

**HOW DO ETHICAL COMPANIES BEHAVE TOWARDS THEIR  
SUPPLIERS FROM A FINANCIAL PERSPECTIVE?  
A STUDY OF HONG KONG LISTED COMPANIES**

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## ABSTRACT

In recent year, researchers have increasingly been shifting their attention from shareholder interests to the broader stakeholder interest in the form of corporate social responsibility (CSR) and its measurement in environment, social, and governance (ESG) performance. While the well-being of the broader stakeholder groups such as consumers and employees is addressed in most ESG frameworks, that of suppliers is not. This is quite surprising, as suppliers are key contributors to the value chain and their failure would have a significant adverse impact on the supply chain.

The purpose of this research is to study how buyer companies that are concerned with CSR behave towards their suppliers in the form of payment practices. In particular, do these companies behave ethically and properly address the interest of their suppliers by paying them in a timely manner? Accordingly, this research explores payment practices from the perspective of financial ethics with evidence from companies in Asia, more specifically in Hong Kong. The payment practices of companies in Hong Kong are studied, as Hong Kong is not only a leading business centre, but also one in the thriving Asian region.

This study looks into the behaviour of the 155 largest listed companies in Hong Kong and compares their payment practices by dividing them into two groups. One group of companies is identified as “good/ethical” companies based on a sample from an independent third party, Oxfam, and the Oxfam Blue Chip CSR survey (Oxfam BC CSR). The second group of companies forms a sample of comparison. Data from a six-year period (2014–2019) is collected based on Factset via the Wall Street Journal website. A novel approach to measuring payment practices in the form of net payment days (NPD) is utilised. Given the two-dimensional nature, cross-sectional and inter-temporal, of the data, the pooling approach is used to examine the data. To ensure robustness in the findings, this research applies a variety of statistical methods, including correlation analysis, regression analysis, panel data analysis and the propensity score matching (PSM) method.

The study finds that the key variable of interest, i.e. payment practice in the form of NPD, is related to a number of financial variables from prior studies (e.g. Abdulla et al., 2017, 2020). Furthermore, it finds consistent evidence that companies that are CSR-conscientious, i.e. the Oxfam group of companies, tend to pay their suppliers late. To evaluate the findings, this research deployed the Hersey-Blanchard willingness-ability framework to further classify the sample companies and came up with four categories of payers: speedy goodies (high willingness to pay and high financial ability), willing payers (high willingness to pay but low financial ability), dragged exploiters (low willingness to pay but high financial ability), and delinquent risks (low willingness to pay and low financial ability). Based on this analysis, the results suggest that the firms in the Oxfam sample do not, in the majority of the cases, lack the ability to pay, but rather adopt a payment practice that seems to be a deliberate act to hoard cash and drag out payments (i.e. dragged exploiters). This conjecture appears to be consistent with the view of Sorell and Hendry (1994).

The results of this study suggest that ESG advocates may need to strategise and reconsider the position and role of suppliers within the ESG framework. Rather than slotting suppliers into the social dimension, the S, of ESG and measuring performance from the perspective of human rights. Also, from the policymakers’ perspective, it may be necessary for them to take a closer look at payment practices and set up policies to ensure the healthy financial position of these SMEs, which are critical for the economy and economic growth.

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## **TABLE OF ABBREVIATIONS**

ACCA	Association of Chartered Certified Accountants
AICM	Australian Institute of Credit Management
AMS	After month end
AP	Accounts payable
AR	Accounts receivable
BLUE	Best linear unbiased estimator
BSI	Business Sustainability Index
CABs	Conformity assessment bodies
CCC	Cash conversion cycle
CEBR	Centre for Economics and Business Research
CEO	Chief executive officer
CFO	Chief financial officer
CFP	Corporate financial performance
CICM	Chartered Institute of Credit Management
COGS	Cost of goods sold
CRF	Credit Research Foundation
CSP	Corporate social performance
CSR	Corporate social responsibility
CSRI	Corporate Social Responsibility Index
DIO	Days inventory outstanding
DJSI	Dow Jones Sustainability Index
DPO	Days payable outstanding
DSO	Days sales outstanding

