primarily into the four categories, but possible actors may be classified as multiple stakeholder groups (Chandler, 2019). For example, a company's employees can be shareholders when they own company shares and can also be customers when they purchase company products. The overlapping role of some stakeholders makes classification difficult and is an unsolved issue in the literature. However, this study's main research aims and objectives are the capability associations and financial consequences of CSR. The new framework of stakeholder classification provides an insight for the study about the relationship between stakeholders and the company. The classification of stakeholders is not a focus of this study. The issue of the simultaneous role of stakeholders can be a future direction of research.

The new framework of stakeholder classification implies the importance of different stakeholder groups. The framework stresses that a company needs to note the

variances between stakeholders regarding their financial relationships with the company and the capacity to be involved in business operations. Hence, it is important to note a symbiotic relationship between a company and its stakeholders (Chandler, 2019). In other words, the company needs to interact with its stakeholders. Therefore, managers need to manage and prioritise stakeholders and their interests to make wiser resource allocation decisions, which is the second important concern for whom a company should be responsible.

1.1.4.2.2 Stakeholder Prioritisation

The other thing to consider in the question of *To whom should a company be responsible?* is *How to prioritise stakeholders and related interests*, especially when there are conflicting stakeholders' interests. Chandler (2017) proposes five steps regarding the process of stakeholder prioritisation: identify stakeholders, analyse issues, prioritise competing stakeholders' interests, act, and evaluate the impacts of company behaviours. The first step for a company to prioritise stakeholders is to identify the key targeted stakeholders that have the most influence on the company. The second step is to analyse stakeholders' key issues or interests since these issues could also be the company's concerns. The third step is to prioritise any competing stakeholders' interests based on the internal benchmarks or justifications developed by the company. This step can be associated with the business objectives and phased goals of the company. The fourth step is to act in the interests of stakeholders, based on the prioritisation results. This step relates to the resources and capacities possessed by the company. The fifth step is to evaluate the financial and non-financial impacts of company behaviours. The core elements of the stakeholder prioritisation process are the company, the issue, and the stakeholders (Chandler, 2019).

During the stakeholder prioritisation process, companies have various internal benchmarks or justifications developed internally when prioritising any competing stakeholders' interests, and they act accordingly. There are three dimensions/factors to help the managers to decide how to prioritise stakeholders' issues and when to act: the company's strategic interests, the evolution of the issue, and the motivation to act of the stakeholders (Chandler, 2019).

The first dimension is strategic relevance, which measures the importance of the issue to the company. It represents the proximity of the issue to the competitive advantage

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of the company. It is the benchmark by which to gauge the relevance of the issue because it includes strategic goals and performance targets. Moreover, it can be measured by the sales or market share, either attainable or desirable, depending on the company. The higher the level of strategic relevance, the more important it is for the company to consider it first, and vice versa.

The second dimension is issue evolution, which expresses the degree of acceptance of the issue by the company into practices, i.e. the extent of institutionalisation of the issue. In particular, a company is exposed to more risks when it becomes defensive on an issue that is being institutionalised because the issue may be a threat to the company. For example, climate change exists and may affect business operations at present. If the company promotes industrialised practices relating to climate risk, it may obtain greater social value than other companies that publicly resist this phenomenon. Hence, the higher the level of the institutionalisation, the more of an issue its evolution is, and vice versa.

The third dimension is stakeholder motivation, which means the importance of the issue to the stakeholder. It measures the possibility of the stakeholders being affected most and therefore responding to the issue. The more influential the issue is to the stakeholders, the higher the stakeholder motivation is, and vice versa.

Chandler's matrix has an advantage over the past models (e.g., Zadek, 2004) because the new matrix includes the interaction between the company and various stakeholders, not just focusing on one particular issue. It allows managers to anticipate and respond to stakeholders' concerns at an early stage. It is particularly useful when there is a conflict between stakeholders' interests because the company can react quickly and avoid a potential threat or take advantage of a potential opportunity.

However, it is disappointing that Chandler's matrix does not include components of the company and stakeholders, although he argues that these two are of the same importance as the component issue itself. Strategic relevance, issue evolution, and stakeholder motivation are three dimensions of the issue only. This incomplete framework requires further complementation to account for the prioritisation of stakeholders and the relationship between stakeholders and the company.

1.1.4.3 How Can A Company Be Responsible?

The third question, *How can a company be responsible?*, is closely related to the previous two questions when relating CSR with corporate governance. It focuses on the ways and methods for a company to perform social responsibility.

A common way for a company to perform social responsibility is CSR expenditure (Manne and Wallich, 1972). A company can voluntarily spend money on CSR activities as CSR expenditures. For instance, donations are one form of CSR expenditure adopted by companies.

Voluntary and mandatory approaches are the two types of CSR behaviours. A voluntary approach occurs when a company voluntarily fulfils social responsibilities or discloses relevant CSR information to the public. A mandatory approach occurs when a company adopts CSR following mandatory CSR requirements from the government or legislation. Comparing mandatory and voluntary disclosure of information (Dhaliwal et al., 2011), one can see that voluntary disclosure provides an endogenous choice for companies, with the implication that they can self-select whether and to what extent to disclose. In contrast, mandatory disclosure imposes an exogenous pressure to force companies to disclose under a general framework.

There is a growing trend to move from voluntary towards mandatory CSR behaviours. For example, in China, listed companies satisfying certain conditions are required to make mandatory CSR disclosure on public reports. Many countries have adopted mandatory disclosure or practices related to CSR either through legislation or as required by the stock exchange. For example, India requires listed companies to spend a certain amount of money on CSR activities each year, and large companies that meet specific conditions need to have Energy Consumption Assurance in the U.K. These practices demonstrate that countries and companies are making an effort towards the inclusion of CSR into their operational business strategies.

Stepping into the 2000s, more and more companies adopt CSR in a more strategic way (Kraus and Britzelmaier, 2012). In other words, companies associate CSR behaviours with business operations when performing social responsibilities. For strategic business purposes, this type of CSR behaviour is called SCSR (Radhakrishnan et al.,

2018). The CSR industry has emerged, and increasing numbers of CSR managers and consultants are hired by big companies (Rahman, 2011).

However, to the best of my knowledge, there is a lack of systematic literature on the factors influencing the adoption of SCSR when a CSR manager is making resource allocation decisions on SCSR practices/behaviours. Researchers do provide some insights from discussing the determinants of CSR in the literature of CSR disclosures. For example, some researchers believe the managers voluntarily disclose CSR information to take stakeholders' interests into account and maximise stakeholders' wealth (Garriga and Melé, 2004; Kim et al., 2012). Therefore, the controlling power of stakeholders, or stakeholder pressures, can be an important factor influencing the CSR disclosure level since companies can adjust the disclosure level of information according to stakeholders' intentions. Companies are more concerned with their dynamic capabilities in responding to such pressures and the changing environment when making investments in CSR. Huang and Watson (2015) call for more research in investigating the capabilities and drivers of CSR. This study extends to SCSR and proposes the first research objective: to bridge the gap in the CSR literature by exploring the relationship between dynamic capabilities and the adoption of SCSR.

1.1.4.4 What Are The Impacts After Taking Social Responsibilities?

This section discusses the possible impacts after a company takes social responsibilities. Two aspects of impacts are examined in this study: financial performance and investments. This section reviews the literature to explain why and how CSR can have these two types of influences. The section also provides theoretical and empirical studies to support the formation of such influences. Finally, this study identifies any possible research gaps after the literature review.

1.1.4.4.1 CSR and Financial Performance

The first type of influence that a company can have after taking social responsibilities is its financial performance. Before and after taking actions for CSR, a company could evaluate the impacts of CSR on corporate governance aspects such as financial performance and cash flow performance. Researchers obtain mixed and inconclusive results on the debatable relationship between CSR and company performance (Crane

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et al., 2008; Brooks and Oikonomou, 2018). Company performance includes both financial and non-financial performances (McWilliams and Siegel, 2001). CSP is one type of non-financial performance. The inconclusive theoretical research between CSR and CFP is one research gap in this current study. Previous research provides mixed results on the association between CSP and CFP (Margolis and Walsh, 2003; McWilliams and Siegel, 2001; Crane et al., 2008; Brooks and Oikonomou, 2018). Some have concluded a positive relationship (e.g., Peloza, 2012; Greening and Turban, 2000; Hung et al., 2015), some have found a negative result (e.g., Brammer et al., 2006), and a few studies have found no relationship (McWilliams and Siegel, 2000).

A few researchers have found no relationship or direct link between CSR and financial performance (e.g. Aupperle et al., 1985; Surroca et al., 2010; McWilliams and Siegel, 2000). For example, Surroca et al. (2010) examine the impact of intangible resources on the association between company responsibility and financial performance by using Tobin's Q to measure financial performance over five years. Their findings do not indicate a direct relationship between company responsibility and financial performance.

Shareholder theory suggests that CSR practice misuses company resources at the expense of shareholders' interests since CSR activities are not the main business operational activities (Friedman, 1970). Similar to the shareholder theory, the window-dressing hypothesis states that managers use CSR as a means to build a reputation for personal benefits as social citizens at the expense of shareholder benefits. Therefore, CSR actions have agency problems (Barnea and Rubin, 2010). Financial returns are concerns of shareholders, so that CSR may have negative impacts on CFP. Some researchers conclude a negative relationship between CSR and company value (Barnea and Rubin, 2010; Brammer et al., 2006). For example, using empirical evidence from US companies, Barnea and Rubin (2010) argue that CSR engagements can be a waste of company resources and may destroy company value since managers may over-invest in CSR activities for their self-interest at the expense of the company good. Similarly, Brammer et al. (2006) find a negative relationship between CSP and stock returns using a sample of U.K. companies. These findings suggest that CSR investments lead to poor company performance.

However, the stakeholder theory argues against the shareholder theory. The stakeholder theory states that because the stakeholders other than the shareholders invest human capital and time to a company, a company is responsible for satisfying the interests of the stakeholders instead of shareholders only (Freeman, 1984). It can be argued that a good stakeholder management and integration of stakeholder interests may help ensure a company's long-term success and survival (Freeman and McVea, 2001). In this way, management may gain more support from stakeholders. Therefore, managing stakeholder interests becomes a matter of survival and good CSP. Hence, companies could have more resources to improve CFP by satisfying stakeholders' interests with a good CSP. Some researchers provide reasons to support the positive link between CSR and company performance (e.g., Greening and Turban, 2000; Hung et al., 2015). Greening and Turban (2000) find that companies with better CSP can attract more high-talented job applicants than those with poor performance in CSR by sending them signals of a good company image. In a recent quasi-natural experiment, Hung et al. (2013, 2015) found that mandatory CSR disclosure and more disclosures on CSR activities help reduce information asymmetry between the company and shareholders, thus increasing company value.

Drawing on the inconclusive results of the relationship between CSR and company performance, this study extends to examine the relationship between CSP and CFP over time from a CLC perspective. Habib and Hasan (2019) suggest that CLC could considerably affect corporate governance and socially responsible behaviours. They survey the literature of CLC, CSP and CFP, and find a lack of research on the implications of emerging countries' CLC. China is a developing country, and the pharmaceutical industry is growing fast. Therefore, this study responds to their call and examines the relationship between CSP and CFP in each CLC stage in the context of China.

The CSR literature provides insights into CSR from the CLC perspective (Hasan and Habib, 2017; Hsu, 2018). Hasan and Habib (2017) examine the relationship between CLC and CSR by using a sample of U.S. companies from 1991 to 2013. They find that mature-stage companies with a rich resource base and competitive advantages invest more in CSR-related activities than companies in other life cycle stages. They further find that size, profitability, and slack resources moderate the CSR-life cycle

association, which is more pronounced for companies in the mature stage. Similarly, Hsu (2018) assesses a sample of US companies from 2005 to 2015 to explore whether companies with better CSP will allocate capital across the CLC to maintain better and extend total assets. The author finds that the equity and debt issuance level shows a hump shape pattern over the CLC stages for a company with CSR engagement, and a company with better CSP has fewer significant financing issues as it matures. Companies with better CSP have more pay-out, higher retained earnings to total assets, and more free cash flows than companies with low CSP. Cash holdings also show a hump shape over the life cycle, and better CSR practices are related to significantly lower cash holdings. In sum, Hsu (2018) implies that CSR practice can indicate companies' life cycle sustainability and future cash flow patterns and CFP. Hasan and Habib (2017) and Hsu (2018) also consider the impacts of CLC on stakeholder groups. Therefore, it follows that CLC may relate to CSP and stakeholders as CSR. This study considers this point and researches the impacts of CLC on CSP and the association of CSR with CFP. Importantly, drawing on Hsu (2018), this study further examines the possible lag effects on CFP.

The literature also provides insights into the possible relations between CLC and the link between CSP and CFP (Seifert et al., 2004; Elsayed and Paton, 2009; Al-Hadi et al., 2019; Tascón et al., 2021). Seifert et al. (2004) investigate the financial correlations of company philanthropy in Fortune 1000 companies in the U.S. using structural equation modelling. They suggest that cash flow, which is one type of company resource slack for discretionary purposes, significantly affects a company's cash donations to charitable causes, whereas monetary donations have no impact on CFP. Their study supports the view that doing well enables doing good but implies no significant effects on profits from company philanthropy (one CSR aspect). Their study sheds light on the association between CSR and cash flow (one type of financial performance), but their study ignores nonmonetary giving, which is one important aspect of CSR engagements and performance (Seifert et al., 2004). Nonmonetary philanthropy is one aspect of CSR and is likely to have a positive impact on company performance in terms of disposal of excess inventory (e.g., soon-to-be-obsolete computers given away for educational purposes), creation of goodwill (e.g., a pharmaceutical company donates low-cost acquired immunodeficiency syndrome (AIDS) drugs to people in need in Africa), and employee motivation. Nonmonetary

philanthropy is likely to improve company reputation, retain employees and impact company performance.

Al-Hadi et al. (2019) complement Seifert et al. (2004) by including monetary and nonmonetary aspects of CSR and extend previous research to examine the impacts of CLC on the association between CSP and financial distress. Using a sample of listed Australian companies between 2007 and 2013, Al-Hadi et al. (2019) find that companies with good CSP and positive CSR activities are less likely to face financial distress. This association is more pronounced for companies in the mature stage, suggesting that mature companies with more resources are less likely to experience distress risk and more likely to engage in positive CSR initiatives than companies in other stages. Their study findings are consistent with Hsu (2018) that companies with better CSP and positive CSR engagements can face fewer financial issues in the mature stage than other life cycle stages.

Elsayed and Paton (2009) use a sample of U.K. companies from 1994 to 2000 to find the link between CFP and CSR engagement varies across the CLC stages. They further find that CFP has the most substantial positive impacts on environmental policy for companies in the maturity stage and the weakest positive effects in the growth stage across the CLC stages.

With interest in greenhouse gas emissions, Tascón et al. (2021) analyse how CLC affects the relationship between carbon performance and financial debt by using a sample of European listed companies from 2005 to 2018. They use the cash flow proxy proposed by Dickinson (2011) to distinguish CLC stages. They find a positive and significant relationship between carbon performance and financial debt during the growth stage, suggesting that companies with better carbon performance have greater access to external financing during the growth stage. However, the effect of carbon on financial debt is negative in the maturity stage, meaning that companies with better carbon performance have lesser access to external financing during the maturity stage. Finally, they find no effect of carbon performance on financial debt for companies in the shake-out stage, suggesting that companies' revival and the probability of bankruptcy are more important factors for accessing external financing. They further find a strong positive impact of carbon performance on financing additional tangible investments for companies at the growth, maturity, and shake-out stages.

These CSR studies suggest that companies can use CSR initiatives to differentiate from competitors, improve company reputation, and build customer loyalty (Saeidi et al., 2015; Wang and Berens, 2015). However, CSP activities require a great amount of resource outlays. Therefore, the extent of available financial resources has great implications for CSR activities and performance. Moreover, the possible association that varies across the CLC stages can provide important insights into the dynamic nature of the link between CSP and CFP (Habib and Hasan, 2019). Therefore, to examine the link of CSP – CFP across the CLC stages is one research aim of this study.

1.1.4.4.2 CSR and Investment – Cash Flow Sensitivity

The above literature also implies that cash flows and company investments could be associated with CSP (Tascón et al., 2021; Attig et al., 2014). The literature suggests that ICFS, which measures the response and sensitivity of company investment expenditures to internal cash flows, is likely to link to CSR through impacts on capital allocations (Attig et al., 2014; Ek and Wu, 2018; Samet and Jarboui, 2017). For example, by using a sample of U.S. companies from 1992 to 2010, Attig et al. (2014) posit that CSP can have a negative impact on ICFS through information asymmetry and agency costs, which are perceived as two channels of the impact. Their findings stress the role of CSR in reducing market frictions and improving companies' access to financial capital. Similarly, Samet and Jarboui (2017) document the association between ICFS and CSR engagement in a European context. Using a panel data set of 398 European listed companies from 2009 to 2014, they find that CSP weakens ICFS.

Moreover, they demonstrate that companies with good CSR practices can better obtain financing through reducing market frictions and agency costs. Ek and Wu (2018) extend the previous two studies and directly examine the impact of financial constraints on capital misallocation. They use two data sets from China and the U.S. covering the decade from 1998 to 2007 to explore theoretical connections between ICFS, which they use to indicate financing constraints and the dispersion of marginal revenue product of capital (which measures allocative inefficiency). They find a total factor productivity loss for Chinese companies. In sum, these studies stress the importance of ICFS in CSR and capital resources allocations.

However, their studies are documented in a developed economy context, while little is known about the mechanisms of CSP and ICFS in a developing economy. The ICFS

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pattern has declined sharply in developed economies, but ICFS is more stable in developing economies (Moshirian et al., 2017). This is because developed economies have falling tangible capitals, investment and cash flow persistence, but developing economies have more tangible capital, higher investment rates and more persistent cash flows (Moshirian et al., 2017). This may lead to a different situation about the association and mechanisms of CSP and ICFS in developing economies, although the above studies provide some insights in the context of developed economies. Therefore, this study extends the literature and explores the effects of CSP on ICFS in a developing country.

The literature also suggests that cash flow volatility and stability, which illustrate the turbulence and smoothness of cash flows over time, are critical to stakeholders such as investors and could have company performance consequences (Sun and Ding, 2020; Larkin, 2013). Sun and Ding (2020) link CSR and CFV to illustrate CSR's impacts on company uncertainties. Using a sample of 1,510 companies from 1996 to 2015, they suggest a U-shaped relationship between CSR and CFV. They find that CSR could reduce CFV at low and moderate CSR engagement levels but increase the volatility at a high level of CSR engagements. Larkin (2013) uses a database of consumer brand perception to find that solid consumer evaluations can reduce expected CFV and improve credit ratings for potentially volatile companies. Therefore, brand perception can influence financial policy by reducing company riskiness. These two studies suggest that CFV is critical for stakeholders, so it is likely to relate to CSP. Moreover, CFV looks at the overall company riskiness and uncertainties, so it is likely to closely associate with resource allocation policies, which could impact CSR activities and financial policies and performance. Therefore, to know more about how cash flows can be related to CSP, this study considers the role of CFV and examines the possible impacts of CFV on CSP and ICFS (one company performance indicator).

Collectively, this study proposes the second and third objectives: to extend the CSR literature by examining the impacts of CLC on CSP and CFP and by exploring the role of CFV on the possible relationship of CSP – ICFS in the context of a developing country.

After discussing the central questions relating to CSR and corporate governance and proposing the research objectives, the next section discusses the underlying theories to support this research.

1.2. Theoretical Development

To achieve research objectives, this study relies on several underlying theories relating CSR with corporate governance. This section identifies and discusses the underlying theories adopted by the study to explore the main factors (such as a company's capabilities) of adopting SCSR, examine the impact of CLC on CSP and CFP, and investigate the effects of CSP on ICFS and the role of CFV. This section starts with a discussion of stakeholder theory, which states that a company should be responsible for stakeholders, not just shareholders (Freeman, 1984).

1.2.1 Stakeholder Theory and CSR

This section introduces stakeholder theory and discusses why and how this theory may connect with CSR. Stakeholder theory is the most prevalent theory in the literature of CSR and corporate governance. Stakeholder theory states that a company should consider stakeholders' interests, not just the interests of shareholders (Freeman, 1984). The theory expands a company's objectives from wealth maximisation (Friedman, 1970; Di Giuli and Kostovetsky, 2014) to the inclusion of stakeholders' needs and interests (Freeman, 2010; Maignan and Ferrell, 2000).

Stakeholder theory answers *To whom companies should be responsible?* (Wood and Jones, 1995). Hence, further development of stakeholder theory focuses on stakeholder management and the relationship between a company and its stakeholders (Aminu, Harashid and Azlan, 2015; Balmer et al., 2007; Li, 2012). According to the stakeholder theory, in the context of CSR, a company is a social institution that should be responsible to its stakeholders, and companies may need to behave in such a way as to gain support from primary stakeholders such as shareholders, employees, and customers (Aminu, Harashid and Azlan, 2015). In this study, as previously discussed, this thesis focuses on stakeholders such as shareholders/investors, employees, customers, suppliers, the government, and the community.

Two perspectives of stakeholder theory are commonly used when relating CSR to corporate governance: the ethical perspective and the managerial perspective (Deegan, 2009; Gray et al., 2010; Fernando and Lawrence, 2014). First, the ethical perspective suggests that stakeholders should have the same right to be treated fairly by a company, regardless of their stakeholder power (Deegan, 2009). The company should meet the expectations of all the stakeholders. Hence, from this ethical perspective and in an ideal world, managers are expected to manage businesses for the interests of the stakeholders as much as possible (Hasnas, 1998). The ethical perspective has a focus on the accountability of a company which can be related to CSR. Accountability is defined as the responsibility of one party to another who has entrusted the first party to perform specific duties (Fernando and Lawrence, 2014). The CSR information disclosure represents one way to discharge accountability to the stakeholders (Hung et al., 2015). In other words, companies that disclose CSR information can reduce information asymmetry between the company and stakeholders (Hung et al., 2015). In turn, the company may expect certain benefits from stakeholders such as a better reputation, more investors, lower cost of capital (Deegan, 2009). However, managers may face a challenge to treat all stakeholders fairly, particularly when conflicting interests exist. Even when managers intend to manage in a fair way, it is not easy to find an optimal balance among these interests (Hasnas, 1998). Hence, this ethical perspective has limited power to explain in a CSR context (Gray et al., 2010).

Second, the managerial perspective suggests that managers are expected to meet the expectations of stakeholders who have the power to control the critical resources required by the company (Deegan, 2009; Fernando and Lawrence, 2014). Moreover, the more important the resources from stakeholders to the company, the greater an effort the managers should put into meeting the expectations of these stakeholders (Deegan, 2009). Hence, a company is expected to be accountable only to its economically powerful stakeholders from the managerial perspective. Different from the ethical perspective mentioned, stakeholder engagement and activism are important for the company as these two factors can affect the potential investments and resources obtained (Murray and Vogel, 1997; Fernando and Lawrence, 2014). The managerial perspective focuses on the power of stakeholders, which can also be related to CSR (Deegan, 2009; Fernando and Lawrence, 2014). Companies are more concerned about powerful and salient stakeholders (e.g. financial stakeholders) than other stakeholder

groups. Hence, companies may adopt CSR practices to manage influential stakeholders. Nonetheless, the limitations of the managerial perspective are how a company can know to whom they are responsible and the extent of their responsibility (O'Riordan and Fairbrass, 2008). These questions depend on the judgements of managers on the relationship between the company and critical stakeholders (Deegan, 2009; Fernando and Lawrence, 2014).

Hence, due to its practicability, the managerial perspective of the stakeholder theory is one of the underlying theories in this study. This current study seeks to apply stakeholder theory to explain CSP in terms of stakeholder dimensions across the CLC stages.

1.2.2 Neo-institutional Theory and CSR

This section elaborates on the principles and development of neo-institutional theory. Moreover, this section discusses how neo-institutional theory can be related to CSR.

Certainly, satisfying stakeholders' interests motivates companies to operate to obtain resources and support from outside (Parsons, 1960). However, companies have other motivations, such as legitimacy building, to proactively design and implement CSR activities (Suchman, 1995).

Legitimacy refers to "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially-constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p574). Legitimacy is a kind of morality and measure of society's perceptions towards a company and its activities (Suchman, 1995). Suchman (1995) identifies two types of legitimacy relating to CSR activities — pragmatic and moral legitimacy. The two types of legitimacy are closely related to company communications and dialogue between a company and its outside stakeholders (Ntim and Soobaroyen, 2013). Therefore, legitimacy becomes an important property or resource for companies to continue operation (Suddaby et al., 2017).

The neo-institutional theory states that companies should proactively design and implement CSR activities towards legitimacy building beyond fulfilling institutional pressures (Oliver, 1991; Suchman, 1995). The theory explains the reasons and

differences for companies to adopt CSR for legitimacy building (Scott, 2014; Beddewela and Fairbrass, 2014).

Institution, for instance, plays a role in influencing a company's decision to engage CSR (Li and Belal, 2018). The institution generally refers to accepted socio-economic beliefs, norms, and practices related to different perspectives of society, such as education, law, politics, religion, and work (Judge et al., 2010; Ntim and Soobaroyen, 2013). Economic and social institutions are two common types of institutions. First, economic institutions determine the motives for a company to engage in economic activities such as profit maximisation (Judge et al., 2010). Informal economic institutions, such as norms and conventions, can be linked to economic efficiency in that they suggest that companies proactively manufacture environmentally-friendly goods and services for better company performance by conforming to local cultural practices (Zattoni and Cuomo, 2008). Second, social institutions suggest that companies proactively adopt CSR to embrace some symbolic values of social and cultural systems (Meyer and Rowan, 1977).

In this view, it is argued that proactive CSR adoption could be driven by the competition for economic resources, i.e., economic efficiency, or consistency with local culture to obtain social approval for the right to exist, i.e., social legitimacy (Zattoni and Cuomo, 2008).

Other types, such as regulatory institutions, stress the connection between regulatory factors and the operation of companies (Scott, 2014). Rules, laws and regulations become authoritative guidelines for CSR initiatives and behaviours (Scott, 2005). Regulatory institution reveals why particular CSR practices, such as CSR disclosure practice, are adopted by companies. However, sometimes, regulatory institution, such as mandatory CSR regulations, is a passive, rather than proactive, institutional pillar in shaping CSR practices (Ntim and Soobaroyen, 2013).

The neo-institutional theory explains why companies adopt CSR for legitimacy building and suggests possible strategies for companies to obtain their legitimacy. The theory stresses that companies may undergo and manage isomorphic pressures — competitive, coercive, mimetic, and normative — that come from four isomorphism types, which states the process of homogenisation (DiMaggio and Powell, 1983; Moll et al., 2006). First, competitive isomorphism is the process where competitive

pressures make companies take cost-effective practices (Moll et al., 2006). Second, coercive isomorphism is closely related to external forces (Fernando and Lawrence, 2014). Specifically, pressures from powerful main stakeholder groups (such as shareholders) may play an important role in changing a company's practices, including CSR spending and disclosure (Deegan, 2009). Third, mimetic isomorphism allows companies to copy and imitate the practices of other companies, aiming to obtain a competitive advantage in terms of legitimacy (Fernando and Lawrence, 2014). To survive the uncertain environment and prospects, companies attempt to "follow innovative practices and procedures adopted by other companies in the same industry" because such practices would prevent "losing legitimacy in relation to the rest of the sector" (Unerman and Bennett, 2004, p692). Among such innovative practices, CSR reporting and initiatives can help companies to improve legitimacy. Fourth, normative isomorphism is a process that relates to value infusion (Roszkowska-Menkes and Aluchna, 2018). For example, managers and companies with value systems believe that CSR engagement is "the right thing to do" create an ethical company culture as the view is a norm for both the management and the company (Roszkowska-Menkes and Aluchna, 2018).

Scott (2001) suggests that these pressures can influence (and are influenced by) the forces of diffusion and/or imposition of institutional norms and practices while innovating ways of operating and/or negotiating the development of new institutional norms and practices (Judge et al., 2010). In this regard, companies may passively conform to isomorphic pressures (Powell and Di Maggio, 1991) or proactively manage these pressures by adopting specific legitimacy-seeking strategies (Suchman, 1995).

The neo-institutional theory has rarely been applied at the company level relating to CSR and corporate governance, although the theory has been employed primarily on predicting company practices at the national level (Sorour et al., 2020). Therefore, there is a scope to extend our understanding of institutional determinants and explain the incorporation of CSR practices in business operations among companies (Aguilera et al., 2007; Sorour et al., 2020). Therefore, the current study uses neo-institutional theory to explain the differences in adopting CSR with a strategic concern at the company level.

1.2.3 Resource-based Theory, Dynamic Capability Theory and CSR

This section introduces the principles and main concepts in RBV theory and dynamic capability theory (DCT). This section also relates the two theories to CSR to introduce the first research aim of this study.

Dynamic capability is considered an important factor affecting company strategies relating to CSR activities, where the dynamic capability refers to the higher-level capabilities associated with other resources and capabilities to achieve fitness with the environment (Teece, 2019). Dynamic capability consists of sensing, seizing, and transforming capabilities. Sensing activities incorporate external information into the internal company system, which helps managers identify possible company problems and new opportunities (Teece, 2018). The seizing capabilities focus on the responsiveness of the company system to external opportunities and threats. Transforming capabilities attempt to align the company system components with each other and with strategies (Teece, 2018). In sum, these three components of dynamic capability indicate the extent of company behaviours in the value creation and obtainment processes.

Barney (1991) proposes RBV theory stating that valuable, rare, imperfectly imitable, and non-substitutable (VRIN) resources support durable competitive advantage. Many scholars have employed RBV in CSR and corporate governance (Barney, 2021). They assume that productivity may be improved through allocating VRIN resources efficiently, but these resources are pretty easy to imitate, and therefore may not create a sustainable competitive advantage (Teece, 2019). Coase, Williamson and Hart have all won Nobel prizes for their important work on how companies organise their activities. Similarly, Teece (2019) argues that traditional neo-classical theories do not consider the existence of dynamic obtainment and neglect the possible impact on company performance. In addition, traditional resources allocation refers to the value creation process. However, in terms of SCSR behaviours, companies should include the value creation process for the society (in particular the stakeholders) and include the value obtainment process through value creation, i.e. how to gain a competitive advantage through CSR (Peng and Liu, 2015).

Furthering the development of RBV, Teece, Pisano and Shuen (1997) propose DCT and stress the importance of dynamic capability as a company's ability to integrate, build, and reconfigure internal and external competencies to create a long-term competitive advantage (Teece, 2019). Unlike VRIN resources, dynamic capability creates intangible and valuable assets, such as knowledge that is scarce and difficult to imitate (Teece, 2019). Dynamic capabilities are at the core of enhancing business processes, exploiting more possibilities, and forming better business strategies (Teece, 2018). VRIN resources, good strategy, and competitive advantage are unsustainable without strong dynamic capabilities (Teece, 2018). Evidence has shown that the Chinese manufacturing industry, with an increasing green growth efficiency value, has enormous potential for saving resources and reducing environmental pollution (Qu et al., 2017). Hence, dynamic capability can indicate the internal competency for creating and obtaining the company's sustainable competitive advantage. Therefore, the dynamic capability is important for creating and maintaining a sustainable competitive advantage in the market.

Dynamic capabilities help companies create and obtain resources to develop sustainable competitive advantage, which is the ultimate goal of CSR (Teece, 2019). Hence, it follows that dynamic capabilities can be related to CSR. Meanwhile, Teece et al. (2016) stress the importance of dynamic capabilities on strategic management. Therefore, this current study adopts the DCT to test the relationship between dynamic capabilities and CSR at a strategic level.

Teece (2018) develops DCT fully by using a systematic approach. In his framework of capabilities hierarchy, there are two levels of capabilities. Ordinary capabilities are at the primary level. The use of human resources and facilities in processes for company businesses belongs to this level (Teece, 2018). Effective use of ordinary capabilities can achieve high efficiency over management practices. However, they are not suitable for long-term advantage because they can easily be replicated due to fixed measures and benchmarks. Also, they bring low resilience to companies because the fixed settings make it hard for companies to adapt to changing needs (Teece, 2018).

The second level involves two layers. One is the lower-level capabilities which include a process to develop external relationships or new products. Compared to ordinary capabilities, lower-level capabilities have fewer routines because of the company's

idiosyncratic features (Teece, 2018). Another is the higher-level capabilities which can associate with other resources and capabilities to fit with the environment. These three capabilities, sensing, seizing, and transforming, are the main categories at this level. In brief, sensing activities incorporate external information into the internal organisational system, which helps managers to identify possible company problems and new opportunities (Teece, 2018). Seizing capabilities focus on the responsiveness of the company system to external opportunities and threats, and transforming capabilities attempt to align company system components with each other and with strategies (Teece, 2018).

The possible functioning of dynamic capabilities in the value creation and obtainment processes involve three main mechanisms. First, sensing capability indicates the ability of companies to identify and assess opportunities, threats and customer needs. Seizing capability is the second management competency used to allocate resources after sensing opportunities. For instance, managers may apply their competencies to devise and refine their business model accordingly. The third is the transforming capability, which means companies can exploit new opportunities through continuous learning and innovating. Engaging in these high-order capabilities continuously is vital for creating and maintaining a sustainable competitive advantage. Compared to ordinary capabilities, dynamic capabilities create intangible assets such as knowledge that are scarce and difficult to imitate. For a long time, these capabilities have become the most valuable assets for companies (Teece, 2019).

Moreover, dynamic capabilities may function on the adoption of SCSR through developing higher-order capabilities. The reason for this view is that when aligning the interests of both shareholders and other stakeholders, companies may build up dynamic capabilities, along with using available resources, to create long-term competitive advantage and improved financial performance to meet their needs (Teece, 2019). A high sensing capability can trigger the emergence of innovative business ideas in companies. As sensing capability identifies and assesses potential opportunities, threats, and customer needs in the marketplace, companies may predict the economic state and react accordingly (Teece, 2019). Companies with a high sensing capability may recognise potential opportunities to generate a new business idea quickly. Considering a balance between shareholders and other stakeholders,

companies can incorporate these new ideas into business strategies to satisfy needs, such as investing in environmentally-friendly projects. At this stage, managers may formulate strategic plans and financial budgets for possible future actions. Therefore, sensing capability provides a good indicator for adapting to a changing environment (Peng and Liu, 2015).

After recognising potential opportunities and threats, companies require seizing capability to react accordingly. Seizing capability measures the flow of resources to be allocated to managing the first new opportunities and solving threats while companies realise any value difference from doing so (Teece, 2019). Regarding sensing capability, managers may make a cost-benefit analysis for their resource allocation decisions (Church et al., 2019). To make an accurate and fast judgement on allocating resources properly after sensing possible opportunities and threats, companies with a high seizing capability may perform better and react more quickly than those with a lower seizing capability. Therefore, companies' sensitive sensing and seizing capabilities and management should be cultivated to seize opportunities to make appropriate decisions.

Transforming capability helps companies build up sustainable competitive advantages because it supports abilities in continuous learning and innovation. Such an impact can occur for two reasons. First, transforming capability creates a continuous renewal capability for companies, essential for innovating products, techniques, and business models (Peng and Liu, 2015; Teece, 2019). During the process, there will be transformations to the value chain. Competitive advantage will occur accordingly with increasing innovation ability. Second, during the process of innovation and pursuing sustainable competitive advantage, companies continuously invest in knowledge learning and generation (Teece, 2019), which contributes to adopting CSR at a strategic level.

Teece (2018) used DCT to study how resources, dynamic capabilities, and strategies work together to create a sustainable competitive advantage. Teece (2019) complemented that study by taking company heterogeneity into account. These two studies imply an interdependent relationship among resources, dynamic capabilities and strategies, and this interaction creates a sustainable competitive advantage that enhances company performance and value.

In sum, since the adoption of CSR in strategies aligns the objectives of both companies and the society and helps with cost reduction in the value chain, dynamic capabilities further create continuous resources in the process, optimising internal management and productivity (Porter and Kramer, 2006; Roszkowska-Menkes, 2018). Moreover, dynamic capabilities help companies access more production labour and materials and continuously increase demand (Porter and Kramer, 2002). They are seen as a non-financial investment for improving their competitive force in the market (Roszkowska-Menkes, 2018). In addition, they can expand a company's horizon and help companies identify unmet social needs (Lettice and Parekh, 2010). In other words, they bring opportunities for companies for future management decisions (Porter and Kramer, 2011).

Although DCT implies positive impacts of dynamic capabilities on CSR adoption with a strategic concern, recent studies question the relationship (Collis and Anand, 2021). Collis and Anand (2021) propose that pursuing a high level of dynamic capabilities requires a company to align all activities with every aspect of company design, such as structure, processes, metrics, incentives. Since each company choice constrains what a company can and cannot do, pursuing a dynamic capability cannot produce a company capable of doing everything simultaneously. Therefore, a high level of dynamic capabilities requires a reconfiguration of activity choices for companies. However, there is a limit to the extent to which a high level of dynamic capabilities can be employed. In particular, the conflict between the administrative structures required to sustain the current abilities, such as policy deployment review, and those which would change the entire process, limit any company's ability to pursue a high level of dynamic capabilities. This inherent limitation of dynamic capabilities makes it difficult for companies to align activities with aspects of company structure (Collis and Anand, 2021). In the context of CSR, the adoption of SCSR requires companies to align CSR activities with business strategies and structure, while a higher level of dynamic capabilities could reduce the extent of such alignment, resulting in less likelihood of SCSR adoption. Hence, this inherent limitation of dynamic capabilities could be one plausible reason for reducing the possibility of SCSR adoption.

Due to the inconsistency between DCT and its critics, this current study is based on DCT to develop a hypothesis of the role of dynamic capabilities on SCSR adoption.

The first study of this thesis (see Chapter Two) contributes to providing empirical evidence to test the effect of dynamic capabilities on SCSR adoption and performance.

1.2.4 Resource-based Theory, Life Cycle Theory and CSR

This section elaborates on the contents and principles of life cycle theory and relates it to RBV theory and CSR. Then, this section introduces the rest of the research objectives.

RBV explains competitive heterogeneity based on the assumption that competitors differ in resources and capabilities, resulting in competitive advantages and disadvantages (Helfat and Peteraf, 2003). The premise of RBV does not necessarily imply a static approach. With the evolution of company capabilities, such as developing the concept of dynamic capabilities, recent research suggests applying dynamic RBV by associating with life cycle theory (Helfat and Peteraf, 2003; Adizes, 1979).

Dynamic RBV explains competitive heterogeneity over a period of time and considers the shift over time. The theory suggests that RBV must incorporate the evolution over time of the resources and capabilities to form the basis of competitive advantage (Helfat and Peteraf, 2003).

Helfat and Peteraf (2003) analyse the development paths of products and resources (Wernerfelt, 1985) to suggest that these capabilities evolve and have life cycle stages. The recognised stages of the capability lifecycle include the founding, development, maturity stages. The lifecycle of a new capability possessed by a company begins with the founding stage. The development stage follows the founding stage, showing subsequent development of the capability. When capability development stops, it reaches the maturity stage. The capability may then enter into one of the additional stages of the capability lifecycle: retirement (death), retrenchment, renewal, replication, redeployment, and recombination. In sum, the capability lifecycle identifies paths in the capability evolution of a company from the emergence, development to progression and transformation. The generality of features in capability evolution can be related to CSR and corporate governance.

In the founding stage, individuals of a company have limited human capital (knowledge, skills, and experience), social capital (social connections), and cognition (Adner and Helfat, 2003). Since survival and profit in the long term are the primary goals of companies, companies may have limited their attention and resources on non-financial / CSR performance.

In the development stage, the company develops capability through seeking viable alternatives and accumulating experience over time. Company learning is required during the process if the company imitates a capability in another company. Companies are more likely to have better CSP during the development process since they possess more company resources and capabilities than the founding stage. However, with more available resources and capabilities over time, companies may face challenges to align activities with every aspect of the company structure and configuration of resources (Collis and Anand, 2021). Therefore, companies may find it challenging to perform CSR with a strategic concern.

At some point, the capabilities cease development and enter the maturity stage of their lifecycle. Capability development ceases, possibly due to the inherent limits and heterogeneity in the team level of achieving available resources and capabilities (Helfat and Peteraf, 2003). For example, skilful teams may be satisfied when they perceive the capability as good enough (Winter, 2000). Then managers may decide to cease capability development.

Companies can choose to maintain capabilities at the maturity stage. Over time, exercising the capabilities becomes more habitual, and capabilities can be deeply embedded in the company structure. Companies could use the capability developed to perform more financial and CSR activities. The maintenance of capabilities depends on the frequency and consistency of the team to exercise the capability (Helfat and Peteraf, 2003).

The capability lifecycle is a framework for dynamic RBV. Drawing upon the dynamic RBV, capabilities develop over time and have heterogeneity in companies (Helfat and Peteraf, 2003). Moreover, team heterogeneity in perceiving capabilities development could affect resource allocation decisions related to CSP (Helfat and Peteraf, 2003). This implies that the differences in resources and capabilities could be related to companies in different development stages. However, the dynamic RBV lacks an

explanation for the heterogeneity in resources and capabilities among companies in different development stages. Therefore, this current study applies RBV and life cycle theory to complement this.

The life cycle perspective can provide insights into CSR and corporate governance (Al-Hadi et al., 2019; Hasan and Habib, 2017). Researchers, therefore, propose the CLC theory, stating that a company's growth, like biological organisms, has a process from birth to death, from prosperity to decline (Adizes, 1979). The CLC is a dynamic locus of company development and growth, with the stages of introduction, growth, maturity, and decline/shake-out (Dickinson, 2011). Heterogeneity exists in company characteristics when companies progress along life cycle stages (Miller and Friesen, 1984). Such heterogeneity is due to the differences among companies in cash flow activities, capabilities, resource endowment, risk attitude and strategies (Dickinson, 2011; Miller and Friesen, 1984). For example, companies at the maturity stage are conservative, older and larger, with diluted ownership. Moreover, they are more likely to implement both participative and centralised management approaches. Management approach and decisions, depending on which CLC stage the company is at, could relate to allocating resources to financial and CSR activities, possibly influencing the extent of developing CSR initiatives, the CSP level, and CFP. It follows that CSP and CFP may be different for companies at different CLC stages. Therefore, drawing on the RBV from the perspective of CLC, the second study of this thesis (see Chapter Three) examines the effect of CLC on CSP and CFP.

In addition, drawing on the RBV and stakeholder theory, companies can invest company resources to implement CSR, in terms of economic, social, and environmental aspects, to satisfy the demands of stakeholders, which is helpful for companies to maintain long-term stakeholder relationships (McWilliams and Siegel, 2001). It follows that stakeholders may bring further inputs to a company, increase company resources, and increase companies' access to finance once their needs and demands are satisfied (Porter and Kramer, 2006). Therefore, the third study of this thesis (see Chapter Four) explores the implications of CSR investments on how stakeholders respond to company investment expenditures to internal cash flows.

In sum, this section introduced the main theories that the current study will apply to satisfy the research objectives in the thesis. The main theories used are the stakeholder

theory, neo-institutional theory, DCT, RBV, and CLC theory. The next section provides research aims and objectives before structuring the thesis framework.

1.3. Research Aims and Objectives

This section displays the main research aims and objectives of this study. Moreover, this study also provides research implications for each study objective.

The aim of this study is to (1) investigate the determinants of the adoption of SCSR, in particular, the association of dynamic capability with SCSR; (2) examine the association between CSP and CFP from a CLC perspective; (3) explore the relationship between CSP and ICFS and the role of CFV involved, in large Chinese companies. More specifically, the aims of the study are,

- To determine the influence of factors, particularly dynamic capability, on the adoption of SCSR.
- To examine the influence of CSR on CFP across the CLC stages, including introduction, growth, maturity, decline and shake-out stages.
- To examine the influence of CSR on CFP in terms of different stakeholder groups across the CLC stages.
- To investigate the association between CSP and ICFS.
- To explore the role of CFV on the association between CSP and ICFS.

There are three objectives of this study. The first objective of this study is to find out whether and how factors such as dynamic capability affect the adoption of CSR at a strategic level for Chinese companies. This will inform managers and boards of directors of large Chinese companies to engage in CSR activities with strategic orientation and use their dynamic capabilities to assess and respond to the changing environment before investing company resources in CSR activities with a strategic orientation. The regulators and the government can use the study results to improve company engagement to incorporate CSR activities into their business strategies and implement CSR nationwide.

The second objective of this study is to find out whether and how CLC affects company performance in terms of CSP and CFP in the Chinese pharmaceutical industry. This will enable managers in Chinese pharmaceutical companies or other

similar companies across the globe to better understand the attributes of CSR, its effect on CFP and the company's stakeholders. Managers can use the study's findings to gain vital insights into how the CLC stages influence CFP. Besides, managers can use the study results to inform how they allocate company resources to CSR activities and link this to CFP. In addition, the study results can inform policymakers on the importance of CSR and the need to introduce rules and policies that would stimulate CSR activities across the CLC stages. The current regulations on CSR activities are still early in many emerging countries, such as China, and extensive work is needed to develop this crucial area fully.

The third objective of this study is to find out whether and how CSP is related to a company's investment policies and CFV in China. This will increase managers' attention on investments in CSR (Galbreath and Shum, 2012), as CSP is seen as the main area that may affect responses from outside stakeholders on company investment expenditures to internal cash flows from the capital market (Carpenter and Petersen, 2002; Attig et al., 2014). Moreover, these company behaviours may lead to sensitive responses from other important stakeholders, such as investors, employees, customers, and the community, which could bring future investments, such as capital and labour, into the company as valuable company resources to benefit the CFP (Schaltegger and Burritt, 2010). Managers can use the findings of this study to understand how CSP can result in stakeholders' responses to company investment. Besides, managers can use the study results to consider and carefully evaluate their investments and performance in non-financial engagements when making decisions relating to resource allocation and investing policies. In addition, the study objective will raise managers' attention to the company's cash flow stability and uncertainty sides in the competitive market environment (Sun and Ding, 2020) before making effective resource allocation decisions and strategies. Managers can use the study results to plan CSR investments, monitor CSP, and understand diverse stakeholders' views and responses in their decision-making (Arjaliès and Mundy, 2013). The study results suggest managers should make ongoing adjustments to resource allocations and consider the effects of CFV when developing an appropriate CSR strategy and obtaining a positive response relating to CSR investment from the capital market.

1.4. Research Methodology and Data

This section briefly introduces the research methodology used in this study. Moreover, this section states the data used and the collection period covered.

This study employs a quantitative approach to address the research questions. For the first piece of research, to investigate the influence of factors, particularly dynamic capability, on the adoption of SCSR, this thesis proposes a hypothesis based on the literature (Lee et al., 2018; Lin and Ho, 2011; Lin et al., 2016; Tseng and Lee, 2014; Zhang, 2019) and existing theories (the stakeholder, dynamic capability, and neo-institutional theories) and the results of previous studies in a wide variety of fields, including the strategic management, psychology, and governance literature. To test the hypothesis, this study collected data from a sample of 134 Chinese companies listed on the SZSE and SHSE from 2017 to 2019. Empirical models that associate the factors of the adoption of SCSR are derived from testing the hypothesis on the collected data. The most compatible estimation method, the multivariate ordinary least squares (OLS) regression method, is used to test the empirical model. Employing the Granger causality method (Granger, 1969; Nelling and Webb, 2009; Qiu et al., 2016) and probit model, this study tests the bidirectional causality endogeneity issue to improve robustness.

In the second study of the thesis, to investigate the impacts of CLC on CSP and CFP in large Chinese companies in the pharmaceutical sector, this study proposes hypotheses based on RBV, CLC theory, and stakeholder theory (Barney, 1991; Freeman, 1984; Adizes, 1979). The primary justification for using a combination of theories is that it will enable us to analyse CSP from different perspectives and draw relevant conclusions. To test the hypotheses, this study collected data from 1,628 pharmaceutical companies listed on the SZSE and SHSE in China from 2010 to 2018. Empirical models that associate CLC to CSR – CFP are derived from testing the hypotheses on the collected panel data. The stepwise OLS regression method is used to test the empirical model. The study breaks down the stakeholders into six groups based on their CSR impact: (1) investors; (2) employees; (3) customers; (4) suppliers; (5) government; and (6) community. Endogeneity concerns arising from the bidirectional causality are addressed using the lagged independent variable model with fixed effects and the Generalised Least Square (GLS) model (Qiu et al., 2016; Nelling

and Webb, 2009). Additionally, robustness tests are conducted to confirm the results of the study.

The third study of the thesis explores how CSP, in China, affects company performance through capital market effects such as ICFS, which is a crucial indicator for companies in making investing policies (Attig et al., 2014). Moreover, the study examines the role of CFV in the association between CSP and ICFS. This thesis proposes hypotheses and mechanisms drawing on the theoretical framework of RBV (Barney, 1991) and stakeholder theory (McGahan, 2021; Dmytriyev et al., 2021; Freeman et al., 2021). To test the hypotheses, this study collected data from 4,082 companies listed on the SZSE and SHSE in China over the period 2010 to 2020. Empirical models based on Fazzari et al.'s (1998) method were derived from testing the hypotheses on the collected panel data. A panel data methodology, including heteroskedasticity (HAC) robust standard error (White, 1980) and feasible GLS (FGLS) method (Srivastava and Maekawa, 1995), and Baron and Kenny's (1986) procedure were used to test the empirical model. The generalised method of moments (GMM) estimation technique (Blundell and Bond, 1998) addresses the endogeneity concern. Additionally, robustness tests are conducted to confirm the results of the study.

1.5. Main Findings and Contributions

This thesis makes several main contributions to the CSR, accounting, and investing literature. The following details are the main findings and contributions of each chapter.

First, regarding Chapter Two, this is one of the earliest empirical studies to associate dynamic capability with the adoption of SCSR using a Chinese-based data sample. Previous studies examining SCSR do not include this dynamic capability to a great extent as one important factor affecting SCSR adoption (Lee et al., 2018; Lin and Ho, 2011).

The empirical findings of this study show that dynamic capability is an important factor of SCSR adoption, but a higher level of dynamic capability than the average industrial level negatively affects SCSR adoption. This result is inconsistent with some previous studies, such as Essid and Berland (2018), that use French companies as a

sample to analyse the dynamic capabilities in adopting environmental management tools. Instead, this result supports Collis and Anand (2021), arguing that dynamic capabilities have inherent limitations: dynamic capabilities require aligning all activities with every aspect of company design, such as structure, processes, metrics, and incentives. Each company choice constrains what a company can and cannot do. It is proposed that pursuing a dynamic capability cannot produce a company capable of doing everything simultaneously. Therefore, such a limitation makes it difficult for companies to achieve and adopt SCSR, requiring a high consistency between CSR activities and business objectives (Collis and Anand, 2021). This result can inform large Chinese companies to consider dynamic capabilities an important aspect to evaluate in resource allocation decisions.

This study also shows that, in large Chinese companies, the adoption of SCSR is influenced by internal and external factors, including dynamic capabilities, regional culture, company size, leverage, state ownership nature, and stakeholder pressure. This thesis mainly examines the impacts of stakeholder pressures and cultural characteristics on SCSR adoption, lacking detailed explorations in prior research (Lin and Ho, 2011). To fill the gap, this study provides evidence to examine the association of each stakeholder group pressures on the propensity of SCSR adoption. This study also goes beyond and adds to the CSR literature by accounting for the regional culture effect of a single country, while prior studies generally research at the national level.

This study also makes a theoretical contribution by applying the stakeholder, DCT, and neo-institutional theories to CSR literature and explain these significant relationships between variables, while prior studies often rely on a single theory to examine CSR determinants (Lin and Ho, 2011). The additional use of DCT in this current research explains SCSR adoption over time from the perspectives of dynamic capabilities. This finding improves the understanding of companies to incorporate CSR in operations.

Second, regarding Chapter Three, this study relates to examining the impacts of CLC on the association of CSP – CFP in China's pharmaceutical industry. Prior studies have not considered the variations of companies between CLC stages, which is from a static research perspective (Feng and Zhao, 2014; Habib and Hasan, 2019; Hou and Wang, 2009; Liu et al., 2019; Yang, 2011). This study contributes to the debatable topic of

the CSP – CFP relationship and extends to research on the topic from the dynamic perspective of CLC in the literature. Further, it highlights the critical role of CLC to find out the shifts of focus in CSP dimensions in terms of stakeholders (i.e., investors, employees, suppliers, customers, government, and community, in particular). This study accounts for the variation of financial aspects of CSR by investigating companies at different CLC stages.

This study finds that the CSP – CFP relationship is positive along CLC stages and argues that CLC has a mediating effect on the relationship. The study also relates stakeholder groups to the CSP – CFP link and finds that among the stakeholders, embracing CSR is more significant for investors, employees, suppliers, and the government at all the CLC phases.

Moreover, this study introduces the resources deployment channel as a potential mechanism by interacting resources bases and companies' cash flow patterns to add additional explanatory power towards CSR's short- and long-term financial consequences. The estimation results provide further evidence which supports the CLC theory and confirms the lag effect of CSR investment on financial performance.

Chapter Three focuses on the pharmaceutical industry with high-profile CSR incidents. The pharmaceutical sector is a highly regulated, fast-grow industry with a high level of financial demand. CSP and CFP are industry-specific; however, there is no empirical research providing evidence in the context of the pharmaceutical sector, to the best of our knowledge, on the relationship between CSP and CFP and how such association changes along the CLC development stages. Therefore, this study contributes to providing empirical evidence to support the positive relationship between CSP and CFP in this specific industry of China.

By examining the bidirectional causality of CSR – CFP, the study finds that CFP is driven more by unobservable company characteristics than CSP, consistent with Nelling and Webb (2009). Managers of large pharmaceutical companies or other similar companies can better understand the attributes of CSR and its effect on CFP and company stakeholders. The research findings provide managers with vital insights on how life cycle stages influence CFP. Besides, managers can use the study results to inform how they allocate company resources to CSR activities and link this to CFP. Also, policymakers can realise the need to introduce rules and policies that would

stimulate CSR activities across the life cycle stages. The current regulations on CSR activities are still early in many emerging countries, such as China, and extensive work is needed to develop this crucial area fully.

Moreover, the results of this study confirm that Dickinson's (2011) method of using cash flow pattern as a CLC proxy is also applicable to research on Chinese pharmaceutical listed companies. This proxy has the advantage of capturing variations in profitability, growth and risks. Academics and regulators could potentially use this and other stakeholders to gauge internal controls and resources management effectiveness.

Regarding theoretical contributions, Chapter Three associates the stakeholder theory, RBV and CSR theories by capturing the dynamic aspect of CSR on CFP. Prior studies propose to connect the stakeholder theory with CSR or RBV (Dmytriyev, Freeman and Hörisch, 2021; Freeman, Dmytriyev and Phillips, 2021) by analysing the assumptions and principles of each theory. This study goes beyond using a single theory to explain the variation of CSP and CFP along the CLC development paths. Instead, this study applies RBV, stakeholder and CLC theories in CSR literature to analyse the dynamic implications of CSR on financial performance.

Third, regarding Chapter Four, this study relates to examining the association between CSP and ICFS and the role of CFV in such association in China. This study contributes to the CSR and cash flow literature by providing empirical evidence from a developing country. Moreover, this study contributes to the debate on whether CSR investments are value-increasing by showing that CSP positively influences the ability of companies to undertake strategic investments and the sensitivity of responses to these investments. In addition, little is known about the role of CFV in CSR's capital market effects in an empirical context, so this study fills this gap and contributes to the literature by examining the role of CFV from the backward and forward views of CFV (Sun and Ding, 2020) in the association between CSP and ICFS in an empirical context.

This study finds that companies with better CSP are more likely to have a positive and significant relationship with ICFS. Additionally, the study finds that the positive association between CSP and ICFS is weaker for companies with a more volatile current CFV and stronger for companies with a more volatile expected CFV.

Prior studies propose that better CSP can reduce information asymmetry and agency costs, resulting in lower ICFS (Samet and Jarboui, 2017; Attig et al., 2014). To the best of our knowledge, there is no research on the developing economies regarding the CSP – ICFS relationship. This study fills the gap and differentiates the CSP – ICFS relationship between developed and developing economies. Additionally, this study identifies asset intangibility and signalling channels as two CSP – ICFS association mechanisms, supporting the asset intangibility view and posturing hypothesis based on RBV and the stakeholder theory.

Regarding theoretical contributions, this study extends the CSR and investment literature by capturing the cash flow uncertainty and risk aspects of CSR from the backwards- and forward-views of CFV. While prior research has studied the relationship between CFV and CSR (Sun and Ding, 2020) or financial constraints (Moshirian et al., 2017; Mulier et al., 2014), there is no holistic view of how CFV plays a role in the association between CSP and ICFS. This study extends and connects the CSR and ICFS theories by capturing the time dimension of cash flows.

Using these study findings, managers may better understand and increase their focus on investments in non-financial engagements and performance, as CSR investments are related to the responses from the capital market (Carpenter and Petersen, 2002; Attig et al., 2014). Moreover, this study's findings improve companies' awareness of the need to carefully evaluate their investments and performance in non-financial engagements when deciding resource allocation and investing policies. Regarding the findings of the role of CFV, managers may use this study's findings as a reference to regularly monitor the company's cash flow stability and uncertainty sides in the competitive market environment (Sun and Ding, 2020). This will help managers make effective resource allocation decisions and strategies, plan CSR investments and monitor CSP, and understand the view and response of diverse stakeholders in their decision making (Arjaliès and Mundy, 2013). Meanwhile, managers can continuously adjust their resource allocation strategies and consider the effects of CFV to develop an appropriate CSR strategy and obtain a positive response relating to CSR investment from the capital market.

1.6. Thesis Structure

This thesis is a paper-based study that includes three related papers covering Chapters Two, Three and Four.

Chapter Two investigates the association between dynamic capabilities and the adoption of CSR at the strategic level. Hypotheses are constructed on how the company's adoption of SCSR is related to its dynamic capability level. The methodology used in the study is discussed, specifically, the research philosophy, approach and strategy, and the research design. The data sample and selection processes are discussed, and the variables used in the empirical model are explained. The descriptive statistics related to the data sample are presented and discussed. The chapter also presents the multivariate analysis and discusses the results. Endogeneity and robustness tests are included in this chapter to validate the results.

Chapter Three examines the impacts of CLC on CSP and CFP in large Chinese pharmaceutical companies. Companies are classified into five CLC stages: introduction, growth, maturity, decline, and shake-out stages, based on Dickinson's (2011) cash flow method. Hypotheses are constructed on the relationship between CSP and CFP different for companies at each CLC stage. Impacts on CSP in terms of stakeholder dimensions are also examined. The methodology used in the study is discussed, specifically, the research philosophy, approach and strategy, and the research design. The data sample and selection processes are discussed, and the variables used in the empirical model are explained. The descriptive statistics related to the data sample are presented and discussed. The chapter also presents the multivariate analysis and discusses the results. Endogeneity and robustness tests are included in this chapter to validate the results.

Chapter Four examines the association between CSP and ICFS and the role of CFV in large Chinese companies. Hypotheses are constructed on the possible mechanisms between CSP and ICFS. Impacts of CFV from backward and forward-looking views on CSP – ICFS are also examined. The methodology used in the study is discussed, specifically, the research philosophy, approach and strategy, and the research design. The data sample and selection processes are discussed, and the variables used in the empirical model are explained. The descriptive statistics related to the data sample are

presented and discussed. The chapter also presents the multivariate analysis and discusses the results. Endogeneity and robustness tests are included in this chapter to validate the results.

Chapter Five offers a conclusion to the study with a summary of the findings and implications, limitations of the study and recommendations for future research.

The thesis structure is shown in Figure 1.2.

Figure 1.2. Thesis structure

Research lines	Research keywords and questions

Factors relating to CSR with a strategic concern

Dynamic capabilities and SCSR

Chapter 2
- Dynamic capabilities → SCSR

Financial effects with a dynamic view

CSR

Life cycle perspective: CSP - CFP

Chapter 3
- CLC: CSP & CFP
- Focus shifts in stakeholders dimensions

Cash flow implications

Cash flow, CSP and ICFS

Chapter 4
- CSP – ICFS
- The role of CFV on CSP – ICFS

Note: Prepared by the author. CSR represents corporate social responsibility; SCSR is strategic CSR; CLC is company life cycle; CSP is CSR performance; CFP is company financial performance; ICFS is investment-cash flow sensitivity; CFV is cash flow volatility.

1.7. Chapter Summary

This chapter begins with the background of the study and provides a comprehensive review of the relevant literature on the concepts and variables of this study, including related prior CSR studies. More specifically, the chapter has established the relevance of the present study, identified the research gap, and critically analysed the conceptual and empirical studies related to this thesis. The literature provides the motivations of the thesis and articulates the motivations and significance of the study.

The review was mainly focused on the three research objectives of the present study. In the first part, the concept and practice of CSR were discussed. The second part concentrated on CSR in the context of China. The third part focused on evaluating prior empirical CSR and corporate governance studies to provide an insight into the impact of dynamic capabilities in SCSR adoption, followed by the association between CSP and CFP from a CLC perspective, and finally, the role of CFV in the association between CSP and ICFS. A more detailed investigation of all three research objectives is provided in the following chapters. In particular, the impact of dynamic capabilities in the adoption of SCSR is investigated in Chapter Two (paper one), while the association between CSP and CFP from a CLC perspective is examined in Chapter Three (paper two). Finally, the association between CSP and ICFS is examined with the mediating/moderating effects of CFV in Chapter Four (paper three).

In addition, the main theories used in this study are elaborated. Theories adopted in the following chapters are discussed to form the conceptual framework of the study.

Next, this chapter states the research aims and objectives, followed by the research methodologies adopted and data collection for each of the three empirical papers of this thesis.

Then, the main findings, research contribution to the extant literature and practical implications of the study are discussed. Finally, the structure of the thesis is provided.

Chapter 2: Dynamic Capability and Strategic Corporate Social Responsibility Adoption[2]

2.1. Introduction

Corporate social responsibility (CSR) is defined as the responsibility of companies to satisfy stakeholders' interests and the responsibility of stakeholders to hold companies accountable for their actions (Chandler, 2019). CSR is often intertwined with business strategies and corporate governance (Gond et al., 2018). Strategic CSR (SCSR) is "an implementation tool to ensure that the CSR activities of a company and its business operations are aligned to generate social good and financial value" (Vishwanathan et al., 2020, p339). During business operations, companies are responsible for reacting and responding dynamically to changes in the economy, environment, and society. To respond to these changes, a company needs to align the design of its activities with every aspect of its structure, including processes, metrics, and incentives, through effective company resource reconfigurations (Collis and Anand, 2021). Such alignment contributes to the sustainable operation and development at the company level by "doing well by doing good"; in other words, companies can profit and benefit society simultaneously (Falck and Heblich, 2007). To achieve this win-win situation, companies can use CSR practices as a tool and tend to perform this CSR with a strategic dimension, i.e., they adopt SCSR (Porter and Kramer, 2006).

These dynamic capabilities allow companies to use and allocate resources appropriately. The dynamic capability theory (DCT) (Teece, 2019) states that companies need dynamic capabilities to develop a sustained competitive advantage since such capabilities create intangible and valuable assets, such as knowledge, which is scarce and difficult to imitate. Therefore, dynamic capabilities are core to enhancing business processes, exploiting more possibilities, and forming a better business

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[2] This paper has been revised and published in the journal of *Sustainability*.

strategy (Teece, 2018). Without strong dynamic capabilities, resources, good strategy, and competitive advantage are unsustainable (Teece, 2018).

However, since each company choice constrains what a company can and cannot do, pursuing dynamic capabilities cannot produce a company capable of doing everything simultaneously. Therefore, dynamic capabilities have inherent limitations in aligning all activities with every aspect of company design (Collis and Anand, 2021). Nonetheless, companies differ in dynamic capabilities and the extent of aligning activities and company designs (Collis and Anand, 2021). Companies with a higher level of dynamic capabilities, for instance, are more capable of sensing and identifying new markets, resources and opportunities, but these companies often face more pressure than those with a lower level when making choices and trade-offs (Collis and Anand, 2021). This is because companies with a higher level of dynamic capabilities have to meet stricter and more alignment in every aspect of company design and their activities (Collis and Anand, 2021). Therefore, companies with a higher level of dynamic capabilities could find adopting SCSR difficult since this requires a highly consistent company design and activities (Porter and Kramer, 2006). This study differentiates companies with a high or low level of dynamic capabilities and examines the relationship between these levels and the adoption of SCSR.

The extant literature suggests that dynamic capabilities may be related to management strategies (Ramachandran, 2011; Essid and Berland, 2018). For example, Essid and Berland (2018) used case studies of eight large French companies to analyse the dynamic capabilities of adopting environmental management tools. They found that the capabilities could be operationalised to adopt environmental management tools using antecedents such as accumulated knowledge of a company. For instance, they found that accumulated knowledge is an internal antecedent used for reconfiguring capabilities because it helps companies absorb and quickly develop new knowledge. Lin, Su and Higgins (2016) also obtained similar results in a Chinese context. They surveyed 264 Chinese companies to investigate the influence of dynamic capabilities on the management innovation process stages. They found a positive relationship between the capabilities and the innovation process stages, from initiation to implementation. For example, they found that absorptive capability, a type of dynamic capability, positively affected the whole innovation process because it may enable a

company to begin management innovation by taking in new information efficiently and acquiring and assimilating knowledge. Consequently, knowledge transformation can help the company integrate innovations with company resources (Lin, Su and Higgins, 2016). These empirical findings warrant future research about whether and how dynamic capabilities may be related to management and resource allocation strategies concerning non-financial activities, such as CSR.

A relevant theory in the CSR literature is the stakeholder theory stating that companies should act in the interest of stakeholders, including investors, employees, customers, suppliers, government, and community (Hamidu, Haron and Amran, 2015). Drawing on the stakeholder theory, companies should be responsible for their stakeholders (Hamidu, Haron and Amran, 2015). Performing CSR is a common way for companies to satisfy stakeholders' interests because of the resulting benefits of CSR; for example, positive CSR performance (CSP) demonstrates a good company image to stakeholders, which may result in more investments and more stable stakeholder relationships (Moon and Shen, 2010). It follows that CSR engagement and performance can be related to a company's future investments and business strategies. Therefore, companies must consider CSR issues and concerns and incorporate them into their operational strategies (i.e., adopt SCSR practices). However, the stakeholder theory does not explain how companies allocate resources to satisfy stakeholders' interests in the long term and achieve SCSR. So, this study further considers using DCT (Teece et al., 1997) to develop theoretical connections, which states that companies need dynamic capabilities to develop sustained competitive advantage, whereby managers determine dynamic capabilities to make resource allocation decisions, such as whether and to what extent CSR should be incorporated into strategy (Teece et al., 2016). Therefore, this study proposes to introduce dynamic capabilities as a new factor of SCSR adoption. Empirically, although these concepts have been previously studied separately (Teece et al., 2016; Ramachandran, 2011; Porter and Kramer, 2006), there is a lack of in-depth analysis of the relationship between dynamic capabilities and SCSR adoption. To put it another way, there was a gap in whether and how dynamic capabilities function in SCSR adoption and performance. By building on the DCT and stakeholder theory, this study explores how dynamic capabilities can contribute to adopting CSR at the strategic level by arguing that they are an important factor of SCSR adoption (Teece et al., 1997; Freeman and Medoff, 1984).

This study extends the literature mentioned above to the context of China as it is a unique case for CSR research, drawing on the country's various severe CSR issues, such as air pollution and bribery (Chang, He and Wang, 2020). Meanwhile, China has a large market with late CSR development and under-developed CSR systems (Yin and Zhang, 2012). Realising the importance of CSR issues, the Chinese government has been continuously improving CSR regulations to encourage more companies to adopt CSR (Ba, 2019). In recent years, the government has increased its concerns regarding CSR issues and has continuously improved CSR regulations (Ba, 2019). Despite these governmental initiatives, the failure of Chinese companies to realise the value created by CSR often keeps them from its adoption (Ba, 2019). Extant Chinese companies lack a recognition of the importance of incorporating CSR practices in strategy (Chang, He and Wang, 2020). As these companies have not realised the social value for their sustainable development and the CSR regulations are not perfect and difficult to implement, it follows that companies lack the motivation to adopt CSR and incorporate it into business strategy (Ba, 2019; Moon and Shen, 2010; Noronha et al., 2013). Therefore, there is a gap and a need for more research to help understand SCSR adoption at the company level by exploring the importance of companies' dynamic capabilities. To fill the research gap, this study expects to demonstrate that dynamic capabilities are important for companies to achieve their CSR goals and operational strategies using a sample of listed companies from two Chinese stock exchanges from 2017 to 2019.

This research has several significant contributions to make to knowledge in the field of CSR and management. It contributes to the empirical literature of CSR in the context of China. Extant Chinese companies lack recognition of the importance of CSR adoption at the strategic level, although the government encourages them to adopt SCSR (Chang, He and Wang, 2020). Similar to the case of green travel, although the government has stipulated policies to encourage residents to adopt green travel, non-green travel actions are still popular (Jia, Appolloni and Wang, 2017). This research may help raise company interests in dynamic capabilities and SCSR in that companies may need to design resource allocation strategies and evaluate their future CSR and management practices at an early stage. This study will empirically construct dynamic capabilities measures and prove that dynamic capabilities are essential in SCSR adoption and performance. The research extends the CSR literature by suggesting that

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researchers consider dynamic capabilities in CSR research. Additionally, it exposes the negative and significant relationship between dynamic capabilities and SCSR adoption, which provides empirical evidence for DCT.

The remainder of this chapter is structured as follows: Section 2.2 reviews the research context, the relevant literature and develops the hypothesis. The research methodology is discussed in Section 2.3, followed by the study results and findings in Section 2.4. Finally, implications and a conclusion are included in Section 2.5.

2.2. Research Context and Hypothesis Development

The question of how to effectively evaluate company capability and allocate resources to operate is important for companies wishing to satisfy stakeholders' interests and incorporate CSR into strategy, i.e., adopt SCSR. Companies may reconfigure their internal and external company capabilities to respond to the changing external environment, creating a long-term competitive advantage (Teece et al., 1997). This is the dynamic capability of a company. To examine the impact of dynamic capability on SCSR adoption, this section first elaborates on the research context concerning CSR in China, followed by the proposed hypotheses based on a literature review of dynamic capability and SCSR adoption.

2.2.1 CSR in China

There has been an increase in CSR research interest in developing countries (Chapple and Moon, 2005; Moon and Shen, 2010; Yin and Zhang, 2012) for three main reasons (Upadhaya et al., 2018). First, developing countries comprise more than 80% of the world's population and dominate almost 50% of the world's GDP, forming a large market across a global context. A market with such great potential provides many investment opportunities, resulting in the fast growth of developing countries. Second, developing countries have generally low/medium income and human development levels, resulting in widespread CSR-related issues and crises in developing countries due to globalisation and fast economic growth. Third, CSR practices are in an infant stage in developing countries, so there is a need to call for more research into CSR (Belal et al., 2013; IMF, 2012; Peng et al., 2008; Visser, 2005).

CSR implementation in China is influenced by the country's economic environment and institutional pressures within the institutional environment (North, 1990). Two issues need to be considered concerning this. First, there has been a significant change in China's economic environment, moving from a state-controlled economy to a socialist market, in which 'socialist' refers to the socialism with Chinese characteristics (Yin and Zhang, 2012). During the transition, companies have tended to maximise profit to respond to intense competition; they have focused on financial performance instead of CSR behaviours (Yin and Zhang, 2012). This leads to company stagnation at the early stages of CSR adoption.

Second, there has been a significant change in China's institutional environment (Yin and Zhang, 2012). The Chinese government has promoted CSR practices to help companies gain social legitimacy to respond to institutional pressures (Moon and Shen, 2010). For example, Wenzhou city in Zhejiang province created China's first CSR evaluation system for private companies (Development Centre for Chinese CSR of China WTO Tribune Reporting Research, 2019). Another example is that the stock exchanges have released listing rules to mandate companies to disclose CSR information.[3] This continuous improvement in CSR regulation of China shows the increasing concerns regarding CSR issues and that the regulators are encouraging

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[3] The Shenzhen Stock Exchange (SZSE) requires companies to disclose information on five main areas: (1) protection of the interest of shareholders and creditors, (2) protection of workers' rights, (3) protection of suppliers, customers, and consumers, (4) environmental protection and sustainable development, and (5) public relations and social welfare services. Following the Environmental Protection Law, the SZSE published "Guidelines of the Shenzhen Stock Exchange for the Standard Operation of Listed Companies on the Main Board" in 2015, which pointed out that listed companies should perform social responsibilities, review CSR performance regularly and voluntarily disclose CSR reports. Meanwhile, this guideline stipulated that when a listed company has significant environmental-pollution issues, it should disclose the reasons leading to the pollution, the impact on company performance, the consequences of environmental pollution, and the proposed schemes for remedy. Moreover, in 2016, the China Securities Regulatory Commission mandated listed companies and their subsidiaries on the list of "key pollutant-discharging units" to disclose relevant environmental information. Other than the requirements of environmental actions, the stock exchange announced a number of notices concerning other areas of CSR requirements. For example, the Shanghai Stock Exchange published *Notice on Further Improving the Information Disclosure of Poverty Alleviation Work of Listed Companies* at the end of 2016, requiring listed companies to disclose information of poverty alleviation work.

Chinese companies to incorporate CSR initiatives into operational strategy, i.e., adopt SCSR for impact evaluations.

However, the legal system and regulations of CSR are not perfect and are difficult to implement (Ba, 2019; Moon and Shen, 2010; Noronha et al., 2013). Although there are laws and regulations for companies to fulfil their social responsibilities, these laws are only in principle, and there is a lack of operational content (Moon and Shen, 2010; Noronha et al., 2013). It follows that the legal system of CSR in China is not perfect. It even lags behind social and economic development needs, leading to the lack of motivation for companies to adopt CSR in their strategies (Ba, 2019; Moon and Shen, 2010). Meanwhile, Chinese companies have not realised the social value of sustainable development (Moon and Shen, 2010). They have not realised that aligning company objectives with CSR can achieve company sustainability (Moon and Shen, 2010). Due to the one-sided understanding of CSR within companies, there is a lack of management systems and implementation mechanisms for implementing social responsibility in companies. The awareness and implementation of CSR associated with business strategies are low at the company level, although Chinese companies continuously learn about CSR initiatives and implementations (Gugler and Shi, 2009). Some managers and business leaders with a sense of CSR integrate their initiatives into daily operations to obtain a potential competitive advantage, showing they are interested in CSR initiatives and implementation (Gugler and Shi, 2009). In particular, companies may want to know more about integrating CSR in operational strategy, the main determinants of adopting SCSR, and how SCSR can be implemented (Gugler and Shi, 2009). As it has been established that China has a large market with under-developed CSR systems (Yin and Zhang, 2012; Wang and Xu, 2016), this study explores CSR initiatives in China to improve the understanding of CSR at the strategic level.

Moreover, the research on CSR in China mainly focuses on the theory of CSR, its relationship with company performance, the influencing factors and how to achieve it, but systematic and comprehensive research in this area is still absent (Matten and Moon, 2008; Moon and Shen, 2010). There is a need for more research that may enable companies to understand SCSR adoption in China better. The next section analyses SCSR based on the literature.

2.2.2 Strategic Corporate Social Responsibility

Traditionally, a company's social responsibilities should include economic responsibilities that maximise the shareholders' wealth and legal, ethical, and discretionary responsibilities (Carroll, 1979). However, developing countries like China have different rankings and priorities regarding CSR components (Carroll, 1999). Visser (2005) proposed a new ranking pyramid for developing countries. Specifically, economic responsibility lies first and philanthropic responsibility second, followed by legal and ethical responsibilities. The ranking is different from Carroll's pyramid since CSR is commonly related to charity or philanthropy in developing countries (Visser, 2005). This conclusion is further supported in the China context by two possible explanations (Yin and Zhang, 2012). One reason is that the institutional environment in transitional China leads to imperfect market and legal systems. Hence, "stockholder interest" and "legal compliance" are rarely considered in Chinese CSR by Chinese companies, although they exist. This leads to many problems, such as the lack of procedural protection of legitimate rights, which results in weak legal enforcement and civic accountability (Xu and Yang, 2010; Snell and Tseng, 2002). Another explanation lies in the influence of ethical leadership. The dominant cultural tradition in China is the Confucian culture, which is concerned with Ren and Li, meaning benevolence, philanthropy, humaneness, and social rules and norms (Yin and Zhang, 2012). Confucian culture has been followed by many Chinese business leaders and is a substitute for ethics (Zadek and Wickerham, 2009). Moreover, consistent with CSR definitions reviewed by other scholars (Carroll, 1999), the scope of CSR includes the relationship management between companies and society. Inherently, CSR covers the responsibilities of both companies and stakeholders over time and at different levels. In sum, this study is consistent with the prior literature (Yin and Zhang, 2012; Visser, 2005) in that CSR components in the China context also include ethical, legal, philanthropic, and economic responsibilities.

Lantos (2001) classified CSR into three types by purpose and nature: moral CSR, altruistic CSR, and SCSR. Moral CSR is carried out to meet moral norms. In contrast, the companies carry out altruistic CSR because they want to be good citizens and benefit society without concern for their financial returns (Lantos, 2001). By comparison, SCSR is carried out because the companies want to gain a sustainable

competitive advantage for either a moral purpose, i.e., to commit no harm or to compensate for harm done to society, or a charitable purpose, i.e., to contribute to society actively and to meet social expectations (McWilliams and Siegel, 2011). Vishwanathan et al. (2020) further defined SCSR as an implementation tool to ensure that the company's CSR activities and business operations are aligned and generate social good and financial value. Therefore, SCSR stresses the coexistence of business and social benefits, and companies can adopt SCSR to satisfy their social responsibilities and generate financial values simultaneously (Porter and Kramer, 2011; Rodrigo et al., 2018; Vishwanathan et al., 2020).

Through a review of CSR research, three main characteristics of SCSR have been identified. First, SCSR concerns the interests of stakeholders (Kuokkanen and Sun, 2020). Since companies' operating activities and stakeholders' interests are interactive, it is important to consider the needs of stakeholders when operating companies. This means implementing SCSR is an interactive process since companies need to consider social responsibility activities to benefit and satisfy stakeholders at a strategic level (Kuokkanen and Sun, 2020; Freeman and McVea, 2001). Second, SCSR stresses business and social benefits (Vishwanathan et al., 2020; Porter and Kramer, 2011; Rodrigo, Aqueveque and Duran, 2018). Since SCSR incorporates social objectives into business and links social and economic goals in the long term (Porter and Kramer, 2006), companies need to perform a cost-benefit analysis before carrying out a CSR initiative (Yu and Liang, 2020). The motivation of SCSR is to benefit society and the company simultaneously, improving the social and company value and achieving a win-win situation (Porter and Kramer, 2006, 2011). This is one reason companies conduct SCSR: to achieve strategic and social objectives for long-term economic benefits (Lantos, 2001). Third, companies integrate SCSR into their core operating activities (Brammer, Brooks and Pavelin, 2006; Michelon, Boesso and Kumar, 2013; Vallaster, 2017). Since SCSR lays a foundation for creating and maintaining a sustainable competitive advantage, it creates a shared value for society and the companies (Porter and Kramer, 2011). This is important for companies carrying out SCSR since combining CSR with business processes contributes to companies' internal value chain activities and improves their external competitiveness (Gelbmann, 2010; Székely and Knirsch, 2005).

SCSR is an implementation tool to align the company's CSR activities with the business operations, creating social goods and increasing financial values simultaneously (Vishwanathan et al., 2020). Previous literature highlights two conspicuous gaps in our knowledge of the antecedents and consequences of SCSR. First, the cultural characteristics are very different between regions in China, but little is known about the association between regional cultural differences and SCSR adoption. Taking Si Chuan province, which is in the southwest of China, as an example, companies there tend to engage more in CSR activities actively and are concerned more about adopting SCSR compared to companies in other provinces (Zhao et al., 2015). One reason could be that the societal benefits are of great importance in local community groups and that being socially responsible has been an act of common sense and a tradition for local companies (Zhao et al., 2015). For this reason, the difference in cultural characteristics between various regions is considered as one proposed factor of SCSR adoption. Therefore, this study includes the regional cultural characteristics as one of the potential factors of SCSR adoption.

Second, to the best of our knowledge, no study has examined the role of dynamic capability in SCSR. Dynamic capability is an important company competency for creating long-term competitive advantage (Teece et al., 1997). However, previous studies have emphasised the role of dynamic capability in motivating companies to develop in another of the main components of CSR, i.e., management innovation (Tseng and Lee, 2014; Cantrell et al., 2015). As dynamic capability may be necessary for SCSR adoption, this study fills the gap and examines the association between the two.

2.2.3 Dynamic Capability

Teece (2019) defined dynamic capabilities as a company's ability to integrate, build, and reconfigure internal and external competencies to create a long-term competitive advantage. Dynamic capabilities refer to the higher-level capabilities associated with other resources and capabilities to achieve fitness with the environment (Teece, 2018). Dynamic capabilities consist of sensing, seizing, and transforming capabilities (Teece, 2018). Sensing capability involves incorporating external information into the internal company system, which helps managers identify possible company problems and new opportunities (Teece, 2018). The seizing capability focuses on the responsiveness of

the company system to external opportunities and threats (Teece, 2018). Transforming capability attempts to align the company system components and other strategies (Teece, 2018). In sum, these three components of dynamic capabilities indicate the extent of the companies' behaviours in the value creation and obtainment processes.

Barney (1991) proposes that VRIN company resources have the potential to generate a durable competitive advantage. Unlike VRIN resources, dynamic capabilities create intangible and valuable assets, such as knowledge that is scarce and difficult to imitate (Teece, 2019). Therefore, dynamic capabilities are core to enhancing business processes and exploiting more possibilities, forming better business strategy (Teece, 2018). Without strong dynamic capabilities, VRIN resources and good strategy and competitive advantage are probably unsustainable (Teece, 2018). Evidence has shown that the Chinese manufacturing industry, with an increasing green growth efficiency value, has a vast promotion potential in saving resources and reducing environmental pollution (Qu et al., 2017). Hence, it follows that dynamic capabilities can indicate the internal competency for creating and obtaining its sustainable competitive advantage. Therefore, dynamic capabilities are vital for creating and maintaining a sustainable competitive advantage in the market.

Returning to the definition of dynamic capabilities (Teece, 2019), creating sustained competitive advantage is the ultimate goal and outcome of possessing these capabilities. Following Zhu et al. (2017) and Hill and Jones (2007), this study has constructed a sustained competitive advantage index as a proxy of dynamic capabilities. A sustained competitive advantage is a company's ability to surpass its competitors in the fields of management, production, research and development, technology, branding, and marketing in long-term market competition (Zhu, Zhou and Luo, 2017). Different companies exhibit different competitive attributes; a universal measurement is too general and cannot fully reflect a company's competitive situation. Therefore, a constructed index is justifiable to measure the dynamic capabilities of a company.

This study took two steps to construct the sustained competitive advantage index. First, considering that the competitive situation is a market outcome, the sustained competitive advantage was calculated by measuring the operating performance, development capability, and market position. The operating performance indicator can

be expressed as the excess of the company's return on equity (ROE), indicating a company's competitive power. According to Hill and Jones (2007), a company has a strong competitive advantage if it has a continuously higher operating performance than its competitors. An excess of ROE can reflect the company's stronger financial status than its competitors in the same industry. The development capability indicator reflects the company's growth, expressed by the growth rate of a company's operating income. The market position indicator reflects the product's acceptance, expressed by its market capitalisation in the industry (Hill and Jones, 2007).

In the second step, after calculating the three indicators for three consecutive years, this study used the principal component analysis method to obtain each sample company's annual sustained competitive advantage index. The sample companies were classified into three groups by comparing the annual sustained competitive advantage index to the mean of the related industry; the groups were sustainable competitive advantage companies (higher dynamic capability, *HDC*), general companies (common dynamic capability, *CDC*), and companies lacking competitive advantages (lower dynamic capability, *LDC*). Specifically, *HDC* refers to those companies with a competitive situation index higher than the mean of the same industry for three consecutive years, indicating a high level of dynamic capability on average. *LDC* refers to those companies with a competitive situation index lower than the mean of the same industry for three consecutive years, indicating a lower level of dynamic capability on average. The remaining sample companies were classified as *CDC*, with an average industrial level of dynamic capability. The dynamic capability variable has two dummies, *HDC* and *LDC*.

2.2.4 Dynamic Capability and Strategic CSR Adoption

Dynamic capabilities play an important role in strategic managerial accounting (Teece, Peteraf and Leih, 2016). Understanding dynamic capabilities and their impacts could provide more information for managers when deciding whether to adopt CSR into strategies and performance (Essid and Berland, 2018). However, there is a lack of empirical evidence contributing to the relationship between dynamic capabilities and SCSR adoption and performance, possibly due to measurement difficulties in

variables (Laaksonen and Peltoniemi, 2018). To examine this relationship, DCT and the stakeholder theory were used to analyse the adoption of SCSR behaviours and the performance results (Rodríguez-Fernández, Gaspar-González and Sánchez-Teba, 2020).

The DCT states that companies need dynamic capabilities, such as public resources, specified resources, company and management capability, and innovative capability, to develop a sustained competitive advantage (Teece, 2019; Teece, Peteraf and Leih, 2016). Specifically, companies purchase public resources to produce goods and acquire knowledge. The specified resources are strategic resources, such as business secrets and patents. Companies require company and management capabilities to obtain specified resources. Innovative capability is acquired and integrated by companies to adapt to changing environments. Companies employ these dynamic capabilities to integrate resources when working on strategic innovation and apply them to new initiatives that involve resource reconfiguration (Ramachandran, 2011). Therefore, it follows that dynamic capabilities are crucial company resources for competency in business strategies and long-term development (Teece, 2019). Possessing more resources and better capabilities improves resource allocation efficiency and results in a long-term competitive advantage (Teece, Peteraf and Leih, 2016).

Dynamic capabilities involve manager capability and competency, which are necessary to make resource allocation decisions, such as whether and how to incorporate CSR practices into strategies (Teece, Peteraf and Leih, 2016). They have numerous benefits and play an essential role in adopting management practices (Teece, Peteraf and Leih, 2016). For example, companies with strong dynamic capabilities can utilize company resources effectively. Managers may make more effective resource allocation decisions related to financial and non-financial projects (Teece, Peteraf and Leih, 2016). Drawing on the benefits of dynamic capabilities, managers may be more proactively to respond to the changing environment and be more likely to incorporate CSR practices into business operations. Possessing a high level of dynamic capabilities can have other benefits that motivate companies to adopt SCSR (Porter and Kramer, 2006). For example, having a high level of such capabilities could help identify unmet social and stakeholders' needs (Lettice and Parekh, 2010) and help

attract future opportunities for management decisions (Porter and Kramer, 2011). Managers may revise operational strategies accordingly. Thus, it follows that companies with strong dynamic capabilities may prefer to incorporate CSR strategies to align with both companies and society and perform better in financial and non-financial aspects.

Dynamic capabilities provide a sustainable competitive advantage that helps companies survive long term (Tseng and Lee, 2014). Such a competitive advantage is one reason that drives companies to develop and implement SCSR practices (Cantrell, Kyriazis and Noble, 2015). Because sustainable development and obtaining sustained competitive advantage are the ultimate goals of SCSR, it follows that dynamic capabilities can help obtain such sustained competitive advantage. Therefore, we expect that the higher the level of a company's dynamic capabilities, the more likely it is to adopt SCSR and have higher SCSR performance.

In addition to the perspective of dynamic capabilities, this study is based on the stakeholder perspective to explain the impact of the capabilities on SCSR adoption and performance. The stakeholder perspective is based on the stakeholder theory, which is widely used in CSR literature (Rodríguez-Fernández, Gaspar-González and Sánchez-Teba, 2020; Mahmood and Humphrey, 2013). The theory states that companies should act toward stakeholders' interests, including investors, employees, customers, suppliers, the government, and the community (Hamidu, Haron and Amran, 2015). In other words, companies should consider stakeholder interests, although company ownership belongs to the shareholders. The reason is that stakeholders invest in company resources as well. For example, companies obtain human resources and productive forces at the expense of employees' work (Freeman and McVea, 2001). According to the stakeholder theory, to make employees satisfied, companies could perform CSR activities (Hamidu, Haron and Amran, 2015). An example would be incorporating CSR engagements into operations (i.e., SCSR adoption) (Porter and Kramer, 2006). For instance, companies could improve the salary and working conditions to satisfy employees and improve productivity, matching the same business objective as CSR. It follows that possessing a higher level of dynamic capabilities could enrich company resources and capabilities. Then, companies would have more resources to invest in CSR projects and incorporate CSR into their business strategies,

satisfying stakeholders' interests. That is to say, when building up dynamic capabilities, companies may use the available resources and dynamic capabilities to create a long-term competitive advantage and improve financial performance to meet more stakeholder needs (Teece, 2019).

Based on the combination of the perspective of dynamic capabilities and the stakeholder perspective, this study proposes the following hypothesis:

Hypothesis 1 The group of companies with a high level of dynamic capabilities is more likely to adopt SCSR practices.

2.2.5 Other Factors Relating to Strategic CSR Adoption

Porter and Kramer (2006) argue that SCSR develops a symbiotic and mutually beneficial relationship between the company and society and creates shared value for the two because SCSR encourages investment in socially-focused activities that strengthen company competitiveness. The literature suggests that the adoption of CSR could be influenced by factors including the companies' internal context and external society, such as company support, company size, regional culture, and stakeholder pressures (Lee et al., 2018; Lin et al., 2016; Lin and Ho, 2011; Tseng and Lee, 2014; Zhang, 2019).

Organisational factors, such as company support and company size, positively impact CSR adoption, as the literature suggests (Lee et al., 2018; Lin and Ho, 2011). Company support refers to the extent to which a company supports its employees using a particular technology or system that will influence innovation (Lin and Ho, 2011). Lin and Ho (2011) have proposed a framework to analyse factors of green practice adoption for logistics companies in China. Using a survey, they found that company support and company size positively and significantly influenced the adoption of green practice behaviour. These possible factors are closely related to a company's internal characteristics, so they are perceived as internal factors affecting its adoption of SCSR strategies. On the other hand, external factors could include stakeholder pressures and regional culture. Stakeholder pressure is defined as the extent to which a company is held responsible for its stakeholders regarding its actions and decisions on operations

(Wolf, 2014). Regional culture is a system of cultural characteristics that reflect the lifestyle of social groups in a province or region (Zhao et al., 2015). These two variables are influences from outside the company, so they are external factors. Both of these factors may be associated with CSR adoption with a strategic concern.

This study uses stakeholder theory, DCT, and traditional- and neo-institutional theory to explain the motivations of SCSR adoption concerning the complementarity of these three theories. The stakeholder theory is often used in CSR literature (Freeman and Medoff, 1984; Hamidu, Haron and Amran, 2015). The stakeholder theory states that companies should act towards stakeholders' interests (Freeman and Medoff, 1984; Hamidu, Haron and Amran, 2015). According to the stakeholder theory, an example of incorporating CSR engagements into operations (i.e., SCSR adoption) is to improve the salary and working conditions to make employees satisfied and, consequently, improve productivity, which is the same business objective of the company as well (Freeman and Medoff, 1984; Hamidu, Haron and Amran, 2015). However, the stakeholder theory does not explain how companies allocate resources to satisfy stakeholders' interests in the long term and achieve SCSR. So, this study further applies DCT to explain this (Teece et al., 1997). DCT states that companies need dynamic capabilities such as public resources (to produce goods and acquire knowledge), specified resources (such as business secrets and patents), organisational and management capability and innovative capability to develop sustained competitive advantage (Teece, 2018, 2019; Teece et al., 2016). Possessing more resources and better capabilities improves resource allocation efficiency and obtains long-term competitive advantage. Dynamic capabilities are determinable in making resource allocation decisions, such as whether and how to incorporate CSR practices into strategy (Teece et al., 2016).

In addition to the stakeholder theory and DCT, traditional- and neo-institutional theories can explain the motivations and differences in SCSR adoption of companies in various regions and with heterogeneous company characteristics (Oliver, 1991; Suchman, 1995). The traditional institutional theory states that companies behave and respond to institutional pressures from regulators, customers, competitors, the community and shareholders (Delmas and Toffel, 2008; Henriques and Sadorsky, 1996). Heterogeneous responses to institutional pressures and organisational

characteristics explain the adoption of beyond compliance strategies (Doshi et al., 2013). Company support and company size are variables of company characteristics, and the two factors have been considered in the previous CSR-related research (Lee et al., 2018; Lin and Ho, 2011). More company support and larger company size are assumed to possess more resources to engage in CSR programmes (Yin, 2017).

The neo-institutional theory states that companies should proactively design and implement CSR activities towards legitimacy-building beyond fulfilling institutional pressures (Oliver, 1991; Suchman, 1995). Such institutional pressures come from regulators, customers, competitors, the community and shareholders (Delmas and Toffel, 2008; Henriques and Sadorsky, 1996). For example, companies may engage in CSR activities that go beyond compliance strategy because a satisfactory response to institutional pressures from customers could improve company image, bringing more customers to make a purchase (Delmas and Toffel, 2008). Therefore, driven by institutional pressures and legitimacy, local companies incorporate CSR practices in strategy proactively, which is helpful for companies to obtain both financial and non-financial inputs and reduce transaction costs (Beddewela and Fairbrass, 2014).

Therefore, it follows that the proposed factors, including dynamic capabilities, regional culture, stakeholder pressure, and company support, could influence the adoption of SCSR by applying the three theories. This study includes these factors in the later analysis for more tests.

2.2.5.1 Regional Culture

Regional culture is a system of cultural characteristics that reflect the lifestyle of social groups in a province or region (Zhao et al., 2015). Since cultural customs and characteristics of a local or regional community can reflect the lifestyle of the social community, regional culture affects people's behaviours and the ways of making decisions (Zhao et al., 2015; Lam, 2009). Social norms can motivate individuals to act in line with most other people in society due to the social proof heuristic reason: that an individual is more willing to act consistently with others when the individual predicts that he/she can avoid the loss or can even gain support from society if he/she can keep such consistency (Cialdini and Goldstein, 2014; Bobek and Nalepa, 2017).

Therefore, culture forms the basis of a social value system and its norms and beliefs, influencing people's actions and decision-making, including the adoption of SCSR.

The neo-institutional theory states that heterogeneous company behaviours to respond to institutional pressures explain the adoption of beyond compliance strategy, such as the adoption of SCSR (Delmas and Toffel, 2008). Companies proactively design and implement CSR activities under institutional pressures (Oliver, 1991; Suchman, 1995). For instance, companies in Si Chuan province of China have a higher level of engagement in CSR activities than other provinces because the societal benefits are very important in local community groups (Zhao et al., 2015). Being socially responsible has been based on common sense and traditions for local companies (Zhao et al., 2015). Moreover, these companies engage in CSR activities and incorporate CSR in strategy proactively, which is beyond fulfilling institutional pressures from the community, based on the neo-institutional theory (Oliver, 1991; Suchman, 1995). Therefore, regional culture can be an institutional pressure from the community and an informal social value system to motivate the adoption of SCSR (Florida and Davison, 2001; Henriques and Sadorsky, 1996).

Zhang (2019) uses the global leadership and organizational behavioural effectiveness (GLOBE) cultural practices scale to measure regional cultural differences in a study of the relationship between regional culture and CSR information disclosure quality. The GLOBE scale was developed by Den Hartog et al. (1999) after surveying more than 17,000 middle-level managers in 62 countries. The scale has nine cultural dimensions with equal weights: uncertainty avoidance, power distance, social emphasis on collectivism, family cohesion, gender equality, assertiveness, humane orientation, performance orientation, and future orientation. Uncertainty avoidance is the degree of reliance of people on stability, social structure and regulations. Power distance is the extent to which the lower ranking individuals of a society accept and expect that power is distributed unequally. Social emphasis on collectivism measures to what extent an individual in society belongs to a group. Family cohesiveness measures the degree of intimacy of an individual with its society. Gender equality measures perceptions of society towards gender differences. Assertiveness measures the encouragement and confirmation of society towards confidence and venture behaviours. Humane orientation measures the degree of society to encourage people

to act with fairness, altruism, and generosity. Performance orientation measures the degree of encouragement by society towards outstanding performances and rewards. Future orientation measures whether the society promotes long-term views. Zhao et al. (2015) surveyed managers in different provinces of China using a 7-point GLOBE scale. They found that the reliability of the scale in a Chinese setting was acceptable. Since a GLOBE scale includes a cultural value system of management and work, researchers can use the scale to explore research questions related to CSR (Zhang, 2019). Following Zhang (2019) and Zhao et al. (2015), this study chose to measure the regional culture of each province/region using the mean score of all nine dimensions.

Management characteristics can be considered and related to regional culture since cultural customs and characteristics of a local or regional community can reflect the lifestyle of the social community and affect people's behaviours and the ways of making decisions (Zhao et al., 2015; Lam, 2009). Following Zhang (2019), this study proposes a variable of cultural consistency as an indicator of regional culture and uses the cultural characteristics of the chief executive officer (CEO) and the company culture to measure the variable. When the cultural characteristics of CEOs are consistent with the culture of the region a company is located in, the company is culturally consistent. Culturally consistent companies could reduce cultural conflicts in the decision-making process because CEOs makes decisions that reflect the company, making it easier to incorporate CSR in strategy. In contrast, when there is an inconsistency in the cultural characteristics of the CEOs and the region where the company is located, CEOs are more willing to make decisions based on their cultural norms, which are less likely to adopt SCSR.

Following this line of reasoning, this study expects that regional culture is a significant factor affecting SCSR adoption. Moreover, it is expected that a company that has the same cultural characteristics as its CEO (i.e., is a culturally consistent company) is more likely to incorporate CSR into its business strategy.

2.2.5.2 Stakeholder Pressures

Stakeholders are individuals or groups who affect and are also affected by a company's activities (Freeman and Medoff, 1984). Stakeholder pressure is defined as the extent

to which a company is held responsible for stakeholders on its actions and decisions on operations (Wolf, 2014). It is perceived as the most prominent factor affecting a company's CSR strategy (Lee et al., 2018; Lin and Ho, 2011). Stakeholders have a growing concern about CSR issues regarding the environmental, social, and economic aspects (Matten and Moon, 2008). These concerns form stakeholder pressures for companies because, if they fail to meet expectations, it may lead to stakeholder dissatisfaction embodied in consumer boycotts or employee strikes. Thus, companies are required to consider stakeholder concerns in operations, and such pressures may motivate them to adopt CSR practices (Etzion, 2007; González-Benito and González-Benito, 2006; Konrad, 2006; Lee et al., 2018; Lin and Ho, 2011; Tang and Tang, 2018; Wolf, 2014). Lee et al. (2018) and Wolf (2014) found that stakeholder pressure had a significantly positive relationship with green practice adoption because stakeholder pressure motivates a company to adopt green practices and engage in environmental activities. Lin and Ho (2011) found a positive relationship between customer pressure and environmental practices in the Chinese logistics industry. However, Tang and Tang (2018) argued that stakeholder pressure might not improve environmental performance when multiple stakeholder groups were involved after surveying 139 Chinese small and medium-sized companies. Stakeholder groups have different influences on companies, and managers perceive them differently when making decisions. Some investor pressures involve the pursuit of profits at the expense of the environment. Drawing on the disagreements between Lee et al. (2018) and Tang and Tang (2018), it follows that stakeholder pressures may affect the adoption of SCSR. This study expects that companies with more pressures from each stakeholder group, where the main stakeholder groups are investors, employees, customers, suppliers, the government, and the community, are more likely to adopt SCSR.

2.2.5.3 Company Support

The neo-institutional theory states that company characteristics can explain adopting a beyond compliance strategy (Delmas and Toffel, 2008). Company support and company size are variables among company characteristics, and companies with more company support and larger company size are assumed to possess more resources to engage in CSR programmes (Lee et al., 2018; Lin and Ho, 2011; Yin, 2017).

Company support may motivate companies to adopt SCSR because providing sufficient company support for employees can strengthen the employees' commitment to their companies (Brammer et al., 2006; Stawiski et al., 2010; Tong et al., 2018). Employees are an important resource in a company, and they have a decisive effect on company operations and the adoption of strategy (Freeman and Medoff, 1984). A higher level of company support and employee protection can motivate employees and stimulate working enthusiasm and commitment (Salanova and Schaufeli, 2008). Meanwhile, better-qualified candidates can be attracted by more substantial company support through an enhanced social image and reputation, thereby encouraging top management to innovate and adopt SCSR (Tong et al., 2018; Zhou and George, 2003). This study expects that company support can motivate the adoption of SCSR practices.

2.3. Research Methodology

To examine the association between dynamic capabilities and SCSR adoption, the main research aim of this study, SCSR adoption is used as the dependent variable and dynamic capabilities as the main independent variable. This section explains the variable measurement and the ordinary least squares (OLS) estimation method used to test the hypothesis. Nelling and Webb's (2009) and Qiu et al.'s (2016) application of the Granger causality method has been followed by using a probit model to test the endogeneity due to a bidirectional causality between dynamic capabilities and SCSR adoption. In addition, more potential variables have been included to test the robustness of the main effect of dynamic capabilities on SCSR adoption. The details of the variables discussed above are displayed in Table 2.1.

Table 2.1. Variable definitions and data sources

Variable	Definition	Source
SCSR	SCSR adoption, measured by the CSR strategy score	*Datastream*
DC	Dynamic capabilities have two dummies, *HDC* and *LDC*. *HDC* takes the value of 1 for sustainable competitive advantage companies (higher dynamic capability) with a competitive situation index higher than the mean of the same industry for three consecutive years, and 0 otherwise. *LDC* takes the value of 1 for companies lacking competitive advantages (lower dynamic capability) with a competitive situation index lower than the mean of the same industry for three consecutive years, and 0 otherwise. Each company's annual sustained competitive advantage index comprises three indicators (i.e., the excess return on equity, operating income growth rate, and market capitalisation) and the principal component analysis method is used.	*As above*
SIZE	Company size, measured by the natural logarithm of total assets	*As above*
AGE	Company age, measured by the natural logarithm of the number of years since incorporation	*As above*
LEV	Leverage, measured by the total debt divided by total equity	*As above*
SOE	State ownership status, defined as a dummy variable that equals 1 for a state company and 0 for a non-state company	*As above*
RC	Regional culture level, measured by the average score of nine dimensions of regional culture according to the locality of a company. The nine equally weighted dimensions of culture are based on the Global leadership and organizational behaviour effectiveness cultural practices scale (Den Hartog et al., 1999). They are uncertainty avoidance, power distance, social emphasis on collectivism, family cohesion, gender equality, assertiveness, humane orientation, performance orientation, and future orientation.	*Zhang (2019)*
CC	Culture consistency between the chief executive officer (CEO) and the company, measured by the consistency in cultural characteristics between the CEO and the	*China Stock Market &*

Variable	Definition	Source
	company culture, taking the value of 1 (culturally consistent) if the province of a company is the same as the origin of the CEO, and 0 (otherwise).	*Accounting Research (CSMAR)*
CS	Company support, measured by the People Development Score, is defined as the extent of company support for developing and participating in CSR activities, ranging from 0 to 100	*Datastream*
INV	Investors component of stakeholder pressure, measured by the CSR score towards investors	*As above*
EMP	Employees component of stakeholder pressure, measured by CSR score towards employees	*As above*
COMM	The community component of stakeholder pressure, measured by CSR score towards community	*As above*
CTM	Customers component of stakeholder pressure, measured by the cost ratio, which equals the cost of goods sold divided by turnover	*As above*
SPL	Suppliers component of stakeholder pressure, measured by the accounts payable ratio, which equals accounts payable divided by turnover	*As above*
GOV	The government component of stakeholder pressure, measured by the tax-assets ratio, is equal to the tax paid divided by total assets	*As above*
YEAR	Year dummy	*As above*
IND	Industry dummy	*As above*

Prepared by the author

2.3.1 Dependent Variable

SCSR adoption is the dependent variable. A quantitative method has been chosen to measure the SCSR adoption and performance. The adoption of SCSR reflects company sustainability and the long-term company value (Hristov et al., 2021). Company sustainability embraces the triple bottom line dimensions (economic, environmental, and social) by identifying the need for changes in current and unsustainable company practices (Maas and Reniers, 2014). Among these dimensions, the main categories of the key performance indicators (KPIs) concerning the

environmental dimension include emissions, the consumption of natural resources, renewable resources, and eco-efficiency (Hristov et al., 2021). The categories of the KPIs concerning the economic and social dimensions relate to financial aspects and societal community, respectively (Hristov et al., 2021). Therefore, the choice of indicators for measuring SCSR adoption in this research will reflect performance in terms of the triple bottom line dimensions.

In 2020, Thomson Reuters *Datastream* developed the CSR Strategy Score, ranging from 0 to 100. The CSR Strategy Score reflects a company's SCSR practices and performance when it integrates the economic (financial), social, and environmental dimensions into its day-to-day decision-making processes (referred to as the indicator definition in *Datastream*). Therefore, this indicator could be used to measure the SCSR adoption and performance since the definition is highly consistent with the meaning of SCSR (Nelling and Webb, 2009) and comprehensively embraces the triple bottom line dimensions of company sustainability (Hristov et al., 2021).

This study has used this new indicator of the CSR Strategy Score to measure the SCSR adoption and performance. It is expected that the higher the CSR Strategy Score, the more likely SCSR will be adopted, and CSR practices will be incorporated into the strategy.