EBITDA	Earnings before interest, tax, depreciation and amortisation
ESG	Environment, social and governance
FCIB	Finance, Credit and International Business Association
GAAP	Generally accepted accounting principles
GBP	Pound sterling
GDP	Gross domestic product
GHG	Greenhouse gases
HKCCMA	Hong Kong Credit and Collection Management Association
HKQAA	The Hong Kong Quality Assurance Agency
HKSAR	Hong Kong Special Administrative Region of the People's Republic of China
HSI	Hang Seng Index
IFRS	International Financial Reporting Standards
IMD	International Institute for Management Development
ISS	Institutional Shareholder Services group
ISSB	International Sustainability Standards Board
MSCI	Morgan Stanley Capital International
NACM	National Association of Credit Management
NI	Net income (net profit)
Nox	Nitrogen oxides
NPD	Net payment days
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary least squares
P&G	Procter and Gamble Company
PPC	Prompt Payment Code

PPE	Property, plant and equipment
PRC	People's Republic of China
PS	Propensity Score
PSM	Propensity score matching
RE	Random effect
SAAS	Social Accountability Accreditation Services
SASB	Sustainability Accounting Standards Board
SBC	Small Business Commissioner
SME	Small and medium-sized enterprises
SMRC	Sustainability Management Research Centre
SO <sub>x</sub>	Sulfur oxides
SOXs (2002)	Sarbanes–Oxley Act of 2002
SRI	Stanford Research Institute
TBL	Triple bottom line
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
USD	United States dollar
VOC	Volatile organic compounds
WEF	World Economic Forum
WTO	World Trade Organisation

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## **Chapter 1 – Introduction**

### **1.1 Introduction to corporate finance and corporate social responsibility**

Traditional corporate finance theory typically steers companies towards decision making that has shareholder value maximisation as the main corporate objective (Friedman, 1970; Denis, 2016). This concept has long been a core element of financial management textbooks (e.g. Weston and Copeland, 1992; Ross et al., 2018; Block et al., 2019; and Brealey et al., 2020). At the same time, efforts have also been made by researchers (Ansoff, 1965; Freeman and Reed, 1983) to raise the awareness of a company's need to address the interests of stakeholders, other than shareholders, in their decisions in the name of social responsibility, (Carroll, 1979) for corporates, hence corporate social responsibility (CSR). For instance, Ansoff (1965, p. 33) states that “the objectives of the firm should be derived by balancing the conflicting claims of the various stakeholders in the firm: managers, workers, stockholders, suppliers, vendors.”

The term “stakeholder” was first mentioned in an internal memorandum at the Stanford Research Institute (SRI)<sup>1</sup> in 1963 and was defined as a member of “groups without whose support the organisation would cease to exist”. If this is the case, it is indeed important for organisations to address stakeholder interests in addition to shareholder interests. Since then, the concept of “corporate social responsibility” has been extended from corporates to include communities, governments and trade associations (Donaldson and Preston, 1995; Mitchell et al., 1997; Friedman and Miles, 2002; Phillips, 2003). In a sense, corporations that

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<sup>1</sup> SRI International (SRI) is an American non-profit scientific research institute and organisation headquartered in Menlo Park, California. The trustees of Stanford University established SRI in 1946 as a centre of innovation to support economic development in the region.



are active participants in CSR activities could be considered “good” companies from a societal perspective, as their participation represents a departure from their regular activities (Lim and Pope, 2022). On top of that, Chang (2019) suggests that companies that are committed to their CSR activities would be considered good, moral or socially appropriate companies. Moreover, the American Management Association (2006) suggests ethical enterprises should do the right thing the right way when participating in CSR. In this regard, these companies can be considered “good” companies from a general social perspective.

Of the various stakeholders of the corporation, such as stockholders, customers, employees, and creditors, etc., one stakeholder of key interest to companies will be the vendor (Ansoff, 1965), i.e., suppliers (Brennan et al., 1988; Cuñat, 2007; Cuñat and Garcia-Appendini, 2012). This is the case as the suppliers provide the inputs that a company uses to create its products or to support its services to customers. They are therefore an integral part of the value creation process, providing raw materials, through component parts, to finished products for consumers. The lack of a reliable supply will significantly hamper a company’s strategic competitiveness and its ability to serve its customers, as highlighted by supply chain risk discussions in recent years (e.g., Tucker et. al., 2019). From this perspective, it should be of interest to corporate decision makers to properly understand and address the interests of their suppliers and, perhaps, ensuring sustainability of suppliers and the relationship e.g., by making timely payments their suppliers on time.