2.3.2 Independent Variable

Dynamic capabilities are the primary independent variable, indicating the internal competency for creating and obtaining a sustainable competitive advantage. Teece (2018) defined dynamic capabilities as a company's ability to integrate, build, and reconfigure internal and external competencies to create a long-term competitive advantage. Drawing on the definition of dynamic capabilities (Qiu, Shaukat and Tharyan, 2016), creating sustained competitive advantage is the ultimate goal and outcome of possessing them. Hence, this study constructed a sustained competitive advantage index as a proxy variable to measure dynamic capabilities.

The sustained competitive advantage index was constructed in two steps. First, the sustained competitive advantage was calculated by measuring the operating performance, development capability, and market position. The operating performance indicator can be expressed as the excess of the company's ROE,

indicating a company's competitive power; the development capability indicator reflects the company's growth, expressed by the growth rate of a company's operating income; and the market position indicator reflects the product's acceptance in the market, expressed by its market capitalisation in the industry (Zhu, Zhou and Luo, 2017). Second, after calculating the three indicators for three consecutive years, the principal component analysis method was used to obtain each sample company's annual sustained competitive advantage index. The sample companies were classified into three groups by comparing the annual sustained competitive advantage index to the related industry's mean: sustainable competitive advantage companies, general companies, and companies lacking competitive advantages.

2.3.3 Control Variables

The following control variables have been included to exclude other potential factor impacts on the final results. First, company size is controlled by measuring the natural logarithm of total assets (Qiu, Shaukat and Tharyan, 2016). The company size controls the company level's potential scale effect in impacting business strategies and CSR practices (Rhou, Singal and Koh, 2016; Granger, 1969). Data were obtained from *Datastream*. Company size represents the company's resource capacity and ability to cope with competition and funding opportunities (Qiu, Shaukat and Tharyan, 2016; Rhou, Singal and Koh, 2016; Chen, Hung and Wang, 2018). Large companies could possess abundant resources and more substantial infrastructure to implement SCSR practices than small companies (Qiu, Shaukat and Tharyan, 2016; Rhou, Singal and Koh, 2016). Therefore, company size can be an essential factor in SCSR adoption. Large companies are more willing to adopt green practices than small companies. By contrast, small companies lack this advantage and may have difficulty adopting CSR practices (Granger, 1969). Based on this, the expectation is that larger companies are more likely to adopt SCSR as they possess a more substantial resource base and abilities to respond to complex business environments.

Second, according to the previous literature, company age is considered a factor that affects CSR behaviour (Rhou, Singal and Koh, 2016; Granger, 1969). The study measured company age using the natural logarithm of the number of years since incorporation. The study expects a negative association between company age and

SCSR adoption as young companies may be eager to incorporate CSR into strategies to adapt to the changing environment more quickly (Freeman and Engel, 2007).

Third, leverage indicates a company's indebtedness (Lin, Su and Higgins, 2016; Granger, 1969; Lin and Ho, 2011), measured by the total debt divided by the total equity. Based on the literature (Xiang et al., 2020), it is expected that a company with lower leverage might have more financial assets to incorporate CSR practices into strategies and adopt SCSR.

Fourth, company ownership takes the value of 1 if it is a state-owned company and 0 if otherwise. It is expected that if the variable takes the value of 1, the company may be more likely to adopt SCSR for two reasons, one at company level and one at macro-level management (Porter and Kramer, 2006; Nelling and Webb, 2009; Rhou, Singal and Koh, 2016).

Regarding the reason at corporate-level management, state-owned companies may put more company resources into CSR projects due to the asset-heavy attributes of capital-intensive industries (Lin, Su and Higgins, 2016). Asset-heavy means that the unit assets contribution to sales revenue is relatively low, inevitably reducing the state-owned companies' total asset turnover rate and financial performance. For historical reasons, state-owned companies have a higher proportion of non-operating assets. Hence, state-owned companies have a low total asset turnover rate and low financial performance.

China introduced large-scale economic stimulus plans to maintain steady and rapid economic growth following the 2008 financial crisis regarding macro-level management. The state-owned companies have undertaken many new and continued large projects. This macro-level management has slowed structural adjustment and has deepened reform within the companies, leading to their low financial performance.

For these two reasons, to receive attention and attract investments, the state-owned companies may be more likely to incorporate CSR into their operational strategies and adopt SCSR.

This study controlled for industry and year effects and introduced industry and year dummy variables. Industries have been classified based on the Industry Classification Benchmark in *Datastream*. The dominating industries of the sample companies in this

study were basic materials, industrials (construction and materials), consumer goods (food and beverage), healthcare, consumer services, and telecommunications.

2.3.4 Estimation Methods and Models

A multilinear regression model was built to examine the impacts of dynamic capabilities on SCSR (see Equation 2.1). The OLS estimation method was used to test the hypothesis. The level of SCSR at year t was used as the dependent variable. Companies were classified into three groups: companies with high, low, and common levels of dynamic capabilities.

$$SCSR_{i,t} = \alpha_{i,t} + \beta_1 \times DC_{i,t} + \beta_2 \times SIZE_{i,t} + \beta_3 \times AGE_{i,t} + \beta_4 \times LEV_{i,t} + \beta_5 \times SOE_{i,t} + IND_{i,t} + YEAR + \varepsilon_{i,t} \qquad (2.1)$$

In Equation (2.1), *SCSR* represents the company's extent of incorporating CSR into its strategy. *DC* represents the dynamic capability dummies, *HDC* and *LDC*. The dummy variable, *HDC*, takes the value of 1 for sustainable competitive advantage companies with a competitive situation index higher than the mean of the same industry for three consecutive years, and 0 otherwise. Dummy variable *LDC* takes the value of 1 for companies lacking a competitive advantage with a competitive situation index lower than the mean of the same industry for three consecutive years, and 0 otherwise. Each company's annual sustained competitive advantage index consists of three indicators (i.e., the excess ROE, operating income growth rate, and market capitalisation) using the principal component analysis method. If the coefficient of the dynamic capabilities is significantly positive (i.e., $\beta_1 > 0$) and *HDC* takes the value of 1, then this supports the notion that companies with a higher level of dynamic capabilities are more likely to adopt SCSR and have better SCSR performance. If the coefficient on the dynamic capabilities is significantly negative (i.e., $\beta_1 < 0$) and the *LDC* takes the value of 1, this supports the notion that companies with a lower level of dynamic capabilities are more likely to adopt SCSR.

SIZE is defined by the company size, measured by the natural log of the total assets. *AGE* is the company age, measured by the natural log of the number of years since incorporation. *LEV* and *SOE* are control variables of the leverage and nature of ownership, respectively, indicating whether a company is state-owned or not. *LEV* is a measure of debt divided by equity. *SOE* is a dummy variable of the nature of state

ownership, with a value of 1 if a company is a state-owned company and 0 if otherwise. *IND* and *YEAR* are industry and year dummies, respectively.

Certain studies considering dynamic capabilities and SCSR within a company's characteristics have raised concerns regarding the issue of endogeneity based on a bidirectional causality between dynamic capabilities and SCSR adoption, leading to a bias in the estimation (Zhao et al., 2019); this study developed Equations (2.2) and (2.3) based on Nelling and Webb's (2009) and Qiu et al.'s (2016) application of Granger causality. The primary justification for using Granger causality models is that the inclusion of lagged independent variables can clearly show the increase in the explanatory power on the current dependent variable (Rhou, Singal and Koh, 2016). If independent variables can be helpful in the prediction of the dependent variable, then it can be said that the independent variable 'Granger causes' it (Granger, 1969). Since the high level of dynamic capabilities, *HDC* is a dummy variable taking the value of 1 if the company has a higher level of dynamic capabilities than the average industry level and 0 if otherwise, this study used a probit regression model to estimate Equation (2.2). A probit model was also used for companies with a low level of dynamic capabilities. This study used the following regression model to estimate Equation (2.3).

$$HDC_{i,t} = \alpha_{i,t} + \beta_1 \times HDC_{i,t-1} + \beta_2 \times SCSR_{i,t} + \beta_3 \times SCSR_{i,t-1} + \beta_4 \times SIZE_{i,t} + \beta_5 \times AGE_{i,t}$$
$$+ \beta_6 \times LEV_{i,t} + \beta_7 \times SOE_{i,t} + IND_{i,t} + YEAR + \varepsilon_{i,t} \qquad (2.2)$$

$$SCSR_{i,t} = \alpha_{i,t} + \beta_1 \times SCSR_{i,t-1} + \beta_2 \times HDC_{i,t} + \beta_3 \times HDC_{i,t-1} + \beta_4 \times SIZE_{i,t} + \beta_5 \times AGE_{i,t}$$
$$+ \beta_6 \times LEV_{i,t} + \beta_7 \times SOE_{i,t} + IND_{i,t} + YEAR + \varepsilon_{i,t} \qquad (2.3)$$

2.3.5 Variables for More Tests

In addition, to examine the main effect of dynamic capabilities on SCSR adoption, more tests were performed to test the robustness by considering the possible effects of regional culture, company support, and stakeholder pressures in the research model. The measurement of these variables is discussed below.

2.3.5.1 Regional Culture

This study examines regional culture characteristics from two perspectives. One is the regional culture level, measured by the average score of nine dimensions of regional culture according to the locality of a company; the other is the cultural consistency in cultural characteristics between the CEO and the company, measured by the locality consistency (Zhang, 2019; Zhao et al., 2015).

Zhang (2019) used the GLOBE cultural practices scale to measure regional culture characteristics (Den Hartog et al., 1999). The scale has nine cultural dimensions with equal weighting: uncertainty avoidance, power distance, social emphasis on collectivism, family cohesion, gender equality, assertiveness, humane orientation, performance orientation, and future orientation. Therefore, to measure the regional culture level in China, the average value of the nine dimensions was taken as a regional culture score. Then, the locality of the company was matched to the regional culture score of the province. A high regional culture score meant that the company could rely on social stableness and regulations, expect equal power distribution and gender equality, have a high degree of social belonging and have individual intimacy within society. The company encourages people to act towards fairness, altruism, and generousness, have confidence and practise venture behaviours, and work towards outstanding performance and rewards, promoting a long-term view.

In addition, following Zhang (2019), the variable of cultural consistency was constructed, which is expressed as the consistency in cultural characteristics between the company CEO and company culture, taking the value of 1 (culturally consistent) if the province of a company was the same as the origin of the CEO, and 0 otherwise.

This study used the regional culture score for each province provided by Zhang (2019) and obtained the CEO origin and company locality data from the China Stock Market & Accounting Research (*CSMAR)* database, a comprehensive research-oriented database focusing on China Finance and Economy.

2.3.5.2 Company Support

An indicator of the People Development Score in the *Datastream* database was used to measure company support. The indicator measures the extent of resources support and managers' attitude towards CSR issues and reflects a company's commitment and

effectiveness to providing training and development for its workforce in CSR issues. It is expected that the higher the score, the greater the company support of a company.

2.3.5.3 Stakeholder Pressures

The components of stakeholder pressures include investors, employees, community, customers, suppliers and government. The CSR score was used regarding investors, employees and the community from the *Datastream* database to measure the components of stakeholder pressure. Financial ratios were further used to measure the CSR concerning customers, suppliers and the government/regulatory bodies. The CSR score for customers was measured by the cost ratio, using the cost of goods sold divided by turnover (Chen and Ma, 2005; Dong and Yan, 2013; Wan and Liu, 2013; Wang, 2018). The CSR score for suppliers was measured by the accounts payable ratio equal to accounts payable divided by turnover (Dong and Yan, 2013; Feng et al., 2015; Feng and Peng, 2014; Feng and Zhao, 2014). The CSR score for the government was measured by the tax-assets ratio, which was equal to the tax paid divided by total assets (Dong and Yan, 2013). The financial data were obtained from *Datastream*. It is expected that the higher the CSR score for different stakeholder groups, the greater the stakeholder pressure the company faces.

2.4. Descriptive Statistics, Results and Discussion

This section presents the data description and descriptive statistics of Chinese companies listed on the Shanghai and Shenzhen stock exchanges over the period 2017 to 2019. The descriptive statistics show the distribution of the data and provide the main features that were collected.

The structure of this section is as follows: First, a univariate analysis of the sampling procedure and the distribution of sample companies across industries are provided. The mean, median, and dispersion (maximum, minimum, and standard deviation) of the dependent, control and independent variables are presented. Second, bivariate analysis of the variables is provided, describing how the variables correlate with each other. Third, the results for the multivariate regressions are displayed. The study also performs endogeneity tests and further tests as a robustness check.

2.4.1 Univariate Analysis

To explore the impact of dynamic capabilities on the adoption of SCSR, the hypothesis was tested using data collected from the Chinese companies listed on the Shenzhen and Shanghai stock exchanges. The sample period covered 2017 to 2019 since a complete dataset covering the period was available. The measurement data on the dynamic capabilities were calculated using the annual sustained competitive advantage index for three consecutive years. The period of the data on dynamic capabilities also covered 2015 and 2016. The data for the study was obtained from the *Datastream* database, apart from the data related to CEO origin and company locality; these were obtained from the *CSMAR* database (Birindelli et al., 2018; Haque and Jones, 2020).

After excluding companies in the financial industry and deleting those with missing and incomplete data, the final dataset included 134 company - year observations (see Table 2.2). Table 2.2 presents the distribution of the companies. Part (a) shows the company distribution by year and (b) shows the distribution industry based on the Industry Classification Benchmark. Most of them were in healthcare, consumer services, and the basic materials sectors, with the distributions of 30.6%, 29.9%, and 20.9%, respectively. This study used Stata 15.1 software for the data analysis.

Table 2.2.Company distributions

(a) Distribution of companies by year

Year	Companies
2017	40
2018	48
2019	46
Total	134

(b) Distribution of companies by industry

Industry	Companies	Percentage
Basic materials	28	20.90
Industrials (Construction & materials)	14	10.40
Consumer goods (Food & Beverage)	6	4.50
Healthcare	41	30.60
Consumer services	40	29.90
Telecommunications	5	3.70
Total	134	100

Source: Datastream

Table 2.3 presents the descriptive statistics for the continuous variables in the regression analysis. The number of valid observations was 134. As seen from the table, the lowest value of SCSR was 0, the highest was 99.32, and the average was 30.66. This suggests a great difference in the level of SCSR between companies. According to Al-Hadi et al. (2019), if the mean and median are similar, this indicates the distribution's normality. Since the mean (30.66) is close to the median (28.62), this study obtained a relatively normal data distribution. As for the company size measured by the natural log of the total assets, the minimum value was 14.97, the maximum value was 21.14, and the average was 17.36. This result indicates that a range of companies was included in the research sample.

Table 2.3. Descriptive statistics—continuous variables

Variables	Mean	Median	Std. Deviation	Minimum	Maximum
SCSR adoption	30.66	28.62	28.61	0	99.32
Company size	17.36	17.19	1.24	14.97	21.14
Company age	2.52	2.56	0.58	0.98	3.29
Leverage	0.80	0.47	0.99	0	7.07

Note: 134 company – year observations listed in the Chinese stock exchanges were sampled for the period 2017–2019. SCSR adoption is the extent to which CSR practices are incorporated into operational strategies, measured by the CSR strategy scores. Company size is measured by the natural log of the total assets. Company age is measured by the natural log of the number of years since incorporation. Leverage is the company's indebtedness and is measured by the total debt divided by the total equity by percentage.

Regarding company age measured by the natural log of the number of years since incorporation, the minimum was 0.98, and the maximum was 3.29. The leverage variable controls for the level of indebtedness of a company were measured by the total debt divided by the total equity; the minimum was 0, and the maximum was 7.07, with a mean of 0.80 and a median of 0.47. The result suggests a range in the level of indebtedness between sample companies. The values of each control variable varied between the sample companies, indicating that these variables need to be controlled.

2.4.2 Bivariate Analysis

As seen from the correlation analysis using the Spearman correlation method, in Table 2.4 below, the first column shows the correlation coefficients between the independent variables and the dependent variable. Correlations measure the strength and direction of the linear relationship between the two variables. The multicollinearity was checked for correlation coefficients, and it was found that most correlation coefficients among the variables significantly correlated at the 1%, 5%, or 10% significance levels. The correlation coefficients between independent variables and control variables were not greater than the threshold of 0.8. The greatest correlation coefficient was 0.713 between the company size and leverage, at the 1% significance level and below 0.8. Therefore, there were no significant multicollinearity problems among the variables.

Table 2.4. Correlation matrix (Spearman)

	SCSR	HDC	LDC	SIZE	AGE	LEV	SOE
SCSR	1						
HDC	0.147*	1					
LDC	-0.253***	-0.121	1				
SIZE	0.357***	0.352***	-0.127	1			
AGE	0.046	-0.066	0.058	0.341***	1		
LEV	0.301***	0.082	-0.075	0.713***	0.313***	1	
SOE	0.113	-0.116	0.053	0.058	0.295***	0.172**	1

Note: 134 company – year observations were sampled for the period 2017–2019. SCSR, strategic CSR adoption, is the company's incorporation of CSR practices in operational strategies measured by the CSR strategy scores. HDC is a dummy variable of sustainable competitive advantage companies with a high level of dynamic capability within the company's industry. LDC is a dummy variable of companies lacking competitive advantages with a low level of dynamic capability. SIZE is company size, measured by the natural log of the total assets. AGE is the company age, measured by the natural log of the number of years since incorporation. LEV is the leverage, which is the company's indebtedness, and it is measured by the total debt divided by the total equity. SOE is the nature of the company's ownership that takes the value of 1 if it is a state-owned company and 0 if otherwise. *** indicates 1% significance level; ** indicates 5% significance level; and * indicates 10% significance level.

The correlation coefficient between high dynamic capabilities and SCSR adoption was 0.147. The positive correlation indicates that a company with a sustainable competitive advantage and a high level of dynamic capabilities was more likely to adopt SCSR and have better SCSR performance. The correlation coefficient between low dynamic capabilities and SCSR was -0.253 ($p < 0.05$), showing a negative correlation.

This study further checked the variance inflation factor (VIF) values of the independent variables and their tolerance values. All VIF values were below the threshold of 5, and the maximum VIF was 2.503. All the tolerance values were greater than the threshold of 0.1. The results show that there was no multicollinearity issue between the independent variables. The Durbin–Watson test statistic was 2.10, approximating 2, meaning no autocorrelation issue in the residuals. Therefore, the regression model in this study was relatively effective.

This study further examined these correlation relationships using regression analysis as follows.

2.4.3 Multivariate Analysis

2.4.3.1 Results of Baseline Regression

To test for the hypothesis (see Section 2.2) and regression model (in Section 2.3), OLS regression for the baseline Equation (2.1) was performed. The sample companies were classified into three groups according to their dynamic capabilities level: i.e., companies with high, low, and common average levels in dynamic capabilities. The regression analysis results of the impact on SCSR based on the level of dynamic capabilities are shown in Table 2.5.

Table 2.5. Regression results—baseline model

Variables	Expected Sign	HDC as the Independent Variable	LDC as the Independent Variable
Constant		-242.68***	-204.86***
		(-5.01)	(-4.95)
HDC	+	-8.77	
		(-0.99)	
LDC	-		-10.91*
			(-1.50)
SIZE	+	16.89***	14.33***
		(5.44)	(5.67)
AGE	-	-8.31*	-6.53*
		(-1.83)	(-1.48)
LEV	-	-0.04	-0.03
		(-1.13)	(-0.89)
SOE	+	12.27	13.02
		(1.38)	(1.47)
IND		Yes	Yes
YEAR		Yes	Yes
F-statistic		4.00***	4.12***
Adj. R-squared		0.26	0.27

Model Equation 2.1 estimation results

Note: 134 company – year observations were sampled for the period 2017–2019. SCSR is the company's extent to incorporate CSR practices into operational strategies measured by CSR strategy scores. HDC is a dummy variable of sustainable competitive advantage companies with a high level of dynamic capability within the company's industry. LDC is a dummy variable of companies lacking competitive advantages with a low level of dynamic capability. SIZE is the company size, measured by the natural log of the total assets. AGE is the company age, measured by the natural log of the number of years since incorporation. LEV is the leverage, which is the company's indebtedness and is measured by the total debt divided by the total equity. SOE is the nature of company ownership, taking 1 if the company is state-owned and 0 if otherwise. Industry dummies (IND) and year dummies (YEAR) are included. The + sign indicates an expected positive relationship between the two variables. The – sign indicates an expected negative relationship between two variables. *** and * indicate significance at the levels of 1% and 10%, respectively. Robust t-statistics are in brackets.

As seen from Table 2.5, a high level of dynamic capabilities was negatively related to SCSR adoption, although the relationship was not significant ($\beta_1 < 0$, $p > 0.05$). This result indicates that companies with a high dynamic capability were less likely to adopt SCSR practices. This finding does not support Hypothesis 1: companies with a high level of dynamic capabilities were more likely to adopt SCSR practices.

One possible explanation of the unexpected finding could be the loss aversion of companies. People make decisions (e.g., investments) with decreasing sensibility and loss aversion, with loss aversion referring to making decisions that avoid losses (Tversky and Kahneman, 1992). The maximisation of profits, in the long run, is the ultimate goal of companies. Managers may allocate company resources to invest in projects with net gains since they want to reduce potential losses and increase possible gains to improve profits. Therefore, manager attitudes towards loss and conservatism could affect the role of dynamic capabilities in adopting SCSR. Diminishing returns could lead CSR investment costs to increase quickly (Chen, Hung and Wang, 2018; Flammer, 2015). Managers in a company with a high level of dynamic capabilities could be loss averse and more conservative. Companies could prefer financial projects with high returns rather than incorporate CSR into strategies, as the adoption of SCSR could involve more costs and low returns (Chen, Hung and Wang, 2018; Flammer, 2015). Therefore, as people make decisions with decreasing sensibility and loss aversion, companies with a high dynamic capabilities level could be less likely to adopt SCSR.

Another plausible explanation of the surprising finding could be due to the inherent difficulty of implementing dynamic capabilities. Pursuing a high level of dynamic capabilities requires a company to align all its activities with every aspect of the company design, such as the structure, processes, metrics or incentives (Collis and Anand, 2021). Since each company choice constrains what a company can and cannot do, pursuing dynamic capabilities cannot produce a company capable of doing everything simultaneously. Therefore, a high level of dynamic capabilities requires a reconfiguration of activity choices for companies. However, there is a limit to the extent to which a high level of dynamic capabilities can be employed (Collis and Anand, 2021). In particular, the conflict between the administrative structures required to sustain the current abilities, such as policy deployment reviews, and those which

would change the entire process limit any company's ability to pursue a high level of dynamic capabilities. This inherent limitation makes it difficult for companies to align their activities with the company structure (Collis and Anand, 2021). In the context of CSR, the SCSR adoption requires companies to align CSR activities with business strategies and structure, while a higher level of dynamic capabilities could reduce the extent of such alignment, resulting in less SCSR adoption. Hence, this inherent limitation of dynamic capabilities could be one plausible reason for the negative relationship between the high dynamic capabilities level and SCSR.

The low level of dynamic capabilities was negatively and significantly related to SCSR adoption and performance ($\beta_1 < 0$), indicating that, compared to companies with a common or high level of dynamic capabilities, the group of companies with a low level of dynamic capabilities was less likely to adopt SCSR practices, and this was reflected in their low SCSR adoption performance.

Regarding the control variables, Table 2.5 shows that the company size positively and significantly affected SCSR adoption and performance ($\beta_2 > 0$, $p < 0.05$), indicating that a large company size increases a company's SCSR initiatives. This finding aligns with the prior literature (Lin and Ho, 2011; Yin, 2017). Company age negatively and significantly affected the SCSR adoption and performance ($\beta_3 < 0$), indicating that younger companies are more likely to adopt SCSR. Leverage was negatively and significantly related to SCSR adoption and performance ($\beta_4 < 0$, $p > 0.05$), indicating that companies with lower leverage were more likely to adopt SCSR. This is in line with previous expectations. Also, state-owned companies were more likely to adopt SCSR ($\beta_5 > 0$, $p > 0.05$). The results for the control variables were consistent with our expectations and the previous literature (Hill and Jones, 2007; Laaksonen and Peltoniemi, 2018; Cantrell, Kyriazis and Noble, 2015; Birindelli et al., 2018; Zhao et al., 2019; Nelling and Webb, 2009; Qiu, Shaukat and Tharyan, 2016). Therefore, the inclusion of these variables as controls has been validated.

2.4.3.2 Endogeneity – Reverse Causality Check

To check the possible endogeneity issue due to reverse causality between dynamic capabilities and SCSR adoption, the results of Equations (2.2) and (2.3) are displayed in Table 2.6.

Table 2.6. Endogeneity test results

Variables	DC as the Dependent Variable		SCSR as the Dependent Variable	
	HDC	**LDC**	**HDC**	**LDC**
DC_t			-13.35 (-1.35)	-5.55 * (-0.68)
DC_{t-1}	63.12 -	2.27 *** (3.01)	27.37 *** (3.06)	-5.69 (-0.69)
$SCSR_t$	0.29 -	-0.029 (-0.60)		
$SCSR_{t-1}$	-0.56 -	0.023 (0.49)	0.77 *** (8.99)	0.72 *** (7.82)
SIZE	64.22 -	-0.148 (-0.27)	1.72 (0.39)	4.02 (1.32)
AGE	-23.17 -	0.45 (0.55)	-3.92 (-0.66)	-9.59 * (-1.7)
LEV	-0.49 -	-0.009 (-0.93)	-0.03 (-0.61)	-0.08 ** (-1.94)
SOE	0 -	1.73 (1.48)	7.57 (0.7)	20.67 * (1.83)
Constant	-6196 -	1040.38 (0.67)	-15.47 (-0.24)	-32.18 (-0.67)
IND	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes
Pseudo R^2 or Adjusted R^2	0.98	0.54	0.75	0.72
LR chi^2 or F value	49.38	27.60	11.94 ***	10.01 ***

Model Equations 2.2 and 2.3 estimation results for the reverse causality check
Note: 134 company – year observations were sampled for the period 2017–2019. SCSR is the extent to which it has incorporated CSR practices in operational strategies measured by CSR strategy scores. HDC is a dummy variable of sustainable competitive advantage companies with a high level of dynamic capability within the company's industry. LDC is a dummy variable of companies lacking competitive advantages with a low level of dynamic capability. SIZE is the company size, measured by the natural log of the total assets. AGE is the company age, measured by the natural log of the number of years since incorporation. LEV is the leverage, which is the company's indebtedness, and it is measured by the total debt divided by the total equity. SOE is the company ownership nature, which takes the value of 1 if the final owner is a state-owned company, and 0 if otherwise. Industry dummies (IND) and year dummies (YEAR) are included. ***, **, * indicate significance at the levels of 1%, 5%, and 10%, respectively. Robust t-statistics are in brackets.

In the results for Equation (2.2), the coefficients of the current and lagged SCSR were not significant ($p > 0.05$), meaning that that the SCSR adoption did not 'Granger cause' dynamic capabilities, whatever their level. In other words, the SCSR adoption cannot help predict dynamic capabilities. However, the current dynamic capabilities coefficients were significant when the company had low dynamic capabilities. The coefficient of lagged dynamic capabilities was significant at the 0.01 level when the company had a high dynamic capabilities level. These results show that dynamic capabilities 'Granger caused' the SCSR adoption, meaning that they can help predict the adoption of SCSR. The inclusion of lagged dynamic capabilities clearly showed an increase in the explanatory power of the current SCSR. The results showed no reverse causality issues between dynamic capabilities and SCSR, supporting previous analyses.

2.4.3.3 Robustness and More Tests

The potential effects of regional culture, stakeholder pressures, and company support are considered to perform more tests for robustness. The results are shown in Table 2.7.

Table 2.7. More tests – Regional culture, stakeholder pressures, and company support

Variables	Expected sign	Dependent variable: *SCSR*
Constant		295.33
		(1.01)
HDC	+	-16.18**
		(-2.24)
CS	+	0.006
		(0.05)
RC	+	-99.32*
		(-1.54)
CC	+	-1.70
		(-0.41)
INV	+	0.11*
		(1.43)
EMP	+	0.61***
		(5.02)
CTM	+	0.16
		(1.27)
SPL	+	0.35*
		(1.86)
GOV	+	-0.08
		(-0.05)
COMM	+	0.33**
		(2.12)
SIZE	+	6.61**
		(2.30)
AGE	-	-5.24**
		(-3.32)
LEV	-	-0.01
		(-0.39)
SOE	+	18.99***
		(2.58)
IND		Yes
YEAR		Yes
F-statistic		7.43***
Adj. R^2		0.55

Note: SCSR is the extent of the company to incorporate CSR practices in operational strategies. HDC is a dummy variable of dynamic capability, taking the value of 1 for sustainable competitive advantage companies with a competitive situation index higher than the mean of the same industry for three consecutive years, representing companies with a high dynamic capability. HDC takes the value of 0 if otherwise. Each company's annual sustained competitive advantage index consists of three indicators (i.e., the excess ROE, operating income growth rate, and market capitalisation) and is measured using the principal component analysis method. CS is company support, measured by a proxy of the People Development Score, reflecting a company's commitment and effectiveness related to the provision of training and development for its workforce in CSR issues. RC is the regional culture level, measured by the average score of nine cultural dimensions according to the locality

of a company. CC is a dummy variable, indicating the cultural consistency between the CEO and the company, with a value of 1 if the company's province is the same as the origin of the CEO, 0 if otherwise. INV is the investor dimension of stakeholder pressure, measured by the investor score. EMP is the employee dimension of stakeholder pressure, measured by the employee score. CTM is the customer dimension of stakeholder pressure, measured by the cost ratio, i.e., the cost of goods sold divided by turnover, in percentage form, SPL is the supplier dimension of stakeholder pressure, measured by the accounts payable ratio in percentage form, which is equal to accounts payable divided by turnover. GOV is the government component of stakeholder pressure, measured by the tax-assets ratio, equal to the tax paid divided by total assets. COMM is the community component of stakeholder pressure, measured by the community score. SIZE is the company size, measured by the natural log of total assets. AGE is the company age, measured by the natural log of the number of years since incorporation. LEV is leverage, which is the level of a company's indebtedness and is measured by total debt divided by total equity in percentage form. SOE is the nature of the company's ownership, taking the value of 1 if it is a state-owned company and 0 if otherwise. A + sign indicates a positive relationship between two variables. A – sign indicates a negative relationship between two variables. ***, **, * are significant at levels of 1%, 5%, and 10% respectively. Robust t-statistics in brackets.

Company support is positively related to SCSR adoption ($\beta > 0$, $p > 0.05$). This result shows that companies with more company support tend to incorporate CSR in strategies and adopt SCSR, which is in line with our previous expectations. The result is also in line with the findings of Lee et al. (2018) and Lin and Ho (2011), i.e., that company support can improve the adoption of green practices. This result is consistent with RBV theory that company resources support developing a durable and sustainable competitive advantage (Barney, 1991).

The regional culture level is significantly related to SCSR adoption, but negatively ($\beta < 0$). The result confirms the association between regional culture and SCSR adoption, supporting the notion that regional cultural differences can have an important impact on management practices (Zhao et al., 2015). Surprisingly, companies at a higher level in regional culture are less likely to incorporate CSR in strategies and adopt SCSR. This finding extends the literature by suggesting that the regional cultural value system is an important factor of CSR practices and management and clarifies the negative impact between the regional culture level and SCSR adoption (Zhang, 2019; Zhao et al., 2015). This finding supports the neo-institutional theory by suggesting that regional culture affects people's behaviours and their ways of making decisions related to CSR (Lam, 2009). According to the neo-institutional theory, regional culture

characteristics form an informal institutional pressure on local companies (Lam, 2009). Companies with higher regional culture scores than the average cultural score of the province generally show – a higher degree of reliance of people on stability, social structure and regulations (i.e., a higher level of uncertainty avoidance); greater and unequal power distance and distribution and greater social emphasis on collectivism. Moreover, the society of the company located generally shows a higher degree of encouragement towards family and group cohesiveness, gender equality, confidence (i.e., higher level of assertiveness), fairness and generosity (i.e., humane orientated), outstanding performance (i.e., performance-orientated), and long-term views (i.e., future-orientated). As this type of regional cultural characteristic is performance-orientated, managers may focus more on company profitability than incorporating CSR into operations and strategy (Lam, 2009). Therefore, it follows that companies with this type of regional cultural characteristics may be less likely to adopt SCSR.

A negative coefficient was found between cultural consistency and SCSR adoption ($\beta < 0, p > 0.05$), showing a negative relationship between cultural consistency and SCSR adoption. In other words, a company with the same cultural characteristics as its CEO (i.e., a culturally consistent company) is less likely to adopt SCSR. This finding extends the literature on regional culture and CSR and supports the neo-institutional theory (Lam, 2009). According to the neo-institutional theory, the cultural consistency between the CEO and the company forms an informal institutional pressure (Lam, 2009). The greater cultural difference between the CEO and the company may form a greater institutional pressure to motivate the company manager to incorporate CSR into strategy. However, the smaller the cultural gap between the CEO/manager and company, the less institutional pressure formed. The manager may lack the motivation and institutional pressure to satisfy stakeholders who are concerned about CSR. Therefore, it follows that the manager may be easier to operate a business and less likely to incorporate CSR into strategy.

The study results show that stakeholder pressures from investors ($\beta > 0$), employees ($\beta > 0$, $p < 0.05$), customers ($\beta > 0$, $p > 0.05$), suppliers ($\beta > 0$), and the community ($\beta > 0$, $p < 0.05$) are positively related to SCSR adoption, but that government pressure ($\beta < 0$, $p > 0.05$) is not. The overall stakeholder pressures are positively related to SCSR adoption and could motivate companies to adopt CSR, which is in line with Lee

et al. (2018) in a research context of the logistics industry in South Korea. Regarding the significances, it can be observed that stakeholder pressures from investors, employees, suppliers and the community are significantly related to SCSR. However, pressures from customers and the regulatory bodies are insignificant. These results support the findings of Lin and Ho (2011) that the positive relationship between customer pressure and the adoption of green practices in the logistics industry is statistically insignificant. The results are consistent with the literature in that regulatory/government pressure does not significantly impact the adoption of green practices (Etzion, 2007; González-Benito and González-Benito, 2006). Stakeholders, including those concerned about CSR's environmental, social and economic dimensions, form pressures to motivate company managers to adopt SCSR. Therefore, the results support the stakeholder theory that the demands and needs of stakeholders are important to consider in operations and when incorporate CSR into strategy.

As seen from Table 2.7, the results report a negative relationship between a high dynamic capabilities level and SCSR adoption ($\beta < 0$, $p < 0.05$), showing that companies with a high dynamic capability are less likely to adopt SCSR and incorporate CSR into business strategies. The results confirm that dynamic capabilities significantly negatively affect the adoption of SCSR after considering regional culture, company support, and stakeholder pressures. This confirms the robustness of the findings.

2.5. Implications and Conclusion

For China's sustainable development, it is important to understand further the role of internal dynamic capabilities in incorporating CSR into strategies at the company level. The purpose of the current study was to examine the relationship between dynamic capabilities and the adoption of SCSR in China, drawing on the DCT, stakeholder and institutional theories (Rodríguez-Fernández, Gaspar-González and Sánchez-Teba, 2020).

Studying SCSR is important when planning to allocate company resources and choose CSR activities to invest in (Lee et al., 2018; Martínez-Ferrero et al., 2016). Most studies focus on the impacts of CSR on management when companies use CSR as a strategic tool (Falkenberg and Brunsæl, 2011; Martínez-Ferrero et al., 2016). However,

little is known about how a company's dynamic capabilities relate to incorporating CSR into strategy (Lin and Ho, 2011). Moreover, many studies have explored the association between dynamic capabilities and company strategy by using survey questions in the context of a developed economy (Teece et al., 2016), but little is known about the relationship between dynamic capabilities and CSR adoption with a strategic concern in the context of developing countries. This study fills in these gaps and provides empirical evidence from an under-researched developing country context.

Having analysed data collected from 134 companies listed on the Shanghai and Shenzhen stock exchanges in China over the period 2017 to 2019, this study has found that dynamic capabilities are an essential factor in SCSR adoption. This finding confirms the importance of dynamic capabilities on CSR and management. The findings also support the DCT that suggests that companies with a high dynamic capabilities level could satisfy more stakeholders' interests and needs by obtaining and creating a sustained competitive advantage with rich company resources and competencies (Tseng and Lee, 2014; Li, Lin and Yang, 2016). This makes it easier for companies to adopt SCSR.

In addition, it has been found that companies with a high or low level of dynamic capabilities (i.e., higher or lower than the average industrial level in the long run) were less likely to adopt SCSR practices, and they had a low SCSR adoption performance. This finding supports DCT only when companies have an industrial level of dynamic capabilities. When companies possess dynamic capabilities higher or lower than the average industrial level, DCT is not supportive.

Empirically, this finding is different from the results of prior studies (Ramachandran, 2011). For example, Ramachandran (2011) analysed one Indian company and identified two types of dynamic capabilities (sense and respond capability and execution capability) necessary for successful SCSR. The author proposed that these capabilities could be operationalised in terms of two associated processes: response design and impact assessment. The response design process indicates the phases of identifying the problem and developing alternatives. The impact assessment process refers to the alternative evaluation and selection phase (Ramachandran, 2011). The author indicated that the two processes are the reasons for dynamic capabilities impacting the SCSR positively. Unlike Ramachandran (2011), this current study

obtained a negative relationship between the non-industrial level of dynamic capabilities and SCSR adoption. There are two possible explanations. One is because managers make decisions with decreasing sensibility and loss aversion (Tversky and Kahneman, 1992). Another possible explanation could be the inherent limitation of dynamic capabilities that require aligning all the company's activities with every aspect of company design (Collis and Anand, 2021). SCSR is an important company design that requires alignment between CSR activities and business strategies. However, this inherent limitation of dynamic capabilities could be one reason for adopting SCSR challenging for companies.

This study contributes to the CSR and management literature by providing empirical evidence from a developing country context. It provides empirical new evidence to argue that dynamic capability is an important factor of SCSR adoption. However, a higher level of dynamic capability than the average industrial level negatively affects SCSR adoption. Therefore, this research does not fully support DCT. Instead, it admits the inherent limitation of dynamic capabilities—dynamic capabilities require alignment with all activities and every aspect of company design, such as structure, processes, metrics, and incentives (Collis and Anand, 2021). Each company choice constrains what a company can and cannot do. Pursuing a dynamic capability cannot produce a company capable of doing everything simultaneously. Therefore, such a requirement makes it difficult for companies to achieve and adopt SCSR that requires a high consistency between CSR activities and business objectives.

This study makes a theoretical contribution by applying the stakeholder, DCT, and neo-institutional theories to the research scope of CSR; prior studies often used a single theory, such as the stakeholder theory, to explore the determinants of CSR adoption (Lin and Ho, 2011). The additional use of DCT and neo-institutional theories in this research explains SCSR adoption over time from the new perspectives of dynamic capabilities and regional culture.

In addition, our research confirms the effects of dynamic capabilities on SCSR adoption by considering further potential factors, such as company support, regional cultural characteristics, and stakeholder pressure, while prior studies have had little to say about them (Lee et al., 2018; Lin and Ho, 2011). Therefore, this study extends the CSR literature by suggesting that researchers assess the companies' dynamic

capabilities and consider regional culture when studying CSR in China. Additionally, this study has examined the role of each component of stakeholder pressure, while prior studies have lacked a detailed analysis. Therefore, this research contributes to the literature by providing more explanations for companies to focus on when considering the interests of certain stakeholder groups.

This study also contributes to the empirical literature of CSR in the context of China. China is a unique case for research on CSR adoption since it has a large market with late CSR development and under-developed CSR systems (Yin and Zhang, 2012). Although the Chinese government has shown an increasing concern related to CSR issues and has continuously improved CSR regulations, Chinese companies differ in company behaviours at the company and regional levels. Many Chinese companies have not recognised the importance of incorporating CSR practices into strategy and have lacked the motivation to adopt SCSR (Ba, 2019; Moon and Shen, 2010; Noronha et al., 2013). The research on CSR in China has mainly focused on CSR theory, the relationship with company performance, the influencing factors, and ways to achieve it, but systematic and comprehensive research on this area is still absent (Matten and Moon, 2008; Moon and Shen, 2010). This research extends the CSR literature by suggesting that researchers assess companies' dynamic capability and consider the regional culture level in CSR research. The study results attract managers' and companies' attention to the adoption of SCSR, which are essential for companies to design resource allocation strategies and evaluate their future CSR and management practices early.

This study has implications for the Chinese government, companies, managers and scholars. First, in terms of improving the economic and business environment, governments should take concrete initiatives to promote SCSR adoption: for instance, by involving businesses in nationwide or provincial campaigns of targeted CSR issues, such as poverty alleviation. The government-initiated CSR activities could encourage companies to engage in them proactively and incorporate CSR into their business strategies, such as setting up e-platforms to improve sales of goods in the poorer areas of China. Governments could also consider matching business needs and improving dynamic capabilities by aligning CSR activities with company configurations by setting up unions or platforms for information sharing among companies. Possible

government funding could be set up to encourage companies to adopt SCSR. The government could also stipulate relevant policies, such as tax relief to encourage these companies to adopt CSR with a strategic concern.

Unlike the developed countries with strong market institutions and CSR regulatory enforcement, China has undergone phased development in CSR, and it has late CSR development and under-developed CSR systems, although it has a large economic market (Yin and Zhang, 2012). Since 2006, the Chinese government has rebuilt social legitimacy by promoting CSR as a lever (Moon and Shen, 2010; Yin, 2017). Therefore, before 2008, companies voluntarily engaged in CSR activities when seeking legitimacy when they faced various social problems, such as environmental pollution (Li et al., 2018) and the wealth gap between the urban and rural areas (Yuan et al., 2020). From 2008 to 2015, the stock exchanges in China released rules to regulate listed companies to disclose certain CSR information, such as that relating to the environment. After 2015, the country entered the further improvement phase to improve CSR regulations in the capital market (Ba, 2019). However, the legal system and regulations of CSR are not perfect and are difficult to implement (Ba, 2019; Moon and Shen, 2010; Noronha et al., 2013). Also, Chinese companies have yet to realise the social value brought to their sustainable development. (Moon and Shen, 2010). Hence, considering the background of China's current institutional environment that strongly supports CSR, this study may provide insight for companies to take a further step to understand the determinants of the adoption of CSR at the strategic level.

Second, in terms of improving a sustainable operating environment at the company level, this study suggests that companies should align the KPIs of managers or business objectives with CSR goals and activities. The finance and operations departments should evaluate the achievement of SCSR adoption frequently and adjust resource allocation in a timely fashion. The management should better understand managers' attitudes toward risks and losses in making resource allocation decisions, such as whether and how to incorporate CSR practices into strategies.

Using these results, managers and scholars may understand the dynamic capabilities in adopting SCSR when making resource allocation decisions. While more and more companies have noted the importance of SCSR in business operations (Bruyaka et al., 2013), this study suggests that a board of directors who are about to consider engaging

in CSR activities with a strategic orientation should pay attention to the assessment of their company's dynamic capabilities level before investing company resources in CSR activities with a strategic orientation. This may help them to make plans at an early stage to allocate more resources to such activities.

This study is not free from limitations. First, the findings are based on data collected from 134 company – year observations in a single developing country, which may limit the generalisability of these results to a broader context. Future research could enlarge the sample size and extend it internationally by using a global sample and by making cross-country and cross-culture comparisons in the relationship between dynamic capabilities and SCSR adoption. Further, since CSR and capabilities could be industry-specific, future research may focus on a specific industry or compare industries.

Second, our findings are based on a sample period from 2017 to 2019, which may limit the generalisability of these results from a long-term perspective. Future studies could assess the long-term impacts of dynamic capabilities on CSR adoption and performance by extending the sample period.

Third, a sample of listed companies was used, which leaves room for future research on how the dynamic capabilities of unlisted or small and medium-sized companies affect SCSR adoption. Studies on unlisted companies are important to increase the generalisability of our results (Stoian and Gilman, 2017).

Additionally, Granger causality test has limitations to check the reverse causality issue (a type of endogeneity problem) by employing the non-stationary data and short panel data. Granger causality test can hardly indicate the true causality of pairs of variables, which may produce misleading results. More advanced methodology and instrumental variables may be used to check this type of endogeneity problem.

Despite these limitations, this study provides an important insight into the role of dynamic capabilities in adopting SCSR.

Chapter 3: Corporate Social Responsibility and Financial Performance: A Company Life Cycle Perspective — Evidence from The Pharmaceutical Industry in China[4]

3.1. Introduction

The association between corporate social responsibility performance (CSP) and company financial performance (CFP) is a contentiously debated research topic (McWilliams and Siegel, 2001). Despite abundant studies, the literature concludes conflicting results – some research supports a negative association between corporate social responsibility (CSR) and CFP (e.g., Al-Hadi et al., 2019); while others support a positive relationship (e.g., Orlitzky and Schmidt, 2003); and certain studies suggest a mixed association (e.g., Chen et al., 2018). Haffar and Searcy (2017) assert that most of the research relies on a broad definition of CSR and explores the association between CSP and CFP by using different measures of CSR, producing inconclusive results. Moreover, most research ignores company characteristics and relevant development stages, resulting in a static perspective investigating the CSP – CFP relationship (Elsayed and Paton, 2009). These reasons may explain the lack of consensus in the literature. Therefore, there is an urgent need to extend the current research work on the CSP – CFP relationship and acknowledge that CSP is a multidimensional construct, which has implications for CFP over its development stages (Habib and Hasan, 2019; Tascón et al., 2021). In line with this argument, the study aims to address three critical research questions: (1) what is the prevalent CSP – CFP relationship during each phase of the corporate life cycle (CLC)?; (2) what are the drivers of CSR for every stakeholder's group and across each CLC stage, and why?;

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[4] This paper has been submitting for The *Journal of Business Ethics*.

and (3) how does the shift from one CLC stage to another influence the position of the stakeholders in terms of CSP?

The continuous evolution of CSR in modern companies has resulted in a call to integrate social and environmental values into the core company operations and engage stakeholders in improving social well-being (WBCSD, 2002). This is in addition to incorporating the economic aspects of company activities across the various stakeholder groups. These developments have pressured companies to respond to CSR issues and challenges (O'Riordan and Fairbrass, 2008). Therefore, there is a need to engage stakeholders to fulfil a company's CSR obligations effectively. While considering company development stages, individual managers have to confront the complicated task of resources allocation and the possible implications for CFP. Therefore, there is a need to emphasise CSR while observing the stakeholders' objectives in the company's CLC stages.

To explore the effect brought by CLC and stakeholder groups on the association between CSP and CFP, the study uses the pharmaceutical industry as the unit of analysis. The justification for using the pharmaceutical sector is its pivotal role in providing social goods (Yang et al., 2019) and directly responsible for human health (O'Riordan and Fairbrass, 2008). The safety of medicines is deemed to contribute to better CSP (Yang et al., 2019), while any violations by the pharmaceutical companies are considered to be costly and would lead to a significantly negative impact on a company's image in terms of its social responsibilities (O'Riordan and Fairbrass, 2008). Besides, pharmaceutical companies are likely to trigger critics and raise attention from various stakeholders due to their CSR actions. Meanwhile, pharmaceutical companies' reluctance to implement costly CSR practices due to resource constraints is likely to harm their CSP (Yang et al., 2019).

For this research paper, we empirically investigate the Chinese pharmaceutical industry, which is the home of the second-largest drug market in the world, controlling 10% of the market share (The IQVIA Institute for Human Data Science, 2021). The pharmaceutical market in China is also experiencing rapid growth, with rates ranging from 12.4% (from 2011 to 2016) to 8.1% (from 2016 to 2021) (Daemmrich and Mohanty, 2014). The repeated occurrence of certain high profile events and scandals due to CSR-related incidents, such as low drug quality, fake medicines, commercial

bribery, environmental pollution, and superfluously high drug prices (Hou and Zhang, 2014), makes China an interesting CSR research case to study. The events have caused severe reputational damage to the companies involved, as well as incurring penalties for their acts while, at the same time, attracting enormous attention from the media outlets and stakeholders.

Studying the CSP – CFP relationship within a narrowly focused industry, similar to the one presented in this paper, is likely to generate further insights on the issue of CSR. This is in addition to the unique regulatory settings applicable to the pharmaceutical industry in China. Therefore, investigating CSP – CFP in the context of the Chinese pharmaceutical industry is deemed appropriate. This complements the inconclusive research on the association between CSP and CFP (McWilliams and Siegel, 2001). Therefore, it is imperative to examine the CSP – CFP relationship among the pharmaceutical companies to assess any potential trends in this area and achieve a more comprehensive understanding of how CSR could impact CFP. This would provide an insight for managers into how to implement CSR effectively while recognising various stakeholders' interests and the different stages of the companies' development in their life cycles.

Besides, in this study, we respond to the calls for further research on CSR in the context of emerging markets, especially on exploring the effect of CLC on CSP (e.g. Al-Hadi et al., 2019). The CLC dynamics are subject to the influence of contextual, industrial, and organisational-related factors, which differ from one country to another (Mata and Freitas, 2012). It is, therefore, likely that the findings attained for emerging markets, such as China, will be distinct from those of developed countries (Habib and Hasan, 2019). In addition, most of the CSR studies are conducted in other sectors (Al-Hadi et al., 2019), with limited research undertaken on the pharmaceutical industry (Yang et al., 2019), which may have different CLC patterns, leading to new implications on the impact of CLC on CSP (Habib and Hasan, 2019).

Crucially, for any company, at each of the CLC stages, stakeholder focus and perceptions should be a matter of managerial interest and likely impact its CSP significantly. This is more evident in the pharmaceutical industry as it influences one of the most crucial aspects of society, which is health. Therefore, various stakeholders, including regulators, pay special attention to the pharmaceutical companies' financial

performance and information disclosure quality (O'Riordan and Fairbrass, 2008). Various CSR practices have evolved to respond to these increasing pressures from stakeholders, and further emphasis is placed on company performance.

The stakeholder theory suggests that companies should create value for all their stakeholders through appropriate and justifiable managerial decision-making and allocating resources to meet stakeholders' interests (Freeman, 2010). Meanwhile, the resource-based view (RBV) assumes "competitive heterogeneity" (Barney, 1991, p105) and emphasises the competitive advantage, which is driven by company resources and links this to company value, rarity, immobility, and non-substitutability (Crick and Crick, 2021). The heterogeneity in resources forms the base on which the company moves through CLCs. Proper allocation of resources enables the company to make above-average profits and achieve superior long-term performance (Wernerfelt, 1985). Therefore, investing resources in CSR-financial activities has become imperative to managers as part of their duty of becoming socially responsible. In this way, performance attributed to CSR activities and linked to stakeholder interests is likely to be driven by the resources and capabilities of the company throughout the CLC stages, which ultimately could affect CFP. Moreover, performing CSR activities at every phase of the CLC is likely to influence stakeholders' focus and expectations.

This study builds on Habib and Hasan (2019), adopts RBV (Barney, 1991) and CLC theories (Helfat and Peteraf, 2003), and takes the view that resources employed are a good proxy to explain the company's competitive advantage at every phase of the CLC (Helfat and Peteraf, 2003). By espousing the principles of RBV, CLC, and stakeholder theories, this study can also explore the effects of the CLC on the CSP – CFP relationship while considering the interests of different stakeholder groups.

To test the research hypotheses, we use CSR data from the *HEXUN* and *Datastream* databases. The final study sample included 1,628 listed pharmaceutical companies over the period 2010 to 2018. This study applies the two-stage stepwise ordinary least square (OLS) regression procedure and the Shahzad and Sharfman (2017) method to test for the CSP – CFP relationship and examine the CSP's effect based on different stakeholder groups and across the CLC stages.

The results first reveal a significant positive relationship between CSP – CFP across all the life stages of the company. Second, the findings show that investors, employees, suppliers, and the government are the most influential stakeholder groups influencing CFP. Third, the study provides evidence of the direct impact of stakeholders across the CLC stages. These results fill an important gap in the literature as, to the best of our knowledge, there is no research to date on the impact of CSP on CFP while taking into account the CLC, at least in the pharmaceutical industry and the context of an emerging market, such as China.

Several robustness checks are performed using alternative measures of CFP. This study further applies Qiu et al.'s (2016) method to address the bidirectional causality concern between CSP – CFP. The results remain robust throughout and concerning the alternative regression models (the lagged dependent variable model with fixed effects and generalised least square (GLS) model).

The remainder of this chapter is organised as follows. The next section provides rationales for choosing to study the pharmaceutical industry and China. Then, the relevant literature is reviewed, and the hypotheses are developed. Section 3.4 discusses the research methodology and the study model, followed by the research results and findings. Finally, a discussion and conclusion are presented in Section 3.6.

3.2. CSR in the Pharmaceutical Industry of China

The rationale behind focusing on the global pharmaceutical industry in general and China in particular, in this study, is four-fold. First, the pharmaceutical sector plays a vital role worldwide by providing social goods and acting as a signpost of the state of a healthcare system (Szmelter, 2019). A recent report by The IQVIA Institute for Human Data Science[5] (2021) suggests that the global medicine market – using invoice price levels – is expected to grow at a 3-6% compound annual growth rate (CAGR) in the next five years, from 2021 to 2025, reaching about $1.6 trillion in total market size (see Table 3.1).