In practice, and in theory in corporate finance however, this may not be the case. This is especially the case when, in financial management, it is both rational and justified for corporates to use supplier funds in the form of accounts payable to minimise their own need to fund operating working capital in the process of shareholder value maximisation (Ross et

al., 2018; Block et al., 2019; Brealey et al., 2020). This act where suppliers' funds are used by corporate decision makers means that the company's funding needs and the associated costs are shifted from the corporation's shareholders to the suppliers.

As a result, the supplier not only deliver inputs for the corporate's operations, but also provide financing for these operations, with the latter creating additional stress to the supplier's funding position. While the provision of financing by suppliers within payment terms may be argued as an equitable one, as it represents a conscious and strategic decision by the supplier in order to obtain business. However, as Wilson (2014) pointed out, suppliers tend to be smaller in relation to their corporate counterpart with limited ability to truly negotiate an equitable payment term, resulting in extended payment terms. Moreover, the additional funding will have to be raised somehow, e.g., at banks and financial institutions (Sihler, 2004; Barrow, 2006), creating further financing burden for the smaller supplier, raising ethical concern towards the practice of larger corporates leveraging fund from smaller suppliers even for payments that are within payment terms. Clearly, there is an ethical implication in the use of supplier funds by corporate buyers as proposed in corporate finance theories.

Furthermore, payment practices also have implication from a corporate social responsibility (CSR) perspective, as suppliers are clearly stakeholders in the corporate context and their interest should be relevant to the corporate decision makers who are concerned with CSR practices (e.g., Ansoff, 1965, p.33; Freeman and Reed, 1983). However, to date, when it comes to suppliers, the main focus of most CSR operating frameworks has been to ensure that suppliers meet CSR requirements in the form of 1) the suppliers' facilities (e.g. Welford, 2004, p. 32), 2) production and labour standards (Blowfield and Murray, 2011) and 3)

material sourcing (IFRS Foundation, the International Sustainability Standards Board (ISSB), 2021; Sustainability Accounting Standards Board (SASB), 2017). Indeed, the focus of CSR with regard to suppliers has been one oriented on control rather than one that concerns their interests and the impacts that payment practices have on them.

Given the financial orientation towards leveraging the use of suppliers' fund, and most CSR framework's orientation towards a control position rather than a support perspective towards suppliers, there is a clear need for further understanding and attention on the ethical dimension in supplier payment practices as well as the CSR dimension in supplier as a stakeholder.

The objective of the current research is to study payment practices by corporate buyers from the perspectives of ethical finance as well CSR. More specifically, this study examines how corporations that are concerned with CSR practices behave towards their suppliers in terms of payment practices, do companies that practice CSR ("good companies") with their CSR awareness and ethical awareness, take better care of their suppliers' interest and pay their suppliers earlier than companies that are less aware of, or engaged in, CSR.

## **1.2 From Shareholder value Maximisation in Finance to CSR**

The study of finance relates to business activities in the areas of investing (or personal finance), borrowing (or corporate finance) and trading. This field of study has primarily been built on a platform that assumes rational behaviour in the form of wealth maximisation based on the self-interest of the decision makers involved (Smith, 1776). In modern corporate

finance, this is translated into maximising the interests of the owners, i.e. the shareholders (Ross et al., 2018; Block et al., 2019; Brealey et al., 2020).

The objective of shareholder wealth maximisation has led to a number of questions in the field of corporate finance. First, Simon (1947, 1957), Cyert and March (1992) and Loasby (1976, 2004) cast doubt on whether people, with limited information and a limited capacity to process information, can truly pursue the objective of maximisation or whether decisions are made in the context of “bounded rationality”. At the same time, Berle and Means (1932) highlight the fact that the modern corporation operates within the framework of the separation of ownership and control, where management constitutes the decision makers of a company and the question is whether in this set-up it can truly make decisions that are consistent with the concept of shareholder value maximisation. The key here is whether management that has control over the daily operations of the corporation make decisions that are consistent with the maximisation of the interests of the owners or whether the decisions are based on their own self-interest in an “agency relationship” (Jensen and Meckling, 1976; Heath, 2009).