Table 3.1. Historical and projected changes in the 5-Year compound annual growth rates of the global medicine market from 2010 to 2025 (based on invoice price levels)

Year	Overall market	Developed countries	Pharm-emerging countries	Lower-income countries
2010 – 2015	6.0%	4.8%	11.7%	6.0%
2016 – 2020	4.6%	3.8%	7.4%	3.9%
2021 – 2025 (Forecast)	3-6%	2-5%	7-10%	3-6%

Source: The IQVIA Institute for Human Data Science (2021)

Table 3.1 shows the historical and projected changes in the 5-Year CAGRs of the global medicine market from 2010 to 2025 based on invoice price levels. It can be

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[5] The IQVIA Institute for Human Data Science is an affiliate of IQVIA, a provider of biopharmaceutical development and commercial outsourcing services, focused primarily on Phase I-IV clinical trials and associated laboratory and analytical services, including consulting services. The institute contributes to the advancement of human health globally through timely research, insightful analysis and scientific expertise applied to granular non-identified patient-level data. See more details: https://www.iqvia.com/insights/the-iqvia-institute.

seen that global medicine spending – the amount spent purchasing medicine from manufacturers – has increased over the years with positive CAGRs. From 2016 to 2020, the past five years had similar growth globally but had lower contributions from pharm-emerging and lower-income countries than earlier in the decade, from 2010 to 2015. However, the overall medicine market is expected to return to historical patterns over the next five years, after the impact of the coronavirus disease 2019 (COVID-19) pandemic. Unlike developed and lower-income countries, pharm-emerging countries, such as China, have grown fastest in medicine spending, owing to the highest growth rates over the years. The CAGRs of pharm-emerging countries are far above the average levels of the overall market. Meanwhile, these countries have approximately doubled in CAGRs compared to developed and lower-income countries.

Besides, the report suggests that the global medicine market has faced increased medicine demands over the years (see Figure 3.1) (The IQVIA Institute for Human Data Science, 2021).

Figure 3.1. Historical and projected use of medicine in the global medicine market, 2010-2025, defined by the daily doses in billions

Source: The IQVIA Institute for Human Data Science (2021)

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Figure 3.1 shows the historical and projected volume level of medicine used, defined by daily dose consumptions. It can be observed that in the next few years, the overall global market is predicted to grow slowly due to the impacts of the pandemic. However, the overall medicine market has experienced an increasing trend over the past decade, from 2010 to 2021, driven by access expansions in pharm-emerging countries such as China.

Looking at the 5-Year CAGRs in terms of the daily doses volume levels of medicine used in the global medicine market from 2010 to 2025, Table 3.2 shows that the CAGRs of pharm-emerging countries are the highest when compared to developed and lower-income countries.

Table 3.2. Historical and projected changes in the 5-Year compound annual growth rates of the global medicine market from 2010 to 2025 (based on the daily dose volume levels of medicine used)

Year	Overall market	Developed countries	Pharm-emerging countries	Lower-income countries
2010 – 2015	3.8%	0.9%	7.5%	1.0%
2016 – 2020	2.2%	1.1%	3.5%	-0.9%
2021 – 2025 (Forecast)	0.7%	-0.1%	1.5%	-2.1%

Source: The IQVIA Institute for Human Data Science (2021)

Therefore, in summarising the changes in CAGRs of invoice price levels and volume levels of medicine used, the report of the IQVIA Institute for Human Data Science (2021) delivered two aspects items of information: first, the global pharmaceutical sector continues to grow due to increased spending and demand in medicine, particularly in the economic rehabilitation period after the pandemic; second, pharm-emerging countries such as China have grown faster than developed and lower-income countries. This anecdotal evidence suggests that the pharmaceutical sector in general, and pharm-emerging countries in particular, have been seen as strong growth engines

and attractive investment destinations for investors (The IQVIA Institute for Human Data Science, 2021).

China is the second-largest medicine market globally, and the pharmaceutical industry has been one of the fastest-growing industries (Qian, 2016). Table 3.3 shows the historical and projected changes in the 5-Year CAGRs of China's medicine spending by product type from 2010 to 2025 (The IQVIA Institute for Human Data Science, 2021).

Table 3.3. Historical and projected changes in the 5-Year compound annual growth rates of China's medicine spending by product type 2010-2025

Year	Overall	Unbranded products	Over-the-counter and others	Non-original brands	Original branded products
2010–2015	13.4%	13.9%	16.4%	11.3%	13.2%
2016–2020	4.9%	7.8%	0.6%	2.2%	12.3%
2021–2025 (Forecast)	6.2%	9.4%	2.2%	4.3%	9.4%

Source: The IQVIA Institute for Human Data Science (2021)

From Table 3.3, it can be seen that over the past five years, from 2015 to 2020, spending growth has been driven by original branded products, which have grown at 12.3% of CAGR. However, over the next five years, with the patent expiry of many original branded products and the emergence of new original medicines, there will be higher spending levels. In terms of this, original brands and generics will grow by more than 9% per year, while other products will grow at less than half that rate. This evidence suggests that there may be more investment opportunities in researching and developing new original medicines in China.

However, although China has a large and fast-developing pharmaceutical market, certain high profile events and scandals have been repeated, such as low drug quality, fake medicines, commercial bribery, environmental pollution, and superfluously high drug prices (Hou and Zhang, 2014). These drugs- and CSR-related incidents may be closely related to human health and safety, damaging the reputation of the companies

involved and could have a severe negative impact on the business community. If the ongoing CSP improves, China has the potential to be an attractive destination for investors and other stakeholders (Yang et al., 2019). Chinese companies may benefit from more investments from these investors and stakeholders and improve their financial performance.

Second, the pharmaceutical sector has an important responsibility concerning human health, regarded as a fundamental human right (O'Riordan and Fairbrass, 2008). Unlike other industries, products manufactured in the pharmaceutical industry directly affect people's health and lives. Manufacturing safe medicines above the quality standards embraces the pharmaceutical companies' social responsibility towards customers. Unsafe medicines are likely to lead to serious ethical issues (Smith, 2008).

Meanwhile, the pharmaceutical companies attract enormous attention from stakeholders, such as governments and communities, which can exercise considerable influence over the sector. For example, governments regulate and control the licensing of new drugs. Moreover, governments are often major customers of these companies. Communities can expose and criticise them for any alleged failings. In this way, communities can directly affect the image of the pharmaceutical sector.

In addition, the pharmaceutical companies may have triggered criticism and attracted the attention of various stakeholders as a result of their behavioural actions related to CSR. A variety of CSR issues that the pharmaceutical companies often face concern responsibilities for product quality, the supply chain (e.g., the safety and quality of raw materials, or the safety and reliability of the research and development (R&D) process), advertising for medicines and treatment, educational services for communities (about disease prevention and the safe use of drugs), the recycling of expired drugs, delivery of trial tests in safe ways, and accessibility for customers (in terms of medicine pricing levels and geographical distances) (Yang et al., 2019; Bruyaka et al., 2013). Responsibilities towards these CSR aspects make the pharmaceutical sector liable to more diversified and multifarious stakeholders than most other sectors of the economy (Zaharia, 2011). Therefore, the pharmaceutical sector is considered to be highly sensitive to the impact of CSR because the sector needs to be highly responsive to the demands of its stakeholders and needs to find possible ways to engage with them effectively (O'Riordan and Fairbrass, 2008, 2014).

Consequently, if the companies can understand the demands of their stakeholders at an early stage, they may find ways to balance the company and social interests and design effective resource configurations for CSR and financial activities.

Third, the pharmaceutical sector is heavily regulated worldwide (Pol and Bakker, 2010). Some developed countries have continuously passed various laws and used vigorous law enforcement to restrict and regulate the behaviour of pharmaceutical companies related to the workplace, drug safety, consumer protection, environmental protection, and fair competition (Yang, 2009). For example, the U.S. is a leading country in regulating pharmaceutical companies in the context of CSR. The U.S. environmental protection department requires pharmaceutical companies to disclose their environmental impact and responsibilities and has established an environmental review system to strengthen the supervision of the environmental protection of pharmaceutical companies (Yang, 2009). The U.S. has also strengthened this supervision regarding fulfilling their social responsibilities by reforming the regulatory system. They have also established an independent CSR supervision committee, which has strengthened financial audit supervision, and they have established a drug recall mechanism to minimise the harm caused by counterfeit and inferior drugs to society. As a developed country in Asia, Japan also has precise requirements and regulations for the pharmaceutical industry in CSR. For instance, about environmental protection and energy conservation, the Japanese government has promulgated laws and regulations to put forward clear energy-saving requirements for various industries, especially the pharmaceutical industry. In sum, these countries (e.g., the U.S. and Japan) have made great efforts to formulate regulations concerning aspects of CSR, such as energy-saving, workplace environment, drug safety, consumer protection, environmental protection, and fair competition in the pharmaceutical industry.

Developing countries such as China also have regulations to manage the pharmaceutical sector. In China, the different levels of government have a clear separation of duties in drug management. For example, medicine products are inspected and managed by the provincial and municipal governments. The National Medical Products Administration, formerly the China Food and Drug Administration, is responsible for conferring licences and inspections. Also, China's governments have

strict regulations related to drug management (Yang and Shao, 2013; Cao and Xiong, 2007). For example, in advertising medicines, which is a specific aspect of CSR, the government only allows over-the-counter (OTC) medicines to be advertised. Meanwhile, it strictly inhibits the advertising of prescription medicines and those treating AIDS, tumours, and sexually transmitted diseases. If regulation enforcement is weak, misleading advertising may harm customer patterns and result in market disorder (Pol and Bakker, 2010). These examples show that the Chinese government at all levels attaches great importance to drug-related CSR issues.

However, despite the highly regulated nature of the pharmaceutical sector in China, high profile CSR-related incidents in the sector are frequent. According to a recent report released by the CSR Research Centre of the China Academy of Social Sciences in 2014, only 20% of 172 Chinese listed companies in the healthcare sector published CSR or sustainability reports (Qian, 2016). Among these CSR reports, 56% of pharmaceutical companies had received punishment or had seriously violated regulations related to CSR issues (Qian, 2016). This demonstrates that despite the Chinese government pays great attention to drug-related CSR issues, the companies have not realised the importance of CSR. This may be one reason why these companies violated drug-related laws and regulations and breached CSR norms frequently (Frederiksborg and Fort, 2014). Therefore, China may need to develop other CSR management systems and regulations at a company level. If the pharmaceutical companies in China can improve their understanding of the importance of CSR and relate it to their financial patterns, they may be better prepared for government regulations and be socially responsible for their products and services. Concerning this, as China's market and legal environments are relatively underdeveloped (Guan and Noronha, 2013), the experiences and regulations adopted by foreign countries, such as the U.S. and Japan, are worth consulting (Xu and Zhao, 2012).

Fourth, due to the increasing demand for high quality and reliable medicines, the pharmaceutical sector is financially challenged globally (Smith, 2008). Financial resources in this sector are very important for innovation, R&D investments, and the promotional activities required in the business (Qian, 2016; Yang et al., 2019). However, due to financial weaknesses, 97% of the medicine produced in China comprises generic drugs, meaning most drugs have patents that have already expired.

Limited innovation results in homogeneity, which means that many companies produce the same medicine simultaneously, leading to quality issues concerning the medicines. This is a severe CSR issue in the pharmaceutical industry (Dong et al., 2009). Therefore, the pharmaceutical companies in China are concerned with cash flow aspects, such as cash in- and out-flows, cash flow stability and cash flow investments, as they are dependent on the capital market for funding to develop more innovative medicines and R&D activities (Gleadle and Haslam, 2010; Anderson et al., 2010). Pharmaceutical companies sometimes feel reluctant to implement costly CSR practices and improve CSP due to limited company resources (Yang et al., 2019). However, underinvestment in CSR practices and poor CSP can lead to bad reputations (Yang et al., 2019). Therefore, pharmaceutical companies need to balance the company resources assigned to R&D development and CSR practices.

All these reports and studies discussed above emphasise the importance of CSR practices and provide significant insights into CSR research. However, it is still unclear from the literature how CSP is different for companies with their cash flow patterns across the CLC stages and how these differences in CSP relate to CFP, especially in the pharmaceutical sector (Habib and Hasan, 2019). Although some studies have been conducted that examine the role of CLC relating to CSR, most of them have been conducted in developed countries, with very limited research undertaken in the context of developing countries (Al-Hadi et al., 2019). The CLC dynamics and the progression through a company's CLC stages are shaped by various factors, such as contextual/country factors, industrial factors, and company capital or management practices (Mata and Freitas, 2012). It is, therefore, likely that the developed countries' CLC pattern may be different from those of the developing countries as CLC is context – (nation) – specific, which may affect the generalisation of the findings obtained from studies conducted in developed countries (Mara and Freitas, 2012; Habib and Hasan, 2019). Similarly, most of the studies have been conducted in other sectors (Al-Hadi et al., 2019), with very limited research undertaken in the pharmaceutical industry (Yang et al., 2019). Thus, it is likely that the CLC pattern in the pharmaceutical industry may be different from those of other sectors as CLC is industry-specific, which is likely to affect the generalisation of the findings obtained from studies conducted in other sectors (Habib and Hasan, 2019).

In China, CSR is not a new phenomenon. For example, businesses have contributed to the broader society by donations (Zhang et al., 2016). Therefore, the long-standing history of company philanthropy or CSR in China provides a unique research context in which to explore whether the CLC influences CSP in China and, if so, whether the CSP is reflected differently in terms of various stakeholder groups, and how the differences in CSP may affect CFP at each CLC stage.

3.3. Literature Review

CSR has been evolving since the 1930s (Carroll, 1979), and research in this area has continued to grow as companies use CSR to discharge their accountability duties to their stakeholders. However, Sternberg (1998), among the critical critics of shareholder value and CSR, argues that if companies spend their economic resources satisfying stakeholders other than shareholders, this may reduce profits and harm shareholders' wealth (Solomon, 2021). Despite the criticism, awareness of the benefits of social responsibility for companies is growing to encompass economic responsibility to maximise shareholders' wealth, legal, ethical, and discretionary responsibilities.

The CSP – CFP relationship study helps us understand why companies adopt social responsibility to improve CFP (Galbreath, 2018). The empirical results for this issue are generally mixed (Margolis and Walsh, 2003; McWilliams and Siegel, 2001). A linear relationship exists between the variables representing CSP and CFP, but the direction of the relationship can be both negative and positive (Haffar and Searchy, 2017). However, several research papers question the linearity of the CSP – CFP relationship (see Chen et al., 2018; McWilliams and Siegel, 2001). This study explores the CSP – CFP relationship across the CLC, focusing on CSP concerning stakeholder dimensions. The literature based on the life cycle perspective to analyse the relationship between CSR and CFP lacks in-depth research for different industries. Therefore, this study has chosen listed pharmaceutical companies as the research object, seeking to compensate for previous research's caveats and empirically examine the relationship between CSR and CFP from the CLC perspective.

This section discusses the development of research leading to a discussion of the CLC and its influence on the association between CSR and company performance. First,

the fundamental theories used to construct a theoretical framework are discussed. Then, a literature review on the relationship between CSR and CFP is provided in the next section. This review discusses different views on the association between CSR and CFP. Moreover, the recognition and measurement problems of CLC based on the literature are presented. Finally, hypotheses about the CSR – CFP relationship for each CLC stage are proposed.

3.3.1 CSR

3.3.1.1 CSR Theories

Matten and Moon (2008) differentiate between two types of CSR. The first type is explicit CSR and is based on the principles of liberal market economies. This form of CSR is voluntarily adopted by companies, driven by stakeholders' interests, and aims to benefit society. The second type is implicit CSR and is observed in other non-liberal market economies, such as China. Implicit CSR activities are mandatory or driven by the societal expectations related to where the companies are operating. This research focuses on implicit CSR activities as they are aligned with the case study used in the paper – China.

Several dimensions have been proposed to account for CSR. The three most prominent ones are economic, environmental, and societal (e.g., O'Riordan and Fairbrass, 2008; Maas and Reniers, 2014). On the first parameter, CSR is said to contribute to companies' value creation. It is also perceived as playing a pivotal role in enhancing the environment and societal attributes at national and international levels.

Several theories have been put forward to explain the attributes of CSR. In a study by Dmytriyev et al. (2021), these theories are categorised into three types – descriptive, normative, and instrumental. Descriptive CSR employs country industrial and contextual drivers to explain how a company manages its social responsibilities (Muller and Kolk, 2009). Meanwhile, normative CSR follows moral principles to explain and justify its validity (Chakrabarty and Bass, 2014). Instrumental CSR focuses on the relationship between CSR and company performance by arguing that the demand and quest for CSR are important drivers of CSR activities (Baden and

Harwood, 2013). This study adopts the instrumental CSR perspective, where CSR is deemed to influence CFP.

3.3.1.2 Measures of CSR Performance

Prior studies have used different measures of CSP. As mentioned above, CSR involves responsibilities towards investors, employees, customers, communities, suppliers and the government (Chen and Ma, 2005; Dong and Yan, 2013; Feng et al., 2015; Feng and Peng, 2014; Feng and Zhao, 2014; Wan and Liu, 2013; Wang, 2018). The CSR score is a proxy of CSP. Researchers use the CSR database and financial ratios to measure CSP because they only include responsibilities to stakeholders. Following Wang and Xu (2016), this study relies on the database (i.e., *HEXUN* database) and financial measures to obtain all the stakeholders' performance measures.

Some studies (Liu et al., 2019; Zhou et al., 2017) use the CSR score from the *HEXUN* database, available freely online for Chinese research. The CSR score is evaluated based on environmental, social and governance information from Chinese publicly listed companies. The information comprises two parts: voluntary disclosure and negative information or news. Voluntary disclosure of CSR information comes from annual reports, sustainability reports, social responsibility reports, environmental reports, announcements, and company websites. Negative CSR information comes from voluntary disclosure of relevant information, penalty information from supervisory departments (such as the Ministry of Environmental Protection, the State Administration of Work Safety, the China Securities Regulatory Commission, and the China Banking and Insurance Regulatory Commission), media reports, and social surveys.

The *HEXUN* database provides CSR scores for Chinese listed companies regarding various aspects of CSR activities such as environmental management, labour policy, employee policy, health and security of employees, product quality, supply chain management, and community relationships. These CSR aspects reflect a company's ability to fulfil its social responsibilities and build relationships with various stakeholders. *HEXUN* provide CSR scores for the investors, employees, customers, and communities dimensions. The higher the score, the greater the CSP level is for the stakeholder group.

However, the database does not include responsibilities performed for suppliers and the government. To capture a comprehensive picture of the dimensions of CSP, this study further considered using financial measures as proxies of CSP. Some researchers have used financial data to measure the CSP level for stakeholder groups in the literature. Following the literature (Chen and Ma, 2005; Dong and Yan, 2013; Feng et al., 2015; Feng and Peng, 2014; Feng and Zhao, 2014; Wan and Liu, 2013; Wang, 2018), the financial measures for suppliers and the government dimensions of CSP have been summarised in Table 3.4.

Table 3.4. Financial measures for suppliers and government dimensions of CSP

Responsibility dimension (abbreviation)	Definition	Literature
Suppliers (PCR)	Accounts payable turnover ratio measured by accounts payable divided by turnover	Dong and Yan (2013); Feng et al. (2015); Feng and Peng (2014); Feng and Zhao (2014)
Government (GCR)	Tax-assets ratio measured by tax paid divided by total assets	Dong and Yan (2013)

Source: Dong and Yan (2013); Feng et al. (2015); Feng and Peng (2014); Feng and Zhao (2014)

The financial measurement system of CSP regarding suppliers and the government provides proxies from a financial perspective. The financial data are easy to obtain from the *Datastream* database, which can provide financial data on China and is free to use online. The financial measures, thus, can be calculated from the financial data and can be used to measure these two dimensions of CSP.

3.3.2 Company Life Cycle

Most studies examine the relationship of CSP – CFP without considering the CLC, which is a static perspective (Zhou et al., 2017). However, this study looks at a more dynamic perspective. In reality, the development of companies is very similar to that

of living organisms (Adizes, 1979). Companies experience the process of going from birth to growth, prosperity and ageing. The characteristics of each life cycle stage (including introduction, growth, maturity, decline and shake-out) are discussed later. There are different cognition and performance abilities related to social responsibility in different life cycle stages, which leads to the existence of differences in the impact of CSR on CFP (Hasan and Habib, 2017; McWilliams and Siegel, 2001; Wang and Wu, 2013; Wang and Xu, 2016).

Researching from the life cycle perspective provides insights for the company management (Al-Hadi et al., 2019; Hasan and Habib, 2017). Researchers, therefore, have proposed the life cycle theory. They argue that companies have systematic variations in cash flow activities, capabilities, resource endowment, risk attitude and strategies during the life cycle stages (Helfat and Peteraf, 2003). For example, companies in the maturity stage have more company resources to perform business activities, making them more profitable and less risky than companies in other stages (Dickinson, 2011; Hasan et al., 2015). Therefore, it follows that these differences in stages could affect CFP across CLC stages.

Recognition and measurement of the CLC are the two main issues that researchers have been interested in exploring in the research into the CLC. The recognition of CLCs determines the life cycle stages and progression sequence over the life cycle. The measurement issue is to find a suitable proxy to measure the CLC. The CLC is a dynamic locus of company development and growth, with its introduction, growth, maturity, and decline (Wang and Xu, 2016). Therefore, it is crucial to examine the CSR – CFP relationship from the CLC perspective. This section analyses the recognition and measurement issues of the CLC based on the relevant literature.

Early researchers argued about the recognition issue of CLC based on the CLC theory, which suggests that a company's growth, like a biological organism's, has a process from birth to death, from prosperity to decline (Adizes, 1979), with the process passing through the introduction, growth, maturity to decline (Adizes, 1979). However, Miller and Friesen (1984) hold a different view about the number of life cycle stages and the progression sequence over the life cycle.

They proposed a five-phase model of CLC stages by adding a revival stage before the decline stage. They concluded that company structures, environment, strategies, and

decision-making styles collectively determined the company's stage. Take companies in the maturity stage as an example (Miller and Friesen, 1984). Companies that are conservative, older and larger, with diluted ownership, and prefer participative and centralised management approaches are often in the maturity phase (Miller and Friesen, 1984). Regarding strategy, companies in the maturity stage are conservative, meaning that they produce few significant innovations, and the main goal is to improve operational efficiency and profitability (Miller and Friesen, 1984).

Regarding the situation/environment, companies in the maturity stage are older and larger than companies in the birth or growth phases; however, they have diluted ownership because the founders may have retired, and the business goes public or is sold (Miller and Friesen, 1984). Regarding company structure, companies in the maturity phase have departmental, functionally-based structures since this structure fits the focused product-market scope (Miller and Friesen, 1984). Such companies prefer a participative management approach, but they remain centralised (Miller and Friesen, 1984). Regarding decision-making style, companies in the maturity stage have a style of conservatism, meaning that they are less innovative, less proactive and more risk-averse than companies in other stages (Miller and Friesen, 1984). Therefore, it follows that other CLC stages differ in company structures, environment, strategies, and decision-making styles (Miller and Friesen, 1984).

Although the decline stage was essential and unique in past studies, phase models without a decline stage had better predictive power in the CLC than the model with the decline stage (Drazin and Kazanjian, 1990). The possible reason may be because the decline stage distorts the ability to detect life cycle progression. However, due to the convenience of measuring the CLC, recent studies have kept the decline stage, and they follow the four-phase model of introduction, growth, maturity and decline (Dickinson, 2011; Hasan and Habib, 2017; Liu et al., 2019). Therefore, this study has adopted the four-phase model for ease of comparison between these different stages.

Miller and Friesen (1984) also reveal that life cycle stages are internally coherent but not in any deterministic order. For example, the growth stage may be followed by the maturity or decline stage, but not necessarily the decline stage. However, instead of focusing on the sequence of life cycle phases, researchers have stressed the importance of company resource utilisation and management in determining the life cycle position

(Pettus, 2001; Sirmon et al., 2011). For example, Pettus (2001) classified companies' strategic actions and resources development and deployment moves through interviewing experts in deregulated industries, including airlines, telecommunications and railroads. Such a classification is based on the RBV theory, stating that resources and the ability to use the resources in new ways together generate growth and maximise a company's competitive advantage (Sirmon et al., 2011). The resources have the core characteristics of value, rarity, inimitability and non-substitutability (Barney, 1991; Wan et al., 2011). Although the prior literature stresses the importance of resource deployment in the management and the difference of resource bases between the CLC stages, hardly any study has applied the consequences of resource allocation policies, such as financial performance, on companies. This study looks to fill the gap and examine the CSP – CFP association over the CLC from the resource deployment perspective.

The measurement issue of the CLC is equally important as the recognition issue. Early studies of CLC focused on the order of the life cycle stages and used survey questionnaires widely to measure and classify the CLC stages. Some proxies (such as company age, company size, and cash flow patterns) can measure CLC quantitatively (Dickinson, 2011; Hasan and Habib, 2017). Company age and size are common univariate proxies because they are discrete and easy to use. They indicate a company's maturity to a great extent (Anthony and Ramesh, 1992; Bhattacharya, Black and Mergenthaler, 2004; Withisuphakorn and Jiraporn, 2016). However, researchers have found that the two proxies have inherent limitations as they cannot wholly capture the CLC for three reasons (Faff et al., 2016). First, an implicit assumption is that a company moves linearly over its life cycle when using size and age as CLC proxies (Dickinson, 2011).

The reason for this assumption is that product life cycles progress forward from an introduction to a decline stage. However, due to the portfolio of many products and product lines, each may be at a different product life cycle stage. Any structural change, product innovations, and market expansion strategies can make companies move over life cycle stages in a dynamic way (Helfat and Peteraf, 2003). However, company age and size only capture the linear progression of a company without noticing the cyclical nature of a CLC (Dickinson, 2011). Second, different company background support

and resource bases could lead to different CLC stages (Dickinson, 2011). Therefore, even if the two companies have the same age, they are likely to differ in development speed. Third, many studies use the listing period to measure company age. However, companies may operate as unlisted private companies for a long time (Faff et al., 2016). Hence, all these limitations make company age and size misleading proxies of the CLC.

Drawing on the drawbacks of using company age and size as proxies, a company-specific proxy on cash flow patterns could indicate CLC (Dickinson, 2011). The reason is that cash flows capture variations in profitability, growth and risks. Table 3.5 presents a combination of cash flows from operating (OCF), investing (ICF), and financing (FCF) activities to stages of introduction, growth, mature, shake-out, and decline.

Table 3.5. Company life cycle stages and cash flow patterns

	Net operating cash flow	Net investing cash flow	Net financing cash flow
Introduction stage	<0	<0	>0
Growth stage	>0	<0	>0
Maturity stage	>0	<0	<0
Decline stage	<0	>0	> or < 0
Shake-out	> or < 0	> or < 0	> or < 0

Source: Dickinson (2011)

Dickinson (2011) classifies CLC stages based on the cash flow patterns. OCF is the amount of cash generated by the regular operating activities within a specific period. In Table 3.5, net OCF is negative in the introduction and decline stages, positive in the growth and mature stages, and positive or negative in the shake-out stage. Companies in the introduction phase lack established customers and have little knowledge about possible revenues and costs, resulting in negative cash flows (Dickinson, 2011; Jovanovic, 1982). With increased investment and efficiency, profit margins are maximised during the growth and maturity stages (Dickinson, 2011; Wernerfelt, 1985), leading to positive cash flows. Eventually, declining growth rates lead to decreasing

prices. Negative cash flows will result from the decline stage (Dickinson, 2011; Wernerfelt, 1985).

ICF shows the cash generated or spent with investment activities. Companies in the introduction and growth stages share the same reason for having negative cash flows. The reason is that managerial optimism (Dickinson, 2011; Jovanovic, 1982) motivates companies to invest early to deter competitors from entering the market (Spence, 1977, 1979, 1981). Compared to companies in the growth stage, companies in the maturity stage start reducing investment because they want to maintain capital (Dickinson, 2011; Jovanovic, 1982). The net ICFs continue to be negative for companies in the maturity stage if the maintenance costs increase over time, leading to rising prices. However, the magnitude of such cash outflow is not as great as that for companies in the introduction and growth stages. Companies in the decline stage will have positive ICF because they will liquidate existing assets for current debts and support routine operations.

Net FCF shows the net flows of cash to fund the company. Net FCF shows companies' positive signs in the introduction and maturity stages based on the pecking order theory (Diamond, 1991; Myers, 1984). The pecking order theory states that a pecking order affects financing choices, with bank debt coming before equity issuance in a company's life. This is because of the asymmetric information between managers and outside investors concerning a company's prospects, risks and value. Further to the pecking order theory, companies in the growth stage will prefer debt with a shorter duration than companies in the maturity stage (Barclay and Smith, 1995). Hence, companies in the introduction and maturity stages have positive net FCFs. However, companies in the maturity stage will have to repay the debt and distribute dividends when there is no positive net present value in ICFs. Therefore, companies in the maturity stage have negative net present values in FCFs. For companies in the decline stage, net FCFs can be positive or negative; we do not know because of a lack of literature (Dickinson, 2011). Similarly, companies in the shake-out stage have mixed signs in cash flows due to a similar void. Therefore, companies in the shake-out stage are classified as the default when cash flow patterns do not fall into other stages.

The combination of the cash flow patterns indicates a CLC mapping at a given time. The combination is finally classified into five life cycle stages, as mentioned

previously - introduction, growth, mature, decline, and shake-out - based on possible cash flow behaviours. The cash flow pattern shows the company's operational capabilities, company strategies, and resource allocation divided between financial and non-financial (e.g., CSR) projects (Dickinson, 2011).

In the introduction stage, companies need a large amount of cash flow for financing. There is a lack of stable operating income and customers. Therefore, companies in the introduction stage have negative net OCFs, negative net ICFs, and positive net FCFs. Companies in the introduction stage lack customer lists and knowledge about potential revenues and costs (Jovanovic, 1982). Hence, due to limited company resources, companies could emphasise CFP and less on CSR activities and performance.

Companies develop quickly, and profits in the growth stage accumulate continuously, so they have a positive net OCF. In this stage, companies focus more on a market share through expansion. They need continuous investment and financing, so the net ICF is still negative, and the net FCF is positive. Companies have a stable income and mature customers in the maturity stage, so they have a positive net OCF. Fixed assets gradually become obsolete and still need further investment to continue developing, so the net cash flow of investment activities is negative. Companies in the maturity stage focus on obtaining financing to repay debts and distribute dividends to shareholders, so companies have a net cash flow of financing activities. Companies in the growth and maturity stages have the greatest profit margins because there is an increase in investment and efficiency (Spence, 1977, 1979, 1981; Wernerfelt, 1985). Therefore, due to increased company resources, companies may put more of them into CSR activities, which probably increases CSP.

In the decline stage, with the loss of competitive advantage, companies have decreasing profitability, and the net cash flow from operating activities is negative. Companies may sell assets for survival, so the net cash flow of investment activities starts to be positive. The net cash flow of financing activities is uncertain in this stage; it may be positive or negative. Companies in the decline stage have a declining growth rate, leading to declining prices (Wernerfelt, 1985). Since the goal of companies in the decline stage is survival, they may contribute to maintaining declining CFP. Hence, due to limited company resources, companies in the decline stage may allocate few

resources to CSR activities and may have a relatively lower CSP than in the growth and maturity stages.

After the decline stage, companies could transform and adjust their company structure, advance their technology, or divert to other businesses or products. Otherwise, they will enter the shake-out stage and finally leave the market (Chen, 1995).

Dickinson's cash flow pattern proxy of the CLC uses a broader set of financial information instead of only a single metric to determine the CLC. Therefore, the method captures a company's operational performance and achieves better congruence with economic theory (Dickinson, 2011). Hasan and Habib (2017) examined the relationship between CLC and CSR and used cash flow patterns to proxy the CLC. They found that companies in the maturity stage have more resources and invest more in CSR activities than companies in the other CLC stages. Hasan and Cheung (2018) also used cash flow patterns to measure the CLC. They concluded that companies with higher capital were more likely to be in the introduction and the decline stages (for developing sustainable competitive advantage). In contrast, companies with low capital were more likely to be in the growth and maturity stages (maximising company wealth from existing capital). Therefore, Dickinson's method is a popular CLC measure in accounting and CSR literature.

Some researchers have deleted the introduction stage in their studies because they think listed companies satisfy capital requirements when listing and have, thus, already passed the introduction stage (Wang, 2014; Yang, 2011). Wang (2014) and Yang (2011) explain that the Chinese Securities Regulation Commission has set strict conditions and procedures for issuing and listing company shares. However, this study argued that it was unreasonable to delete the introduction stage because Dickinson's method is based on cash flow patterns varying with time. The cash flow situation may change from year to year, even for listed companies. The deletion of the introduction stage ignores the time value of cash flows. Therefore, this study keeps the introduction stage.

Most studies apply Dickinson's (2011) measure of CLC in a U.S. context (Dickinson, 2011). However, the CLC cash flow proxy is also applicable in research in China because the method is simple, practical, and suitable for large-sample studies (Chen et al., 2011). The CLC characteristics of Chinese listed companies are similar to

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Dickinson's (2011). Therefore, the cash flow proxy is suitable for distinguishing between the different developmental stages of listed companies in China (Chen et al., 2011). To summarise, due to the popularity and applicability of using cash flow patterns as a proxy for the CLC, this study uses Dickinson's (2011) CLC classification method in China.

3.3.3 CSR-Financial Performance Relationship and the Company Life Cycle

To find whether CFP is associated with a good CSP across the CLC stages, this study identifies the mechanisms leading CSR to affect CFP. The RBV, stakeholder and CLC theories, in particular, are used to explain the impact of CSR on CFP from a resource deployment perspective. The theoretical framework used is presented in Table 3.6.

Table 3.6. Theoretical framework

How do CSP and stakeholders contribute to CFP over the CLC stages?	
	CSR, RBV, and CLC theories – Hypothesis 1
CSP	• Provides a solid resource base and creates a competitive advantage
Stakeholder groups	**RBV, CLC, and stakeholder theories – Hypothesis 2**
Investors	• Provide capital resources
Government	• Provides financial and technical support
Employees	• Provide human resources
Suppliers	• Provide raw materials
Customers and communities	• Provide income and influence the company's reputation

Prepared by the author

The RBV theory (Barney, 1991; Crick and Crick, 2021) is relevant as it enables us to analyse a company's competitive advantage when moving from one CLC stage to another. The theory posits that "competitive heterogeneity" is driven by the company resource allocation, and its competitive advantage is linked to four aspects: value, rarity, immobility, and non-substitutability (Barney, 1991, p105). The use of resources is assumed to differ between the CLC stages (Hasan and Cheung, 2018). RBV theory further suggests that companies with effective resource management and capabilities develop a better competitive advantage over time (Helfat and Peteraf, 2003). Therefore, company competitiveness and performance are likely to differ over the various stages of the CLC. On the whole, companies with a solid resource base are perceived to have the capability of creating and obtaining competitive advantage and financial gains. Therefore, the number of resources used may determine a company's transition from one CLC stage to another and identify the level of CFP across the CLC stages.

To analyse the association between CSP and CFP at each phase of the CLC, this study also adopts CLC theory, which suggests that companies have different characteristics when progressing through the CLC stages, these being the introduction, growth, maturity, and decline/shake-out stages (Helfat and Peteraf, 2003). Companies, for example, differ in cash flow activities, capabilities, resource endowment, risk attitude, and strategies (Miller and Friesen, 1984).

At the introduction stage, companies have no established reputation or customer base (Miller and Friesen, 1984). Therefore, a good CSP can inform outsiders, including customers, about the company image in terms of its environmental, economic, and societal standings (Su et al., 2016). This will likely lead to an enhanced company reputation and customer base while at the introduction stage, allowing the company to attain above-average profits and superior CFP. Consequently, it follows that there may be a positive CSP – CFP relationship for companies at the introduction stage.

At the growth and maturity stages, companies devote their efforts to product innovation and diversification to gain market share (Miller and Friesen, 1984). Any product innovation linked to CSR, such as introducing environmentally-friendly medicine packages, could boost the company customer base and, ultimately, its profit position. A good CSP driven by innovation would enhance the company's resources through customer loyalty and improved CFP.

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At the decline/shake-out stage, survival is the primary goal for companies, rather than making above-average profits (Miller and Friesen, 1984). At this stage, pharmaceutical companies are expected to seek innovative and economic approaches to respond to market changes. Companies creating new resources by launching a new cost-effective medicine/treatment would boost their CSR position and ultimately improve their CFP. Therefore, it follows that at every CLC stage, the CSP is likely to have a positive association with CFP, and this study proposes the following hypothesis:

Hypothesis 1 (H1) CSP is positively correlated with CFP across all the CLC stages.

Besides testing hypothesis 1, this study examines the CSP – CFP relationship between the stakeholder groups for every CLC stage. To do this, the RBV and stakeholder theories are adopted while the CLC perspective is taken into account. Predominantly, the stakeholder theory, which reflects company objectives, is used here (Keay, 2008). The principal argument of the theory is that companies should create value for all their stakeholders, including investors, employees, customers, suppliers, the government, and communities (Dmytriyev et al., 2021). Indeed, creating mutual benefits for stakeholders is a core task for the company managers. However, resources may be constrained, limiting the managers' ability to satisfy all the stakeholders' interests. Companies may focus on particular stakeholders and meet their most relevant and urgent social responsibilities (Yang et al., 2019). The RBV theory suggests that shifts over time in the nature and degree of internal resource deployment and allocation change the position of stakeholder groups regarding the use of these resources in the company (McGahan, 2021). From a CLC perspective, companies differ in resource allocation legacy based on their characteristics and CLC stages. Therefore, this study proposes that companies with different resource levels across the CLC stages may need to select or focus on specific groups of stakeholders to engage in CSR activities.

To identify the most significant stakeholders targets of CSP at each CLC stage, this study analyses the importance of each stakeholder group based on the company's main objectives. These are profit and market share seeking and cost reduction. Six main stakeholders are identified in assessing the association between CSP and CFP – investors, the government, employees, suppliers, customers, and communities. Investors provide capital resources to the company at every CLC stage. The funds

invested generate positive net cash flow and expand market segments (Dickinson, 2011). Companies with a good CSP are likely to gain more access to capital and resources, leading to an improved CFP. Therefore, this study postulates that investors are an important stakeholder group that directly influences CSP across the stages of a company's CLC.

The government is another important stakeholder group for the pharmaceutical companies, as the safety, standards, registration, and quality monitoring of drugs are managed by the national agencies, such as the National Medical Products Administration, central administrative authority in China. The government offers technical, financial, and human resources support, which are valuable resources for companies to innovate, build capital for further development, and boost their earnings. To satisfy government expectations, companies at every CLC stage may aspire to perform better in CSR. Therefore, this study postulates that the government is a significant stakeholder focus of CSP that companies should focus upon across all the CLC stages.

Employees are the third most important stakeholder group for the company as they are deemed a key resource that allows it to enhance its market share at every CLC stage. However, due to the higher employment and average wages in the pharmaceutical industry (Koronios, 2020), companies may want to cut labour costs through lower employment to boost their earnings. Therefore, this study postulates that employees are a significant stakeholder group that affects company CSP across all the CLC stages.

The fourth stakeholder group to influence pharmaceutical companies is suppliers, as they contribute to their business continuation while making raw materials available to them. A stable supply chain is likely to reduce raw materials cost in companies and increase their market share. Companies at any CLC stage would opt to enhance their CSR position to satisfy suppliers' expectations. Therefore, this study proposes that suppliers are a significant stakeholder focus of CSP for pharmaceutical companies across all the CLC stages.

Like in other business companies, customers are a primary source of revenue for pharmaceutical companies. In China, public hospitals continue to be their most prominent customers. Since the National Medical Products Administration and the Chinese government have an administrative role concerning drugs and hospitals, the

importance of customers could be viewed as being less significant. However, the importance of the customer group to the pharmaceutical companies is still prevalent, and this study expects this stakeholder group to be a good focus of CSP across the CLC stages.

Finally, while they may not be directly involved in company activities, communities will likely influence pharmaceutical companies' profit and capital base. Therefore, while the importance of communities could be perceived as smaller than other stakeholder groups, they are expected to affect CSP at every CLC stage. Based on the above line of reasoning for each stakeholder group, this study proposes the second research hypothesis:

> **Hypothesis 2 (H2)** Stakeholder groups are targets of CSP over the CLC stages, with investors, employees, suppliers, and the government being the most significant groups to influence CFP in the pharmaceutical companies.

3.4. Research Methodology

To examine the association between CSP and CFP, as stated in the proposed hypotheses, this study uses CFP as the dependent variable. This section sets up models to examine the CSR – CFP relationship from the CLC perspective.

3.4.1 Estimation Methods and Models

The stepwise regression methods were used to examine the CSP – CFP relationship in different CLC stages. The stepwise method reduces the possible collinearity among the variables used in the study. In the first stage of the regression model, the main predictors were identified, and the weakest predictors were left out. This study continued the procedure until the independent variables remaining in the analysis were significant, with p-values at or smaller than 0.05 (Sun and Ding, 2020). In the second step, this study included CSP as an independent variable and the remaining control variables (see Equation 3.1). In this stage, return on assets (*ROA*) as the primary measure for CFP was included. Other CFP measures, namely earnings per share (*EPS*) and net income (*NI*), were used for robustness checks.

$$CFP_{i,t} = \alpha_{i,t} + \beta_1\ CSP_{i,t} + \beta_2\ Company\ size_{i,t} + \beta_3\ Leverage_{i,t} + \beta_4\ Ownership_{i,t} + \varepsilon_{i,t}$$

(3.1)

Subsequently, the CSP – CFP relationship based on stakeholder groups was examined, as indicated in Equation (3.2). Taking into account their likely CSR impact, the stakeholders were divided into six groups: (1) shareholders (*SCR*); (2) employees (*ECR*); (3) customers (*CCR*); (4) suppliers (*PCR*); (5) the government (*GCR*); and (6) communities (*UCR*).

$$CFP_{i,t} = \alpha_{i,t} + \beta_1\ SCR_{i,t} + \beta_2\ ECR_{i,t} + \beta_3\ CCR_{i,t} + \beta_4\ PCR_{i,t} + \beta_5\ GCR_{i,t} + \beta_6\ UCR_{i,t} + \beta_7$$
$$Controls_{i,t} + \varepsilon_{i,t}$$

(3.2)

To ensure that this study appropriately accounted for the long-term equilibrium between CSP and CFP, Shahzad and Sharfman (2017) were followed and equations (3.1) and (3.2) were repeated, including the one-year lagged *CFP* as an independent variable. The lagged variable was used to control for endogeneity (Dupire and M'Zali, 2018) and ensure that the causality direction was from CSP and any of the control variables applied to the CFP, not the other way around (Shahzad and Sharfman, 2017).

To further differentiate CFP between cycle stages, this study used CLC dummies as indicated in the Equation (3.3) and used the Wald test to test for any differences between the cycles. The three CLC dummies are *INT*, *GRW*, *MTR* – *INT* is the introduction stage, taking the value of 1 when a company is at the introduction stage and 0 otherwise; *GRW* is growth stage, taking the value of 1 when a company is at the growth stage and 0 otherwise; *MTR* is the maturity stage, taking the value of 1 when a company is at the maturity stage and 0 otherwise.

$$CFP_{i,t} = \alpha_{i,t} + (\ \beta_1 * INT_{i,t} + \beta_2\ GRW_{i,t} + \beta_3\ MTR_{i,t}\ ) * CSP_{i,t} + \beta_7\ Controls_{i,t} + \varepsilon_{i,t} \quad (3.3)$$

3.4.2 Study Model Variables

3.4.2.1 Dependent Variable

The proxies used for the dependent variable CFP included accounting measures, *ROA* and *NI*, and a market-based measure, *EPS*. *ROA* is computed by dividing *NI* by total assets (Galant and Cadez, 2017). *NI* is calculated as total revenue minus total costs and expenses in a given year (Galant and Cadez, 2017). *EPS* is computed by dividing *NI* by the number of outstanding shares of common stock, which reflects a company's profitability (Ullmann, 1985).

Recent researchers have considered taking the lag values of *ROA*, *EPS*, and *NI* to capture the longitudinal variation in the CSR – CFP relationship (Brammer and Millington, 2008). This is because investing in CSR is immediate, but the payback effect could be over a more extended period (Brammer and Millington, 2008). Therefore, besides examining the contemporaneous or short-term CSR-CFP link, following Brammer and Millington (2008) and Galbreath (2018), this study takes the value of *ROA*, *EPS*, and *NI* for one-year lag to examine the long-term equilibrium of the link.

3.4.2.2 Independent Variable

This study measures the independent variable *CSP* by using the CSR score from the *HEXUN* database, which provides the CSR ratings of listed companies based on user satisfaction (Xiong et al., 2016). CSP scoring in this database is based on an objective rating system based on the numerical calculation of 38 specific indices (see Yang et al., 2019). By employing the *HEXUN* rating system, the overall CSP and scores are assessed for each stakeholder dimension, including investors, employees, customers, and communities, ranging from 0 to 100. However, there are no corresponding indicators for suppliers or the government dimensions in the *HEXUN* database. Therefore, Yang et al. (2019) are followed, and financial ratios are used to measure the CSP in suppliers and the government dimensions. Specifically, the accounts payable turnover ratio (measured as accounts payable over turnover) is used to determine the supplier dimension and the tax-assets ratio (measured as tax paid over total assets) to measure the government dimension.

3.4.2.3 Company Life Cycle

CLC was a categorical variable for investigating the CSP – CFP relationship over the companies' development stages. To classify CLC stages, this study adopts Dickinson's (2011) cash flow method. At the introduction stage, the company is perceived to have a positive net FCF and a negative net OCF and ICF. The net ICF is negative at the growth stage, and both the OCF and FCF are positive. At the maturity stage, the OCF is positive, and ICF and FCF are negative. Any company that does not meet the above criteria is classified as at the decline/shake-out stage. *CLC* has three dummy variables, namely *INT*, *GRW*, *MTR*. *INT* is the introduction stage, taking the value of 1 when a company is at the introduction stage and 0 otherwise. *GRW* is growth stage, taking the value of 1 when a company is at the growth stage and 0 otherwise. *MTR* is the maturity stage, taking the value of 1 when a company is at the maturity stage and 0 otherwise.

3.4.2.4 Control Variables

As per the prior literature (e.g., Al-Hadi et al., 2019), this study uses three primary control variables: company size, leverage and ownership.

The first variable, company size, is measured as the natural log of total assets. Company size captures company complexity, breath and spread. It also captures the company's resource capacity and is a proxy for its competency to cope with competition and funding opportunities (Al-Hadi et al., 2019; Dong and Yan, 2013; Liu et al., 2019; Rhou et al., 2016; Wang and Xu, 2016; Zhou et al., 2017). Because of this, larger companies would have more resource capacity and develop and build up assets, thereby improving CFP. Therefore, this study expects those larger companies to have better CFP because they possess a more substantial resource base and react to complex business environments.

The second variable is leverage, calculated as the ratio of short- and long-term debt to total assets. Leverage indicates the level of indebtedness of a company (Al-Hadi et al., 2019; Dong and Yan, 2013; Liu et al., 2019; Waddock and Graves, 1997; Wang, 2018; Yang, 2011; Zhou et al., 2017). Companies with more debts will be risk-averse in choosing projects in which to invest. These companies would have less company risk and higher CFP because they have no repayment burden and more financial assets

(Pathan, 2009). Therefore, the study uses leverage as the second control variable. It is expected that a company with lower leverage may have more financial assets to improve CFP.

The third variable, company ownership, is a dummy control variable that takes 1 for a state-owned listed company and 0, otherwise. State companies are associated with highly capital intensive sectors, have heavy asset attributes, exhibit a high proportion of non-operating assets, and have low financial efficiency (Zhang et al., 2014). Therefore, non-state companies are expected to have better CFP than state companies.

Finally, earlier research incorporated year effects in the CSR data (Meier et al., 2021). Therefore, this study controls for year effects by applying a year dummy. A list of variables and their definitions is provided in Table 3.7.

Table 3.7. List of variables and their measurement

Variable	Definition	Source
	CFP measures:	
ROA	Return on assets is measured as net income scaled by total assets	*Datastream*
EPS	Earnings per share is measured as net income divided by the number of shares	*As above*
NI	Net income is measured as the residue of revenues minus costs and expenses	*As above*
	CSP measures:	
CSR	Overall CSP is measured as the total CSR score	*HEXUN*
SCR	The investors dimension is measured as the CSR score in investors	*As above*
ECR	The employees dimension is measured as the CSR score in employees	*As above*
CCR	The customers dimension is measured as the CSR score in customers	*As above*
UCR	The communities dimension is measured as the CSR score in the communities	*As above*
PCR	The suppliers dimension is measured as the accounts payable turnover ratio, calculated by accounts payable divided by turnover	*Datastream*
GCR	The government dimension is measured as the tax-assets ratio, which is tax paid scaled by total assets	*As above*
	Other variables:	
CLC	The company life cycle is a categorical variable over a company's development stages, including the introduction, growth, maturity, and decline/shake-out stages. A company is classified as being at the introduction stage if it has positive net financing cash flows (FCF), negative net operating cash flows (OCF), and investing cash flows (ICF); at the growth stage, it has negative ICF and positive OCF and FCF; at the maturity stage, it has positive OCF and negative ICF and FCF. Any companies that do not meet the above criteria are classified as at the decline/shake-out stage. CLC has three dummy variables, namely *INT, GRW, MTR*.	*Datastream*
INT	A dummy variable of the introduction stage, taking the value of 1 when a company is at the introduction stage and 0 otherwise.	*As above*
GRW	A dummy variable of the growth stage, taking the value of 1 when a company is at the growth stage and 0 otherwise.	*As above*
MTR	A dummy variable of the maturity stage, taking the value of 1 when a company is at the maturity stage and 0 otherwise.	*As above*
SIZE	Company size is measured as the natural logarithm of total assets	*As above*
LEV	Leverage is measured as the natural logarithm of the leverage ratio, which is equal to the sum of long-term debt and short-term debt divided by the total assets	*As above*
OWNER	Company ownership nature is a dummy variable that equals 1 for a state company and 0 for a non-state company	*As above*
YEAR	Year dummy	

Prepared by the author

3.4.3 Endogeneity Problem

It is worth noting that there has been a concern raised in the CSR literature that CSR is endogenous to CFP. Endogeneity occurs when the dependent variable determines the independent variable (i.e., reverse causality exists) or an omission of the explanatory variable or a measurement error exists (Wooldridge, 2009). There is a significant endogeneity problem when exploring the impact of CSR on CFP, as there could be reverse causality in the CSR – CFP model. Researchers argue that the direction of CSR – CFP is recursive, which is better as CSP could improve CFP, and vice-versa (Qiu et al., 2016). To date, the direction of causality between CSR and CFP remains an open question (Al-Hadi et al., 2019; Flammer, 2015; Galbreath, 2018; Liu et al., 2019; Nelling and Webb, 2009; Qiu et al., 2016; Shahzad and Sharfman, 2017; Surroca et al., 2010; Waddock and Graves, 1997; Zhou et al., 2017). Supporters argue that good CSP leads to better CFP, based on the RBV theory. Also, CSR is an intangible asset, leading to more effective use of company resources (Orlitzky and Schmidt, 2003) and improving CFP (Hillman and Keim, 2001). The instrumental perspective of CSR suggests that it is a useful management tool that can be used to make positive relationships with stakeholders and then improve CFP (Freeman, 1984; Waddock and Graves, 1997). Another strand of researchers supports the slack resources hypothesis (Waddock and Graves, 1997) and suggests that CFP improves CSP. The slack resources hypothesis states that better CFP makes companies possess more company resources (McGuire and Sundgren, 1988). Companies could allocate these resources to more CSR activities, operational activities, and better CSP. Waddock and Graves (1997) reconcile these two views and theories of the CSR-CFP link. They suggest that CSP and CFP form a virtuous circle and support bidirectional causality between the two (Orlitzky and Schmidt, 2003). Companies with good CFP can afford to invest in CSR activities, while CSP also helps companies improve their CFP. Therefore, this study further recognises the endogeneity issue of reverse causality between CSR and CFP.

Prior literature recommends using the lagged independent variable method by including prior CFP as a control variable in CSR – CFP models (Liu et al., 2019; McGuire and Sundgren, 1988; Shahzad and Sharfman, 2017). The primary justification for using this method is that the impact of CSR is not instantaneous and

the inclusion of lagged independent variables clearly shows the changes/increases in the explanatory power of the current dependent variable (Granger, 1969; Nelling and Webb, 2009). Therefore, if independent variables can help predict the dependent variable, it can be said that the independent variable 'Granger causes' the dependent variable (Granger, 1969). Qiu et al. (2016) use Nelling and Webb's (2009) lagged independent method to test for the possibility of reverse causality between CSP and profitability in two steps. First, in the model estimation, where CSP is the dependent variable, Qiu et al. (2016) include current-year profitability, one-year lagged profitability, and one-year lagged CSP as independent variables. If coefficients of current and lagged profitability are significant, then it can be said that profitability 'Granger causes' CSP. Second, in the model estimation where profitability is the dependent variable, Qiu et al. (2016) include one-year lagged profitability, current-year CSP, and one-year lagged CSP as independent variables. Similarly, if the coefficients of current and lagged CSP are significant, CSR 'Granger causes' profitability. If the coefficients of the models in the two steps are not significant when the independent and dependent variables are contemporaneous, then there is no reverse causality since the dependent variables do not affect the independent variables. Therefore, this study follows Qiu et al.'s (2016) lagged independent variable method to test the reverse causality between CSP and CFP.

Rhou et al. (2016) support the notion that managerial influence may significantly influence CFP. The fixed-effects regression model can estimate the effects of the independent variables on the dependent variable while controlling for unobserved variables and characteristics (Nelling and Webb, 2009). A fixed-effects model could estimate the impacts of the independent variables on the dependent variable while controlling for omitted variables. Therefore, this study employs Qiu et al.'s (2016) method and develops the lagged independent variable models with fixed effects to alleviate omitted variable bias and reverse causality concerns. Specifically, this study uses a fixed-effect GLS model to control for unobservable variables that differ between companies. Both current and past CSP continue to be significant determinants of CFP measured by *ROA*.

3.4.4 Robustness Tests

The following section discusses robustness tests, which confirm and further support the results of the study by using two proxies of CFP, which are *EPS* and *NI*.

One method to confirm the results of the study is to use *EPS* as a measure for CFP. *EPS* reflects a company's profitability by showing the company's share price variation in the capital market (Yang, 2011). *EPS* is the ratio of net income divided by the number of shares (Dong and Yan, 2013). According to Yang (2011), the *EPS* of socially responsible companies is significantly and positively related to CSP. In other words, a company with good CSP could improve company value and CFP. Therefore, this study takes *EPS* as a proxy of CFP in a robustness analysis and expects that the higher its value, the better the CFP a company has.

Another method to confirm the study results is to employ *NI* as a CFP proxy because it measures profitability (Cochran and Wood, 1984; Galant and Cadez, 2017). Unlike ratio measures, net income is simple to obtain and use (Barnett and Salomon, 2012; Chen et al., 2018; Wiseman, 2009), being the value after taking all the costs and expenses out of revenues in any given year. Following Galant and Cadez (2017), this study uses *NI* as a CFP proxy in the robustness analysis. The study expects that the higher its value, the better the CFP a company has.

3.5. Descriptive Statistics and Results

This section presents the descriptive statistics of the data sample of 1,628 listed pharmaceutical company – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. The descriptive statistics show the distribution of the data and describe the main features of the data collected. The section also presents the tests conducted on the hypotheses discussed in Section 3.3. Specifically, a stepwise least squares regression was performed to examine the relationship between CSP and CFP over the CLC stages. A stepwise least squares regression was also employed to explore the long-term equilibrium between CSP and CFP over CLC. The lagged independent variable method with the fixed-effects models was then used to test for the endogeneity issue of reverse causality between CSP and CFP. Furthermore, as a robustness check, alternative proxies of CFP were used to

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conduct regression. The detailed descriptions of using the methods are presented in-depth in Section 3.4.

3.5.1 Univariate Analysis

This section discusses the descriptive statistics of variables filtered from the Shanghai and Shenzhen stock exchanges in China during the period 2010 to 2018 to present a complete dataset. The descriptive statistics present the data distribution, show a feel for the data, and describe the main features of the data collected (Sekaran, 2003). This section also describes a univariate analysis of sample companies' sampling procedure and distribution over the CLC stages. The mean, median, and dispersion (in terms of maximum, minimum, and standard deviation) of the dependent variables, control variables, and independent variables at each CLC stage and overall CLC are presented.

The CSP and CFP data for the Chinese pharmaceutical companies were obtained from two different databases, *HEXUN* and *Datastream*, for the 2010-2018 period. The sample period begins in 2010, which is when the CSR scores from *HEXUN* become available. The study also collected financial data for 2019 to investigate lag effects. *Datastream* provides the CSR and CFP datasets for the Chinese stock market-listed companies (Du and Boateng, 2015).

The initial sample size consisted of 1,920 pharmaceutical companies. Following Yang et al. (2019), this study excluded 30 listed companies with special features. These included companies with two or three consecutive years of operating loss or companies whose stocks had been suspended or subject to trading warnings. A further 262 companies were excluded due to missing data, leaving a final sample of 1,628 companies. The sampling procedure is presented in Table 3.8.

Table 3.8. Sampling procedure

		Number of companies
	Raw sample size	1,920
Less	ST, *ST	(30)
Less	Incomplete data of cash flows	(259)
Less	Incomplete data of other variables	(3)
	Final sample size	1,628

*Note: ST represents stocks with special treatment, i.e., listed companies with two consecutive years of operating loss. *ST represents those listed companies with a suspended trading warning (i.e., listed companies with three consecutive years of operating loss). The sample consists of 1,628 companies from the pharmaceutical industry listed on China's Shanghai and Shenzhen stock exchanges over the period 2010 to 2018.*

In Table 3.8, the raw sample size is 1,920 companies. After deducting ST and *ST companies (30 companies), the incomplete data of cash flows (259 companies) and other variables (3 companies), the final sample size is 1,628 companies. This study uses Stata 15.1 for data analysis.

Table 3.9 shows the company distributions by year (part a) and by CLC stages (part b). Following Feng and Zhao (2014) and Wang and Wu (2013), Dickinson's (2011) cash flow method has been adopted to classify the sample companies' CLC stages.

Table 3.9. Company distribution

(a) Distribution by year

Year	Number of companies
2010	126
2011	136
2012	138
2013	140
2014	146
2015	161
2016	173
2017	200
2018	204
2019	204
Total	**1628**

(b) Distribution by CLC stages in 2010-2018

CLC stages	Introduction	Growth	Maturity	Decline	Shake-out	Total
Sample size	137	578	664	38	211	1628
Percent	8.4	35.5	40.8	2.3	13	100

Note: The sample consists of 1,628 company – year observations from the pharmaceutical industry listed on China's Shanghai and Shenzhen stock exchanges. This study classifies CLC stages of sample companies as introduction, growth, maturity, decline and shake-out stages, from 2010 to 2018, based on the cash flow patterns of the companies.

Table 3.9 shows the frequency distribution of sample pharmaceutical companies listed in China across their CLC stages. This study shows that companies that are in the growth (35.5%) and maturity stages (40.8%) comprise the largest number, and companies in the decline stage comprise the least (2.3%). Dickinson (2011) reported on 48,369 U.S.-listed companies from the period 1989 to 2005. He found a similar distribution, i.e., companies in the growth stage (33.95%) and maturity stages (41.18%) comprise the most and those in the decline stage (4.99%) the least. Moreover, the sum of percentages in the introduction, growth, and maturity stage is 83% (= 8.4 + 35.5 + 40.8), much greater than half of the company observations. This result shows that most

listed pharmaceutical companies in China are in the early-half stages of the CLC. The study by Dickinson (2011) showed that 87% of 48,369 U.S.-listed companies from 1989 to 2005 were also in the early-half stages of the CLC, similar to our observation. A dynamic RBV states that companies with effective management of resources and capabilities develop competitive advantages over time (Helfat and Peteraf, 2003). Company competitiveness and characteristics are different in various stages of the CLC since companies possess different resource bases and capability levels (Hasan and Cheung, 2018). Since companies in the maturity stage are stable, older and larger (Miller and Friesen, 1984), the companies in this category will show the greatest frequency of observations. Companies in the decline stage record the lowest frequency of observations because they are unstable and are more likely to go bankrupt (Dickinson, 2011). Therefore, a combination of RBV and CLC theory provides theoretical support for the frequency of observations in this study.

Sample sizes are relatively small in the decline and shake-out stages. It is difficult to obtain accurate empirical results. Companies in these two stages share many development characteristics (Wang and Wu, 2013; Zhou et al., 2017). Therefore, following Wang and Wu (2013), this study combines the sample companies in the decline and shake-out stages for empirical analysis.

Panel A of Table 3.10 provides the descriptive statistics of the main variables used in the estimation model for 1,628 Chinese pharmaceutical companies, while Panel B shows the mean distribution for each CLC stage. Panel A shows a significant range between the maximum and minimum for the ROA and CSP.

Table 3.10. Descriptive statistics

Panel A: Pooled					
$N = 1,628$	Mean	Median	Maximum	Minimum	Standard Deviation
CFP	6.48	6.22	49.39	-91.22	7.33
CSP	27.07	24.83	87.02	-10.01	14.85
Company size	21.81	21.74	26.03	17.43	1.05
Leverage	0.11	0.07	0.74	0	0.12
Panel B: Life cycle wise					
	Introduction stage	Growth stage	Maturity stage	Decline/shake-out	
CFP	1.92	6.06	8.12	5.63	
CSP	19.53	27.28	29.17	25.09	
Company size	21.88	21.87	21.79	21.66	
Leverage	0.2	0.14	0.07	0.09	

Note: Panel A shows the descriptive statistics of the pooled data. Panel B presents the mean of the variables in each CLC stage. The sample consists of 1,628 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. Company financial performance is measured as the ratio of return on assets. CSP is measured as the overall CSR score. Company size is measured as the natural log of total assets. Leverage is measured as the ratio of short-term and long-term debt over total assets.

As expected, the mean of CFP increases from the introduction stage to the maturity stage and then decreases at the decline/shake-out stage (see Panel B). These results point to an inverted U shape for the mean, with a peak occurring at the maturity stage, in line with the pattern presented in Dickinson (2011). The mean leverage has a U-shaped pattern, with the lowest leverage occurring at the maturity stage. While the mean company size is smallest during the decline/shake-out stage. Overall, the CSR descriptive results support the notion put forward by the CLC and RBV theory that CSR is different when meeting stakeholder needs due to the variation in the company's available resources and capabilities at each of the CLC stages (Hasan and Cheung, 2018).

3.5.2 Bivariate Analysis

This study uses the Spearman correlations to conduct bivariate analysis to find the statistical relationship between the two variables. Wang and Xu (2016) suggest that the Spearman correlation method is used when the normal distribution of the sample data is unknown. Hence, this study uses this method to perform the correlation analysis. The correlation is a number that describes the relationship between two variables and gives the direction of the relationship. A significance test is conducted to check if the observed correlation may have occurred by chance; asterisks in Table 3.11 mark the significant correlations.

Table 3.11. Correlation

No	Variables	1	2	3	4	5	6
1	CFP	1					
2	CSP	0.675**	1				
3	Investors dimension	0.805**	0.854**	1			
4	Employees dimension	0.203**	0.510**	0.240**	1		
5	Customers dimension	0.184**	0.525**	0.211**	0.525**	1	
6	Suppliers dimension	-0.397**	-0.212**	-0.346**	-0.058*	0.004	
7	Government dimension	0.830**	0.656**	0.665**	0.202**	0.150**	
8	Community dimension	-0.129**	0.224**	-0.071**	0.095**	0.187**	0.326**
9	Company size	-0.037	0.216**	0.122**	0.194**	0.122**	0.116**
10	Leverage	-0.449**	-0.298**	-0.409**	-0.060*	-0.037	0.320**
11	Company ownership	-0.122**	0.007	-0.113**	0.170**	0.180**	0.258**
		7	8	9	10	11	
7	Government dimension	1					
8	Community dimension	0.205**	1				
9	Company size	0.023	0.192**	1			
10	Leverage	-0.374**	0.142**	0.241**	1		
11	Company ownership	-0.073**	0.138**	0.155**	0.093**	1	

Note: The sample consists of 1,628 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. CFP is measured as the ratio of ROA. CSP is measured as the overall CSR score. The investors dimension is

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measured as the CSR score in investors. The employees dimension is measured as the CSR score in employees. The customers dimension is measured as the CSR score in customers. The suppliers dimension is defined as the accounts payable turnover ratio, measured as the ratio of accounts payable divided by turnover. The government dimension is measured as the tax-assets ratio, calculated by tax paid scaled by total assets. The communities dimension is measured as the CSR score in the communities. The company size is measured as the natural log of total assets. The leverage is measured as the ratio of the short-term and long-term debt over total assets. The nature of the company ownership is a dummy variable that equals 1 for a state company and 0 for a non-state company. The superscripts *, ** indicate statistical significance at 10% and 5%, respectively.

The correlation coefficients presented in Table 3.11 indicate that CFP and CSP are significantly correlated across the stakeholder groups at the $p = 0.05$ level, implying that CSP is associated with CFP. The highest correlation is between CSP and the investor stakeholder group, with a score of 0.854. The variance inflation factors (VIF) values of independent variables and tolerance values were further checked. The results show that all VIF values were less than 2, the maximum VIF being 1.284. All the tolerance values were greater than 0.1, indicating no multi-collinearity issue between the independent variables. Meanwhile, the Durbin-Watson test statistic was 1.887, approximating 2, meaning there was no autocorrelation issue in the residuals. Our results are consistent with the previous literature (Feng et al., 2015; Wang and Wu, 2013; Wang and Xu, 2016; Zhou et al., 2017). The study also concluded that the regression model was relatively effective.

The univariate and bivariate analyses describe the details of the variables in this study. The univariate analysis showed that the distribution of variables over CLC stages appeared to be consistent with expectations. The descriptive statistics of CFP and CSP were similar to prior studies in the corporate governance area (Wang and Xu, 2016; Zhou et al., 2017). The study also provided descriptive statistics of other variables (CSR dimensions) and control variables (company size, leverage). The bivariate analysis reported Spearman correlations and significance of dependence. There was no multi-collinearity, which satisfied one of the empirical regression models' assumptions. The next section presents the results of the multivariate analysis of the empirical models and discusses the results.

3.5.3 Multivariate Analysis

To run the estimation model, this study used a stepwise regression method in which the control variables were first entered and then added to the main effects (see Sun and Ding, 2020). Table 3.12 presents the results generated from the stepwise regression estimation model (Equation 3.1).

Table 3.12. Study results based on regression Equation (3.1)

Variables	(1) Overall CLC	(2) Introduction	(3) Growth	(4) Maturity	(5) Decline/ Shake-out
Regression on CFP in the current year					
Constant	0.942	2.368**	6.473***	2.934***	1.225
	(-)	(-)	(-)	(-)	(-)
CSP	16.143***	9.06***	13.25***	13.62***	10.64***
	(0.399)	(0.408)	(0.596)	(0.701)	(0.434)
Company size	0.493	-0.017	-2.51**	-0.387	-0.005
	(0.012)	(-0.008)	(-0.378)	(-0.097)	(-0.003)
Leverage	-12.12***	-1.11	-9.049***	-7.842***	-0.077
	(-0.289)	(-3.534)	(-0.34)	(-18.87)	(-0.32)
Company ownership	-5.578***	-1.142	-4.598***	-2.8***	-0.595
	(-0.129)	(-1.098)	(-0.174)	(-1.484)	(-0.643)
Year	yes	yes	yes	yes	yes
Adj. R^2	0.457	0.493	0.434	0.431	0.444
F	93.43***	20.925***	68.736***	71.32***	28.856***
Regression on CFP in next year					
Constant	-0.569	3.88***	4.518***	2.936***	0.477
	(-)	(-)	(-)	(-)	(-)
CSP	8.083***	2.957***	5.671***	7.102***	0.726
	(0.224)	(0.26)	(0.474)	(0.51)	(0.122)
Company size	1.607*	-1.40	-1.29	-1.011	3.529***
	(0.045)	(-0.51)	(-0.361)	(-0.353)	(3.388)
Leverage	-8.287***	-2.573***	-5.793***	-4.515***	-1.557*
	(-0.221)	(-0.231)	(-0.246)	(-15.15)	(-12.36)
Company ownership	-2.538***	-1.732*	-1.996**	-0.706	-0.575
	(-0.066)	(-0.152)	(-0.086)	(-0.522)	(-1.19)
Year	yes	yes	yes	yes	yes
Adj. R^2	0.125	0.150	0.153	0.219	0.090
F	17.900***	4.605***	16.970***	26.972***	4.463***

Note: The sample consists of 1,628 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. CFP is measured as the ratio of ROA. CSP is measured as the overall

CSR score. Company size is measured as the natural log of total assets. Leverage is measured as the ratio of short-term and long-term debt over total assets. Company ownership is a dummy variable that equals 1 for a state company and 0 for a non-state company. The superscripts *, **, *** indicate statistical significance at 10%, 5%, and 1% respectively. Standard errors are reported in parentheses.

The findings indicate that the company size, leverage, and company ownership are statistically significant, at the 0.01 level, for every CLC stage. In the short run, larger companies are more likely to have better CFP at each CLC stage, similar to the results attained by Yang et al. (2019), while the size is statistically significant for companies at the maturity and decline/shake-out stages. Larger companies are less likely to have better CFP in the long run if they are at the introduction stage. As high debt levels can influence a company's ability to honour implicit business contracts with stakeholders (see Su and He, 2010), those with higher leverages are also less likely to have a better CFP. When accounting for the CLC, leverage is statistically significant for companies at every CLC stage at the 0.01 and 0.05 levels. Company ownership is statistically significant for companies at all stages, except during the decline/shake-out stage over the short run and at the maturity and decline/shake-out stages in the long run. The negative coefficient obtained for non-SOEs is similar to previous findings by Su and He (2010), who attribute the result to company philanthropy and its ultimate impact on performance. The overall results indicate that a non-SOE with greater size and less leverage is more likely to have better CFP at most CLC stages.

There were no significant inconsistencies for the control variables or the main effects across the incremental variable addition. When conducting partial F tests to examine the contribution of the added variables to the explanatory power at each step, this study found that adding main effects ($F = 93.43$, $p < 0.05$) was significant.

Table 3.12 presents the results of the second step of the regression model estimation (Equation 3.1). The findings indicate that the CSP – CFP relationship was significantly positive across the CLC stages ($p < 0.05$), supporting H1 and confirming the instrumental perspective that CSR is important at improving CFP (Donaldson and Preston, 1995). These findings were consistent with the previous research investigating CSR and company performance in China (Yang et al., 2019; Al-Hadi et al., 2019).

Furthermore, the results showed that CSP was significantly and positively correlated with CFP ($p < 0.05$) across all the CLC stages, supporting H1 (see Table 3.12, column 2-5). This relationship was more pronounced at the maturity stage ($\beta = 0.701$). An explanation for the result, and in line with RBV theory, is that companies at the maturity stage possess rich capital resources and a broader customer base, allowing them to enhance their performance. These findings are similar to those presented by Al-Hadi et al. (2019) and indicate that companies at the maturity stage usually enjoy positive net OCFs due to increased investment and efficiency, which ultimately enhances CFP (see Dickinson, 2011). The positive impact of CSP on CFP was the highest at the maturity stage, both in the short and long term. The overall coefficients attained for the decline/shake-out, and introduction stages were similar, reflecting the long-run lag effect of CSP on CFP.

Table 3.13 depicts the results attained from running the second step of the estimation model by aligning CSP with the stakeholders' focus (see Equation 3.2). The results show that in the short term, all the stakeholder targets were significantly related to CFP, indicating that the stakeholder's groups had a common interest in CSP. The findings were similar to those presented by Yang et al. (2019).

Table 3.13. Study results based on regression Equation (3.2)

Variables	(1) Overall CLC	(2) Introduction	(3) Growth	(4) Maturity	(5) Decline/ Shake-out
Regression on CFP in the current year					
Constant	0.233	-2.782***	0.100	1.007	-1.206
	(-)	(-)	(-)	(-)	(-)
Investors	22.520***	7.382***	12.350***	16.186***	8.221***
	(0.458)	(0.590)	(0.319)	(0.433)	(0.553)
Employees	-1.534*	-1.587*	-2.265**	-2.474***	1.549*
	(-0.052)	(-0.187)	(-0.099)	(-0.114)	(0.185)
Customers	1.525*	0.834	2.566***	2.296**	-1.153
	(0.051)	(0.101)	(0.113)	(0.103)	(-0.139)
Suppliers	3.402***	1.459*	2.556***	1.477*	1.145*
	(0.052)	(0.088)	(0.051)	(0.030)	(0.060)
Government	28.234***	4.014***	27.141***	24.196***	5.170***
	(0.517)	(0.310)	(0.656)	(0.586)	(0.306)
Community	-3.716***	-0.100	-6.672***	-4.540***	0.449
	(-0.058)	(-0.006)	(-0.139)	(-0.098)	(0.024)
Company size	-1.872**	-	-	-1.740*	0.289
	(-0.031)	-	-	(-0.039)	(0.018)
Leverage	0.734	0.728	4.401***	-0.613	-0.712
	(0.016)	(0.060)	(0.130)	(-0.017)	(-0.054)
Company ownership	0.112	0.838	0.078	0.529	-0.456
	(0.002)	(0.054)	(0.002)	(0.012)	(-0.024)
Year	yes	yes	yes	yes	yes
Adj. R^2	0.717	0.648	0.833	0.794	0.542
F	201.362***	14.292***	156.678***	120.125***	14.757***
Regression on CFP in next year					
Constant	-1.125	2.507***	0.071	1.482*	-1.726*
	(-)	(-)	(-)	(-)	(-)
Investors	5.861***	1.476*	4.159***	8.304***	0.023
	(0.191)	(0.171)	(0.224)	(0.362)	(0.002)

Variables	(1) Overall CLC	(2) Introduction	(3) Growth	(4) Maturity	(5) Decline/ Shake-out
Employees	0.697	-0.075	-1.420*	-0.822	2.254**
	(0.038)	(-0.013)	(-0.130)	(-0.061)	(0.351)
Customers	0.189	0.723	1.107	1.770*	-1.621*
	(0.010)	(0.127)	(0.101)	(0.128)	(-0.254)
Suppliers	1.186	-0.060	-0.018	3.237***	-0.123
	(0.029)	(-0.005)	(-0.001)	(0.109)	(-0.008)
Government	10.285***	3.551***	6.994***	10.724***	1.311*
	(0.302)	(0.398)	(0.353)	(0.424)	(0.101)
Community	-3.764***	-2.809***	-2.069**	-3.812***	-0.595
	(-0.095)	(-0.264)	(-0.090)	(-0.133)	(-0.042)
Company size	1.619*	-	-	-1.836*	1.947**
	(0.043)	-	-	(-0.067)	(0.159)
Leverage	2.645***	-1.159	-1.341*	0.115	3.560***
	(0.093)	(-0.138)	(-0.083)	(0.005)	(0.347)
Company ownership	1.120	-0.200	0.340	-	-
	(0.028)	(-0.019)	(0.014)	-	-
Year	yes	yes	yes	yes	yes
Adj. R^2	0.273	2.256	0.273	0.450	0.224
F	30.679***	3.490***	12.716***	27.776***	4.553***

*Note: The sample consists of 1,628 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. CFP is measured as the ratio of ROA. The investors dimension is measured as the CSR score in investors. The employees dimension is measured as the CSR score in employees. The customers dimension is measured as the CSR score in customers. The suppliers dimension is defined as the accounts payable turnover ratio, measured as the ratio of accounts payable divided by turnover. The government dimension is measured as the tax-assets ratio, calculated by tax paid scaled by total assets. The communities dimension is measured as the CSR score in the communities. The company size is measured as the natural log of total assets. The leverage is measured as the ratio of the short-term and long-term debt over total assets. The nature of the company ownership is a dummy variable that equals 1 for a state company and 0 for a non-state company. The superscripts *, **, *** indicate statistical significance at 10%, 5%, and 1%, respectively.*

For every CLC stage, the results show that CSP targeted the investors, employees, suppliers, and the government aspects are substantially correlated with CFP at 1%, 5%, or 10% significance level, supporting research hypothesis H2. However, elements related to customers and communities are only associated with CFP considerably while at the growth and maturity stages, at a 1% or 5% significance level.

Table 3.13 also presents how stakeholder focuses of CSP vary across the CLC. Investors, suppliers, and the government dimensions of CSP were all positively related to CFP at every CLC stage. This was similar to the correlations found in Yang et al. (2019) but without considering the role of the CLC, as in this study. The employees' dimension was negatively related to CFP at the 0.01 and 0.05 significance levels in the short and long run. This result was in contrast to the positive coefficients found in Yang et al. (2019). This could be attributed to the pharmaceutical industry's higher employment and average wages (Koronios, 2020). At the introduction, growth, and maturity stages, companies usually aim to boost their profits, which could be by reducing labour costs. Unlike employees, the customers dimension was positively correlated with CFP at all CLC stages, except at the decline/shake-out stage, while the community dimension was negatively related.

The results attained for the decline/shake-out stage were quite different from the other CLC stages, both in the short- and long run. In the long run, only CSP attributed to employees, government, and investors dimensions were positively correlated with CFP. Employees and the government are the two stakeholder groups that had the most significant impact. However, CSP related to the customers, suppliers, and community dimensions negatively correlated with CFP. Customers had the most significant negative influence among the stakeholder groups due to decreased customer loyalty at the decline/shake-out stage.

The supplier's attribute of CSP indicated a positive impact on CFP in the short run, while it was negative in the long run. An explanation for this result is that pharmaceutical companies with good relationships with suppliers are likely to receive a sufficient supply of raw materials in the short term. However, in the long-term, due to the lengthy collection period observed in the pharmaceutical industry, suppliers are

likely to become worried about receiving payments and may seek a reduction in the credit period to reduce their bad debts.

Similar to the suppliers' group, CSP associated with the communities dimension was positively correlated with CFP in the short run, while it exhibited a negative influence in the long run. This signifies that pharmaceutical companies with good CSP attributed to the communities dimension may attain a better reputation in the short term. However, in the long-term, the community may start to worry about companies' sustainability and negatively influence their CFP.

The results attained for the CSP based on government dimension and CFP were positive, both in the short and long run, at the 0.1 and 0.01 significance levels. This result supports our assertion that the government is an important stakeholder group likely to influence CSP as the government regulates and controls the licensing of new drugs while often being a major customer for the pharmaceutical companies (O'Riordan and Fairbrass, 2008). The government is also important as it provides the pharmaceutical companies with technical, financial, and human resources, enabling them to revive and survive at the decline/shake-out stage.

Overall, the results show that a company's accountability towards a broader range of stakeholder groups is likely to directly contribute to company value and social responsibility (Freeman, 2010). Companies should recognise that the stakeholders' dimension changes over the CLC stages, as asserted by this study. Moreover, the results confirm the RBV, stakeholder and CLC theories which hold that CSP differs across the CLC stages as companies aim to meet stakeholders' needs while being constrained by the number of resources they can deploy (Carrasco, 2007).

Table 3.14 shows the regression results of the Equation 3.3 by including the cycle stage dummies to differentiate CFP between the cycle stages.

Table 3.14. Study results based on regression Equation (3.3)

Variables	Dependent variable: CFP	Dependent variable: Lagged CFP
Constant	-0.93	-0.58
	(13.04)	(36.32)
CSP at the introduction stage	3.22***	2.27***
	(0.02)	(0.03)
CSP at the growth stage	7.66***	6.82***
	(0.01)	(0.01)
CSP at the maturity stage	10.79***	10.46***
	(0.01)	(0.01)
Company size	1.43	0.73
	(4.26)	(11.88)
Leverage	-8.23***	-3.87***
	(2.09)	(3.99)
Company ownership	-3.76***	-1.89*
	(0.37)	(0.39)
Number of observations	1,424	1,424
R-squared	0.24	0.12
F value	61.34	40.47
Wald test: p-value >F	0.00	0.00

*Note: The sample consists of 1,424 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. CFP is measured as the ratio of ROA. CSP is measured as the overall CSR score. Company size is measured as the natural log of total assets. Leverage is measured as the ratio of short-term and long-term debt over total assets. Company ownership is a dummy variable that equals 1 for a state company and 0 for a non-state company. The superscripts * and *** indicate statistical significance at 10% and 1% respectively. Standard errors are reported in parentheses.*

It can be seen from the Table 3.14 that life cycle stages and CSP significantly affect the current and lagged CFP in a positive way ($p < 0.05$). The effects of the control variables are the same to the previous results: company size positively affects CFP while leverage and company ownership (state ownership) negatively influence CFP. The significance levels of the Wald test for the current and lagged CFP are close to 0 (p-values $= 0$), so this study strongly rejects the Wald test's hypotheses of no difference between the life cycle stages. In other words, the CFPs between the life cycle stages are different, which is in line with our expectations.

3.5.4 Endogeneity and Robustness

To address the endogeneity concerns attributed to the bidirectional causality between CSP and CFP, the study follows Qiu et al. (2016) and applies the lagged independent variable model with fixed effects. The GLS model controls unobservable variables and characteristics (Nelling and Webb, 2009). The inclusion of lagged independent variables clearly shows an increase in the explanatory power of the dependent variable (Rhou et al., 2016). Table 3.15 displays the results attained from running the model.

Table 3.15. Results from the lagged independent variable method with the fixed-effects models

Variable	(1) Dependent Variable: CSP	(2) Dependent Variable: CFP	(3) Fixed-effects GLS on CFP
Constant	1440.63***	117.23	-1.76
	(3.19)	(0.64)	(-0.41)
CSP	-	0.14***	0.14***
	-	(9.15)	(9.17)
Lagged CSP	0.49***	-0.07***	-0.07***
	(14.69)	(-4.17)	(-4.28)
CFP	0.90***	-	-
	(9.15)	-	-
Lagged CFP	-27.46***	52.99***	52.06***
	(-2.69)	(15.44)	(15.26)
Company size	2.01***	0.18	0.15
	(3.56)	(0.79)	(0.75)
Leverage	-8.65*	-7.47***	-6.58***
	(-1.77)	(-3.87)	(-3.42)
Company ownership	-0.02	-0.02	-0.01
	(-0.01)	(-0.05)	(-0.01)
Year	yes	yes	yes
Company life cycle	yes	yes	yes
F value	89.04***	97.15***	100.71***

*Note: The sample consists of 1,628 listed pharmaceutical companies – year observations on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018. CFP is measured as the ratio of ROA. CSP is measured as the overall CSR score. Company size is measured as the natural log of total assets. Leverage is measured as the ratio of short-term and long-term debt over total assets. Company ownership is a dummy variable that equals 1 for a state company and 0 for a non-state company. The superscripts * and *** indicate statistical significance at 10% and 1%, respectively.*

When examining the impact of past CSP and CFP on current CSP, this study found that current and lagged CSP were positively and significantly related ($p < 0.05$). The current CFP was also positively and significantly correlated with CSP ($p < 0.05$). However, the past-year CFP was negatively and significantly related to the current CSP ($p < 0.05$).

Analysing the effect brought by the current CSP, past CSP, and past CFP on the current CFP showed that the current CSP was positively and significantly correlated with the current CFP ($p < 0.05$). Likewise, past CFP was positively and significantly related to current CFP ($p < 0.05$). However, past CSP is negatively associated with the current CFP ($p < 0.05$), contrasting with our research expectation. After including lagged CSP, the explanatory power on the short run CFP improved the F-value from 93.43 to 97.15. These results support the notion that CSP 'Granger causes' CFP; in other words, current-year CSP helps predict CFP.

Overall, the results showed that the estimations using lagged independent variables were similar to those based on the contemporaneous independent variable. The CSP – CFP relationship's significance and direction were consistent with the estimations using the current independent variable. Therefore, it can be deduced that endogeneity is not present in the study models.

To check for robustness, the study used two other measures of CFP, namely *EPS* and *NI*. The results remained robust when using alternative proxies of CFP.

3.6. Discussion and Conclusion

How is CSP associated with CFP over the company life cycle development stages? This is the main research topic of this study. There were two research aims in this study. The first aim was to examine the CSP – CFP association over each phase of the CLC, drawing on the theoretical framework of RBV (Barney, 1991), stakeholder theory (McGahan, 2021; Dmytriyev et al., 2021; Freeman et al., 2021), and CLC theory (Adizes, 1979). Many studies have focused on the impacts of CSP on company performance (Margolis and Walsh, 2003; McWilliams and Siegel, 2001), but they obtained inconclusive research results, and little is known about whether the association changes for companies at different CLC stages. Moreover, most studies have been in developed countries; little is known about the association between CSP

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and CFP in developing countries (Habib and Hasan, 2019). Habib and Hasan (2019) raised a call for research from the emerging country context regarding the implications of the CLC on CSR – CFP. Therefore, this study fills this gap and provides empirical evidence from an under-researched developing country context.

Analysing data collected from 1,628 pharmaceutical companies listed on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2018, this study shows that pharmaceutical companies in China are more in the growth stage and maturity stage than in other stages of the CLC. This finding means that most listed pharmaceutical companies in China are in the early-half stages of the CLC. This result supports the RBV theory, suggesting that companies differentiate in resources creation and obtainment to achieve sustainable competitive advantage through CSR adoption (Barney, 1991). The sample distribution results of descriptive statistics align with the previous literature (Dickinson, 2011; Hasan and Habib, 2017; Wang and Wu, 2013). This study also complements prior arguments that maintain that there is still more long-term space for the pharmaceutical industry to develop and grow (Wang and Wu, 2013).

Moreover, this study finds a significantly positive relationship between CSP and CFP through all CLC stages. The study also finds that CSP – CFP is positively correlated for companies at the introduction stage, and this extends to the remaining CLC stages, with CSP – CFP coefficient recording the highest value at the maturity stage. This signifies that engaging in CSR activities enables companies to enhance their cash flow position, attract more investments, and obtain more technological support, which ultimately helps them improve their CFP. These results support the RBV and CLC theories that the resource level varies between stages in a company's development path, with the highest level at the maturity stage (Barney, 1991; Adizes, 1979). These results align with the implications of prior studies that CLC is an important aspect to consider in the CSP–CFP relationship (Hasan and Habib, 2017). Therefore, this resource deployment perspective may explain how CFP changes with CSP at different CLC stages.

The second aim of this study was to examine how the shift from one CLC stage to another influences the position of the stakeholders in terms of CSP, drawing on the theoretical framework of RBV (Barney, 1991), the stakeholder theory (McGahan,

2021; Dmytriyev et al., 2021; Freeman et al., 2021), and CLC theory (Adizes, 1979). Many studies have looked at the general impact of CSP on company performance (Margolis and Walsh, 2003; McWilliams and Siegel, 2001), but there is little evidence related to the stakeholder focus and how such a focus shifts across the CLC stages. Therefore, this study fills in this gap and provides empirical evidence to explore the association between the main dimensions of CSP and CFP from a CLC perspective.

The results obtained for the relationship between CSP and CFP show that all the stakeholder groups are important at influencing CSR activities. Among the stakeholders, embracing CSR is more significant for the investors, employees, suppliers, and the government groups at all the CLC phases, while advocating CSR can only improve CFP for employees at the decline/shake-out stage and reduce CFP at the remaining CLC stages. The decline in CFP attributed to the employee group is due to the additional employment costs, such as wages, which are likely to rise after the introduction stage. The findings also show that the dimensions of customer and community groups are significantly correlated with CFP at the growth and maturity stages. Moreover, the customers dimension improves CFP at most CLC stages except at the decline stage, while the communities dimension decreases CFP. These results support the stakeholder theory suggesting that companies should perform social responsibility by adopting CSR (Freeman, 1984). This study contributes to CSR literature, arguing that the investors, employees, suppliers, and the government are the most important stakeholders for pharmaceutical companies in China across all the CLC stages.

Finally, this study has examined the bidirectional causality between CSP and CFP. The results indicate that CSP in the current year is negatively affected by prior CFP. However, the current CFP is positively influenced by the company's CSP. This implies that a virtuous circle may exist, leading to the two different outcomes attained for the CSP– CFP relationship. When controlling for the omitted variables in the fixed-effect GLS model, the research shows that current and past CSP are significant determinants of CFP. However, when controlling for company fixed effects, the CSP – CFP relationship does not have the same strength as previously reported in Qiu et al. (2016) study. The result concludes that CFP is driven more by unobservable company characteristics than CSP, consistent with Nelling and Webb (2009).

This study contributes to the CSR, CFP, and CLC literature by providing empirical evidence from a developing country context. The findings of this study confirm the mediating role of CSP in CFP throughout the CLC stages, as well as the shifts of stakeholder focus, while the previous literature presented an inconclusive relationship between CSP and CFP in the context of developed countries and paid no attention to the role of CLC and the shifts of stakeholder focus across the CLC stages (see McWilliams and Siegel, 2001). The study's findings contribute to the debate on whether CSP is value-increasing by showing that it positively influences CFP, consistent with the stakeholder theory (Freeman, 1984). The study findings also support the notion that resource deployment capability may be an effective channel to explain the positive CSP – CFP association across the CLC stages in developing economies, consistent with RBV theory and stakeholder theory from a dimension of resource deployment (Barney, 1991). While there is no empirical evidence in the context of the pharmaceutical sector, to the best of our knowledge, on the association between CSP and CFP and how such a relationship changes across the CLC stages in terms of stakeholder dimensions, this study provides new evidence and practical understanding of these perspectives by investigating an under-researched developing country: China.

The study results have several contributions and implications for company managers and policymakers. First, the research demonstrates that investing in CSR and having a good CSP significantly positively impacts a company's current and future financial performance. This result underlines the important role of CSR to attain superior CFP in the short and long term. The findings further enable managers in pharmaceutical companies in China or other emerging markets to better understand the targets and focus of CSP and its effect on CFP. The study supports the idea that CSP is important since it can affect CFP. It suggests that pharmaceutical companies focus CSP towards different stakeholders in different ways. For example, companies focus on the CSP to all stakeholders in all CLC stages, but only investors, employees, suppliers, and the government are the main concerns of pharmaceutical companies in the introduction stage. Understanding the focus of the CSP can help managers and companies to maintain good stakeholder relationships using relatively effective resource allocation strategies.

Second, the study provides evidence that investing in CSR based on stakeholder groups' interests does not necessarily generate a constantly positive return or lead to a rise in CFP. Managers could use this study's findings to predict their future CFP by associating it with the CLC stages. Our study provides a reference for their actions and future CSR and resources allocation strategies. The study investigates the relationship between CSP and CFP in each CLC stage. A manager can use the study results to understand the possible impacts on CFP when s/he distributes the company's resources to CSR activities. Managers may control company resources and make wiser resource allocation decisions regarding CSR investment.

Third, the research findings point to the influence of the CLC stages on CFP. Some CLC stages, such as the introduction and growth stages, have shown that investing too much and having a better CSP in employee-related CSR activities decreases CFP, but the situation is the opposite when companies are at the decline/shake-out stage. Managers should, therefore, be aware of the role of the CLC stages before any CSR investments.

Fourth, the study underlines the central role of ethics in stakeholder management and the resource allocation decision-making processes. The results support the role of stakeholders in formulating and implementing CSR policies and resource allocation (Freeman, 2010). In this concern, managers can use the research findings to inform how they allocate company resources to CSR activities and link this to CFP. The study also makes managers aware of the need to employ proactive strategies to respond to the changing CSR focus and stakeholder demands over the CLC stages.

Finally, this research informs policymakers about the importance of CSR and the need to introduce rules and policies that stimulate CSR activities across the CLC stages. The current regulations on CSR activities are still at the early stages in many emerging countries, such as China. Therefore, policymakers (in the government, stock exchanges, and securities commission) may adjust and formulate rules and policies to regulate CSR investments by companies. Accounting methods for CSR tools and investments have not been developed fully. Rules and regulations on CSR activities are still in the early stages. The study provides insights into how CSR can relate to CFP and how the relationship varies in different CLC stages. For example, CSR - CFP in the maturity stage is positive, but the extent of the positive relationship is the

smallest among the CLC stages. Moreover, the study suggests that there is a lag effect of CSP – CFP. Most regulations on CSR in China focus on CSR textual disclosures, but more requirements of CSR investments are in progress. The policymakers can use the CLC stages (i.e., using the cash flow pattern as a proxy to classify stages as the introduction, growth, maturity, and decline/shake-out) to stipulate CSR accounting and disclosure rules for companies in each CLC stage. Therefore, it can be argued that the government needs to reconsider regulating the managers and companies and their practices to improve company awareness of social responsibilities to satisfy important stakeholders, such as investors, employees, customers and suppliers (Freeman, 2010).

This study is not free from limitations. First, the findings of this study are based on data collected from 1,628 companies operating in a single industry sector of a single developing country, which may limit the generalisability of the results. Future research could extend internationally by using a global sample and make cross-country and cross-industry comparisons in the relationship between CSP and CFP. Despite these limitations, this study provides an important insight into the role of CLC when examining how CSP is positively related to CFP.

Second, this study used a sample of listed companies, which leaves room for future research on how the CSP of unlisted or small-and-medium companies affects CFP over the CLC stages. Studies on unlisted companies are important to increase the generalisability of our results.

Finally, this study finds that customers and communities are the two stakeholder groups with the least significant impact on CFP across the CLC stages. Future research, thus, can explore why these stakeholder groups do not affect CFP in the same way as other groups do and how the interests of the different stakeholders can best be integrated to improve CFP over the CLC stages.

Chapter 4: Corporate Social Responsibility and Investment: The Role of Cash Flow Volatility

4.1. Introduction

There is an increasing research interest on whether CSR that includes companies' social, environmental and economic initiatives can help create company value and improve company performance, but little is known about the extent to which CSR benefits company performance through capital market effects such as investment – cash flow sensitivity (ICFS) (Attig et al., 2014; Erhemjamts et al., 2013; López-Gracia and Sogorb-Mira, 2014; Margolis and Walsh, 2003; Moshirian et al., 2017; Orlitzky and Schmidt, 2003; Samet and Jarboui, 2017; Sprenger and Lazareva, 2021; Zhao and Xiao, 2019). ICFS is the response of company investment expenditures to internal cash flows, which is a key indicator for companies in making investing policies (Carpenter and Petersen, 2002; Attig et al., 2014).

Some researchers argue that CSR relates to company strategy and investment policy at the company level, through which CSR can be perceived as a strategic tool to reduce information asymmetry and agency costs, leading to a reduction of financial constraints and improving the company's access to financial capital (Attig et al., 2014; Samet and Jarboui, 2017; Erhemjamts et al., 2013). Financial constraints exist when companies cannot access finance at a competitive rate (Gautam and Vaidya, 2018). Therefore, due to the information asymmetry and agency cost channels, these researchers, based on a sample of companies from developed economies, used ICFS to indicate financial constraints and concluded that CSR reduces ICFS. However, whether ICFS can reflect companies' financial constraints is debatable, as using ICFS as an indicator of financial constraints has not been settled (Fazzari, Hubbard, and Petersen, 1988; Kaplan and Zingales, 2000; Attig et al., 2014). These inconclusive empirical findings warrant future research in the determinants of ICFS to explore the association between corporate governance (such as nonfinancial performance) and

ICFS if ICFS cannot interpret financial constraints (Kaplan and Zingales, 2000; Attig et al., 2014).

A review of the literature suggests that the findings of prior studies examining the relationship between CSR performance (CSP) and ICFS may omit important mediating/moderating variables (Attig et al., 2014; Samet and Jarboui, 2017; Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Moshirian et al., 2017). Attig et al. (2014) propose that CSR negatively affects ICFS through information asymmetry and agency costs channels, using U.S. companies over the period 1992 – 2010. In their study, there is no mediating or moderating variable involved. Samet and Jarboui (2017), using a panel data set of 398 listed European companies during the period 2009 – 2014, confirmed the agency costs channel, but they perceived this channel as a mediating variable on the relationship between CSP and ICFS. Although these studies provide insights into the possible mechanisms through which CSP may have an impact on ICFS for companies in developed economies with a sharply decline ICFS pattern over time, little is known about the role of any mediating or moderating variables and the underlying mechanisms through which CSP has an impact on ICFS, especially for companies in developing economies with a more stable ICFS pattern (Moshirian et al., 2017).

Cash flow volatility (CFV), an indicator of cash flow instability and uncertainties, can play an important role in the association between CSP and ICFS. This is because CFV is an important factor to consider in allocating company resources to CSR engagements, which may affect the stakeholders' response to company investment expenditures to internal cash flows (Sun and Ding, 2020; Mulier et al., 2014; Moshirian et al., 2017). Sun and Ding (2020) argue that a company is likely to reduce current CFV at a low CSR engagement level and increase expected CFV at a high CSR engagement level. Their study extends the understanding of CSR literature by involving company performance risk factors, which is CFV, from two views. First, a backwards-looking view of CFV recognises that a company's performance uncertainty originated from company operations (Sun and Ding, 2020). Low CSR engagement level involves signalling slack resources and may increase agency costs (Barnea and Rubin, 2010; Utz, 2017). It follows that this may increase the cost of financing, leading to an increase in the public's sensitivity towards investment and

cash flows. However, the current and past cash flow shock may signal that this shock goes beyond the company's expected cash flow fluctuations, helping the company adjust expectations about future cash flow (Mulier et al., 2014). It, therefore, follows that this signalling effect of the current CFV can provide helpful warning signs for managing company activities to maintain stable future income flow (Sun and Ding, 2020). As a result, current CFV may reduce the increased sensitivity of the market towards the investment and cash flows brought by the low CSR engagement through offsetting the signalling effect of CSR (Campbell et al., 2012; Mulier et al., 2013).

Second, a forward-looking view of CFV states that expected/predicted CFV is critical to determine a company's capital market performance in terms of stock return and risk (Cebenoyan and Strahan, 2004; Srivastava et al., 1998). As suggested by the asset tangibility view, companies in developing economies possess a high proportion of tangible assets and expect to increase intangible assets through CSR engagements to secure new financing (Moshirian et al., 2017). It follows that a high CSR engagement level and better CSP can help companies reduce the cost of financing and reduce dependence on internal cash flow generated, possibly leading to an increase in ICFS (Moshirian et al., 2017). Expected CFV predicts and contains information about future cash flow, incurring more investments in pursuit of future income (Moshirian et al., 2017; Minton et al., 2002). As a result, expected CFV may increase ICFS for companies with high CSR engagement and better CSP through reducing dependence on the current cash flows (Moshirian et al., 2017). As the demand for external finance depends not only on current cash flows but also on expected future cash flows, the role of CFV is essential for companies to make resource allocation decisions concerning CSR, make investment decisions, and understand the stakeholders' response to company investment expenditures to internal cash flows (Mulier et al., 2014; Attig et al., 2014). Without an adequate and appropriate understanding of CFV, companies may not realise the consequences of CSR engagements and performance. CFV provides managers with helpful information to allocate company resources to CSR engagements and develop or adjust CSR strategy, set CSR-related objectives at an early stage, implement CSR to meet stakeholders' expectations, and evaluate stakeholders' response of company investment expenditures to internal cash flows (Sun and Ding, 2020).

While limited research has examined the relationship between CSR and financial constraints in the context of developed economies (see Attig et al., 2014; Samet and Jarboui, 2017; Erhemjamts et al., 2013), little is known about the role of CFV on CSP–ICFS in the empirical context (Sun and Ding, 2020). Moreover, no attention is paid to the mechanisms between CSP and ICFS in the context of developing economies, which have a different ICFS pattern and asset intangibility situation in contrast to developed economies (Moshirian et al., 2017). This study aims to address these two empirical gaps by (1) exploring the mechanisms for CSP to affect ICFS in developing economies, building on the asset intangibility hypothesis (Moshirian et al., 2017) and the posturing hypothesis (Barnea and Rubin, 2010; Utz, 2017), as intangible assets and signalling effects of CSR have implications for ICFS; and (2) examining the effect of CFV on the association between CSP and ICFS, building on the backward- and forward-looking view of CFV (Sun and Ding, 2020).

Prior studies investigating the relationship between CSR and financial constraints are focused on developed countries (Attig et al., 2014; Samet and Jarboui, 2017; Erhemjamts et al., 2013). CSR's purpose, practice, and capital market impacts in developing countries may differ from those in developed countries in terms of infrastructure, socioeconomic and political circumstances, cultural context, regulatory environment, and stakeholder demands (Matten and Moon, 2008; Visser, 2008). For example, the priority of CSR in developing countries may involve poverty alleviation, infrastructure development, foreign investment, healthcare, and education, while CSR in developed countries is more likely to focus on issues such as climate change and fair trade (Visser, 2008; Lockett et al., 2006). Habib and Hasan (2019) recommend further research in international contexts to understand the knowledge implications of CSR on the accounting and financial investing literature. The research objective of this study is to explore the association between CSP and ICFS and the role of CFV on the CSP–ICFS relationship, drawing on the asset intangibility hypothesis (Moshirian et al., 2017), the posturing hypothesis (Barnea and Rubin, 2010), and the backward- and forward-looking view of CFV (Sun and Ding, 2020) in the context of a developing country, China.

The rationale behind selecting China as a research context is its social, environmental and economic characteristics. First, China is classified as a below-average-level

human development country and is ranked 85th on the global Human Development Index with a score of 0.761 (United Nations Development Programme, 2020a). It follows that China has a relatively low human development level and expects to improve this situation. Second, environmental issues, such as carbon dioxide emissions, have become a topic of discussion in China, as they are expected to significantly impact the environment and human health (Karki and Gurung, 2012). Carbon dioxide emissions per unit of GDP for China are 0.45 kg per US$ of GDP during the period 2014 – 2019, which is more than most other countries in the world (United Nations Development Programme, 2020b). It follows that China has unsolved environmental issues, which may disappoint stakeholders concerned about the environment. Third, China's gross fixed capital formation is 42.8% of GDP during the period 2014 – 2019, indicating the value of acquisitions of new or existing fixed assets by the business sector, governments, and households is high, relative to the country's GDP (World Bank, 2020b). In addition to China's high level of fixed assets, the country has an increasing and high percentage of research and development expenditure relative to GDP, which is 4.2% (World Bank, 2020a). This means that China expects to increase its capital expenditures on creative work to increase knowledge and intangible assets. It follows that China increases total assets and expects to secure new investments and financing and reduce dependence on internal cash flows generated by its companies. If these conditions improve, China could be more attractive for investors and other stakeholders to invest in local companies for development (United Nations, 2021). The term CSR is not new in China, and the government of China has made efforts to improve companies' social responsibility awareness, such as mandating listed companies to publish CSR reports if they meet certain requirements (Guan and Noronha, 2013). Therefore, the development of corporate philanthropy in China and its social, environmental and economic characteristics provide interesting and important research setting to examine the association between CSR, CFV and ICFS.

This study contributes to the CSR and ICFS literature by providing empirical evidence from an under-researched developing country context. More specifically, the findings suggest that better CSP is more likely to increase the sensitivity to the response of company investment expenditures to internal cash flows. The empirical evidence confirms the positive association between CSP and ICFS, which supports the idea that

resource/asset intangibility benefits and the signalling effect brought by CSR reduce company dependence on cash flow generated.

This study contributes to the debate examining whether ICFS can reflect companies' financial constraints through which they are unable to access finance at a competitive rate (Gautam and Vaidya, 2018) by providing empirical evidence to support the asset intangibility perspective that ICFS is a reflection of capital/investment intensity and income predictability rather than a measure of financial constraints (Moshirian et al., 2017). This study contributes to the corporate governance–ICFS literature (Kaplan and Zingales, 2000; Attig et al., 2014) by arguing that CSP is an important factor to consider.

This study contributes to the limited cash flow stability and volatility/uncertainties literature. It addresses the call for research on the association between CSR, cash flow, and investing policy (Habib and Hasan, 2019) by providing empirical evidence to argue about the moderating role of current CFV and the mediating role of expected CFV in the relationship between CSP and ICFS. This study suggests that a company's cash flow stability is important to complement CSR endeavours to influence stakeholders' response to company investment expenditures to internal cash flows.

The remainder of this chapter is structured as follows: Section 4.2 reviews the relevant literature and develops the hypotheses. The research methodology is discussed in Section 4.3, which is followed by the results in Section 4.4. Finally, a discussion and conclusion are presented in Section 4.5.

4.2. Theoretical Background and Hypotheses Development

4.2.1 Related Literature on CSR

CSR has been evolving since the 1930s (Carroll, 1979), and research in this area has continued to grow as companies use CSR to discharge their accountability duties to their stakeholders. However, the conceptual development of CSR is not systematic and is often treated as "free-standing, implicitly competing for ideas" (Wood, 1991, p691). Therefore, there is no consensus on a definition of CSR that would be

commonly accepted (McWilliams et al., 2006).[6] This lack of agreement on CSR definition is probably one motivation for scholars to research CSR (Attig et al., 2014; Sprenger and Lazareva, 2021).

Apart from that, there is no consensus on CSR definition; different institutional environments have different approaches to CSR (Yin and Zhang, 2012; Carroll, 1991; Visser, 2008). For example, in liberal market economies such as the U.S., it is common to adopt explicit CSR, which refers to voluntary company activities that are often motivated by stakeholders' interests and aim to create societal benefits (Matten and Moon, 2008). However, in more coordinated market economies such as China, it is common to adopt implicit CSR, which means that CSR activities are reflected in mandatory or at least codified activities based on a societal consensus that companies are expected to contribute to society at large (Matten and Moon, 2008). Such differences in CSR approaches between institutional environments imply the importance of regional specifics. It follows that companies in different institutional environments may have heterogeneity in performance and investing policies subject to different CSR approaches.