In his 1953 publication, Bowen raises the issue of the “social responsibilities of the businessman”. McGuire in 1963 also suggests that the “idea of social responsibilities supposes that the corporation has not only economic and legal obligations, but also certain responsibilities to society which extend beyond these obligations” (p. 144). Friedman confirms in his book *Capitalism and Freedom*, published in 1962, that “there is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud” (p. 133). Kroos and Schwab (1971)

argued that for a corporation to be able to achieve long-term growth and prosperity, it must address not only the shareholders' interests, but also the interests of all stakeholders, who are defined in Ansoff (1965, p. 33) as "managers, workers, stockholders, suppliers, vendors", while Freeman and Reed (1983, p. 91)<sup>2</sup> define them in a "narrow sense" that includes "employees, customer segments, certain suppliers, key government agencies, shareowners, and certain financial institutions". Orlitzky et al. (2003) found a positive association between corporate social performance (CSP) and corporate financial performance (CFP) using a meta-analysis of 52 empirical studies. Irresponsible corporate behaviour has also been found to lead to negative corporate financial performance (Engelen and Essen, 2013).

With the emergence of the stakeholder school (e.g. Ansoff, 1965; Freeman and Reed, 1983; Freeman 1984), increasing attention has been paid to the need of companies to address their CSR. However, until an accepted definition of these "responsibilities of companies" can be arrived at, a company's pursuit of its social responsibility will remain a significant challenge (Backman, 1975; De George, 2006; Dobson, 2010; Chen et al., 2018).

### **1.3 In search of CSR and environment, social, and governance (ESG)**

A report by the Committee for Economic Development in 1971 acknowledged a significant movement in the relationship between business and society, noting that:

Business is being asked to assume broader responsibilities to society than ever before and to serve a wider range of human values. Business enterprises, in effect, are being

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<sup>2</sup> Freeman and Reed (1983) also include public interest groups, protest groups, trade associations, competitors and unions in their definition of stakeholders in the "wide sense" p. (91).

asked to contribute more to the quality of American life than just supplying quantities of goods and services. In as much as business exists to serve society, its future will depend on the quality of management's response to the changing expectations of the public. (p. 16)

This is contrary to the belief advocated by Preston and Post (1975), who point out that all business systems, i.e. firms, within a social platform affect each other and suggest that firms' public responsibilities should be restricted by clear boundaries where anything outside of these boundary is not a responsibility of the firm; a firm's performance on social issues is then measured in the form of corporate social responsiveness (Frederick, 1978). Sethi (1975), meanwhile, argues that a firm's social responsibility should shape its corporate behaviour so that it is consistent with the standard values and expectations of society. The term CSR remained unclear and undefined until Carroll (1979, p. 499) proposed the first unified explanation, suggesting a social performance model for corporates in which a company's total social responsibilities should include four aspects of corporate responsibilities: legal, economic, ethical and discretionary. Furthermore, as Carroll points out (1979, p. 500), taking laws and regulations as "ground rules – under which business is expected to be operated", attention can be focused on whether a company fulfils (1) its economic responsibilities and (2) its ethical and discretionary responsibilities.

Given a generally agreed definition of CSR, the next step is the need to identify and operationalise these responsibilities. The United Nations Global was started in 2000 as "a call to companies to align strategies and operations with universal principals on human rights, labour, environment, and anti-corruption, and take actions to advance those goals". These goals targeting environmental, social and governance performance are collectively known as

ESG. With CSR activities varying significantly between businesses and sectors and a general lack of a comparable set of metrics, ESG facilitates the focus on performance in specific areas allowing quantifiable measures of the performances of corporates. In sum, while CSR aims to make a business accountable, ESG and its related criteria make these efforts measurable.

The movement towards a changing relationship between business and society in the form of CSR awareness and the increase in the ability to measure corporate performance in the form of ESG has resulted in impact investing, which has led to a demand for ways to rank companies on their ESG performance.

#### **1.4 Economic and governance responsibilities of companies**

As discussed in the section above, the objective of shareholder wealth maximisation forms a core objective of corporate decision making (Kolb, 2010; Ross et al., 2018; Block et al., 2019; Brealey et al., 2020). However, the concept of profit maximisation for shareholders is questionable from the perspective of ability (Simon, 1947, 1957; Cyert and March, 1992; Loasby, 1976, 2004) and from the perspective of the separation of ownership and control (Berle and Means, 1932) in the form of agency theory (Jensen and Meckling, 1976). These factors therefore raise the question of “whose” interests should be addressed by corporate financial decisions.

The need to address the issues arising from the separation of ownership and control and from agency theory has been well illustrated throughout history, from events involving firms founded in the 1700s, such as the South Sea Company, to more recent incidents affecting

Fortune 500 companies, such as Enron and WorldCom, and even major audit firms such as Arthur Andersen at the turn of the century or large investment banks such as Lehman Brothers in 2008. These and other cases have provided continuous evidence of practices in the agency context that result in significant impact not only on investors, but also on wider society, both domestically and globally.

As a result, a new field of study emerged in the form of corporate governance that examines “the system by which companies are directed and controlled” (Cadbury 1992, p. 15). As Jensen and Meckling (1976) also suggest, governance issues at a company can also arise from the conflicts between the company's owners (shareholders), its managers and the stakeholders who provide debt finance (Benlemlih, 2017). The Organisation for Economic Cooperation and Development (OECD) (2015, p. 9) expanded the scrutiny of corporate governance to include the “set of relationships between a company's management, its board, its shareholders and other stakeholders”. The result is an expansion of stakeholder interests to the board level in the corporate governance area. Freeman and Reed (1983) and Riyadh et al. (2019) advocate the consideration of stakeholder interests at the level of the board of directors, while Freeman (1984) suggests incorporating stakeholder interests in company strategies. In addition, this expanded examination has further broadened the need for companies to address the interests not only of owners but also of stakeholders in their decisions within a CSR framework (Elkington, 1998; Windsor, 2013; Cassimon et al., 2016), and at the highest level in the form of board decisions (Shleifer and Vishny, 1997; John and Senbet, 1998; William and Ryan, 2007). Indeed, John and Senbet (1998, p.372) propose a more comprehensive definition where corporate governance is considered to be “mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected.”



The area of study has expanded from the focus on the interests of shareholders to include those of debtholders and of “non-financial stakeholders such as employees, suppliers, customers, and other interested parties” (Farinha, 2003). Indeed, this interest in governance has since evolved to become part of the ESG movement that addresses corporate responsibility towards the environment, society and other stakeholders in an appropriate governance structure and, together with the issue of the separation of ownership and control in public companies, has been reasonably well covered by studies in the area of corporate governance. One finding of these studies is that:

... shareholders of publicly held corporations and the directors whom they elect are commonly recognised as having *de jure* control, but these shareholders and directors, as well as the managers, who typically exercise *de facto* control, are subject to the power of many groups which, acting within their legal rights, strongly influence, and often determine, corporate decisions. (Boatright, 2014, p. 254)

Furthermore, corporate governance practices have been addressed from a legal perspective in the US with the introduction of the Sarbanes-Oxley Act in 2002, section 302 of which requires the chief executive officer (CEO) and the chief financial officer (CFO) of a publicly listed company to certify that they have fulfilled their corporate responsibilities in their company’s annual and quarterly reports.

Studies and practices in the area of corporate governance, however, have not addressed whether maximising shareholder wealth is in fact an appropriate objective of the firm, especially in light of the presence of other stakeholders. Freeman (1984) popularised the

concept of a stakeholder, where the firm becomes a social entity and a member of society.

Carroll (1979, 1991, 1999, 2000) expanded the concept to CSR where firms not only have a duty to shareholders, but should also address the issues of other related parties in terms of the law, ethics and philanthropy. The concept of CSR gradually migrated to financial research in the late 1990s (e.g. Shleifer and Vishny, 1997; John and Senbet, 1998; Hendry, 2013).

Boatright (2014, p. 256) further argues that, in actuality, many “groups have a claim on a corporation’s revenues. These include bond-holders, who have claims for interest and principal payments; employees, who have claims on revenues for pay of wages; suppliers, who have claims for the payment of materials; government, which has claim for payment of taxes; and so on.” While the shareholders contribute equity capital to support the operation of the corporation, each of the other claimants has also contributed to that operation.