There are two contradictory views on whether and to what extent CSR is beneficial to companies' stakeholders, those who can affect or can be affected by companies (Freeman, Dmytriyev and Phillips, 2021). Based on the posturing hypothesis that companies invest in CSR activities for window dressing to show socially responsible images, the first view suggests that CSR activities can incur agency costs that may undermine the competitive position of companies (Waddock and Graves, 1997). Managers engage in these CSR activities to enhance their utility rather than benefits to shareholders (Benabou and Tirole, 2010). Therefore, CSR investments are seen as costly activities at the expense of shareholders and company resources (Goss and Roberts, 2011; Friedman, 1970). Indeed, employing a sample of 3,000 U.S. companies, Barnea and Rubin (2010) find that managers may seek to overinvest in CSR for their

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[6] Although there is no consensus on the definition of CSR in the literature, this study uses the definition of CSR proposed by Chandler (2019) as a responsibility of companies to satisfy interests of stakeholders and a responsibility of stakeholders to hold companies to explain their actions, with a focus on social, environmental, and economic responsibilities (Orlitzky et al., 2011; Carroll, 1991). See further discussion in Chapter One.

benefit when they bear the negligible cost of doing so. Using a sample of companies for Asia-Pacific, Europe, Japan, and the U.S. from 2003 to 2015, Utz (2017) finds that companies in the Asia-Pacific region display CSR overinvestment. However, the reason for such overinvestment in the Asia-Pacific region is likely due to globalisation, which forces companies from Asia-Pacific to overinvest in CSR to adapt to Western standards (Chapple and Moon, 2005), rather than in pursuit of managerial interests.

In contrast, based on the good management hypothesis (Waddock and Graves, 1997), the second view posits that CSR activities can enhance relationships with the main stakeholder groups such as shareholders, thereby reducing companies' perceived risk. CSR helps companies attract customers and retain high-quality employees, creating valuable intangible assets, including increased customer and employee loyalty (Turban and Greening, 2000). These intangible assets improve companies sustainability by enhancing their competitiveness and, in turn, their financial performance (Whitehouse, 2006). Moreover, CSR investment can increase the investor base size and lessen companies' perceived risks by reducing the threat of future litigation (El Ghoul et al., 2011). Therefore, this second view of CSR suggests that CSR investment can create company value and competitiveness and help to manage company risks (Goss and Roberts, 2011).

In sum, these two conflicting views of CSR suggest that CSR investments may affect company performance. Some empirical studies provide mixed evidence to explore such possible impacts of CSR investments on company performance. For example, Haffar and Searchy (2017) conducted a systematic review and found that a linear relationship exists between the variables representing CSR and financial performance, but the direction of the relationship can be both negative and positive. Orlitzky et al. (2003) use meta-analysis to imply a positive correlation between CSR and financial performance. Margolis and Walsh (2003) screen 109 CSR studies and find that most studies conclude a positive relationship between CSR and financial performance, while a small number of studies document a negative relationship. Moreover, they find that almost half of the studies they reviewed do not find evidence to support a relationship, and several studies question the linearity of the relationship (see Chen et al., 2018; McWilliams and Siegel, 2001). Therefore, there has been a growing focus on the line of research on the extent to which CSR benefits company performance

through capital market effects, such as through the cost of company financing (Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Habib and Huang, 2019; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014; López-Gracia and Sogorb-Mira, 2014; Erhemjamts et al., 2013). Building on this research line, this thesis study raises the first research question — how CSP, in developing economies such as China, is associated with ICFS, a key indicator for companies to make investing policies.

There remains a considerable theoretical debate on the extent of CSR investments and possible impacts on company performance in the organisational context (see Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Habib and Huang, 2019; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014; López-Gracia and Sogorb-Mira, 2014; Erhemjamts et al., 2013). From the agency theory perspective, Friedman (1970) argues that making a profit is the only social responsibility of companies, while social issues are not within the scope of consideration for companies and their managers. Friedman's (1970) argument is based on the assumption that CSR investments and activities expend company resources, harm shareholders' wealth and profit and divert managers' attention from company operational roles and responsibilities. According to this perspective, CSR investments are a waste of company resources, which can be better used for profit maximisation. Therefore, managers should not invest company resources in CSR activities and practices at the expense of shareholders' interests.

In contrast, researchers adopting the stakeholder theory perspective argue that companies should be responsible for their social and environmental influences on society at large and invest company resources in CSR, which may incur short-term cash outflows or profit reductions (Freeman, Dmytriyev and Phillips, 2021). According to this perspective, company performance should not be assessed short-term because of the impairment effects on the key stakeholder groups, including investors, customers, employees, suppliers, the community, and government/regulatory bodies, which may bring long-term economic benefits for the sustainability and survival of companies (McWilliams et al., 2006). Based on this perspective, McWilliams and Siegel (2001) argue that CSR can be perceived as a form of investment or differentiation strategy. It follows that there are CSR "resource inputs" and "outputs"; CSR participation is a response to satisfy stakeholder interests. For

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example, companies may try to include CSR attributes (such as using environmentally-friendly packages for medicines) to satisfy investors who are increasingly demanding socially responsible investments (Erhenjamts et al., 2013). Therefore, to satisfy the needs of stakeholders, companies must devote resources.

The tension between maximising shareholders' wealth and addressing social and environmental issues to maximise societal value simultaneously stresses the need for formulating and implementing effective company resource allocations and investment between financial and non-financial (including CSR) activities so that companies can satisfy the interests of stakeholders (including shareholders and other stakeholder groups) (Margolis and Walsh, 2003; Porter and Kramer, 2006). To assess the implications of CSR investments on the extent to which stakeholder capital (investment) intensity may be affected, researchers have used RBV theory (Barney, 1991) conceptually and empirically (Erhenjamts et al., 2013). RBV theory assumes that company resources may be "heterogeneous and immobile" (Barney, 1991, p105). These resources can be a source of competitive advantage if they are characterised by value, rareness, immobility, and non-substitutability (Barney, 1991). RBV scholars have studied intangibles such as technology, human capital resources, company reputation, and organisational culture (Erhenjamts et al., 2013). Waddock and Graves (1997) propose a related view, the slack resources hypothesis, and argue that better company performance results in excess of resources, which provides companies with the financial means to address social issues.

RBV theory provides important insights into how companies are assumed to use CSR-related capital investments (such as land and equipment) to generate output to contribute to the triple bottom line of sustainability (i.e., economic, social, and environmental aspects) by maintaining long-term stakeholder relationships. For instance, CSR-related investments may include capital inputs such as equipment and facilities to reduce pollution, waste, energy and water usage; additional factory space; and machines necessary for CSR implementation (Erhenjamts et al., 2013). Other CSR-related costs may include investment in R&D for more innovations and increasing advertising expenditures to raise customer awareness to facilitate better CSR programme implementation (Erhenjamts et al., 2013). By integrating the stakeholder theory and the RBV theory, McWilliams and Siegel (2001) present their

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model of profit-maximising CSR within a simple demand-supply framework. The authors propose an ideal level of CSR investment in which profit-maximising companies would determine the level of CSR investment for which the increased revenue equals the higher cost. Therefore, companies could satisfy the demands of stakeholders, including shareholders.[7] Consistent with RBV theory, prior studies stress that CSR can help companies create intangible resources (Moshirian et al., 2017). For example, CSR can help maintain company reputation, customer loyalty, and high-quality employee retention, precious intangible assets for companies. One way to create and obtain these intangibles is to show companies' commitment to CSR's economic, social, and environmental dimensions, which are the triple bottom line components of company sustainability (Orlitzky et al., 2011).

The social dimension of CSR covers activities such as contributing to healthcare and charities, improving working environments for employees, and considering the safety and wellbeing of employees and interests of other stakeholders in making decisions (Bansal, 2005; Torugsa et al., 2013). The environmental dimension involves restraining companies' negative impacts on the societal environment, including land, water and air. Such environmental activities can control emissions and pollutions, recycling waste materials, and other ways to promote environmental sustainability (Torugsa et al., 2013). The economic dimension includes activities closely related to increasing profit and improving competitiveness in the market, which are companies' main goals and are important for their survival (McWilliams and Siegel, 2001). This economic dimension of CSR can benefit companies' financial and nonfinancial performances, such as customer satisfaction and loyalty, employee morale, product quality, and good stakeholder relationships (Torugsa et al., 2013). These benefits brought by CSR activities are based on the assumption that these CSR activities are aligned with companies' strategies (Porter and Kramer, 2006).

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[7] Recent studies show that companies can enjoy a series of benefits by investing company resources (including money, time, and labour, etc) to CSR activities. These benefits include lower cost of capital and more attention from institutional investors and greater analyst coverage (e.g., Dhaliwal et al., 2011). Moreover, lower cost of capital increases the number of investment proposals during investment screening process, pleasing shareholders (Erhenjamts et al., 2013).

However, there are inherent limitations for a high requirement level when aligning activities with company designs (Collis and Anand, 2021). This is because, facing such a high level of alignment requirement, companies with constrained resources have to meet a stricter and higher extent of alignment in every aspect of company design and activities than those companies that do not need to do so (Collis and Anand, 2021). It follows that although these CSR practices can help bring social, environmental, and economic benefits to companies, these benefits are dependable on the extent to which the stakeholders invest resources to the companies and subsequential company investment expenditures to CSR activities to satisfy stakeholders' interests for further investments in the companies. Therefore, as stakeholders' responses to CSR investments may be related to future investments in the companies, it is important to understand how CSR activities and performance may affect the stakeholders' response of company investment expenditures to internal cash flows.

Although prior studies have provided insights into CSR and its impacts on company performance, limited studies explore how CSR affects ICFS, defined as the response of company investment expenditures to internal cash flows (Carpenter and Petersen, 2002; Attig et al., 2014).

4.2.2 Investment – Cash Flow Sensitivity (ICFS)

In imperfect markets, investment decisions by companies depend on companies' financial situations. If parties in the capital markets feel significant uncertainties about companies' prospects, the cost of external capital, such as debts and equity financing, often exceeds the cost of internal financing, such as internal cash flows. In this case, the investment can show an excess of sensitivity to the companies' internally generated funds/cash flows (Samet and Jarboui, 2017).

There has been a significant interest in the investing and finance literature toward ICFS, as shareholders can have excess sensitivity to the investment of cash flows when companies pay low dividends (Fazzari, Hubbard and Petersen, 1988). There are debates regarding ICFS in two strands of the extant literature.

First, there has been a debate examining whether ICFS can reflect companies' financial constraints, in which companies are unable to access finance at a competitive

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rate (Gautam and Vaidya, 2018). Fazzari et al. (1988) use a sample of U.S. manufacturing companies and find that investments undertaken by companies facing tighter financial constraints, as reflected in lower dividend payment policies, are more sensitive to the availability of internal funds; in other words, companies with tighter financial constraints depend more on internal cash flows. They conclude that financial constraints affect company investments and that financially constrained companies have higher and significant ICFS. Therefore, the authors predict a positive relationship between investments and internal cash flows, meaning that investments are positively sensitive to cash flows (Attig et al., 2014). The authors provide two possible mechanisms to support their findings: it probably occurs due to information asymmetries (see Myers and Majluf, 1984; Greenwald, Stiglitz and Weiss, 1984; Myers, 1984) or agency problems (see Jensen and Meckling, 1976; Grossman and Hart, 1982; Jensen, 1986; Bernanke and Gertler, 1989, 1990) in the imperfect capital market (Hovakimian, 2009; Attig et al., 2014). Such problems may form capital market frictions, which can be reflected in the difference between the internal and external capital costs, leading companies to decline positive net present value projects (Attig et al., 2014). Employing similar mechanisms but using different proxies for financial constraints, such as dividend pay-out, size, age, and debt ratings, some research studies find evidence to support Fazzari et al.'s conclusion (Attig et al., 2014). For example, Almeida and Campello (2010) researched the New York Stock Exchange market and showed that ICFS is suitable for identifying financial constraints. Fazzari et al. (1988) imply that ICFS can reflect the higher costs of external financing relative to internal financing; in other words, ICFS can be a good indicator of financial constraints (Samet and Jarboui, 2017). The work of Fazzari et al. (1988) provides evidence to document, without doubt, that financing frictions can affect companies' investment behaviour. Subsequent studies provide evidence that there are costs related to raising external capital and that the presence of internal financing resources or cash flows can affect investment decisions (see Lamont, 1997; Shin and Stulz, 1998; Hoshi et al., 1991; Bond and Soderbom, 2013; Allayanis and Mozumdar, 2004; Lewellen and Lewellen, 2016; Ağca and Mozumdar, 2017).

However, Fazzari et al. (1988) spur debates on whether ICFS can accurately measure financial constraints (Moshirian et al., 2017; Gomes, 2001; Gatchev et al., 2010). For example, by studying the annual reports of financially constrained sample companies

in Fazzari et al. (1988), Kaplan and Zingales (1997) question the wisdom of using ICFS to indicate financial constraints. Kaplan and Zingales find that a high percentage of less constrained companies, according to the classification scheme of Fazzari et al. (1988), show greater ICFS. Kaplan and Zingales indicate a lack of solid theoretical grounds to support the effective use of ICFS to measure financial constraints. Kaplan and Zingales also criticise the sampling splitting scheme in distinguishing between constrained and unconstrained companies (Gautam and Vaidya, 2018). Kaplan and Zingales argue that ICFS is not consistently increasing in value of knowledge with respect to financial constraints, meaning ICFS is nonmonotonic with financial constraints. ICFS cannot interpret the multifaceted interdependence between financial and investment decisions (Gatchev et al., 2010). Therefore, ICFS may provide an incomplete and misleading view of financial constraints, meaning that ICFS is not appropriate to indicate financial constraints (Gatchev et al., 2010). Taking a recent study as an example, Kim (2014) proposes factors to explain the negative relationship between financial constraints and ICFS. By examining bank-dependent companies during recession periods, the author finds that the level of external financing and internal cash holdings can partially explain the ICFS puzzle. The author argues that ICFS can interpret partially financial constraints but is not an absolute measure. Kim (2014) implies the imperfect proxy of ICFS to reflect financial constraints. Subsequent works support this argument by showing that cash flows might not reflect financial constraints but additional information on investment opportunities (see Erickson and Whited, 2000; Alti, 2003; Moshirian et al., 2017).

Some studies have found that ICFS has declined sharply and disappeared over time in developed countries (Moshirian et al., 2017; Samet and Jarboui, 2017). Using company-level data of 41 countries from 1993 to 2013, Moshirian et al. (2017) investigate the determinants of ICFS and examine the impact of asset tangibility on ICFS by differentiating developed and developing economies. They find that, since the share of tangible capital, investment, and cash flow persistence has declined in developed economies, ICFS has fallen. In contrast, since developing economies operate with more tangible capital and have higher investment rates and more persistent cash flows, ICFS in developing economies is more stable. Their study provides important insights into the difference in ICFS patterns between developed and developing economies.

However, extant studies focus on ICFS research in developed economies, with limited attention to developing economies (Hovakimian, 2009; Erhemjamts et al., 2013; Attig et al., 2014; López-Gracia and Sogorb-Mira, 2014; Samet and Jarboui, 2017). Hovakimian (2009) uses a sample of U.S. manufacturing companies from 1984 to 2004 to explore the determinants of ICFS. The author concludes a negative relationship between cash flows and investment and argues that such a relationship may be related to the company life cycle (CLC) stages. Erhemjamts et al. (2013) rely on a sample of U.S. and European listed companies for 1995 – 2007 to examine the determinants of CSR and its impacts on companies' investing policy and performance. They find that companies in new economy industries are more likely to engage in CSR activities. They also show a U-relationship between company size and CSR performance level. Attig et al. (2014) use a sample of U.S. companies for the period of 1992 – 2010 to provide evidence of a negative relationship between CSR performance and ICFS through two channels, which are information asymmetry and agency costs. López-Gracia and Sogorb-Mira (2014) explore the external financing cash flow relationship by comparing unlisted and listed companies in Spain, Italy, Greece and Portugal over the period of 1996 – 2010. As a result, they find that listed companies are financially unconstrained and may reduce leverage if there is excess cash flow. They also find that listed companies react more negatively to shocks in cash flows compared to unlisted companies. Samet and Jarboui (2017) use 398 European listed companies over the period of 2009 – 2014 to find that CSR performance weakens ICFS, and agency costs mediate such a negative relationship. It can be seen that a vast number of studies have obtained conclusions concerning the external financing and cash flow sensitivity relationship, determinants of ICFS (including as an indicator of financial constraints), and the relationship between ICFS and corporate governance information (such as CSR). However, there are very few recent rich research outputs of ICFS in developing markets such as China (see Larkin et al., 2018; Cull et al., 2015). Extant studies have suggested some causes related to corporate governance that can lead to a difference in ICFS between developed and developing economies (Larkin et al., 2018; Moshirian et al., 2017). Understanding these causes may provide insights into the extent of relating ICFS to corporate governance such as CSR if ICFS does not represent financial constraints. This thesis study explores the implications of CSR on ICFS by examining a sample of listed companies in China,

which is a large developing market, filling a gap in the literature, as most studies are of developed economies centred.

Second, while the debate about using ICFS as an indicator of financial constraints has not been settled, recent studies show increasing interest in exploring the association between corporate governance and ICFS if ICFS cannot interpret financial constraints (Kaplan and Zingales, 2000; Attig et al., 2014). Cleary (1999) relates company characteristics to ICFS and finds that more constrained companies have lower ICFS, aligning with Kaplan and Zingales's (1997) argument. Hovakimian (2009) further explores the factors of ICFS by classifying U.S. manufacturing companies of high, low, and negative sensitivity over the period of 1984 – 2004. The author supports Kaplan and Zingales's (1997) argument of a negative relationship between investment and cash flows. Moreover, Hovakimian finds that company size, dividend payout, asset tangibility, financial slack or liquidity, and CLC stages are the main factors of ICFS. Kadapakkam et al. (1998) examine the impact of company size on ICFS by using industrial companies in Canada, France, Germany, the U.K., Japan and the U.S. over 1982 – 1991. They differentiate between large and small companies and find that large companies have higher ICFS than small companies. As large companies possess more affluent company resource bases than small companies, it follows that company resources such as tangible and intangible assets are related to ICFS (Moshirian et al., 2017). Cleary (2006) examines the role of financial resources and dividend pay-out on ICFS by using a sample of companies from Australia, Canada, France, Germany, Japan, the U.K., and the U.S. over the 1987 – 1997 period. The author finds that companies with a stronger financial position and higher dividend pay-out are more sensitive in investment-cash flow relationships than companies with a weaker financial position and lower dividend payout. Mulier et al. (2016) use data for unlisted companies from six European countries and two transition economies (the Czech Republic and Hungary) over 1996 – 2008 to conclude that ICFS is positively associated with company age, size, average cash flows and the average leverage level. These studies offer insights into the importance of company capital resources for ICFS. Therefore, it follows that ICFS can reflect a company's capital intensity rather than indicate financial constraints (Moshirian et al., 2017). This thesis study stresses the importance of resource base and intensity to explore the mechanism between CSR and

ICFS, where CSR activities are part of companies' nonfinancial practices for resource allocation in decision-making processes.

4.2.3 Association between CSR and Investment – Cash Flow Sensitivity

To examine the association between CSR and ICFS, this study draws on RBV and stakeholder theories (Barney, 1991; Freeman, Dmytriyev and Phillips, 2021). This is because prior literature suggests that CSR is associated with stakeholder theory and RBV theory, which are also applied in the finance/investing literature (McGahan, 2021; Dmytriyev et al., 2021; Freeman, Dmytriyev and Phillips, 2021; Habib and Hasan, 2019). As mentioned above in the discussion section on CSR literature, companies can invest and implement CSR, in terms of economic, social, and environmental aspects, in multiple ways. For example, based on RBV theory, companies can invest in CSR activities by evaluating CSR-related costs and benefits. By determining the optimal level of CSR investment for which the increased revenue equals the higher cost, companies can supply resources, such as tangible and intangible assets, to satisfy the demands of stakeholders, which is helpful for companies to maintain long-term stakeholder relationships (McWilliams and Siegel, 2001). It follows that stakeholders may bring further inputs to a company, increase company resources, and increase companies' access to finance once their needs and demands are satisfied (Porter and Kramer, 2006). This thesis study explores the implications of CSR investments on how stakeholders respond to company investment expenditures to internal cash flows. Figure 4.1 shows the theoretical framework constructed to explore how CSR increases ICFS in China.

Figure 4.1. Theoretical framework between CSR and ICFS in China
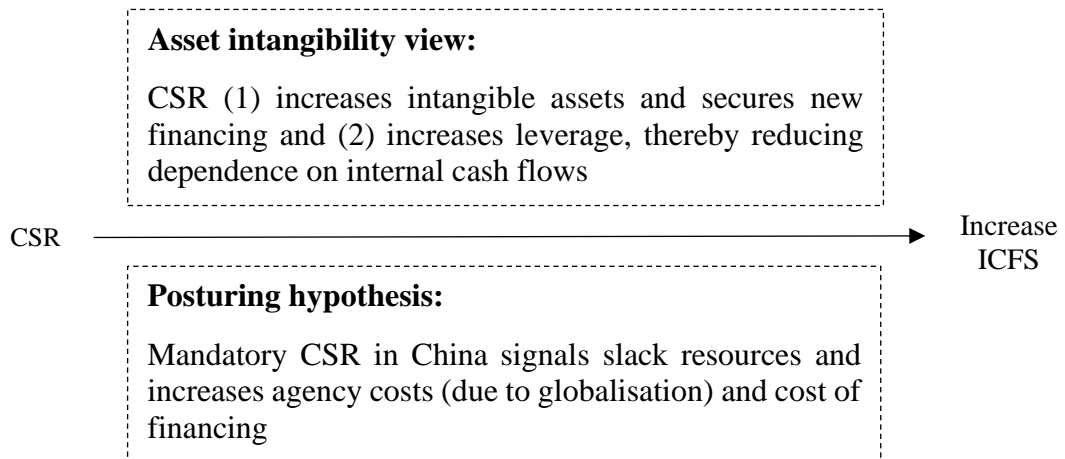
Prepared by the author

Dmytriyev et al. (2021) explore the relationship between stakeholder theory and CSR by comparing their differences and similarities. They argue that these two are different in terms of the direction of responsibility, for instance. Specifically, dealing with CSR issues is unilateral, a one-way perspective from companies to communities/society at large (Dmytriyev et al., 2021). In contrast, stakeholder theory is a two-way perspective, suggesting that there could be interdependence between companies and stakeholders or among stakeholders (Dmytriyev et al., 2021). Therefore, it follows that company activities, including CSR activities, may have implications for stakeholders, including society at large, and vice versa.

Prior studies suggest that CSR activities are related to allocating and creating company resources, which may have implications for understanding stakeholders' responses to company investment expenditures to internal cash flows, which is ICFS (Moshirian et al., 2017). Based on the good management hypothesis, prior studies stress that CSR can help companies create intangible resources by reducing perceived risk by improving stakeholder relationships and eliminating the threat of litigations (Waddock and Graves, 1997). For example, CSR can help maintain company reputation, customer loyalty, and high-quality employee retention, precious intangible assets for companies. One way to create and obtain these intangibles is to show companies' commitment to CSR's economic, social, and environmental dimensions, which are the

triple bottom line components of company sustainability (Orlitzky et al., 2011). The increase of intangibles for companies can therefore improve company sustainability and CSP in the long term.

Meanwhile, the enhanced stakeholder relationship may reduce agency costs, which leads to better access to finance and lower ICFS (Cheng, Ioannou and Serafeim, 2014). This mechanism has been supported by empirical evidence from developed economies such as the U.S. (Erhemjamts et al., 2013; Attig et al., 2014; Samet and Jarboui, 2017). For example, using a sample of 398 European listed companies over the period 2009 – 2014, Samet and Jarboui (2017) find that better CSP weakens ICFS because CSR reduces agency costs and market frictions between the company and market stakeholders. Similarly, using a sample of U.S. companies from 1992 to 2010, Attig et al. (2014) posit that CSR decreases ICFS through reducing information asymmetry and agency costs. These studies show that information asymmetry ad agency costs channels may effectively explain a negative CSR – ICFS relationship in developed economies. However, there is no evidence to prove that developing economies follow the same pattern. Compared to developed economies, developing economies are larger investment heaven, as countries in developing economies have a GDP growth rate of about 5.7% in 2021, faster than the rate of 4.0% in developed economies (United Nations, 2021). It follows that there are great investment opportunities and prospects in developing economies such as China. Therefore, it is important to understand whether the resource tangibility channel still holds in developing economies. This thesis study fills this gap and provides empirical evidence from China, one of the largest developing economies in the world, to examine the relationship between CSR and ICFS.

Extant studies provide insights into how asset tangibility may be related to CSR and ICFS (Hovakimian, 2009; López-Garcia and Sogorb-Mira, 2014; Moshirian et al., 2017; Larkin et al., 2018). Based on a sample of U.S. manufacturing companies, Hovakimian (2009) finds that companies in the U.S. with lower asset tangibility are more likely to experience difficulties in financing because of the lower collateral value of these assets. Therefore, companies in the U.S. with a lower asset tangibility are more likely to have a higher ICFS (Hovakimian, 2009). However, they may expect to increase asset tangibility to decrease ICFS by reducing asset intangibility by

shortening CSR expenses, assuming that companies have constrained company resources and seek high resource allocation efficiency. Hovakimian (2009) study implies the importance of asset tangibility in explaining CSR–ICFS association.

This thesis study supports using the asset tangibility hypothesis to explain CSR–ICFS association in developing economies such as China regarding investment opportunities and cash flows. First, the literature studies imply that asset tangibility may have informational content regarding investment opportunities (Larkin et al., 2018; Moshirian et al., 2017). Using a sample of companies from 41 countries over 1993 – 2013, Moshirian et al. (2017) examine how asset tangibility can affect ICFS between developed and developing economies. They find that developed economies have reduced the share of tangible capital, investment and cash flow persistence, so ICFS in developed economies has declined (Moshirian et al., 2017). In contrast, developing economies operate with more tangible capital, have higher investment rates and more persistent cash flows, so ICFS in developing economies is more stable (Moshirian et al., 2017). They conclude that ICFS reflects capital/investment intensity rather than a measure of financial constraints (Moshirian et al., 2017). In addition, Larkin et al. (2018) use a sample of companies from 43 countries over the period 1994 – 2014 to suggest that companies in developing countries have reduced their reliance on tangible assets and increased reliance on intangible assets, such as intellectual capital, as developing countries have experienced a greater transformation in operation technology compared to developed countries. It follows that companies in China expect to increase their intangible assets, such as employee and customer loyalty, to improve company performance while reducing investments of tangible assets. One way to increase intangibles is through CSR investments, as CSR can bring intangible benefits for companies. The increase in total assets may secure more new financing and investments, which may increase ICFS for companies in developing economies (López-Garcia and Sogorb-Mira, 2014).

Second, the literature studies imply that asset tangibility may have informational content regarding cash flows (López-Garcia and Sogorb-Mira, 2014). López-Garcia and Sogorb-Mira (2014) use a sample of listed and unlisted companies in Spain, Italy, Greece, and Portugal, over the period 1996 – 2010, to explore the substitution effect between the sensitivity of external financing to cash flows under financial constraints.

They find that profitable companies tend to reduce cash flows and use surplus cash flows to pay off outstanding debts, as profitable companies expect to increase leverage to take advantage of tax savings (López-Garcia and Sogorb-Mira, 2014). It follows that profitable companies do not depend so markedly on the cash flows they generate (López-Garcia and Sogorb-Mira, 2014). Therefore, companies react more negatively to shocks in cash flows, which may increase ICFS.

It follows that the increase of ICFS is more likely related to better CSP, as profitable companies in developing economies may prefer lower cash flows, less tangible assets and more intangible assets incurred by CSR. Therefore, resource/asset intangibility may be a feasible channel/mechanism between CSR and ICFS in developing economies.

Previous studies use the information asymmetry channel to argue a negative CSR–ICFS relationship (Samet and Jarboui, 2017; Attig et al., 2014; Zhao and Xiao, 2019). The information asymmetry channel posits that CSR reduces agency costs and information asymmetry between companies and the market parties, leading companies to better access to finance and decreasing ICFS (Attig et al., 2014). However, as discussed earlier, extant studies are based on a sample of companies from developed economies (Samet and Jarboui, 2017; Attig et al., 2014). They ignore the applicability of the information asymmetry channel in developing economies with different ICFS patterns at the country level and institutional reasons for companies to perform CSR (Samet and Jarboui, 2017; Attig et al., 2014; Zhao and Xiao, 2019). It follows that the CSR–ICFS association is unclear in developing economies such as China. Therefore, apart from the resource tangibility hypothesis, this thesis study considers the posturing hypothesis to explain the possible impact of CSR on ICFS in developing economies.

As mentioned earlier, the posturing hypothesis states that CSR can incur agency costs to undermine the competitiveness position of companies, on the basis that companies invest in CSR for window dressing and signalling their socially responsible images for outside stakeholders such as investors (Barnea and Rubin, 2010; Utz, 2017). Utz (2017) uses a sample of companies from all over the world from 2003 to 2015 to show CSR overinvestment for companies in the Asia-Pacific region, possibly due to globalisation, which compels them to invest in CSR to fit Western standards (Chapple and Moon, 2005). China, one of the developing countries in the Asia-Pacific region,

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mandates listed companies to disclose CSR information. From this perspective of a signalling channel, it follows that overinvestment in CSR in developing economies such as China may increase agency costs and cost of financing, leading to an increase in ICFS.

From the line of reasoning based on the resource/asset intangibility channel and signalling channel, this thesis study predicts a positive association between CSR and ICFS based on a sample of listed companies in China. This leads to the first hypothesis:

Hypothesis 1 (H1) Better CSP is more likely to lead to greater ICFS.

4.2.4 Cash Flow and Cash Flow Volatility (CFV)

Cash flow is the income stream from a company's activities (Gruca and Rego, 2005). These activities are along the value chain under a company's control, and they are implemented to achieve intended market performance (Vorhies, Morgan and Autry, 2009). Cash flow reflects the extent of a company's capability of turning its assets and resources into monetary values (Vorhies et al., 2009). Cash flow is an important indicator of a company's financial performance, as cash flow not only reflects a company's financial strength but is also less susceptible to biases sourced from accounting policies that can be purposefully chosen to incline to a company's specific interests (Gruca and Rego, 2005). Cash flow turbulence, such as the uncertainty of incoming cash flow, is a risk side performance measure (Minton and Schrand, 1999). CFV, or its opposite, cash flow stability, is highly valued by managers, as managers' operations, cash flow and resource allocation policy highly depend on stable and smooth cash flows (Gruca and Rego, 2005). CFV is also crucial for investors, as a company's dividend payouts are closely related to their interests, shareholder value, and investment plans (Srivastava, Shervani and Fahey, 1998).

Although the importance of cash flow has been acknowledged, its volatility has not gained much attention in the literature. However, managers, investors, and researchers are increasingly suggesting that CFV is an important factor to consider in decision-making processes for three main reasons (Sun and Ding, 2020). First, CFV is determined by a company's resources, capabilities, knowledge and strategies (Luo and Bhattacharya, 2009; Srivastava et al., 1998), so CFV can reflect the quality of managing a company's resources and performing in its main market segments (Irvine

and Pontiff, 2009). This is a backwards-looking view of CFV, which recognises that a company's performance uncertainty can originate from company operations and therefore provide helpful warning signs for managing company activities to maintain stable future income flow (Sun and Ding, 2020). Second, a forward-looking view of CFV states that CFV is critical to determine a company's performance in terms of stock return and risk (Cebenoyan and Strahan, 2004; Srivastava et al., 1998). Investors examine the company's financial strength as indicated by its income volume and stability (Maines and McDaniel, 2000). Uncertain income flows can increase the investment risk to shareholders and weaken the impacts on the stock valuation (Pástor and Pietro, 2003). Third, CFV limits companies from deploying resources smoothly into management and investing activities, resulting in difficulties for company operations (Sun and Ding, 2020). For instance, CFV may interrupt R&D investment inputs and advertising expenditure (Minton and Schrand, 1999). These disruptions can be a barrier to company activities and undermine company performance (Wasley and Wu, 2016). In the long term, these disruptions may cause company risks, such as the risk of bankruptcy (Wasley and Wu, 2016). Therefore, CFV can result in twofold harm that restrains company operations and alienates main funding sources such as investors and debtors (Sun and Ding, 2020). Drawing on the importance of CFV, exploring the role of CFV in the relationship between company performance (in which CSR performance is one type of non-financial company performance) and stakeholders' responses to company investments (i.e., ICFS) may become meaningful. Therefore, the incorporation of CFV into CSR and ICFS studies examines an important link but currently lacks evidence to explain the impact of a company's cash flow uncertainties on the relationship between CSR and ICFS. It also provides a more detailed and transparent mechanism to explain how a company's cash flow stability situation complements CSR endeavours to influence the stakeholders' response to company investment expenditures to internal cash flows. Linking CFV, CSR, and ICFS thus creates a meaningful perspective regarding the company's CSR engagements and its fundamental consequences. To capture the cash flow shocks of a company better, this thesis study used current and expected future cash flow instability to measure CFV, as implied by the backwards-looking and forward-looking views of CFV. Figure 4.2 shows the framework to illustrate the effect of CFV on the CSR–ICFS relationship.

Figure 4.2. Framework – CFV and its effects on CSR–ICFS association

Backwards-looking view of CFV

Current CFV

-

Signalling effect

-

CSR

ICFS

+

Forward-looking view of CFV

Expected CFV

+

Cash flow channel of the asset intangibility view

+

CSR

ICFS

+
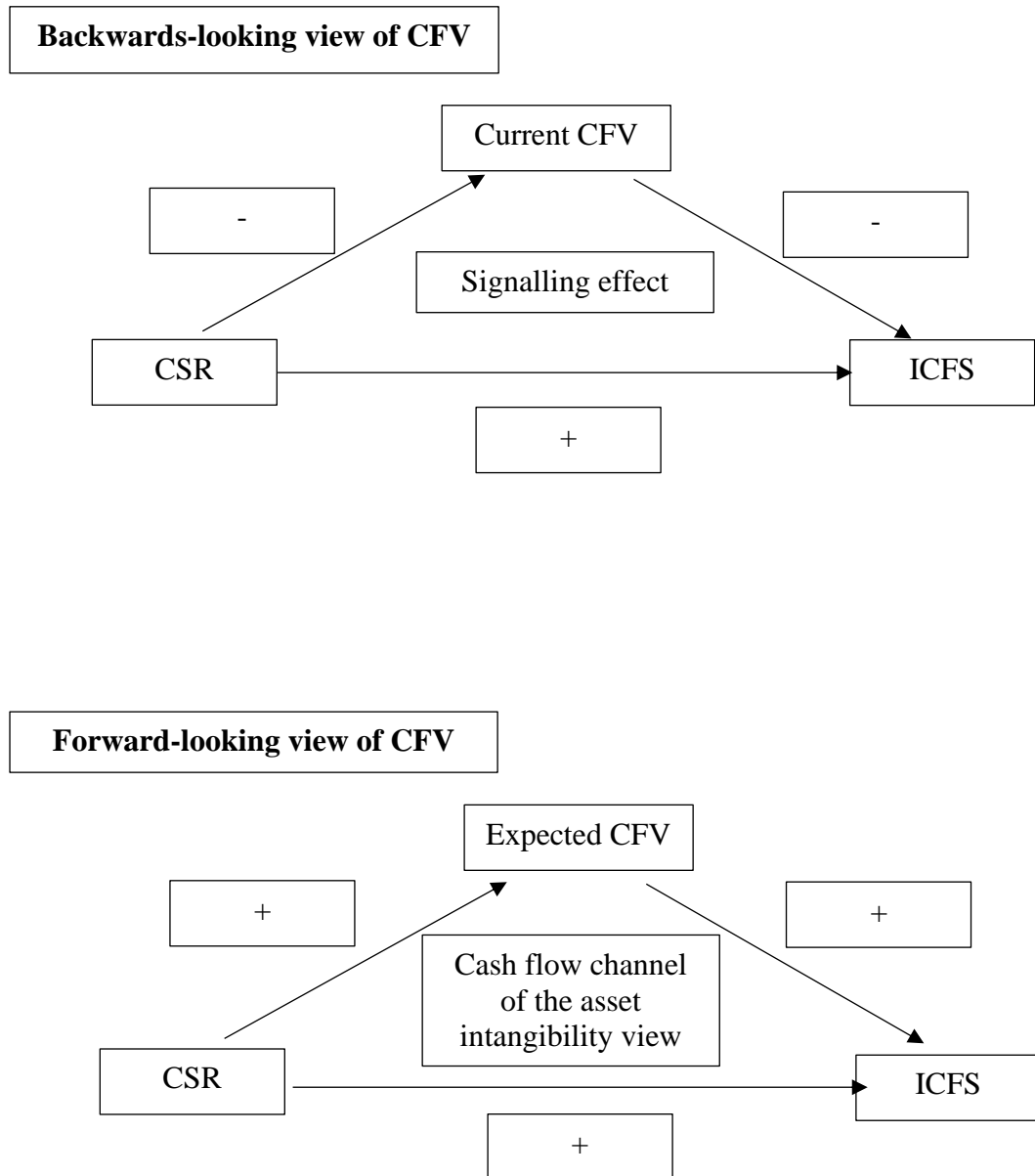
Prepared by the author

4.2.5 Cash Flow Volatility and Impacts on CSR and Investment – Cash Flow Sensitivity

From the resource allocation perspective, current and expected future cash flow stability, based on the backwards-looking and forward-looking views of CFV, may have different impacts on the hypothesised positive relationship between CSR and ICFS. Researchers support that CSR activities consume valuable company resources such as financial and human resources (Barnett and Salomon, 2006). This resource requirement often results in internal coordination and resource allocation conflicts between departments and financial or nonfinancial project engagements when all the department units compete for resource support (Jensen, 2002). This resource requirement may also affect the expectation formation when a company or department demands external finance (Mulier et al., 2014). Cash flow stability turns out to be an ideal factor in this type of resource competition because either current or expected CFV reflects the situation of a company to utilise its available resources efficiently, signalling a cash flow shock and the formation of expectations (Morgan et al., 2009; Song et al., 2005; Mulier et al., 2014).

Prior studies provide implications of a non-linear relationship between CSR and CFV, depending on the CSR engagement level (Sun and Ding, 2020). For example, using a sample of 1,510 companies over the period 1996 – 2015, Sun and Ding (2020) propose a U-shaped relationship between CSR and CFV to show CSR's dynamic implication for performance instability and uncertainty. They show that CSR may reduce CFV at low and moderate levels but increase CFV when high CSR engagement. Their study illustrates the risk reduction portion of CSR by integrating CFV into the company's resource allocation activities for several reasons. First, from the RBV perspective, CSR is a form of social capital, which signals the moral image of a company and assures key company stakeholders, leading to a stable valuation process and financial support (Jo and Na, 2012; Luo and Bhattacharya, 2009). This CSR effect guarantees a company can obtain sufficient funding support and prevents harsh shifts of company operations that sometimes occur when companies experience unexpected disruptions of investment. This stable operation leads to the essential conditions for stable incoming cash flows. Second, Stewart (2009) points out that customers are the main source of a company's incoming cash flow, and hence a positive customer attitude

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toward a company's products and services creates valuable brand assets that shield the key markets from the peer competition (Torres and Tribó, 2011). These strong customer evaluations translate into lower expected CFV, so these brand assets affect financial policy by alleviating financial frictions and providing additional net debt capacity, as measured by higher leverage and lower cash holding levels (Larkin, 2013; Vlachos et al., 2009). Third, from the stakeholder view of CSR, CSR enables a company to create a healthy external environment network consisting of main stakeholder groups such as investors, customers, suppliers, and regulatory bodies (Brown and Forster, 2013). This stakeholder network stands for an ecosystem within which a company operates. The supportiveness of such a system provides the company essential strategic flexibility and prevents possible severe penalties from unexpected misconduct (Basu and Palazzo, 2008). Hence, these mechanisms form a foundation for a company to attain a lower CFV.

However, if a company keeps engaging and investing in CSR, the positive effect between CSR and CFV may reverse for several reasons. First, CSR expenditures consume company resources, so engaging in CSR generates financial loads that result in uncertainties when the expenditure increases (Wang et al., 2008). Second, managers are likely to evaluate CSR with other company activities for key company inputs under constrained company resources. Too many resources demanded CSR will divert a company from its main operational activities and make it weak to external forces such as competition, resulting in higher uncertainty in company performance (Salzmann et al., 2005). Third, CSR is closely related to stakeholder interests, and excessive CSR may drive the company in certain directions in favour of its specific stakeholders, lowering the company's adaptability in case of market dynamics and competition development, leading to more unstable income revenues (Sénéchal, Georges and Pernin, 2014; Steenkamp and Baumgartner, 1992). Fourth, although CSR has a company signalling effect, CSR will decrease when CSR goes beyond the range in which customers perceive CSR as a good company image (Sénéchal, Georges and Pernin, 2014; Steenkamp and Baumgartner, 1992). This mechanism indicates that overinvestment in CSR will weaken these positive signals (Bergh et al., 2014). Moreover, too much CSR increases customers' uncertainty and doubts about the company's operating capability, and this loss of customer trust increases the instability of incoming cash flow (Bhattacharya and Sen, 2004).

Sun and Ding (2020) extend the understanding of CSR literature by involving company performance risk factors. Considering these mechanisms, it follows that a company is likely to reduce current CFV at a low CSR engagement level and increase expected CFV at a high CSR engagement level (Sun and Ding, 2020). This thesis study incorporates CFV into CSR to explore whether a company may produce less-sensitive stakeholder responses to company investment expenditures to internal cash flows.

CFV can signal a cash flow shock and play a role in forming expectations toward a company (Mulier et al., 2014). From this signalling view of CFV, a given cash flow shock may signal companies with existing low CFV, as it is probable that this shock goes beyond their regular cash flow fluctuations. Hence, these companies may adjust their expectations about future cash flow. It follows that cash flow shocks are associated with the demand for external finance, the cost of financing, and investments for companies with low CFV (Campbell et al., 2012; Mulier et al., 2013). Therefore, lower CFV is related to a higher ICFS (Mulier et al., 2014; Cleary, 2006).

The demand for external finance depends on current cash flows and expected future cash flows (Mulier et al., 2014). In the asset tangibility view of ICFS, cash flow explains investment because cash flow predicts and contains information about future cash flow and because investment is made in pursuit of future income (Moshirian et al., 2017; Minton et al., 2002). The high predictability of cash flows leads companies to invest more for future income growth (Riddick and Whited, 2009). Tangible and intangible assets are perceived as production inputs and contribute to a company's future cash flows. The uncertainty related to intangible assets is higher than that of tangible assets; hence, intangible capital is expensed and written off from the company's statement of financial position. Since intangible capital is an important element of production and the external environment in which companies operate is fast-changing and ever more competitive (Hansen et al., 2005), cash flow has become less foreseeable over time. As there is little information in the current cash flow regarding future cash flow, investment is less dependent on the current cash flow. From the tangible asset view of ICFS, ICFS can reflect changes in cash flow persistence (Moshirian et al., 2017; Minton and Schrand, 1999). In developed economies, the reduction in the share of tangible assets weakens the persistence of cash flow and leads to a decline in ICFS (Moshirian et al., 2017). In contrast, over

time, companies in developing economies with more tangible asset structures are likely to improve the predictability of cash flow and contribute to an increase in ICFS (Moshirian et al., 2017).

It follows that, from the backwards-looking view of CFV, current CFV may moderate the possible positive relationship between CSR and ICFS when CSR engagement is at low and moderate levels due to the signalling effect of CFV. However, expected CFV may mediate the possible positive CSR–ICFS association overtime when a company has a high CSR engagement level through the cash flow channel from the asset tangibility perspective. In this sense, as measured by CFV, cash flow instability explains the risk side of CSP and indirectly contributes to stakeholders' response to company investment expenditures to internal cash flows, measured by the strength of ICFS. Hence, this thesis study hypothesises that:

> **Hypothesis 2(a) (H2a)** Current CFV will moderate the relationship between CSR and ICFS. The positive association between CSR and ICFS will be weaker for companies with a more volatile current CFV.

> **Hypothesis 2(b) (H2b)** Expected CFV will mediate the relationship between CSR and ICFS. The positive association between CSR and ICFS will be stronger for companies with a more volatile expected CFV.

4.3. Research Methodology

4.3.1 Dependent Variable

To examine the impacts of CSR on ICFS as stated in the proposed hypotheses, this study uses ICFS as the dependent variable. Fazzari et al. (1998) derive an investment equation based on the availability of internal and external funds to measure ICFS. Fazzari et al. (1988) postulate that a company's investment depends on its investment opportunities, as proxied by Tobin's Q, and its internally generated cash flow scaled by total assets. This method has been verified in different contexts, such as Europe and the U.S. (Schiantarelli, 1996; La Rocca et al., 2015; Larkin, 2018; Moshirian et al., 2017; Sprenger and Lazareva, 2021). Following the existing literature (Larkin,

2018; Sprenger and Lazareva, 2021), this study employs Fazzari et al.'s (1988) equation and estimates ICFS according to the following baseline specification: the primary explanatory variable is the availability of internal funds for investment.

$$INV/TA_{i,t} = \alpha_{i,t} + \beta_1\, CF_{i,t}/TA_{i,t} + \beta_2\, CSP_{i,t} + \beta_3\, CF_{i,t}/TA_{i,t} * CSP_{i,t} + \text{Controls}_{i,t} + \alpha_{INDi,t}$$
$$+\ \alpha_{YEAR} + \varphi X_{i,t} + \varepsilon_{i,t}$$

Where *INV/TA* is a company's capital expenditure in year *t* scaled by the end-of-year *t-1* total assets. *CF* is a company's net income plus depreciation and amortisation. *TA* is a company's total assets. The cash flow measure *CF/TA* is a company's internal cash flow at time *t* scaled by the end-of-year *t-1* total assets. *CSP* is a company's overall CSP. β_1 captures the ICFS; β_2 is the investment-CSP sensitivity; β_3 is the interaction item coefficient, indicating the association between CSP and ICFS. Moreover, ($\alpha_{IND,t}$) and ($\alpha_{YEAR,t}$) denote industry and year fixed effects, respectively. φ X_{it} expresses the set of company-level characteristics typically considered in the literature on company investment, and ε_{it} represents the error term. In the dynamic specification of the equation, this study takes the natural logarithm form of the variables to get accurate results. Table 4.1 describes the variables used.

Table 4.1. Variable definitions and data sources

Variable	Definition	Source
INV	Capital/investment expenditures	*Datastream*
TA	Total assets	
CF	Cash flow is defined as earnings before extraordinary items plus depreciation and amortisation expense.	
Q	Tobin's Q is defined as the market value of assets to the book value of assets. The market value of assets is market capitalisation plus total assets minus book value of equity.	
CCFV	Current cash flow volatility (CFV) is defined as the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years.	
FCFV	Future/Expected CFV is defined as the forward-looking volatility of earnings before interest, tax, depreciation and amortisation based on future five years of data.	
SIZE	Company size is defined as the natural logarithm of total assets.	
AGE	Company age is defined as the natural logarithm of the number of years since incorporation.	
LEV	Leverage is defined as the natural logarithm of the leverage ratio, which is equal to the sum of long-term debt and short-term debt divided by total assets.	
DIV	Dividend pay-out is defined as a dummy variable that equals 1 when a company paid cash dividends in the current year and 0 otherwise.	
FAM	Family ownership is defined as a dummy variable that equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares and 0 otherwise.	As above
SOE	State-ownership status is defined as a dummy variable that equals 1 for a state company and 0 for a non-state company.	
AG	The asset growth rate is defined as the natural logarithm of the increase rate of total assets.	
AP	Liquidity is defined as the accounts payable turnover ratio, calculated as net credit purchases over average accounts payable.	
CLC	The company life cycle is defined as a categorical variable over a company's development stages, including the introduction, growth, maturity, and decline/shake-out stages. A company is classified as at the introduction stage if it has a positive net financing cash flows (FCF), negative net operating cash flows (OCF), and investing cash flows (ICF); at the growth stage if it has negative ICF and positive OCF and FCF; at the maturity stage if it has positive OCF and negative ICF and FCF; any companies that do not meet the above criteria are classified as being at the decline/shake-out stage.	
IA	Asset intangibility is defined as the natural logarithm of intangible assets.	
SGA	Signalling capability is defined as the natural logarithm of selling, general and administrative expense.	
YEAR	Year dummy	
IND	Industry dummy	
CSP	CSR performance measured by the overall CSR performance score	*HEXUN*

Compiled by the author

4.3.2 Independent Variable

This study measures the independent variable *CSP* using the CSR score from the *HEXUN* database, which provides CSR ratings of listed companies based on user satisfaction and is available freely online for Chinese research (Xiong et al., 2016). CSP scoring in this database is evaluated following an objective rating system based on the numerical calculation of 38 specific indices (see Yang et al., 2019). The CSR score provided by the *HEXUN* rating system is evaluated based on environmental, social and economic information from Chinese publicly listed companies. The information includes two parts, voluntary disclosure and negative information or news. Voluntary disclosure of CSR information comes from annual reports, sustainability reports, social responsibility reports, environmental reports, announcements, and company websites. Negative CSR information comes from voluntary disclosure of relevant information, penalty information from supervisory departments (such as Ministry of Environmental Protection, State Administration of Work Safety, China Securities Regulatory Commission, and China Banking and Insurance Regulatory Commission), media reports, and social surveys. The *HEXUN* rating system provides CSR scores for Chinese listed companies in terms of various aspects of CSR activities such as environmental management, labour policy, employee policy, health and security of employees, product quality, supply chain management, and community relationships. These CSR aspects reflect a company's ability to fulfil its social responsibilities and build relationships with various stakeholders, which could influence investment sensitivity. By employing the *HEXUN* rating system, this study assesses the overall CSP score, ranging from 0 to 100, consisting of dimensions of investors, employees, customers, suppliers, government, and communities (Chen and Ma, 2005). For results accuracy, this study takes the natural logarithm form of CSP, denoted as *CSP*.

4.3.3 Cash Flow Volatility

This study examines whether CFV has a mediation or moderation impact on the relationship between CSR and ICFS. This study measures the variable CFV from backwards- and forward-looking perspectives to test the hypotheses, namely, current CFV and expected CFV. This is to capture a comprehensive view of the impacts of

cash flow uncertainty on the CSP and stakeholders' responses to company investment. Concerning the current CFV, this study, following the literature (Sun and Ding, 2020; Das et al., 2013; Han and Qiu, 2007), measures current CFV using the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years, denoted as *CCFV*. This measure is justified because it pinpoints the volatility magnitude inherent to each company to be comparable to each other (Sun and Ding, 2020). This measure has the advantage of removing the scale effect, such as the company size effect because large companies automatically have greater cash flow changes over time (Sun and Ding, 2020). This study uses the absolute value of the mean rather than the raw value in the denominator because the operating cash flow can be negative (Das et al., 2013). For the expected CFV, this study follows Larkin (2013) to measure the variable by calculating the forward-looking volatility of earnings before interest, tax, depreciation, and amortisation for future five years of data, denoted as *FCFV*. In addition, to mitigate the effect of outliers, this study follows the literature (e.g., Huang, 2009) and winsorizes the measure at the 1st and 99th percentiles over the whole sample period. Such winsorisation dramatically reduces the excess kurtosis and the upper bound of the volatility measure. For results accuracy, this study takes the natural logarithm form of CFV.

4.3.4 Control Variables and Other Variables

Control variables are used in the regression analysis to control factors other than CSP and CFV that could affect ICFS. The choice of control variables is essential for the estimation to be accurate. Following Zhao and Xiao (2019), the control variables used in this empirical study are company size, company age, leverage, dividend pay-out, family ownership, state-ownership status, asset growth rate, investment opportunity, liquidity and CLC stage. Details of variable definitions are in Table 4.1. This study accounts for industry and year fixed effects to control industry and time trends (Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Attig et al., 2014; Kashefi-Pour et al., 2020).

This study controls for company size and age for several reasons. Company size captures company complexity, breath and spread. It also captures the company resource capacity and is a proxy for the company's competency to cope with competition and funding opportunities (Al-Hadi et al., 2019; Dong and Yan, 2013; Liu

et al., 2019; Rhou et al., 2016; Wang and Xu, 2016; Zhou et al., 2017). Smaller companies are expected to have difficulties raising capital due to higher borrowing costs and less analyst coverage, reducing their accessibility to external capital finance (Myers and Majluf, 1984; Hovakimian, 2009). Similarly, younger companies may face a wider wedge between internal and external capital (Hovakimian, 2009). Smaller and younger companies are expected to have more growth opportunities, so company size and age may positively affect company investment levels in a direct way (Hovakimian, 2009). Therefore, smaller and younger companies are expected to have higher ICFS. This study measures company size as the natural logarithm of total assets and company age as the natural logarithm of the number of years since incorporation (Hovakimian, 2009; Erhemjamts et al., 2013; Lin et al., 2021). Company size and age are denoted as *SIZE* and *AGE*, respectively.