Challenges arising from this behavioural perspective are illustrated in Kolb (2010, p. 39), who points out that profit maximisation may lead to an “extremely unequal (or perhaps any unequal) division” and goes on to suggest that an extremely unequal division may offend “against our sense of fairness and we tend to punish those who treat us unfairly.” He concludes that:

Successful firms know that they must treat their employees and customers with a modicum of dignity, respect, and fairness. They cannot treat these constituencies with blatant unfairness and escape reprisal. Thus, an adequate finance theory must expand its conception of rationality to correspond more accurately to human nature and must adjust its prescriptions for financial management to a model more true to human behaviour. Kolb (2010, p. 40)

Based on the above, and especially in view of Kolb's discussion of how rational corporate decision makers may focus on maximising shareholder value only at the cost of other stakeholders, e.g. employees and suppliers, it is clear that ethics in financial management is an area that needs to be examined.

### **1.5 Environmental and social responsibilities of companies**

Based on his suggestion of total corporate social responsibilities in the form of legal, economic, ethical and discretionary responsibilities (Carroll, 1979, p. 499), Carroll puts forward the following elements as part of ethical and discretionary responsibilities (p. 501):

- product safety;
- occupational safety and health;
- the environment;
- consumerism; and
- employment discrimination.

It may be reasonable here to combine Carroll's elements of product safety and consumerism under issues related to consumers, while the occupational safety and health and employment discrimination aspects he mentions may be collectively considered as a company's responsibility to its employees. Indeed, in 1998, Elkington proposed a triple bottom line (TBL) framework for gauging a company's CSR performance and impact that is based on what is known as the 3Ps model: people, planet and profit. In Elkington's framework, profit can be equated to economic responsibility, planet to environmental responsibility and people to consumers and employees in the context proposed by Carroll (1979). While the TBL framework represents a reasonable approach to gauging a company's CSR performance,

Slaper and Hall (2011, p. 4) identify a challenge to its acceptable implementation, because the “3Ps do not have a common unit of measure. Profits are measured in dollars. What is social capital measured in? What about environmental or ecological health?” Even if measures can be agreed for each of the 3Ps, “how are the index components weighted? Would each “P” get equal weighting? What about the sub-components within each “P”? Do they each get equal weighting? Is the people category more important than the planet?” (Slaper and Hall, 2011, p. 4).

The appeal and the simultaneous limitations of the TBL in CSR prompted the secretary-general of the United Nations at that time, Kofi Annan, to invite “a group of the world’s largest institutional investors to join a process to develop the Principles for Responsible Investment”<sup>3</sup> in 2005. One of the results was a study, known as the Freshfield Report (2005), that looked into adopting a legal framework for the integration of ESG issues into institutional investment. Linking Carroll’s CSR framework to Elkington’s TBL framework, this subsequently led to the current emergence of ESG reporting. Here, instead of quantifying their “bottom line” performance, companies are asked to report their performance along the lines of ESG practices (Slaper and Hall, 2011; Windsor, 2013; Davidson and Stevens, 2013; Sheehy, 2015).

The environmental dimension in ESG practices has since then been the object of attention from the UN and various countries from a policy perspective<sup>4</sup>. At the same time, the

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<sup>3</sup> The PRI website states that: “The PRI is truly independent. It encourages investors to use responsible investment to enhance returns and better manage risks, but does not operate for its own profit; it engages with global policymakers but is not associated with any government; it is supported by, but not part of, the United Nations.” <https://www.unpri.org/about-us/about-the-pri>

<sup>4</sup> The United Nations Conference on the Human Environment of 1972, The Rio Earth Summit held in 1992, the adoption of the Kyoto Protocol in 1997 and the Paris Agreement under the United Nations Framework Convention for Climate Change signed in 2016 are some of the principal milestones in this direction.

economic dimension, which has been addressed in the form of legally required governance practices, e.g. the Sarbanes-Oxley Act of 2002 (SOX),<sup>5</sup> has also led to changes in practice at companies at the board level (see Shleifer and Vishny, 1997; John and Senbet, 1998; William and Ryan, 2007).

On the social front, recent years have seen increasing attention being paid to business practices that go beyond the pursuit of shareholder wealth maximisation, to society (McWilliams and Siegel, 2001; Perrow, 2002) and to other stakeholders such as consumers (Mohr et al., 2001) and employees (Bhattacharya et al., 2008).

## **1.6 The overlooked stakeholder – the supplier**

Today, many stakeholders have been identified and their interests have been addressed in the context of CSR, including customers (in terms of product safety; Forsman-Hugg et al., 2013), employees (in terms of health and safety; Flammer and Luo, 2017) and environmental and social issues (Karwowski and Raulinajtys-Grzybek, 2021). Shareholders' interests, in the meantime, are being addressed through corporate governance measures (Jha and Cox, 2015), and the recent movements in ESG and reporting (Appelbaum et al., 2009; OECD, 2015; Bloomberg Professional Services, 2020). However, as Sorell and Hendry (1994) point out, a key, but commonly overlooked, stakeholder group is *suppliers*.