Company leverage is controlled for because it may affect company investment expenditures and ICFS in several ways (Lang, Ofek and Stulz, 1996). Company leverage may reduce the cash holding level used for investment because cash may be used to pay outstanding debts (Myers, 1977; Jensen and Meckling, 1976). Therefore, excess leverage may reduce a company's reliance on internal cash capital, increasing ICFS (Hovakimian, 2009). Following Hovakimian (2009), this study measures company leverage as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Company leverage is denoted as *LEV*.

This study includes dividend pay-out as a control variable for the level of ICFS. In particular, companies with dividend pay-out are considered more liquidity constrained and are expected to have higher ICFS (Hovakimian, 2009). Dividend pay-out may also indicate higher resource ability with more growth opportunities (Hovakimian, 2009). Hence, companies paying dividends have a higher capability to invest, are more likely to invest more and have a higher ICFS. This study measures dividend pay-out using a dummy variable that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Dividend pay-out is denoted as *DIV*.

Following Sprenger and Lazareva (2021), this study includes family ownership as one of the control variables of CSR–ICFS. The literature has examined the association between the ownership structure of family companies and ICFS, stressing that family

ownership may affect ICFS for several reasons (Sprenger and Lazareva, 2021; Pindado et al., 2011; Hung and Kuo, 2011; Kuo and Hung, 2012; Peruzzi, 2017; Shahzad et al., 2018; Lozano and Yaman, 2020). Family-controlled companies are more willing to engage in CSR activities to improve their family images and achieve transgenerational control, so family companies with higher CSP invest efficiently compared to those with lower CSP (Shahzad et al., 2018). Moreover, the presence of highly concentrated family ownership and the active involvement of the family in the business give family-owned companies higher accessibility to financing capital than non-family companies, which results in a higher investment-cash flow dependence and ICFS (Peruzzi, 2017; Lozano and Yaman, 2020). Therefore, family-owned companies are expected to have a higher ICFS. This study measures family ownership using a binary variable that equals 1 for a family-owned company, defined as a company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise.[8] Family ownership is denoted as *FAM*.

Following Cull et al. (2015) and Sprenger and Lazareva (2021), this study includes the state-ownership status as a control variable to control company–government connection effects. State companies have a close connection with the government in that the government intervenes in CEO appointments, which may influence the financial accessibility of companies (Cull et al., 2015). In contrast, large non-state-owned companies have weak government connections and greater obstacles to obtaining external capital resources than state companies (Cull et al., 2015). Therefore, non-state-owned companies are expected to have a higher ICFS. This study measures state-ownership status using a binary variable that equals 1 for a state company and 0 for a non-state company. State-ownership status is denoted as *SOE*.

This study also controls company asset growth rate, measured as the natural logarithm of the increase rate of total assets. If companies grow fast, they respond to CSR needs

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[8] The 20% threshold is important here to define whether a shareholder with such a stake can veto important decisions such as changes to the corporate charter, reorganisations, large share issues or large transactions, and has additional rights to require information from the company's management. The literature of family ownership generally uses 20% as a threshold to define whether a company is a family-owned company (see Sprenger and Lazareva, 2021; Shahzad et al., 2018; Peruzzi, 2017; Lozano and Yaman, 2020).

and invest quickly (McWilliams and Siegel, 2001). Therefore, companies with a high asset growth rate are expected to have a higher ICFS. The asset growth rate is denoted as *AG*.

Following the literature (Attig et al., 2014; Hovakimian, 2009; La Rocca et al., 2015; Malmendier and Tate, 2005; Kashefi-Pour et al., 2020), this study includes the natural logarithm of Tobin's Q as a measure to control for investing opportunity at the company level, denoted as *Q*. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Companies with more investment opportunities are expected to have a higher ICFS.

This study uses the accounts payable turnover ratio to measure liquidity to control internal liquidity effects on company investment, as the accounting liquidity metric evaluates how fast a company pays off its creditors/suppliers. The ratio shows the number of times in a current period a company pays its average accounts payable. Liquidity is an important dimension of ICFS, as it reflects a company's ability to finance projects without external capital from the capital markets (Hocakimian, 2009). Higher liquidity constraints may indicate difficulties in accessing external capital, and such companies may have lower ICFS (Hocakimian, 2009). Accounts payable turnover ratio, denoted as *AP*, is calculated as net credit purchases over average accounts payable.

Company life cycle, denoted as *CLC*, is a categorical variable over the companies' development stages. According to RBV theory, as resource bases vary across life cycle stages, with the highest level for companies at the maturity stage (Hasan and Habib, 2017), it follows that ICFS varies with company resources base and life cycle stages (Hovakimian, 2009). Previous studies (Hovakimian, 2009; Gautam and Vaidya, 2018; Zhao and Xiao, 2019) imply the importance of life cycle stages on ICFS, so this study includes the life cycle as a control variable. This study adopts Dickinson's (2011) cash flow method to classify the life cycle stages of sample companies based on cash flow patterns. Dickinson (2011) uses cash flows to represent the company's profitability, growth, and risks and reasonably classify company life cycles of Chinese listed companies (Chen et al., 2008). This variable reflects the stages of company development in the life cycle (Al-Hadi et al., 2019). Following Dickinson (2011)'s classification of the CLC stages, this study divides sample companies into four life

cycle stages. They are the introduction, growth, maturity, and decline/shake-out stages. The literature shows that companies in the decline and shake-out stages share similar characteristics, so this study combines the decline and shake-out stages into one stage, i.e. decline/shake-out stage. At the introduction stage, the company is perceived to have positive net financing cash flows (FCF), negative net operating cash flows (OCF), and investing cash flows (ICF). Net ICF is negative, and both OCF and FCF are positive at the growth phase. At the maturity stage, OCF is positive, and ICF and FCF are negative. Any company that does not meet the above criteria is classified as at the decline/shake-out stage.

To test the signalling channel and asset tangibility perspective of CSP and ICFS, this study includes asset intangibility and signalling capability in the model. As discussed per the asset tangibility view, companies expect to increase intangible assets through CSR engagement in China to secure new financing, so companies react more negatively to cash flow shocks and may have a higher ICFS (Hovakimian, 2009). Moreover, profitable companies tend to increase leverage to take advantage of tax savings, so they tend to reduce dependence on internal cash flows and may have a higher ICFS (Hovakimian, 2009). Therefore, companies with more intangible assets are expected to have a higher ICFS. This study measures asset intangibility as the natural logarithm of intangible assets, denoted as *IA*. This study includes this variable and *CSP* as an interactive term to examine the asset intangibility channel.

For the signalling effect of CSR on IFCS, this study includes the signalling capability as a variable, measured as the natural logarithm of selling, general and administrative expense, denoted as *SGA*. As discussed in the signalling effect, companies in China may perform CSR for window dressing, signalling slack resources (Sun and Ding, 2020). This may increase agency costs due to the globalisation of CSR standards, leading to a higher cost of financing and ICFS (Sun and Ding, 2020). This study includes this variable and *CSP* as an interactive term to examine the signalling channel.

4.3.5 Endogeneity Problem

A possible challenge for the literature may be the potentially endogenous nature of the relationship between CSR and ICFS due to factors such as reverse causality (Zhao and Xiao, 2019). Some studies find that companies facing fewer financial constraints may

have the rich financial capital to engage in more CSR activities (Cheng, Ioannou and Serafeim, 2013), implying a possibly negative ICFS – CSR association. Common ways to mitigate the potential endogeneity related to CSR and ICFS are displayed in Table 4.2.

Table 4.2. Literature: endogeneity mitigation

No.	Author (year)	Theme	How to address endogeneity concerns
1	Kashefi-Pour et al. (2020)	Cultural difference & ICFS	Use two-stage least-squares (2SLS) estimation.
2	Zhao and Xiao (2019)	Financial constraints & CSR	Use a cross-lagged effects model (Finkel, 1995): The study incorporates the CSR in year *t-1* and financial constraints in year *t-1* as the independent variables.
3	Jiang et al. (2019)	Company culture & ICFS	1. Use a 2SLS instrumental variable model: The study uses the industry-year average of ethics culture as the first instrumental variable. The Cragg–Donald test then shows that *p*-values are less than 0.001, rejecting that endogenous variable is weakly identified. Hansen's (1982) over-identification test displays a *p*-value greater than 0.5, suggesting that instrumental variables are exogenous. 2. Use a Heckman two-stage self-selection model to address self-selection bias (Heckman, 1979; Heckman and Robb, 1986): The study firstly estimates a probit model and regresses a dummy variable, Integrity, on the same company-specific control variables, as well as an exogenous instrument. The resulting fitted values from this probit model are then used to compute the inverse Mills ratio. In the second-stage regression, the inverse Mills ratio is included in the regression model. 3. Use a propensity score matching (PSM) procedure to reduce the selection bias concern (Rosenbaum and Rubin, 1983).
4	Peruzzi (2017)	Family ownership structure & ICFS	Adopt the generalised method of moments (GMM) estimation technique and employ a PSM approach to better address the non-random nature of family ownership: The study estimates ICFS of a sample of matched companies, that is, family and non-family companies sharing similar characteristics.
5	Chowdhury et al. (2016)	ICFS & information asymmetry	Develop an alternative control sample based on PSM: The PSM sample was generated from logistic regression of a binary variable (1 for deregulated companies, 0 otherwise) on Tobin's Q, cash flow, size (total assets), and the bid-ask spread, as of one year before the deregulation event.
6	Attig et al. (2014)	Company legitimacy & ICFS	1. Employ an instrumental variable estimation procedure where the study uses two instruments for CSR: the industry-year average CSR (El Ghoul et al., 2011) and lagged CSR (Schreck, 2011). 2. Employ the Heckman self-selection model (similar to the procedure of Jiang et al. (2019)). 3. Use a PSM procedure (similar to the procedure used in Jiang et al. (2019)). 4. Use the system GMM estimator (Blundell and Bond, 1998), where cash flow and other financial variables are treated as endogenous.
7	Ghoul et al. (2011)	CSR & cost of capital	1. Employ the instrumental variables estimation method: The study uses the industry average CSR score and a dummy variable for whether the previous year's earnings is negative. 2. Include the lagged risk premium as an independent variable and estimate the dynamic panel model using the system GMM technique (Blundell and Bond, 1998).

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It can be seen from Table 4.2 that recent studies commonly adopt the instrumental variable estimation procedure (Zhao and Xiao, 2019; Attig et al., 2014; Ghoul et al., 2011), where the industry-year average *CSP* as an instrument for CSP is often used (Schreck, 2011). Following Attig et al. (2014), an industry-year *CSP* dummy variable is constructed, which takes the value of 1 if CSP is greater than the median of the industry-year CSP, and 0 otherwise. To reduce the endogeneity concern, this study follows the literature (Peruzzi, 2017; Attig et al., 2014) and adopts the Generalised method of moments (GMM) estimation technique (Blundell and Bond, 1998), where cash flow and other financial variables are treated as endogenous. The dynamic investment regressions using GMM can deal with potential bias in OLS levels and within-company group estimates, potential endogeneity in financial variables, and transitory shocks to cash flow (Attig et al., 2014).

4.3.6 Estimation Methods and Models

This section sets out the estimation methods and models used to examine the relationship between CSR and ICFS. This study applies a panel data methodology to empirically test the proposed relationship between CSR and ICFS, as the data set contains cross-sectional and time-series observations (Pawlina and Renneboog, 2005; Sprenger and Lazareva, 2021).

To test the proposed relationship between CSR and ICFS, this study follows Fazzari et al.'s (1998) method, which derives an investment equation based on the availability of internal and external funds. This method has been widely used in international contexts (Sprenger and Lazareva, 2021), so it may apply to the Chinese context. The baseline equation with specific control variables is displayed as follows.

$$INV_{i,t}/TA_{i,t} = \alpha_{i,t} + \beta_1\, CF_{i,t}/TA_{i,t} + \beta_2\, CSP_{i,t} + \beta_3\, CF_{i,t}/TA_{i,t} * CSP_{i,t} + \beta_4\, Q_{i,t} + \beta_5\, SIZE_{i,t}$$
$$+ \beta_6\, AGE_{i,t} + \beta_7\, LEV_{i,t} + \beta_8\, DIV_{i,t} + \beta_9\, FAM_{i,t} + \beta_{10}\, SOE_{i,t} + \beta_{11}\, AG_{i,t} + \beta_{12}$$
$$AP_{i,t} + CLC_{i,t} + \alpha_{INDi,t} + \alpha_{YEAR,t} + \varphi\, X_{i,t} + \varepsilon_{i,t} \qquad (4.1)$$

where *INV/TA* is a company's capital expenditure in year *t* scaled by the end-of-year *t-1* total assets. *CF* is a company's net income plus depreciation and amortisation. *TA*

is a company's total assets. The cash flow measure *CF/TA* is a company's internal cash flow at time *t* scaled by the end-of-year *t-1* total assets. *CSP* is a company's overall CSP. *Q* is Tobin's Q, calculated as market capitalisation plus total assets minus book equity, all over total assets, following Attig et al. (2012). *SIZE* is company size measured as the natural logarithm of total assets. *AGE* is company age, indicated as the natural logarithm of the number of years since incorporation. *LEV* is company leverage, measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. *DIV* is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. *FAM* is a binary dummy variable of family ownership that equals 1 for a family-owned company, defined as a company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise.

SOE is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. *AG* is the company's asset growth rate, measured as the natural logarithm of the increase rate of total assets. *AP* is the accounts payable turnover ratio of a company, measured as net credit purchases over average accounts payable. *CLC* is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of company life cycle stages. β_1 captures the ICFS; β_2 is the investment-CSP sensitivity; β_3 is the coefficient between CSP and ICFS. Moreover, ($\alpha_{IND,t}$) and ($\alpha_{YEAR,t}$) denote industry and year fixed effects, respectively. φX_{it} expresses the set of company-level characteristics typically considered in the literature on company investment, and ε_{it} represents the error term.

To test the asset intangibility and signalling effect channels between CSP and ICFS, terms of *IA*, *SGA*, and interaction terms of *CFA * CSP * IA* and *CFA * CSP * SGA* are added to Equation (4.1). *IA* is the asset intangibility of a company, measured as the natural logarithm of intangible assets. *SGA* is the signalling capability of a company, measured as the natural logarithm of selling, general and administrative expense. The coefficients of the interaction terms capture the channel effect of CSP on ICFS.

In the dynamic specification of Equation (4.1), this study takes the natural logarithm form of the variables to get accurate results. Table 4.1 describes the variables used.

CSP data can be sourced from the *HEXUN* database, and data for other variables can be obtained from the *Datastream* database. Standard errors are robust to clustering at the company level (Sprenger and Lazareva, 2021).

To test the role of CFV on the CSR–ICFS association, this study follows Baron and Kenny's (1986) procedure for mediation test. According to the logic of this approach, mediation is established if: (1) the independent variable (CSR) is significantly related to both the dependent (ICFS) and the mediating variable (CFV); (2) the mediator (CFV) is significantly related to the dependent variable (ICFS), and (3) the influence of the independent variable (CSR) on the dependent variable (ICFS) is attenuated when the mediating variable (CFV) is included in the regression equation. To achieve full mediation, the effect of the independent variable should no longer be significant when the mediating variable is included. Partial mediation is achieved if the influence of the independent variable is attenuated but remains significant. The variable of CFV is added as an interaction term with CSP and cash flow to assets to the equation model and is then established as follows.

$$
\begin{aligned}
INV_{i,t}/TA_{i,t} = {} & \alpha_{i,t} + \beta_1\, CF_{i,t}/TA_{i,t} + \beta_2\, CSP_{i,t} + \beta_3\, CF_{i,t}/TA_{i,t} * CSP_{i,t} + \beta_4\, CF_{i,t}/TA_{i,t} * \\
& CSP_{i,t} * CFV_{i,t} + \beta_5\, Q_{i,t} + \beta_6\, SIZE_{i,t} + \beta_6\, AGE_{i,t} + \beta_7\, LEV_{i,t} + \beta_8\, DIV_{i,t} + \beta_9 \\
& FAM_{i,t} + \beta_{10}\, SOE_{i,t} + \beta_{11}\, AG_{i,t} + \beta_{12}\, AP_{i,t} + CLC_{i,t} + \alpha_{INDi,t} + \alpha_{YEAR,t} + \varphi\, X_{i,t} + \\
& \varepsilon_{i,t}
\end{aligned}
\tag{4.2}
$$

Where *CFV* is cash flow volatility, measured by two variables: current CFV and expected CFV. Current CFV is measured as the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years. Expected CFV is measured as the forward-looking volatility of earnings before interest, tax, depreciation and amortisation based on future five years of data. Other variables are the same as in Equation (4.1).

4.3.7 Robustness Tests

This section discusses robustness tests, which confirm and further support the results of the study. The literature argues that the proxy for Tobin's Q may be measured with

error, bias ICFS (Attig et al., 2012; Brown and Petersen, 2009). This study excludes Q from the regression and expects unchanged results (Ascioglu et al., 2008; Brown and Petersen, 2009).

Having set up the model and variables, the next section provides details about sample selection and descriptive statistics.

4.4. Descriptive Statistics and Results

This section presents data description and descriptive statistics of Chinese listed companies from the Shanghai and Shenzhen stock exchanges from 2010 to 2020. The descriptive statistics show the distribution of the data and provide the main features of the data collected.

The structure of this section is as follows: First, this study provides a univariate analysis of the sampling procedure and the distribution of sample companies over industries. The mean, median, and dispersion (maximum, minimum, and standard deviation) of dependent, control, and independent variables are presented. Second, the study provides a bivariate analysis of the variables, describing how the variables correlate.

4.4.1 Univariate Analysis

This section discusses the descriptive statistics of variables filtered from the Shanghai and Shenzhen stock exchanges in China from 2010 to 2020 since the data is only available for that period. The descriptive statistics present the data distribution and describe the main features of the data collected (Sekaran, 2003). Therefore, this study collects data for the period of 2010 – 2020. This study collected some data for 2009 as well for calculating the change of increase between years. CSP scores are obtained from the *HEXUN* database, and other data are extracted from *Datastream*. Following Yang et al. (2019), this study excluded listed companies with special treatments, consisting of companies with two or three consecutive years of operating loss or companies whose stocks have been suspended or subject to trading warning. These companies may manipulate earnings to avoid being delisted by stock exchanges or the security commission. The inclusion of these companies would distort the study's results and conclusion. After deleting incomplete companies with missing data, the

final dataset includes 30,682 company-year observations for 4,082 companies. This study used Stata 15.1 for data analysis.

Table 4.3 shows the distribution of companies by year. It can be seen that more companies have complete datasets over the years from 2009 to 2020. This could be attributable to the Chinese government's greater attention on CSR engagement and disclosure since 2008.

Table 4.3. Company distribution by year

Year	Frequency	Percent
2009	1,444	4.71
2010	1,555	5.07
2011	1,909	6.22
2012	2,166	7.06
2013	2,316	7.55
2014	2,353	7.67
2015	2,500	8.15
2016	2,697	8.79
2017	3,029	9.87
2018	3,331	10.86
2019	3,402	11.09
2020	3,980	12.97
Total	30,682	100

Table 4.4 shows the distribution of companies by industry. To directly link to each company in the Datastream database, this study uses the Thomson Reuters Business Classification (TRBC) system for industry classification (Refinitiv, 2020). Each company is allocated an industry according to the TRBC system.

Table 4.4. Company distribution by industry

Industry	Frequency	Percent
Aerospace and Defence	31	0.76
Alternative Energy	32	0.78
Automobiles and Parts	200	4.9
Beverages	42	1.03
Chemicals	300	7.35
Construction and Materials	118	2.89
Electricity	67	1.64
Electronic and Electrical Equipment	209	5.12
Fixed Line Telecommunications	13	0.32
Food Producers	152	3.72
Food and Drug Retailers	18	0.44
Forestry and Paper	36	0.88
Gas, Water and Multiutilities	37	0.91
General Industrials	55	1.35
General Retailers	108	2.65
Health Care Equipment and Services	84	2.06
Household Goods and Home Construction	80	1.96
Industrial Engineering	204	5
Industrial Metals and Mining	135	3.31
Industrial Transportation	83	2.03
Leisure Goods	53	1.3
Media	59	1.45
Mining	55	1.35
Oil Equipment and Services	25	0.61
Oil and Gas Producers	4	0.1
Personal Goods	97	2.38
Pharmaceuticals and Biotechnology	263	6.44
Real Estate Investment and Services	137	3.36
Software and Computer Services	204	5
Support Services	83	2.03
Technology Hardware and Equipment	245	6
Travel and Leisure	56	1.37
Unclassified	796	19.52
Total	4,082	100

It can be observed from Table 4.4 that, except for unclassified companies, the number of companies is highest in two industries: chemicals (300 companies, 7.35%) and pharmaceuticals and biotechnology (263 companies, 6.44%). Apart from these two industries, most companies are in the manufacturing industries. The pattern is in line with the status quo in China, in which companies operate with more tangible capital (Moshirian et al., 2017). Following the asset intangibility view, Chinese companies expect to reduce reliance on tangible assets and increase reliance on intangible assets

to respond to a greater transformation in operation technology (Larkin et al., 2018). Therefore, Chinese companies may want to increase CSR investments to bring intangible benefits. This increase in total assets may secure more capital and investments and result in a higher ICFS (López-Garcia and Sogorb-Mira, 2014).

Table 4.5 displays the distribution of companies by their life cycle stages, namely introduction, growth, maturity, and decline/shake-out stage. The classification of CLC stages is based on Dickinson's (2011) method, in which companies at the introduction stage are perceived to have positive net FCF, negative net OCF and ICF; companies with negative net ICF and positive net OCF and FCF are classified as being at the growth stage; those with positive OCF and negative ICF and FCF belong to the maturity stage; the remaining companies that do not meet the above criteria are classified as being at the decline/shake-out stage.

Table 4.5. Distribution by company life cycle stages

Life cycle stage	Frequency	Percent
Introduction	817	2.66
Growth	527	1.72
Maturity	2,970	9.68
Decline/Shake-out	26,368	85.94
Total	30,682	100

It can be surprisingly seen from Table 4.5 that most companies in China are stepping into the decline/shake-out phase (85.94%). They are facing challenges and opportunities of transformation and innovations (Chen, 1995). Therefore, companies in China expect to increase CSR investments for intangible benefits and raise ICFS (Larkin et al., 2018; López-Garcia and Sogorb-Mira, 2014).

Table 4.6 shows company distribution by three binary dummy variables: dividend pay-out, family ownership structure, and state ownership. It can be seen that most Chinese companies distributed dividends in the current year (61.17%), but few companies are family-owned (13.52%) or state-owned (2.52%). Instead, most are non-family-owned and non-state companies.

Table 4.6. Distribution by dividend pay-out, family ownership structure, and state ownership

Variable	Value	Frequency	Per cent
Dividend pay-out	No (0)	11,914	38.83
	Yes (1)	18,768	61.17
	Total	30,682	100
Family-owned company	No (0)	26,534	86.48
	Yes (1)	4,148	13.52
	Total	30,682	100
State company nature	No (0)	29,908	97.48
	Yes (1)	774	2.52
	Total	30,682	100

Table 4.7 reports the descriptive statistics for independent variables (CSP) and other variables over 2009 – 2020. The table shows the mean, median, standard deviation, minimum and maximum of the pooled data.

Table 4.7. Descriptive statistics (variable data in log form)

Variable	Mean	Median	Standard deviation	Minimum	Maximum
Investment to total assets	-3.62	-3.35	1.4	-13.42	4.39
Cash flow to total assets	-2.98	-2.78	1.03	-11.48	1.24
CSP	2.99	3.09	0.76	-4.61	4.51
Current CFV	-0.86	-0.91	0.98	-6.76	9.07
Expected CFV	12.04	11.98	1.43	5.66	17.57
Tobin's Q	0.78	0.69	0.59	-2.22	5.46
Asset intangibility	11.98	12.01	1.89	0	19.12
Signalling capability	12.5	12.36	1.29	6.24	19.22
Company size	15.2	15.02	1.33	8.81	21.72
Company age	2.83	2.83	0.35	0	4.59
Leverage	3.44	3.71	1.69	-4.61	11.92
Asset growth rate	2.55	2.62	1.29	-4.61	12.83
Liquidity	0.25	0.15	2.92	0	444.63

Note: The sample consists of 4,082 listed companies from the Shenzhen and Shanghai stock exchanges, with 30,682 company-year observations. Investment to total assets is a company's capital expenditure scaled by total assets. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. CSP is a company's overall CSP. Current CFV is measured as the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years. Expected CFV is measured as the forward-looking volatility of earnings before interest, tax, depreciation and amortisation based on future five years of data. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Asset intangibility is measured as the natural logarithm of intangible assets. Signalling capability is measured as the natural logarithm of selling, general and administrative expense. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years

since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable.

Table 4.7 shows that the mean and median values of the variables are similar, indicating a relatively balanced distribution. Al-Hadi et al. (2019) and Zhou et al. (2017) mention that if mean and median are similar, it indicates normality of distribution. Thus, this study obtains a normal distribution. The differences between the minimum and the maximum of the variables are great, showing that Chinese companies vary from each other to a great extent in investment to total assets, cash flow to total assets, CSP, CFV, Tobin Q, asset intangibility, signalling capability, company size and age, leverage, asset growth rate, and liquidity. The standard deviation is less than 3, showing the dispersion of companies. The descriptive statistics for our ICFS and CSP variables are in line with those typically associated with these variables (e.g., Attig et al., 2014; Sprenger and Lazareva, 2021; Machokoto et al., 2021). Compared to Hovakimian (2009), in which the author uses a sample of U.S. manufacturing companies from 1985 to 2004, the mean of leverage (3.44) in this study is higher than that (0.228) in Hovakimian (2009). One reason may be that Chinese companies have more debt than equity than U.S. companies (Jensen and Meckling, 1976). Excess leverage may reduce the company's reliability on internal cash capital, increasing ICFS (Hovakimian, 2009).

4.4.2 Bivariate Analysis

This study uses the Spearman correlations to conduct bivariate analysis to find the statistical relationship involving dependence between two variables. Wang and Xu (2016) suggest using the Spearman correlation method when the normal distribution of the sample data is unknown. Hence, this study uses a Spearman correlation method to perform correlation analysis. The correlation is a number that describes the degree of relationship between two variables and gives the direction of the relationship. A significance test is conducted to check if the observed correlation may have occurred by chance; the significant correlations are shown with asterisks in Table 4.8.

Table 4.8. Correlation

No	Variables	1	2	3	4	5	6	7	8
1	Investment to total assets	1							
2	Cash flow to total assets	0.104*	1						
3	CSP	0.080*	0.178*	1					
4	Current CFV	-0.219*	-0.098*	-0.220*	1				
5	Expected CFV	0.021*	0.045*	0.132*	0.039*	1			
6	Current CFV*CSP	-0.117*	0.043*	0.513*	0.723*	0.140*	1		
7	Expected CFV*CSP	0.055*	0.147*	0.917*	-0.161*	0.503*	0.538*	1	
8	Tobin Q	0.039*	0.124*	-0.041*	0.131*	-0.248*	0.073*	-0.217*	1
9	Asset intangibility	0.212*	-0.016*	0.075*	-0.078*	0.406*	0.001	0.296*	-0.302*
10	CSP*Asset intangibility	0.173*	0.136*	0.850*	-0.199*	0.311*	0.429*	0.879*	-0.165*
11	Signalling capability	0.099*	0.073*	0.187*	-0.107*	0.513*	0.048*	0.464*	-0.341*
12	CSP*Signalling capability	0.095*	0.181*	0.930*	-0.214*	0.297*	0.469*	0.936*	-0.142*
13	Family ownership	0.067*	0.023*	0.016*	-0.086*	-0.055*	-0.062*	-0.024*	0.074*
14	Company size	-0.014*	-0.001	0.208*	-0.094*	0.640*	0.089*	0.532*	-0.552*
15	Company age	-0.200*	-0.003	-0.070*	0.049*	0.045*	-0.011	-0.022*	-0.131*
16	Leverage	-0.048*	-0.121*	-0.093*	0.118*	0.266*	0.020*	0.048*	-0.369*
17	Liquidity	-0.027*	-0.061*	-0.044*	0.052*	-0.010	0.010	-0.042*	0.035*
18	Asset growth rate	0.058*	-0.017*	0.087*	0.129*	0.131*	0.170*	0.108*	0.158*
19	State ownership	0.007	0.036*	0.090*	-0.049*	0.202*	0.021*	0.184*	-0.063*
20	Dividend pay-out	0.140*	0.067*	0.386*	-0.297*	0.063*	0.045*	0.382*	-0.017*
21	Life cycle stage	0.251*	0.096*	0.057*	-0.142*	0.039*	-0.074*	0.060*	-0.003

		9	10	11	12	13	14	15	16
9	Asset intangibility	1							
10	CSP*Asset intangibility	0.573*	1						
11	Signalling capability	0.601*	0.462*	1					
12	CSP*Signalling capability	0.280*	0.907*	0.522*	1				
13	Family ownership	-0.044*	-0.016*	-0.041*	-0.006	1			
14	Company size	0.629*	0.487*	0.785*	0.463*	-0.110*	1		
15	Company age	0.087*	-0.016*	0.112*	-0.022*	-0.013*	0.147*	1	
16	Leverage	0.184*	0.022*	0.186*	-0.008	-0.118*	0.380*	0.088*	1
17	Liquidity	-0.024*	-0.052*	-0.036*	-0.042*	-0.009	-0.028*	0.011*	0.036*
18	Asset growth rate	0.017*	0.072*	-0.006	0.067*	0.050*	0.014*	-0.097*	0.047*
19	State ownership	0.138*	0.154*	0.224*	0.170*	-0.063*	0.264*	-0.069*	0.008
20	Dividend pay-out	0.072*	0.345*	0.126*	0.374*	0.032*	0.120*	-0.155*	-0.138*
21	Life cycle stage	0.107*	0.101*	0.068*	0.073*	0.014*	0.048*	-0.081*	-0.013*

		17	18	19	20	21
17	Liquidity	1				
18	Asset growth rate	0.021*	1			
19	State ownership	-0.003	-0.021*	1		
20	Dividend pay-out	-0.032*	0.028*	0.065*	1	
21	Life cycle stage	-0.01	0.027*	0.021*	0.085*	1

* Correlation is significant at least at the 0.05 level (2-tailed).

Note: The sample consists of 4,082 listed companies from the Shenzhen and Shanghai stock exchanges, with 30,682 company-year observations. The data is collected from Datastream for all the variables except the CSP variable, sourced from the HEXUN database. Investment to total assets is a company's capital expenditure scaled by total assets. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. CSP is a company's overall CSP. Current CFV is measured as the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years. Expected CFV is measured as the forward-looking volatility of earnings before interest, tax, depreciation and amortisation based on future five years of data. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets.

Asset intangibility is measured as the natural logarithm of intangible assets. Signalling capability is measured as the natural logarithm of selling, general and administrative expense. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of CLC stages.

Table 4.8 shows that most variables are correlated to each other at the 0.05 significance level. As expected, the correlation between investment to total assets and cash flow to total assets, Tobin's Q, and CSP are positive, though not very high. Investment to total assets and cash flow to total assets are correlated at 0.104. Meanwhile, Tobin's Q is weakly correlated with investment to total assets at 0.039. Our results are consistent with Elgebeily, Guermat and Vendrame (2021).

CSP is positively correlated to an investment to total assets ($p < 0.05$), indicating that companies with better CSP are more likely to have more investments. The interaction terms of asset intangibility and signalling capability with CSP are positively correlated with investment to total assets ($p < 0.05$), showing the asset intangibility channel and signalling channel may be effective between CSP and ICFS. Our results confirm the asset intangibility channel and support the good management hypothesis that CSR can help create intangible resources through reducing perceived risk by improving stakeholder relationships and eliminating the threat of litigations (Waddock and Graves, 1997). In addition, our results support the posturing hypothesis that CSR may signal socially responsible company images for investors (Barnea and Rubin, 2010; Utz, 2017).

The interaction term of current CFV with CSP is negatively correlated to an investment to total assets ($p < 0.05$), showing a possible moderation role of current CFV on the investment level and ICFS. In contrast, the interaction term of expected CFV with CSP positively correlates with the investment level ($p < 0.05$), implying a possible mediation effect of expected CFV on investments and ICFS. The results show that current and expected CFV are significantly correlated with CSP and investment to total assets. However, the relationship sign between CSP and investment to total assets changes from positive to negative when current CFV is involved, but the correlation sign remains positive when expected CFV is added. The results imply the moderating role of current CFV and mediating role of expected CFV in the association between CSP and investment to total assets. The findings are consistent with the backwards-looking view of CFV that a company's performance uncertainty can provide helpful warning signs for managing company activities to maintain stable future income flow (Sun and Ding, 2020). Meanwhile, the findings are in line with the forward-looking view of CFV, arguing that CFV is critical to determine a company's

performance in terms of stock return and risk (Cebenoyan and Strahan, 2004; Srivastava et al., 1998).

The signs of the correlations of most control variables with investment to total assets align with the expectations: family ownership, asset growth rate, and dividend pay-out are positively correlated with investments, and company size and age are negatively correlated with investments. Our results are consistent with the literature (Hovakimian, 2009; Sprenger and Lazareva, 2021; Peruzzi, 2017; Lozano and Yaman, 2020; Cull et al., 2015; McWilliams and Siegel, 2001; Attig et al., 2014; Zhao and Xiao, 2019; Sun and Ding, 2020).

Following Wang and Xu (2016), this study checks multicollinearity for correlation coefficients. Besides the correlation coefficients of interaction terms, the highest correlation coefficient is 0.7858 between company size and signalling capability, which is less than the threshold of 0.8; all the other correlations are below this value. Therefore, there are no significant multicollinearity problems among all variables.

Table 4.9 shows the variance inflation factor (VIF) values of independent variables for multicollinearity check.

Table 4.9. Multicollinearity test

Variable	Variance inflation factor value
Company size	5.72
Signalling capability	2.84
Expected CFV	2
Tobin's Q	1.92
Asset intangibility	1.84
Leverage	1.51
CSP	1.4
Dividend pay-out	1.26
State ownership	1.15
Company age	1.14
Asset growth rate	1.14
Current CFV	1.12
Cash flow to total assets	1.08
Family ownership	1.04
Life cycle stage	1.04
Liquidity	1.02

According to Belsley (1991), if VIF is less than 10, there is no multicollinearity issue between variables. The results show that all VIF values are less than 10 and the

maximum VIF is 5.72, meaning no multicollinearity issue between independent variables.

4.4.3 Multivariate Analysis

This section presents the tests conducted on the hypotheses discussed in Section 4.2, using the empirical models and estimation methods discussed in Section 4.3. The results provide insights for listed companies in China since the data used for this study are companies listed on the Shanghai and Shenzhen stock exchanges.

This study adopts several estimation methods to analyse the panel data estimation. First, this study uses the OLS estimation method for baseline equation regressions. Meanwhile, this study performs several tests to check the autocorrelation issue and adopts heteroskedasticity (HAC) robust standard error (White, 1980) and feasible generalised least-squares (FGLS) method (Srivastava and Maekawa, 1995) to analyse the panel data. Second, this study employs the GMM estimation technique (Blundell and Bond, 1998; Peruzzi, 2017; Attig et al., 2014) to reduce the endogeneity concern.

The first part of this section estimates the relationship between CSP and ICFS. This study expects that companies with better CSP are more likely to have a positive and significant relationship with ICFS (H1). The estimation results show that better CSP is associated with an increase in investment level and ICFS. This finding supports the proposed asset intangibility and signalling effect channels in Section 4.2.

The second part analyses the mediation/moderation impact of CFV on the CSP–ICFS association. The regression is estimated following Baron and Kenny's (1986) procedure for mediation test. The study expects that the positive association between CSP and ICFS will be weaker for companies with a more volatile current CFV (H2a). Moreover, this study expects a mediation role of expected CFV on the relationship between CSP and ICFS (H2b). The results show a partial moderation role of current CFV and a partial mediation role of expected CFV to complement CSP to affect ICFS. These findings support the backward- and forward-looking view of CFV (Sun and Ding, 2020).

The third part performs endogeneity tests to check if reverse causality exists in the empirical model. The results show that there is no bi-directional causality of CSR–

ICFS. Finally, the study conducts robustness tests to check whether the results are robust in the empirical model. The results are robust by excluding Tobin Q from the regression (Dickinson, 2011; Ascioglu et al., 2008).

4.4.3.1 Analysis and Discussion of the CSR Performance and Investment – Cash Flow Sensitivity Association

This study proposes that companies with better CSP are more likely to have a higher ICFS due to asset intangibility and signalling channels (see details in Section 4.2). This section analyses the hypotheses empirically. First, the study uses the OLS estimation method to analyse Baseline Equation (4.1) (see details in Section 3) to test the relationship between CSP and ICFS. To reduce autocorrelation concerns, this study adopts HAC robust standard error (i.e., Newey-West standard errors) in the model and FGLS estimation method (i.e., Cochrane-Orcutt Auto-regressive of order one regression model). The results are displayed in Table 4.10.

Table 4.10. Results: Baseline Equation 4.1 (without CSP)

		Dependent variable: Investment to total assets		
Variable	Pre-sign	(1) OLS	(2) HAC	(3) FGLS
Cash flow to total assets	+	0.125***	0.125***	0.054***
		(0.010)	(0.011)	(0.008)
Tobin's Q	+	0.051***	0.046**	-0.031
		(0.019)	(0.021)	(0.021)
Company size	-	-0.039***	-0.029***	-0.016
		(0.009)	(0.010)	(0.012)
Company age	-	-0.353***	-0.287***	-0.039
		(0.028)	(0.028)	(0.035)
Leverage	+	0.057***	0.047***	0.031***
		(0.006)	(0.007)	(0.007)
Dividend payout	+	0.129***	0.097***	-0.013
		(0.021)	(0.021)	(0.018)
Family ownership	+	0.156***	0.184***	0.056
		(0.024)	(0.026)	(0.039)
State ownership	-	-0.126**	-0.142**	-0.135
		(0.049)	(0.057)	(0.085)
Asset growth rate	+	0.023***	0.023***	0.011*
		(0.008)	(0.008)	(0.006)
Liquidity	-	-0.035	-0.033	0.049
		(0.039)	(0.039)	(0.031)
Life cycle stage		Yes	Yes	Yes
Industry		Yes	Yes	Yes
Year		Yes	Yes	Yes
Constant		-3.007***	-2.801***	-3.103***
		(6.471)	(0.205)	(0.212)
N		17,254	17,254	11,764
R^2		0.076		0.011

*Note: The table presents the estimation results of the equation 4.1 using the OLS estimation model adjusted by HAC robust standard error and FGLS model. The dependent variable (Investment to total assets) is a company's capital expenditure scaled by total assets. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of the CLC stages. Industry and year dummies are included. Along with the coefficient, the standard error is reported in parentheses. The superscripts of *, **, *** indicate statistical significance to 10%, 5% and 1% respectively.*

Table 4.10 reports the main regression results of Baseline Equation (4.1) when the CSP variable is not included. The results of the cross-lagged OLS model (Column 1) and the model adjusted with HAC robust standard error (Column 2) have similar coefficients on variables. In the typical ICFS regression specification, which is estimated using the company and year fixed effects, the coefficient on Tobin Q is positive and significant ($p < 0.05$), while the coefficient on cash flows (i.e., ICFS) is also positive and significant, but much larger. As expected, companies with a higher cash flow level have a better ability to invest. Moreover, more successful companies tend to invest more. This result indicates a positive and significant relationship between investment level and cash flows, which is in line with most ICFS-related studies (e.g., Fazzari et al., 1988; Attig et al., 2011, Attig et al., 2014; Elgebeily, Guermat and Vendrame, 2021). In contrast, the coefficient on Tobin Q changes the association direction with investments in the FGLS model (Column 3), making the FGLS model less reliable than the cross-lagged OLS with HAC standard error. Therefore, this study relies more on the results of the cross-lagged OLS model and the model with HAC standard error. The coefficients on company size and age, state ownership and liquidity are negative, which is in line with the expectations of the study (see Section 3). The coefficients on other control variables (leverage, dividend pay-out, family ownership, asset growth rate) are positive and significant, also in line with the expectations. In addition, the company life cycle stage is an important variable in the ICFS model, as the coefficients on the variable are positive and significant ($p < 0.01$). Although the adjusted R-squared value is low, this study obtains a relatively higher adjusted R-squared value (0.0762) compared to the values in the literature, such as Attig et al. (2014): (0.032). Therefore, including these control variables in this study improves the model's explanatory power compared to the previous literature without these control variables.

Table 4.11 shows the regression results of Baseline Equation (4.1) after the inclusion of CSP. This study multiplies the lagged cash flow to total assets by the CSR score (lagged CSP) and adds this interaction term to the regression. The study also includes the lagged CSP as an independent variable in the model.

Table 4.11. Results: Baseline Equation 4.1 (with CSP)

Variable	Pre-sign	(1) OLS	(2) HAC	(3) FGLS
		Dependent variable: Investment to total assets		
CSP	+	0.007***	0.006***	0.001**
		(0.001)	(0.001)	(0.001)
Cash flow to total assets (CFA)	+	0.135***	0.135***	0.136***
		(0.026)	(0.026)	(0.022)
CFA x CSP	+	0.033***	0.033***	0.008***
		(0.008)	(0.008)	(0.006)
Tobin Q	+	0.034***	0.031***	-0.036*
		(0.019)	(0.021)	(0.021)
Company size	-	-0.067***	-0.053***	-0.0182
		(0.009)	(0.011)	(0.012)
Company age	-	-0.354***	-0.281***	0.044
		(0.029)	(0.030)	(0.035)
Leverage	+	0.059***	0.048***	0.015*
		(0.006)	(0.007)	(0.007)
Dividend payout	+	0.115***	0.077***	-0.012
		(0.022)	(0.021)	(0.017)
Family ownership	+	0.150***	0.179***	0.054
		(0.024)	(0.027)	(0.041)
State ownership	-	-0.128**	-0.143**	-0.064
		(0.051)	(0.061)	(0.093)
Asset growth rate	+	0.028***	0.029***	0.009
		(0.008)	(0.008)	(0.006)
Liquidity	-	-0.037	-0.036	0.056**
		(0.038)	(0.038)	(0.026)
Life cycle stage		Yes	Yes	Yes
Industry		Yes	Yes	Yes
Year		Yes	Yes	Yes
Constant		-1.745***	-2.652***	-3.358***
		(0.306)	(0.213)	(0.216)
N		15,985	15,985	10,326
R^2		0.073		0.005

*Note: The table presents the estimation results of the model equation 4.1 using the OLS estimation model adjusted by HAC robust standard error and FGLS model. The dependent variable (Investment to total assets) is a company's capital expenditure scaled by total assets. CSP is a company's overall CSP. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of CLC stages. Industry and year dummies are included. Along with the coefficient, the standard error is reported in parentheses. *, **, and *** superscripts indicate statistical significance to 10%, 5%, and 1%, respectively.*

Table 4.11 shows that the coefficient on Tobin Q remains virtually unchanged, while the lagged CSP and the new interaction term (Lagged cash flow to total assets * Lagged CSP) have positive and significant coefficients ($p < 0.05$), as predicted.

An increase in CSP leads to increased investments, and ICFS in China confirms the prediction in H1 and suggests that investment outlays are more sensitive to internal cash flow availability when firms have higher levels of observable CSP. To examine the asset intangibility channel and signalling effect channel of which CSP positively affects ICFS, this study multiplies the lagged cash flows in assets and lagged CSP by the lagged asset intangibility (for assets asset intangibility channel) and the lagged signalling capability (for signalling effect channel) and adds the two terms to the regression. The study also includes the lagged asset intangibility and lagged signalling capability as explanatory variables in the model. The results are displayed in Table 4.12.

Table 4.12. Results: Baseline Equation 4.1 (channels)

Variable	Pre-sign	(1) Asset intangibility channel	(2) Signalling effect channel
		Dependent variable: Investment to total assets	
Cash flow in assets (CFA)	+	0.142***	0.210***
		(0.040)	(0.044)
CSP	+	0.228***	0.214***
		(0.044)	(0.049)
Asset intangibility	+	0.177***	
		(0.013)	
CFA x CSP x Asset intangibility	+	0.003***	
		(0.001)	
Signalling capability	+		0.077***
			(0.016)
CFA x CSP x Signalling capability	+		0.003***
			(0.001)
Tobin's Q	+	0.012***	0.016***
		(0.020)	(0.021)
Company size	-	-0.181***	-0.093***
		(0.013)	(0.014)
Company age	-	-0.234***	-0.281***
		(0.028)	(0.029)
Leverage	+	0.059***	0.056***
		(0.007)	(0.007)
Dividend payout	+	0.064***	0.062***
		(0.020)	(0.021)
Family ownership	+	0.149***	0.166***
		(0.026)	(0.026)
State ownership	-	-0.113*	-0.145**
		(0.059)	(0.060)
Asset growth rate	+	0.052***	0.031***
		(0.007)	(0.008)
Liquidity	-	-0.017	-0.024
		(0.031)	(0.036)
Life cycle stage		Yes	Yes
Industry		Yes	Yes
Year		Yes	Yes
Constant		-3.419***	-3.431***
		(0.313)	(0.334)
N		15,878	15,953
R^2		0.109	0.080

Note: The table presents the estimation results of the model equation 4.1. The dependent variable (Investment to total assets) is a company's capital expenditure scaled by total assets. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. CSP is a company's overall CSP.

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Asset intangibility is measured as the natural logarithm of intangible assets. Signalling capability is measured as the natural logarithm of selling, general and administrative expense. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of CLC stages. Industry and year dummies are included. Along with the coefficient, the standard error is reported in parentheses. The superscripts of *, **, *** indicate statistical significance to 10%, 5% and 1% respectively.

The results to explore the asset intangibility and signalling effect channels are reported in Table 4.12. In line with the mechanisms, the interaction variable between cash flow in assets, CSP and asset intangibility loads significantly positively on the response of investment outlays to the availability of internal cash flows ($p < 0.05$). Meanwhile, the coefficient on (Lagged cash flow in assets * Lagged CSP * Lagged signalling capability) is positive and statistically significant ($p < 0.05$). This evidence suggests that through their ethical responsibilities to society and legal responsibilities to stakeholders, socially responsible companies in China increase their intangible assets to secure new financing, which reduces dependence on cash flow generated and hence leads to higher ICFS. Meanwhile, the companies in China increase CSR investments for window dressing and signalling slack resources, which increases agency costs and cost of financing and hence increases ICFS. These findings confirm the asset intangibility channel and signalling effect channel supported by the posturing hypothesis (Waddock and Graves, 1997; Larkin et al., 2018; Moshirian et al., 2017). Furthermore, the impact of the asset intangibility channel appears to be equally important economically as the effect of the signalling effect channel. In sum, this evidence on the effect of CSP suggests that being socially responsible (i.e., investing

in CSR concerns) is associated with intangible asset benefits and signalling effects, and hence higher ICFS.

4.4.3.2 The Role of Cash Flow Volatility

To test the role of CFV on the CSR–ICFS association, this study evaluates the proposed equation model (4.2) for mediation and moderation effect analysis. Following the procedure used by Baron and Kenny (1986) and Samet and Jarboui (2017), mediation is established if: (1) the independent variable (CSP) is significantly related to both the response (ICFS) and the mediating variable (CFV); (2) the mediator (CFV) is significantly related to the response variable (ICFS), and (3) the influence of the independent variable (CSP) on the response variable (ICFS) is attenuated when the mediating variable (CFV) is included in the regression equation.

The path results following Baron and Kenny's (1986) method are shown in Table 4.13. To satisfy the first condition, this study examines the relationship of (1) CSP, the interaction term of cash flows to total assets and CSP, and ICFS, (2) CSP and current CFV, and (3) CSP and expected CFV. To satisfy the second condition, this study regresses ICFS on current and expected CFV. It then examines whether the third condition is set up by adding the interaction term of CSP and CFV to the regression of ICFS.

Table 4.13. Results: Mediation/moderation effects of CFV

Explanatory variable	Condition 1 (CSP -> ICFS; CSP -> CFV)			Condition 2 (CFV -> ICFS)		Condition 3 (CSP & CFV -> ICFS)	
	Response variable						
	(1) Dependent variable: Investment (Response variable: ICFS)	(2) Current CFV	(3) Expected CFV	(4) Dependent variable: Investment (Response variable: ICFS)	(5) Dependent variable: Investment (Response variable: ICFS)	(6) Dependent variable: Investment (Response variable: ICFS)	(7) Dependent variable: Investment (Response variable: ICFS)
CSP	0.006*** (0.050)	-0.114*** (0.012)	-0.083*** (0.016)			0.475*** (0.051)	0.051 (0.064)
Cash flows to total assets (CFA)	0.135*** (0.046)			0.115*** (0.009)	0.088*** (0.013)	0.141*** (0.047)	0.162*** (0.065)
CFA x CSP	0.033*** (0.002)					0.080*** (0.003)	0.019*** (0.004)
Current CFV				-0.166*** (0.013)			
Expected CFV					0.068*** (0.014)		
CFA x CSP x Current CFV						-0.134*** (0.007)	
CFA x CSP x Expected CFV							0.046*** (0.009)
Tobin's Q	0.031*** (0.021)	0.211*** (0.015)	0.492*** (0.030)	0.086*** (0.020)	-0.077** (0.037)	0.057*** (0.021)	-0.056 (0.040)
Company size	-0.053*** (0.008)	0.064*** (0.006)	0.891*** (0.012)	-0.028*** (0.008)	-0.107*** (0.018)	-0.057*** (0.009)	-0.108*** (0.018)
Company age	-0.280*** (0.027)	0.117*** (0.019)	-0.095*** (0.032)	-0.336*** (0.026)	-0.477*** (0.038)	-0.337*** (0.027)	-0.470*** (0.040)
Leverage	0.048*** (0.006)	0.031*** (0.004)	0.027*** (0.008)	0.059*** (0.006)	0.037*** (0.010)	0.065*** (0.006)	0.044*** (0.010)
Dividend pay-out	0.077***	-0.336***	-0.161***	0.082***	0.194***	0.070***	0.141***

Explanatory variable	Condition 1 (CSP -> ICFS; CSP -> CFV)			Condition 2 (CFV -> ICFS)		Condition 3 (CSP & CFV -> ICFS)	
	Response variable						
	(1) Dependent variable: Investment (Response variable: ICFS)	(2) Current CFV	(3) Expected CFV	(4) Dependent variable: Investment (Response variable: ICFS)	(5) Dependent variable: Investment (Response variable: ICFS)	(6) Dependent variable: Investment (Response variable: ICFS)	(7) Dependent variable: Investment (Response variable: ICFS)
	(0.028)	(0.0190)	(0.027)	(0.026)	(0.032)	(0.028)	(0.036)
Family ownership	0.179***	-0.118***	0.029	0.138***	0.130***	0.131***	0.130***
	(0.023)	(0.015)	(0.032)	(0.023)	(0.036)	(0.023)	(0.038)
State ownership	-0.143**	-0.227***	0.027	-0.158***	-0.207***	-0.157***	-0.201***
	(0.051)	(0.036)	(0.058)	(0.048)	(0.057)	(0.051)	(0.064)
Asset growth rate	0.029***	0.078***	0.085***	0.028***	0.009	0.030***	0.019
	(0.007)	(0.005)	(0.008)	(0.007)	(0.011)	(0.007)	(0.011)
Liquidity	-0.036	0.043**	0.008	-0.020	-0.013	-0.023	-0.012
	(0.023)	(0.015)	(0.010)	(0.020)	(0.035)	(0.023)	(0.038)
Life cycle stage	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-2.652***	87.370***	-2.358	-31.580***	36.238**	-37.040***	103.045***
	(0.212)	(0.150)	(1.079)	(0.212)	(0.815)	(0.217)	(1.150)
N	15,985	20,438	9,041	17,254	7,813	15,985	6,786
R^2	0.073	0.115	0.528	0.088	0.117	0.085	0.121

Note: Following the procedure used by Baron and Kenny (1986), Columns (1) ~ (3) are estimation results to check Condition 1 of the mediation test, i.e., the independent variable (CSP) is significantly related to both the response (ICFS) and the mediating variable (CFV). Columns (4) and (5) are estimation results to check Condition 2, i.e., the mediator (CFV) is significantly related to the response variable (ICFS). Columns (6) and (7) are estimation results to check Condition 3, in which the influence of the independent variable (CSP) on the response variable (ICFS) is attenuated or strengthened when the variable (CFV) is included in the regression equation.

*Investment to total assets is a company's capital expenditure scaled by total assets. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. CSP is a company's overall CSP. Current CFV is measured as the standard deviation of operating cash flow scaled by the absolute value of the mean over the past five years. Expected CFV is measured as the forward-looking volatility of earnings before interest, tax, depreciation and amortisation based on future five years of data. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity, and decline/shake-out stages, based on Dickinson's (2011) classification method of CLC stages. Industry and year dummies are included. Along with the coefficient, the standard error is reported in parentheses. The superscript of ** and *** indicates statistical significance to 5% and 1%.*

Table 4.13 shows the results to test the mediation and moderation hypothesis of CFV (H2a and H2b). Column 1 suggests that the estimated coefficient of (cash flows to total assets (CFA) x CSP) is positively significant ($\beta = 0.033$, $p < 0.01$), indicating that CSP is significantly related to ICFS. Columns 2 and 3 show that the estimated coefficients of CSP are negatively significant to current and expected CFV ($\beta = -0.114$ and -0.083, $p < 0.05$), indicating that CSP is significantly related to CFV. Hence, Condition 1 of the mediation test is satisfied, as the independent variable (CSP) is significantly related to both the response (ICFS) and the variable (CFV).

Column 4 suggests that the estimated coefficient of current CFV is negatively significant ($\beta = -0.166$, $p < 0.05$), indicating that current CFV is significantly related to ICFS. In contrast, Column 5 shows that the estimated coefficient of expected CFV is positively significant ($\beta = 0.068$, $p < 0.05$), indicating that expected CFV is significantly related to ICFS. Hence, Condition 2 of the mediation test is satisfied, as the mediator (CFV) is significantly related to the response variable (ICFS).

After including the predictor variable (CFV), Column 6 suggests that the coefficient of (CFA x CSP x Current CFV) is negatively significant ($\beta = -0.134$, $p < 0.05$), indicating that current CFV partially moderates the original significant effect of CSP on ICFS. The positive association between CSR and ICFS is weaker for companies with a more volatile current CFV, supporting Hypothesis H2a.

Column 7 suggests that the coefficient of (CFA x CSP x Expected CFV) is positively significant ($\beta = 0.046$, $p < 0.05$), indicating that expected CFV partially mediates the original significant effect of CSP on ICFS. The positive association between CSR and ICFS is stronger for companies with a more volatile expected CFV, supporting Hypothesis H2b.

4.4.3.3 Endogeneity and Robustness

Similar to other CSR studies, one concern with the findings above is the endogeneity of CSP due to a possible reverse causality between CSP and ICFS (Attig et al., 2014; Zhao and Xiao, 2019). That is, companies with a high ICFS may be more inclined to engage in CSR activities and perform well in socially responsible behaviour. To address this concern, this study follows the recent literature (Blundell and Bond, 1998; Brown and Petersen, 2009; Peruzzi, 2017; Attig et al., 2014) and uses the GMM

estimation technique. This study employs an instrument for CSP: the industry-year average CSP, which is a dummy variable with a value of 1 if CSP is greater than the median of the industry-year CSP, and 0 otherwise (following El Ghoul et al. (2011) and Attig et al. (2014)). The study then interacts cash flow in assets and the predicted CSP value in the regression reported in Column 3 of Table 4.14. Column 1 is the regression result for Model Equation (4.1) without CSP. The regression result of OLS with the inclusion of CSP is reported in Column 2. The regression result of using the GMM estimation technique with the inclusion of the CSP instrument, the industry-year average CSP, is reported in Column 3.

Table 4.14. Results: Endogeneity and robustness

Variable	Pre-sign	(1) OLS_no_CSP	(2) OLS_with_CSP	(3) GMM_with_ CSP_instrument	(4) OLS_exclude Q	(5) GMM_exclude Q
Cash flows to total assets (CFA)	+	0.126***	0.123***	0.120***	0.124***	0.121***
		(0.010)	(0.011)	(0.011)	(0.011)	(0.011)
CSP	+		0.198***	0.157***	0.114***	0.035***
			(0.056)	(0.044)	(0.020)	(0.020)
CFA x CSP	+		0.023***	0.031***	0.026***	0.039***
			(0.003)	(0.004)	(0.003)	(0.006)
Tobin's Q	+	0.069***	0.057**	0.054**		
		(0.018)	(0.018)	(0.019)		
Company size	-	-0.040***	-0.040***	-0.032***	-0.046***	-0.038***
		(0.009)	(0.009)	(0.009)	(0.008)	(0.008)
Company age	-	-0.356***	-0.328***	-0.329***	-0.330***	-0.331***
		(0.028)	(0.029)	(0.029)	(0.029)	(0.029)
Leverage	+	0.061***	0.078***	0.076***	0.076***	0.073***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Dividend pay-out	+	0.130***	0.075***	0.093***	0.075***	0.093***
		(0.021)	(0.022)	(0.022)	(0.022)	(0.022)
Family ownership	+	0.154***	0.153***	0.157***	0.154***	0.158***
		(0.024)	(0.025)	(0.025)	(0.025)	(0.025)
State ownership	-	-0.127*	-0.153**	-0.152**	-0.149**	-0.147**
		(0.049)	(0.047)	(0.047)	(0.047)	(0.047)
Asset growth rate	+	0.029***	0.046***	0.0499***	0.049***	0.053***
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Liquidity	-	-0.034	-0.003	-0.003	-0.004	-0.004
		(0.039)	(0.044)	(0.044)	(0.045)	(0.045)
Life cycle stage		0.387***	0.477***	0.470***	0.478***	0.471***

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Variable	Pre-sign	(1) OLS_no_CSP	(2) OLS_with_CSP	(3) GMM_with_ CSP_instrument	(4) OLS_exclude Q	(5) GMM_exclude Q
		(0.023)	(0.032)	(0.032)	(0.032)	(0.032)
Industry		-0.009***	-0.008***	-0.008***	-0.008***	-0.008***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Year		0.019***	-0.013***	-0.015***	-0.013***	-0.016***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Constant		7.391	24.11***	28.75***	24.67***	29.48***
		(5.919)	(7.098)	(7.124)	(7.099)	(7.117)
N		17,254	13,803	13,803	13803	13803
R^2		0.073	0.096	0.095	0.095	0.094

$(Investment\ to\ total\ assets)_{i,t}$ = constant + $(CSP)_{i,t}$ + (cash flow to total assets)$_{i,t}$ + (cash flow to total assets * CSP)$_{i,t}$ + (Tobin's Q)$_{i,t}$ + (company size)$_{i,t}$ + (company age)$_{i,t}$ + (leverage)$_{i,t}$ + (dividend pay-out)$_{i,t}$ + (family ownership)$_{i,t}$ + (state ownership)$_{i,t}$ + (asset growth rate)$_{i,t}$ + (liquidity)$_{i,t}$ + life cycle stage dummies$_{i,t}$ + industry dummies$_{i,t}$ + year dummies$_{i,t}$ + residuals$_{i,t}$

Note: *The table presents the above equation results using estimation model adjusted by HAC robust standard error and GMM model. Column (1) shows the estimation results when CSP is not involved in the model. Column (2) presents the estimation results when CSP is included in the regression model. Column (3) shows the GMM estimation results when employing an instrument for CSP, i.e.., the industry-year average CSP, a dummy variable with a value of 1 if CSP is greater than the median of the industry-year CSP, and 0 otherwise. Columns (4) and (5) are the estimation results when Tobin's Q is excluded.*

The dependent variable (Investment to total assets) is a company's capital expenditure scaled by total assets. CSP is a company's overall CSP. Cash flow to total assets is a company's net income plus depreciation and amortisation scaled by total assets. Tobin's Q is calculated as market capitalisation plus total assets minus book equity, all over total assets. Company size is measured as the natural logarithm of total assets. Company age is measured as the natural logarithm of the number of years since incorporation. Leverage is measured as the natural logarithm of the total debt ratio, equal to the sum of long-term debt and short-term debt divided by total assets. Dividend pay-out is a dummy variable of dividend pay-out that equals 1 when a company paid cash dividends in the current year and 0 otherwise. Family ownership is a dummy variable which equals 1 for a family-owned company in which the largest non-government outside owner of the company holds more than 20% of the shares, and 0 otherwise. State ownership is a dummy variable of state-ownership status that equals 1 for a state company and 0 for a non-state company. The asset growth rate is measured as the natural logarithm of the increase rate of total assets. Liquidity is measured by the accounts payable turnover ratio of a company, calculated as net credit purchases over average accounts payable. The life cycle stage is a categorical variable over the company's development stages, i.e., the introduction, growth, maturity and, decline/shake-out stages, based on Dickinson's (2011) classification method of CLC stages. Industry and year dummies are included. Along with the coefficient, the standard error is reported in parentheses. *, **, and *** superscripts indicate statistical significance to 10%, 5%, and 1%, respectively.

As shown in Columns 2 and 3 of Table 4.14, CSP is positively and significantly related to the investment and cash flows ($p < 0.05$). This finding is consistent with the expectation that companies with better CSP are more likely to have a positive and significant relationship with ICFS (H1). The results remain unchanged when the study adopts the GMM estimation procedure.

Finally, the study excludes Tobin's Q to check whether the results are robust in the empirical model (Dickinson, 2011; Ascioglu et al., 2008). The results of OLS and GMM estimations are shown in Columns 4 and 5 of Table 4.14. The coefficients of CSP and the interaction terms of CSP and cash flow in the OLS and GMM models after exclusion of Tobin Q (see Columns 4 and 5) are similar to the model coefficients with the inclusion of Tobin Q ($\beta > 0$, $p < 0.05$). The study results remain unchanged after the exclusion of Tobin Q, supporting the positive and significant relationship between CSP and ICFS. Hence, the results of the study are robust.

4.5. Discussion and Conclusion

How does CSP affect company investment policy? This is the main research question of this study. There are two research aims of this study. The first was to examine the association between CSP and ICFS, drawing on the theoretical framework of RBV (Barney, 1991) and stakeholder theory (McGahan, 2021; Dmytriyev et al., 2021; Freeman et al., 2021). ICFS is the response of company investment expenditures to internal cash flows, which is a key indicator for companies in making investing policies (Carpenter and Petersen, 2002; Attig et al., 2014). Many studies focus on the impacts of CSP on company performance (Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Habib and Huang, 2019; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014; López-Gracia and Sogorb-Mira, 2014; Erhemjamts et al., 2013), but little is known about the extent to which CSR benefits company performance through capital market effects. Most prior studies about ICFS were undertaken in the developed country context (Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014), and little is known about the association between CSR and ICFS in the context of developing countries (Larkin et al., 2018; Cull et al., 2015). This study fills in this gap and provides empirical evidence from an under-researched developing country context.

Analysing data collected from 4,082 companies listed on the Shanghai and Shenzhen stock exchanges in China over the period 2010 to 2020, this study finds that companies with better CSP are more likely to have a positive and significant relationship with ICFS. These results support the asset intangibility view, which is based on RBV and stakeholder theories, that suggests that companies can increase investments and reduce internal cash flow reliance by increasing intangible asset investments through CSR to secure external finance, thereby leading to an increase in ICFS (Hovakimian, 2009; López-Garcia and Sogorb-Mira, 2014; Moshirian et al., 2017; Larkin et al., 2018). These results also support the posturing hypothesis, which suggests that, due to globalisation, CSR in China can incur agency costs to undermine the competitiveness position of companies, on the basis that companies invest in CSR for window dressing and signalling their socially responsible images for outside stakeholders (Barnea and Rubin, 2010; Utz, 2017; Moshirian et al., 2017). Therefore, this perspective of signalling channel suggests that overinvestment in CSR in developing economies may increase agency costs and cost of financing, leading to an increase in ICFS. These two proposed mechanisms may explain why CSP leads to an increase in ICFS.

Prior studies posit that CSR reduces agency costs and information asymmetry between companies and market parties, leading companies to better access to finance and decreasing ICFS (Attig et al., 2014). Therefore, they imply a negative relationship between CSR and financial constraints (Attig et al., 2014; Samet and Jarboui, 2017; Zhao and Xiao, 2019). However, using ICFS to measure financial constraints is questionable, as pointed out by the literature (Gautam and Vaidya, 2018). Instead, ICFS is a reasonable reflection of capital (investment) intensity and income predictability, based on the asset tangibility perspective (Moshirian et al., 2017). Therefore, prior studies may provide an inaccurate implication on the CSR–ICFS association. In addition, most studies use a sample of companies from developed economies, ignoring that developing economies have different ICFS patterns and institutional reasons for companies to perform CSR (Samet and Jarboui, 2017; Attig et al., 2014; Zhao and Xiao, 2019). Therefore, the information asymmetry channel may not be applicable for companies in developing economies (Moshirian et al., 2017). This study obtains a positive and significant CSR–ICFS relationship based on sample companies from developing economies, opposite to conclusions from studies based on evidence of developed economies. This study provides empirical evidence from

developing economies to support the asset intangibility and signalling channels between CSR and ICFS (Moshirian et al., 2017; López-Gracia and Sogorb-Mira, 2014). It also provides new insights on whether and how CSP relates with ICFS by arguing that, with better CSP, companies from developing economies may increase the sensitivity between investment and cash flows.

The study's second aim was to examine the role of CFV in the association between CSP and ICFS based on the signalling effect and asset intangibility perspectives. CFV is considered essential for companies to manage their resources, determine stock return and risk performance, and make investment decisions on CSR engagements (Sun and Ding, 2020). As a result, CSR engagements and performance may increase the sensitivity of stakeholders' responses to the investment and cash flow funds under the effects of CFV. Without serious consideration of the role of CFV, companies may not be able to capture the cash flow stability, risk and uncertainty side associated with CSR. Despite its importance, little is known about the role of CFV on CSP and ICFS in the empirical context, to our best knowledge.

The key premise of this study is that CSP directly affects a company's investment policy and affects a company's investment policy via its complementary effect on cash flow stability. The study finds that, from a backwards-looking perspective of CFV, current CFV partially moderates the relationship between CSR and ICFS, meaning that the positive association between CSR and ICFS is weaker for companies with a more volatile current CFV. From a forward-looking perspective of CFV, the study results show that expected CFV partially mediates the relationship between CSR and ICFS. The positive association between CSR and ICFS is stronger for companies with a more volatile expected CFV. These findings are in line with our prediction, although they are partial effects of CFV. The mediating role of expected CFV and the moderating role of current CFV imply that CFV plays an important role in enhancing the capital market effect of CSR. The findings of this study lend support to the asset tangibility view (Moshirian et al., 2017) and the signalling effect channel (Mulier et al., 2014) and are consistent with prior studies (Sun and Ding, 2020; Mulier et al., 2014; Moshirian et al., 2017). For example, in their study of companies from six European countries, Mulier et al. (2014) find that lower current CFV is associated with the change in the demand for and cost of external finance and a higher IFCS. In a study

of 41 countries over the period of 1993 – 2013, Moshirian et al. (2017) find that companies from developing economies with more persistent expected cash flows have more stable ICFS.

The moderating role of current CFV and mediating role of expected CFV on the association between CSR and ICFS highlighted the need for regular management attention to past and predicted future cash flow uncertainties to plan and allocate resources between financial and nonfinancial activity engagements at an early stage, so as to complement CSR endeavours to influence stakeholders' response to company investment expenditures to internal cash flows (Moshirian et al., 2017; Sun and Ding, 2020; Habib and Hasan, 2019). Moreover, companies need to emphasise the role of CFV for ongoing communication and information disclosure within the companies and between the companies and the outside stakeholders. They will use the cash flow information in response to threats and opportunities related to CSR (Dmytriyev et al., 2021; Sun and Ding, 2020).

This study contributes to the CSR and cash flow literature by providing empirical evidence from a developing country. The findings of this study confirm the mediating role of CSR in the relationship between investment spending and internally generated funds, as well as the mediating role of expected CFV and the moderating role of current CFV in the mediating effect of CSR, while most prior studies have found a positive relationship between CSR and ICFS in the context of developed countries and paid no attention to the role of CFV (see Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014). The findings of the study contribute to the debate on whether CSR investments are value-increasing by showing that CSP positively influences the ability of companies to undertake strategic investments and the sensitivity of responses to these investments, which is consistent with the asset intangibility and posturing hypothesis (Moshirian et al., 2017; Minton and Schrand, 1999). The study findings also support the idea that resource/asset intangibility may be an effective mechanism to explain the positive CSR–ICFS association in developing economies, which is consistent with RBV theory and stakeholder theory from a dimension of resource deployment (Larkin et al., 2018; Moshirian et al., 2017). While there is no empirical evidence in the context of developing countries, to our best knowledge, on the association between CSP and

investing policy and how CFV may influence such a relationship, this study provides new evidence and practical understanding of these perspectives by investigating an under-researched developing country, China.

Considering the increased ICFS resulting from the improved CSR investments and CSP, this study provides insights into the importance of integrating CSR into company resource allocation strategy and investing policy to achieve more benefits related to intangible assets brought by CSR and reduce dependence on internal cash flows (Waddock and Graves, 1997). Unlike most prior studies, which mainly focus on the link between CSR and financial performance (Porter and Kramer, 2006), this study maintains that managers should not focus excessively on profits. Instead, managers should increase their focus on investments in nonfinancial engagements and performance, such as environmental impacts and employee benefits (Galbreath and Shum, 2012) because the performance of these aspects is seen as the main area that may affect responses from outside stakeholders on company investment expenditures to internal cash flows from the capital market (Carpenter and Petersen, 2002; Attig et al., 2014). Further, these company behaviours may lead to sensitive responses from other important stakeholders, such as investors, employees, customers, and the community, which could bring future investments, such as capital and labour, into the company as valuable company resources to benefit the company's financial performance (Schaltegger and Burritt, 2010). Therefore, companies need to carefully evaluate their investments and performance in nonfinancial engagements when allocating resources and making investing policies.

While prior research has examined the relationship between CSR and CFV (see Sun and Ding, 2020), little is known about the role of CFV in CSR's capital market effects in an empirical context. Although a few researchers have studied the role of CFV in the extent of financial constraints (Moshirian et al., 2017; Mulier et al., 2014), these studies do not provide a holistic view of how CFV affects the mediation effect of CSP on ICFS. This study contributes to the literature by examining the role of CFV from the backward- and forward-view of CFV (Sun and Ding, 2020) in the association between CSP and ICFS in an empirical context.

The moderating role of current CFV and mediating role of expected CFV emphasise the need for regular management attention to the cash flow stability and uncertainty

sides of the company in the competitive market environment (Sun and Ding, 2020) to make effective resource allocation decisions and strategies, to plan CSR investments and monitor CSP, and to understand the view and response of diverse stakeholders in their decision making (Arjaliès and Mundy, 2013). Although CSP increases the sensitivity of responses to investments and cash flows, the study suggests that ongoing adjustments of resource allocations and consideration of the effects of CFV are important means for developing an appropriate CSR strategy and obtaining a positive response relating to CSR investment in the capital market. At this time, companies should not spend company resources too thinly on excessive CSR investment.

This study is not free from limitations. First, the model may be subject to omitted variable bias. Although the instrumental variable method and GMM estimation technique were applied to address omitted variables and reverse causality, the issue of endogeneity cannot be ruled out. While this study has tested the hypotheses from the asset intangibility and signalling effect views that suggest better CSP can lead to sensitive investment-cash flow responses from the imperfect market (Moshirian et al., 2017), the results suggest the positive link between CSR and ICFS should be interpreted as an association, but not as causation. Future studies can employ alternative research methods, such as experimental studies or longitudinal case studies, to control causality.

Second, the secondary data were collected using databases, which only reflect quantifiable indicators and variables such as investments and cash flows. As ICFS is defined as the response of company investment expenditures to internal cash flows (Carpenter and Petersen, 2002; Attig et al., 2014), such a response from outside stakeholders can include indicators that may be not quantifiable, such as stakeholders' satisfaction towards company investments. Future studies can use Likert scale qualitative measures to gain an accurate and holistic picture of stakeholders' response to company investment expenditures to internal cash flows. Moreover, this study uses a sample of listed companies, which leaves room for future research on how the CSP of unlisted or small-and-medium companies affects ICFS. Studies on unlisted companies are important to increase the generalisability of our results to a broader context (Sprenger and Lazareva, 2021; Mulier et al., 2016).

Third, although most independent variables were significant, it was unfortunate to find most R-square values of the model equations were relatively low (around or below 0.10). It is possible to add polynomial terms to model any potential nonlinear relationship between independent and target variables in the future. Future research may consider including potential non-linearities in the model equations.

The findings of this study are based on data collected from 4,082 companies operating in a single developing country, which may limit the generalisability of these results to a broader context. Future research could extend internationally by using a global sample and make cross-country and cross-culture comparisons in the relationship between CSR and investment behaviour (Samet and Jarboui, 2017). Additionally, since CSR and investment could be industry-specific, future research may focus on a specific industry or compare industries. Further, this study surprisingly found that most Chinese companies are stepping into the decline/shake-out stage, which is a different cycle stage pattern compared to that of the U.S. sample companies investigated by Dickinson (2012). Due to the research aims and focus of this study on the impact of CSR on the investment, this study lacks the opportunity to explain such pattern difference. It is difficult to justify which one is right, so future research could explore more about such life cycle stage differences. Despite these limitations, this study provides an important insight into the role of CFV when examining how CSP is positively related to ICFS.

Chapter 5: Conclusion

CSR has become an integral component of a company's management practices in recent times. There is increasing concern about the design and implementation of CSR activities (Dahlmann and Roehrich, 2019). The United Nations and the World Bank also vigorously promote CSR by, for example, proposing 17 Sustainable Development Goals. This shows the importance and necessity of CSR, which is also becoming an area of increasing research interest for scholars (Carroll and Shabana, 2010).

There remains, however, a series of unsolved questions in the literature on the question: how, for instance, to adopt CSR with a strategic concern, whether CSR generates financial benefits or is an additional company cost for companies over dynamic CLC stages, whether CSR is associated with a sensitive investment – cash flow relationship in the capital market and how CFV plays a role in the association (Margolis and Walsh, 2003; Habib and Hasan, 2019; Attig et al., 2014; Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017). Apart from the theoretical debate and development, empirical results of prior studies of SCSR adoption, the CSR-performance relationship, and the CSR-ICFS relationship are also mixed and inconclusive (see Margolis and Walsh, 2003; Habib and Hasan, 2019; Attig et al., 2014; Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017). First, the literature contains no research on factors concerning the company's dynamic capability in adopting SCSR, which is the first research gap to be solved in this study. Second, the CSR–CFP literature concludes with mixed results; researchers obtain a positive, negative, non-significant or no relationship between CSR and company performance (Margolis and Walsh, 2003), which becomes the second research gap to be examined in this study. Third, there is no empirical evidence from developing economies on the CSR–ICFS relationship in the literature (Attig et al., 2014), which remains a research gap to be explored in this study.

In order to address these research gaps in the existing literature, the present study investigated the impact of dynamic capabilities on SCSR adoption and the role of CFV in the association between CSP and CFP and capital market effects (i.e., ICFS) in the context of a fast-growing, less researched, developing country, China. More specifically, using the quantitative panel data method, the study first investigated how factors such as dynamic capability affect the adoption of CSR at the strategic level

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within companies operating in China. Then, using the quantitative data collected from the listed companies operating in the pharmaceutical sector in China, the study examined the association between CSP and CFP from a CLC perspective and the shifts in stakeholder focus across the CLC stages. Finally, the study examined the most controversial research topic in the CSR literature: the association between CSP and investment policies (ICFS, in particular, which reflects the responses from the capital market on the company's CSR investment) (Carpenter and Petersen, 2002; Attig et al., 2014), and the role of CFV (backwards- and forward-looking CFV, in particular) on the association between CSP and ICFS based on the data collected from a developing country, China.

The remainder of the chapter is structured as follows. First, Section 5.1 summarises the key findings of three empirical papers. Next, Section 5.2 highlights the contribution of this study to the extant literature and its implications for practitioners and policymakers. Finally, the study's limitations are discussed, and the directions for future research are outlined in Section 5.3.

5.1. Summary of Key Findings

The findings of this study provide important insights into the factors of CSR adoption with a strategic concern, financial and cash flow investment implications of CSP, and the impact of dynamic capabilities and CFV. First, the findings reveal that dynamic capability is an important factor influencing SCSR adoption within a company. SCSR is used as a proactive strategy and effective tool by the company to simultaneously achieve CSR and company objectives, improve company reputation and image, and satisfy and respond to the needs of its stakeholder groups, such as investors, employees, and customers. It follows that the company's ability to obtain the perceived benefits of CSR at the strategic level is one of the key factors facilitating the adoption of SCSR within the company. However, no evidence of a company's dynamic capability affects the adoption of SCSR within the company, although the dynamic capability is described as a significant factor in adopting environmental management tools (Essid and Berland, 2018). This may be due to the difficulty of quantifying dynamic capability and company heterogeneity (Lee et al., 2018), but this could be solved by developing a measurable index as described in this study. The inherent limitations of

a high level of dynamic capability, which require a high level of consistency between all activities and company design under resource and choice constraints, may represent one possible reason for a lower adoption of SCSR, as SCSR requires a high level of consistency between CSR activities and business objectives (Collis and Anand, 2021). This supports the findings that a higher level of dynamic capability than the average industrial level negatively affects SCSR adoption. Overall, these findings provide important insights into the factors that influence the adoption of SCSR.

Second, this study examined the empirical association between CSP and CFP from a dynamic CLC perspective and the focus shifts in terms of stakeholders across the CLC stages (introduction, growth, maturity, and decline/shake-out stages, in particular) using the quantitative data collected from the Chinese pharmaceutical industry. The results of the study suggest that there is a positive and significant association between CSP and CFP along CLC stages, with the highest coefficient value at the maturity stage, supporting the previously theoretically established link between CSR and CFP (McWilliams and Siegel, 2001) and the role of CLC on CSR and company performance (Hasan and Habib, 2017). The findings are consistent with those of the limited empirical studies (e.g., Wang and Wu, 2013). The study results demonstrate that CLC is significantly related to the stakeholder dimensions of CSP, in that investors, employees, suppliers, and the government are the most significant stakeholders while advocating CSR can only improve CFP for employees at the decline/shake-out stage and reduce CFP at the remaining CLC stages. The findings also show that the dimensions of customer and community groups are significantly correlated with CFP at the growth and maturity stages. Moreover, the customers dimension improves CFP at most CLC stages except at the decline stage, while the communities dimension decreases CFP. In summary, these findings provide an important insight into the role of CLC in affecting the association between CSP and CFP.

Third, the study examined the association between CSP and ICFS, and the role of CFV, from the backward and forward views using the quantitative data collected from China. The finding of this study reveals that companies with good CSP are more likely to have a positive and significant relationship with ICFS, which runs counter to the findings of prior studies using company data from developed countries (Attig et al.,

2014). This could be because of the difference in ICFS pattern and nature of asset tangibility and intangibility between developed and developing economies; the ICFS pattern has declined sharply in developed economies, but ICFS is more stable in developing economies (Moshirian et al., 2017). Developed economies have decreasing tangible capital, investment and cash flow persistence, but developing economies have more tangible capital, higher investment rates and more persistent cash flows (Moshirian et al., 2017). The study analysis reveals that CFV partially mediates or moderates the association between CSP and ICFS, while the positive association between CSR and ICFS is weaker for companies with a more volatile current CFV and stronger for companies with a more volatile expected CFV. The significant partial effect of CFV indicates that CFV is a vital measure affecting the capital market effects of CSR investments and performance. The findings align with prior studies that stress the need to regularly monitor the company's cash flow stability and uncertainty sides in the competitive market environment (Sun and Ding, 2020). In conclusion, these findings uncover the critical role of CFV on the CSR–ICFS relationship.

5.2. Contributions and Implications

The present study makes a significant and original contribution to the extant literature on CSR, accounting and finance in several ways. Distinct contributions of each chapter are presented as follows.

5.2.1 Contributions of Chapter Two

Chapter Two contributes to CSR adoption at the strategic level by identifying several factors, such as the dynamic capabilities, stakeholder pressures, and cultural characteristics, that influence the adoption of SCSR. These findings offer a deep understanding of the factors that influence the propensity for SCSR adoption. The study contributes to the literature on strategy and CSR by providing empirical evidence and addressing the call for more research on CSR in China, which is relatively less explored (Collis and Anand, 2021), to achieve the successful integration of CSR into a company's business strategy. The study extends the research on the DCT, stakeholder and neo-institutional theories by focusing on the impact of dynamic capabilities, stakeholder pressures, and cultural characteristics relating to the adoption of SCSR within companies operating in a developing country, China.

Specifically, Chapter Two mainly studies the impact of the dynamic capability of a company on its propensity for SCSR adoption using a panel dataset. Considering the literature suggesting that dynamic capability contributes to creating sustainable competitive advantage (Teece, 2019), this chapter extends the literature by accounting for whether and how the dynamic capability contributes to the sustainable development of a company using a composite measure of dynamic capability and an updated SCSR indicator. The findings of this chapter provide empirical evidence regarding the poor SCSR adoption performance of companies with a higher dynamic capability, which breaks the DCT, on the one hand, and points to the difficulty managers face in assessing the actual effects of the dynamic capability level on management. On the other hand, the chapter findings provide further empirical evidence to support the propositions of Collins and Anand (2021) regarding the inherent limitations of dynamic capabilities – it is hard for a company with a high level of dynamic capability to align all activities with the company design and structure. Further, this chapter findings extend the propositions of Collins and Anand (2021) to CSR and strategic management by suggesting that such inherent limitations of dynamic capabilities hinder the propensity of SCSR adoption and prevent the sustainable development of companies. Although the high level of dynamic capabilities can hardly lead to positive SCSR adoption results and performance, this research still empirically contributes to prove the significant role of dynamic capabilities in SCSR adoption in China.

Additionally, Chapter Two examines the effect of stakeholder pressures and cultural characteristics on SCSR adoption. Prior literature suggests that these internal and external factors are important to consider in adopting specific CSR policies, such as environmental-related management policies (Lin and Ho, 2011). We provide further evidence regarding the pressure impact of each stakeholder group on the propensity of SCSR adoption, while little research differentiated the effects between stakeholder dimensions. The estimation results support the stakeholder theory and point to the importance of stakeholder needs and pressures for managers in allocating company resources.

The cultural characteristics between managers and their companies based on provincial regions capture the impact difference of cultural aspects on CSR. Hardly

prior studies have noticed the difference. Based on the neo-institutional theory, culture can be an informal institutional pressure on company behaviours (Scott, 2014; Beddewela and Fairbrass, 2014). For example, companies in the western provinces, such as the Sichuan province of China, tend to be socially responsible for society and adopt SCSR quickly. This is because local culture motivates these companies to act towards CSR. In contrast, companies in other provinces lack such cultural motivation and institutional pressures, making them less likely to adopt SCSR. While the culture at the national level is commonly considered in the management literature (Lee et al., 2018; Lin and Ho, 2011), this chapter goes beyond and adds to the CSR literature by accounting for the regional culture effect of a single country.

Chapter Two also makes a theoretical contribution by applying the stakeholder, DCT, and neo-institutional theories to CSR literature, while prior studies often rely on a single theory to examine CSR determinants (Lin and Ho, 2011). The use of DCT in this chapter capture the dynamic aspects of CSR theory. The use of stakeholder theory considers the interaction between stakeholders and companies. The use of neo-institutional theory captures the regional cultural effect on CSR. Therefore, applying these theories provides a comparatively comprehensive explanation for the propensity of SCSR adoption over time from the new perspectives of dynamic capabilities and regional culture.

5.2.2 Contributions of Chapter Three

Examining the direct association between CSP and CFP from a dynamic CLC perspective, Chapter Three adds to the literature on CSR and CFP (McWilliams and Siegel, 2001). Further, it highlights the critical role of CLC to find out the shifts of focus in CSP dimensions in terms of stakeholders (i.e., investors, employees, suppliers, customers, government, and community, in particular). The importance of CSP on the value-increasing of CFP has been prevalent in recent times because of increased resource deployment capability and better stakeholder relationships across the CLC stages, resulting from better CSP (Freeman, 1984; Barney, 1991). This study, therefore, contributes to the extant literature by offering essential insights into the role of CLC on the association between CSP and CFP.

Specifically, Chapter Three contributes to the debate of the value-enhancement of CSR by examining the association of CSP and CFP along the CLC stages. Prior studies have not considered the variations of companies between CLC stages (McWilliams and Siegel, 2001). Their research is conducted from a static perspective. Therefore, this chapter goes beyond the literature and captures the dynamic portion of CSR and CFP by examining the association of CSR – CFP at different CLC stages. We account for the variation of financial aspects of CSR by investigating companies at different CLC stages. The company classification is based on companies' cash flow patterns to capture their profitability, growth and risk opportunities. The estimation results provide further evidence supporting an overall positive association between CSR and CFP for companies at the CLC stages, supporting the stakeholder theory and stressing CSR's importance in improving financial performance and company value.

Based on the RBV theory, companies differentiate in resources bases (Barney, 1991). Prior studies generally differentiate company resources base level between large and small-sized companies but can hardly explain the variations in the companies' long-term development paths. In other words, investors and other stakeholders concerned about companies' long-term development can be potentially misled. As a result, the resources deployment channel is introduced in this chapter as a potential mechanism by interacting resources bases and companies' cash flow patterns to add additional explanatory power towards CSR's short- and long-term financial consequences. Our comparative empirical analysis proves the explanatory power of the resources deployment level and CLC factor. The estimation results provide further evidence which supports the CLC theory and confirms the lag effect of CSR investment on financial performance. Consequently, investors, managers, and regulators are suggested to consider the CLC as an important factor with their investment, resources allocation, and regulation intentions to better target financial and non-financial activities of companies, improve the management control quality and adjust investment and management policies as appropriate.

Chapter Three focuses on one industry with high-profile CSR incidents, namely, the pharmaceutical industry. The pharmaceutical sector is a highly regulated, fast-grow industry with a high level of financial demand. CSP and CFP are industry-specific; however, there is no empirical research providing evidence in the context of the

pharmaceutical sector, to the best of our knowledge, on the relationship between CSP and CFP and how such association changes along the CLC development stages. Therefore, this chapter contributes to providing empirical evidence to support the positive relationship between CSP and CFP in this specific industry of China. Additionally, this chapter breaks down CSP based on the stakeholder dimensions of the pharmaceutical sector. This chapter provides evidence that pharmaceutical companies do not always allocate resources to focus on satisfying all stakeholders. Instead, they generally focus on CSR activities to satisfy the needs and demands of investors, employees, suppliers, and the government groups at most CLC stages. Advocating CSR can only improve CFP for employees at the decline/shake-out stage and reduce CFP at the remaining CLC stages due to the additional employment costs in the pharmaceutical sector raised after the introduction stage. Moreover, the customers dimension improves CFP at most CLC stages except at the decline stage, while the communities dimension decreases CFP. This empirical evidence proves the differences of CSP when allocating resources to CSR and financial activities to treat various stakeholder groups, which support the stakeholder theory and point to the stakeholder focus and how such a focus shifts across the CLC stages. The findings also point to the necessity of management monitoring and adjustment in resources allocation planning and evaluations.

Chapter Three further contributes to the bidirectional causality concern between CSP and CFP using the lagged independent variable method and the fixed-effect GLS models. CSP can hardly form a causality relationship with CFP because CFP is driven more by unobservable company characteristics than CSP, which aligns with Nelling and Webb (2009). Therefore, this chapter can only suggest a positive relationship between CSP and CFP.

Regarding theoretical contributions, Chapter Three associates the stakeholder theory, RBV and CSR theories by capturing the dynamic aspect of CSR on CFP. Prior studies propose to connect the stakeholder theory with CSR or RBV (Dmytriyev, Freeman and Hörisch, 2021; Freeman, Dmytriyev and Phillips, 2021) by analysing the assumptions and principles of each theory. However, when analysing the dynamic implications of CSR on financial performance, a simple application of two theories can hardly explain the variation of CSP and CFP along the CLC development paths.

Therefore, this chapter goes beyond and applies RBV, stakeholder and CLC theories in CSR literature. The empirical results and theoretical extensions are likely useful for academic researchers interested in analysing these theories.

5.2.3 Contributions of Chapter Four

Chapter Four contributes to the limited financial accounting and investment literature on CSR by providing a holistic and practical understanding of the association between CSP and ICFS and the role of CFV on the CSP–ICFS relationship (a controversial research topic) from a developing country context. The findings of the study confirm the mediating role of CSR in the relationship between investment spending and internally generated funds, as well as the mediating role of expected CFV and the moderating role of current CFV in the mediating effect of CSR, while most prior studies have found a positive relationship between CSR and ICFS in the context of developed countries and paid no attention to the role of CFV (see Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014). Further, the findings of this study suggest that monitoring the role of CFV from the backward and forward views of CFV is an important means for enhancing the capital market's effect of CSR (ICFS, in particular). In this way, this study offers important insights into the role of CFV. The study contributes to the financial accounting (cash flow literature, in particular) and investment (capital market effects, in particular) literature by addressing the call for empirical studies on the role of CFV on CSR and ICFS research (Sun and Ding, 2020; Attig et al., 2014).

Additionally, this chapter identifies asset intangibility and signalling channels as two CSP – ICFS association mechanisms, which supports the asset intangibility view and posturing hypothesis based on RBV and the stakeholder theory. Our empirical results suggest that developing economies have a positive relationship between CSP and ICFS, which is opposite to the negative conclusion generated by research in the context of developed economies (Sprenger and Lazareva, 2021; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014). Prior studies propose that better CSP can reduce information asymmetry and agency costs, resulting in lower ICFS (Samet and Jarboui, 2017; Attig et al., 2014). To the best of our knowledge, there is no research on the developing economies regarding the CSP – ICFS relationship. Our research provides theoretical and empirical evidence from developing economies by proposing

two possible channels to explain why better CSP can lead to higher ICFS in developing economies. Consequently, investors and regulators are suggested to pay attention to the differences in the capital market effects of CSP between developed and developing economies.

This chapter also provides empirical evidence to stress the role of CFV in CSR's capital market impacts. Regarding theoretical contributions, this chapter extends the CSR and investment literature by capturing the cash flow uncertainty and risk aspects of CSR from backwards- and forward-views of CFV. While prior research has studied the relationship between CFV and CSR (Sun and Ding, 2020) or financial constraints (Moshirian et al., 2017; Mulier et al., 2014), there is no holistic view of how CFV plays a role in the mediation effect of CSP on ICFS. This chapter extends and connects the CSR and ICFS theories by capturing the time dimension of cash flows. Consequently, investors, managers and regulators are suggested to look at CSP and CFV when evaluating the capital market responses in developing economies.

Finally, this study assimilates the three streams of research (i.e., CSR, CFP, and cash flows) and provides a better understanding of the relationships between these variables in the empirical context of a developing country, China. In particular, by applying quantitative research methods, the study uncovers some important insights on the factors of SCSR adoption and consequences of CSR, the role of CLC on the CSP–performance relationship, and the role of CFV on the CSP–ICFS relationship in the context of an under-researched country and context, a developing country, China.

5.2.4 Implications

The empirical findings of this study have some implications for managers and policymakers.

First, regarding Chapter Two, managers face increased pressure to balance their obligations to be socially responsible and financially competitive over time in a sustainable way, viewed as contradictory objectives (Margolis and Walsh, 2003). While the adoption of SCSR is seen as an alternative paradigm for profit maximisation, achieving sustainable competitive advantage and improving relationships with stakeholders (McWilliams and Siegel, 2001), it also costs shareholders' time and money (Friedman, 1970). Therefore, managers need to know how to simultaneously

achieve these contradictory objectives by realising their companies' ability to respond to the changing environment.

The findings of this study emphasise the need for integrating the economic dimension of CSR into a company's operating strategy, focusing on the association between the level of dynamic capability on the adoption of SCSR. Companies may not achieve CSR benefits if they fail to incorporate all three (i.e., environmental, social and economic) dimensions of CSR into their operational strategies. Rather, CSR can be a company cost or waste of company resources (Friedman, 1970). Without understanding the level of dynamic capability, the successful incorporation of CSR into strategy may be difficult. The study, therefore, provides managers with valuable insights into the important role of dynamic capabilities in integrating CSR into a company's strategy. This is because successful adoption and implementation of SCSR is highly unlikely to happen without focusing on a company's level of dynamic capability (Collis and Anand, 2021).

Regarding Chapter Three, the study's empirical findings provide managers with valuable insights into how CSP can enhance CFP for companies at each CLC stage (Porter and Kramer, 2006; Hasan and Habib, 2017). More specifically, to translate a company's CSP into improved CFP, its findings emphasise the important role of CLC. CLC is considered essential for companies to understand the attributes of CSP and its effects on CFP, allocate resources to CSR activities and set CSR strategy, and employ proactive strategies to respond to the changing CSR focus and stakeholder demands throughout the CLC stages (Freeman, 2010). In this way, CSR can have a financial performance effect through resource deployment channels and improve company reputation and stakeholder relationships (Margolis and Walsh, 2003). The findings, therefore, offer important insights into the role of CLC (introduction, growth, maturity and decline/shake-out stages, in particular) on the CSP–CFP relationship.

Regarding Chapter Four, the study's empirical findings provide managers with valuable insights into how CSP can affect investment policies (the capital market's response to a company's CSR investments, i.e., ICFS, in particular) and how cash flow uncertainty can affect this association between CSP and ICFS (Sprenger and Lazareva, 2021; Zhao and Xiao, 2019; Habib and Huang, 2019; Moshirian et al., 2017; Samet and Jarboui, 2017; Attig et al., 2014). More specifically, to examine how a company's

CSP increases ICFS, the findings of this study emphasise the important role of CFV. CFV is considered essential for companies to identify the cash flow uncertainty and risks relating to CSR, develop an appropriate CSR strategy and obtain a positive response relating to CSR investment from the capital market (Arjaliès and Mundy, 2013). In this way, CSR can exert a capital market's effect by increasing intangible assets to secure external finance and, through increasing agency and finance costs, lead to an increase in ICFS (Mohirian et al., 2017). Therefore, the findings offer important insights into the role of CFV (from the backwards- and forward-looking views, in particular) on the CSP–ICFS relationship.

The findings of this study may be of interest to policymakers in developing countries in general and China in particular.

First, regarding Chapter Two, developing countries are more likely than their developed counterparts to face the severe effects of CSR issues, such as poverty, equality and product quality in the future (Visser, 2008). In particular, China has undergone phased development in CSR. The country has a relatively late starting year about CSR development and has under-developed CSR systems, although it has a large economic market (Yin and Zhang, 2012). The Chinese government and regulatory bodies (SZSE and SHSE) have released rules to regulate listed companies to disclose certain CSR information, which may have a considerable impact on Chinese business and society, although the legal and regulatory systems surrounding CSR are not perfect and are difficult to implement (Ba, 2019; Moon and Shen, 2010; Noronha et al., 2013). Chinese companies, however, have yet to realise the social value brought to their sustainable development (Moon and Shen, 2010). Therefore, the findings of this study suggest that the Chinese government and regulatory bodies should take concrete initiatives to promote SCSR adoption. The government might, for example, use the findings of this study to match companies' dynamic capability with business needs by aligning CSR activities with company configurations. Relevant policies might be stipulated to encourage companies to adopt SCSR.

Second, regarding Chapter Three, policymakers (government, stock exchanges, and the securities commission, in particular) might use the findings of this study to introduce rules and policies that stimulate CSR activities across the CLC stages. Since rules and regulations on CSR activities are still in the early stages and accounting

methods for CSR tools and investments have not been developed fully, this study provides implications for policymakers to adjust and formulate rules and policies to regulate CSR investments by companies across the CLC stages. For example, as the customers dimension improves CFP at most CLC stages except at the decline stage, pharmaceutical companies at the decline stage have less attention on CSP towards customers. Consequently, regulators and policymakers may require more CSR information disclosure and set guidelines to improve CSR reporting in terms of customers/products and services perspectives, such as customer satisfaction rates and feedback. These regulations can reduce the information asymmetry between companies and investors or other stakeholders, incurring more potential investments in companies.

Moreover, while the customers dimension improves CFP at most CLC stages except at the decline stage, the communities dimension decreases CFP. However, it is necessary to invest and contribute to the communities, as companies are citizens of the society. Policymakers can release CSR disclosure guidelines, initiate propaganda to call for donations and set up platforms to liaise companies with local communities to prevent underinvestment in CSR activities towards the communities. These practices can help companies directly understand the needs of communities. Consequently, managers can plan resources allocations to balance the financial and non-financial needs early.

Third, regarding Chapter Four, policymakers can use the study's findings to introduce rules and policies to regulate listed companies in the capital market. China's capital market is underdeveloped; listed companies have narrow financing channels and insufficient investment funds. This study provides implications for policymakers to stipulate policies to broaden financing channels for listed companies. For example, companies often seek financing relating to CSR projects in developed countries, within which the green financing projects relating to reducing environmental pollution are the most popular. Companies in developed countries expect to reduce information asymmetry and agency costs between managers and outside stakeholders. However, this thesis study finds that such informational asymmetry and agency cost reduction channels cannot apply to the Chinese market. Instead, better CSP can play a negative signalling effect on market funds in China. Therefore, Chinese companies expect to

reduce too much expenditure on CSR to avoid a high level of market sensitivity. However, how do these companies get access to more funds? In such a case, the Chinese government and regulatory authorities can focus on accelerating bank restructuring, training and developing the corporate bond market, and implementing other policies that help broaden the financing channels of listed companies. For example, government subsidies for strategic emerging industries are necessary, but the ways and efficiency of subsidisation need to be improved. Government subsidies allow companies in strategic emerging industries to obtain funds to research and develop innovative ways to improve management and production efficiency. Since the government organises the screening and allocation of subsidies on R&D projects, market investors do not have to bear the evaluation cost of R&D projects. Additionally, they can share technical information about corporate R&D projects, thereby stimulating more investment by potential investors in the market. In the process of certification of such implicit technical capabilities, the government acts as a technical evaluation service role, which connects companies and investors and avoids the need for each investor to repeat the evaluation of the company's technical ability.

Moreover, in using subsidies, the government departments should track, monitor, and supervise the use of funds of subsidised companies to avoid cheated companies. The government should increase the transparency and fairness of the evaluation and selection process of R&D subsidies, provide more information to the market, and attract more social funds, such as angel investment, venture capital, and equity investment, for innovative projects and companies.

The findings of this study have several practical implications for investors.

First, regarding Chapter Two, this study findings may encourage existing and potential investors to pay attention to sustainable companies and those that adopt SCSR. The study finds that a company's dynamic capability level can be negatively related to SCSR adoption. It may be difficult to reconfigure company resources for companies with a high dynamic capability level. In contrast, companies with an average industrial dynamic capability level are more likely to adopt SCSR and develop a sustainable competitive advantage. Therefore, existing and potential investors concerned about a company's sustainable development can pay more attention to the latter companies.

This can help investors make wiser decisions about a company's overall performance by looking at its financial and non-financial aspects rather than focusing on CFP only.

Second, regarding Chapter Three, investors may use the study findings to plan and evaluate investments in existing and target companies by analysing their performance concerning their life cycle stages and cash flow patterns. This study finds that investors' demands and needs are important for companies at any life cycle stage. It follows that companies may make efforts to satisfy the demands and needs of investors to attract more investments. Therefore, this study results shed light on investors that they can consider the life cycle stages of target companies when assessing CFP and CSP. Investors can use the study results to better and accurately determine whether to invest in a particular company and justify reasonably.

Third, regarding Chapter Four, investors can use the study findings to adjust their investment portfolio by observing the CSP and CFV of companies. The study finds that the market is more sensitive to companies with a high CSR investment level and better CSP. Expected CFV partially mediates the positive relationship between CSP and ICFS, and current CFV partially moderates such relationship. Therefore, investors may use the study results to predict the market response of a particular company by observing the company's CSR expenditure and engagement and CFV. Hence, investors can adjust their investment portfolios depending on their goals and improve investment efficiency. For example, some institutional investors may concern CSR dimensions (i.e., environment, society, and economics). They can include more companies with better CSP in their portfolio. The other investors may target companies with high profitability and low CSR expenditure. Then, these investors may eliminate companies with a high level of CSR expenditure in their investment portfolio. Therefore, investors can rely on the study findings to make justifiable investment decisions better and adjust their investment portfolio when necessary.

This study also provides important implications for society and the public. Society and the public may understand from the study findings that adopting SCSR in China is in progress. Companies' behaviours towards SCSR can be reflected from CSR engagements and influenced by many factors, including their internal competencies and external culture and support. Society can provide some support for companies to help fulfil their corporate citizenship. For example, the community can work with

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companies to promote SCSR engagement and adoption. Trade unions can hold workshops to promote employees' well-being and develop potential working abilities. This interactive relationship between society and companies may facilitate companies to be good citizens and understand and satisfy the demands and needs of society.

5.3. Limitations and Directions for Future Research

This section presents the limitations and shortcomings of this thesis and proposes several possible directions for future research.

First, quite a few observations are missing in the study analysis due to the availability of data. For example, Chapter Two enhanced our limited understanding of the factors influencing SCSR adoption and the role of dynamic capabilities, but the study's findings are based on 134 companies with diverse industry backgrounds and operating in a single country. Chapters Three and Four also eliminated observations with missing data. However, to ensure the completeness of data sets, only year periods with a complete dataset were covered. A limited number of observations could cause a low degree of freedom in analysis, potentially leading to biased results. To minimise the side effects caused by the constrained data availability, this thesis has used an unbalanced panel dataset, which could help retain the majority of observations in our empirical models.

Second, this thesis could still contain endogenous issues. Endogeneity is an issue that exists in quite a few empirical studies, and it can hardly be fully eliminated. In Chapters Two and Three, we have used the lagged independent variable models to address the endogeneity issue due to the possible bidirectional causality between variables. Chapter Three develops lagged independent variable models with fixed effects to alleviate omitted variable bias and reverse causality concerns and uses a fixed-effect GLS model to control unobservable variables that differ between companies. Granger causality models test whether the inclusion of lagged independent variables can clearly show the increase in the explanatory power on the current dependent variable (Rhou, Singal and Koh, 2016). However, the lagged independent variable model can only interpret the relationship between variables as association

only, not as causation, which makes the association between variables that cause the endogenous problems unclear. Chapter Four used the GMM estimation models to address the potential endogeneity issues arising from omitted variables and reverse causality in our dynamic baseline models. The instrument we choose is the industry-year average CSP. Other and perfect instrumental variables are hard to obtain. Also, the GMM model cannot capture the origin of the endogeneity, which makes the factors that cause the endogenous problems unclear. The issue of endogeneity cannot be ruled out, but future studies might apply an alternative research method, such as an experiment, to control for causality.

Third, the adopted definition of CSR may involve some limitations. This study adopted the definition proposed by Chandler (2019) – a responsibility of companies to satisfy interests of stakeholders and a responsibility of stakeholders to hold companies to explain their actions, with a focus on social, environmental, and economic responsibilities. This definition emphasised on the interaction between the stakeholders and companies. To our best knowledge, this is the most updated and relevant definition of CSR. From the definition, it seems that financial performance has been included in the scope of CSR. However, this study differentiated CSR and financial performance and used non-financial indicators to measure CSR performance. Because studying the definition of CSR is not the main research aim of this thesis, future research could explore more to provide a more restricted CSR definition.

Next, this thesis only focuses on listed companies in China; thus, the SCSR adoption and CSR's financial impacts that have been studied in Chapters Two, Three, and Four could be industry- and country-specific. This means that the association we find could be driven by Chinese regulations, making our findings inapplicable to other countries. Consequently, further work could consider examining other types of companies, such as unlisted companies or small and medium-sized companies, to investigate their SCSR adoption practices and CSR's effects on CFP and capital market.

Moreover, this thesis focuses on one country, which makes it difficult to improve the generalisation of the findings. The country where a company is located and regulated could affect CSR adoption, strategy implementation, and performance at the national level. Therefore, future research might study how the SCSR and CSR effects could differ across countries for comparison.

In addition, Chapter Three contributes to the literature by examining a research topic that has generated broad interest, from a different CLC angle and in the empirical context—the association between CSP and CFP and the role of CLC on the association between the two—but the study only examines a single industry (the pharmaceutical sector). However, other industries, especially controversial industries such as the tobacco industry, also have CSR concerns and incidents, which could affect their CFP. Therefore, future research can make cross-industry comparisons to examine whether the study's findings are applicable in other industries and why could result in different results between industries, if any.

Further, Chapter Three examines CSP towards each stakeholder group (investors, employees, customers, suppliers, government and community, in particular). However, different stakeholders with less influential power on a company may cooperate to form large stakeholder groups to affect CFP. This means that the association we find could be inconclusive and unknown if stakeholders, such as customers and communities, form a stakeholder coalition against companies. Therefore, further work would consider studying CSP and associated CFP along the CLC stages under a more complex situation, especially when one or more stakeholder integration groups. Future studies might want to know under what conditions and how to balance the needs and demands of these stakeholder integration groups. More research to examine the effect of these cooperative stakeholder groups' interests and influential power on CSP – CFP across the CLC stages can be considered.

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