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<sup>5</sup> SOX (2002) is a US federal law containing 11 sections that requires the board of directors and management of public listed corporations as well as public accounting firms to follow certain practices in their financial record keeping and reporting.

Suppliers that act as trade creditors are among the key stakeholders of a company, as they provide not only inputs for corporate buyers for the production of goods and services, but also funding in the form of credit for the buying firms. Suppliers exist partly due to specialisation in the supply chain, but also partly as a result of make-or-buy decisions by companies that have chosen not to hire employees to carry out the same task (Leiblein et al., 2002; Bustinza et al., 2019; Corporate Finance Institute®, 2022). In addition, suppliers frequently also act as a provider of credit to the buyer firm (Cowton and San-Jose, 2017), allowing delayed settlement for products delivered and services rendered. This common practice in credit provision means that suppliers make a significant contribution to the overall economic system. As customer firms do not need to come up with the capital to support their business operations due to the availability of supplier credit, it is not surprising that there is in financial management practice a general prescription regarding payment to supplier firms for the customer firm to delay and stretch out payment as much as possible. While this practice is not an issue if the length of the extended payment term is fairly negotiated in a contract, delaying payment using monopsony power and/or beyond the payment term is questionable from an ethical perspective. This can arise especially with supplier firms (Dalton, 2007; Camerinelli, 2014; Broughton, 2021) that do not want to “rock the relationship” and put future business at risk or to charge interest or to take the case to court.

The oversight of the trade suppliers is evident in ESG performance reporting frameworks, even for organisations that are at the forefront of global ESG practices. For instance, a key set of standards for ESG, and particularly its social pillar, is the United Nations Global Compact, a non-binding agreement that the UN announced in 1999 to encourage businesses worldwide to adopt sustainable and socially responsible policies. The UN Global Compact (2000) sets ten principles related to ethical standards:

### *Human Rights*

1. Businesses should support and respect the protection of internationally proclaimed human rights; and
2. make sure that they are not complicit in human rights abuses.

### *Labour*

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
4. the elimination of all forms of forced and compulsory labour;
5. the effective abolition of child labour; and
6. the elimination of discrimination in respect of employment and occupation.

### *Environment*

7. Businesses should support a precautionary approach to environmental challenges;
8. undertake initiatives to promote greater environmental responsibility; and
9. encourage the development and diffusion of environmentally friendly technologies.

### *Anti-Corruption*

10. Businesses should work against corruption in all its forms, including extortion and bribery.

As can be seen from this list, no reference is made to the interests of suppliers as a social dimension by the UN in the principles.

In its Guidelines for Multinational Enterprises (June 2001), the OECD sets out the principles underlying its recommendations for good business practice for all enterprises, which include:

- I. General policies: for example on the disclosure of information on their performance and ownership and on social, environmental and risk reporting.

- II. Employment and industrial relations: for example with regard to child and forced labour, non-discrimination and the right to employee representation and constructive negotiations.
- III. Environment: especially with regard to performance in protecting the environment and in respect of health and safety impacts.
- IV. Combating bribery: covering both public and private bribery.
- V. Consumer interests: where the call is for fair business, marketing and advertising practices, respect for consumer privacy and the implementation of all reasonable steps to ensure the safety and quality of the goods or services provided.
- VI. Science and technology: where the aim is to promote the diffusion by multinational enterprises of the fruits of research and development activities among the countries where they operate, thereby contributing to the innovative capacities of host countries.
- VII. Competition: where the importance of an open and competitive climate is emphasised.
- VIII. Taxation: where enterprises are called on to respect tax laws and to co-operate with tax authorities.

Again, as can be seen from the list, the interests of suppliers as stakeholders are not included by the OECD.

Indeed, Richard Welford (2004, p. 32) at the University of Hong Kong points out at the very beginning of his published research that although “corporate social responsibility (CSR) has become an important business concept over the past few years. However, most agree that has not been well defined.” His study (Welford, 2004, p. 35) also states that “citizenship in the context of the business organisation” is “less embedded in formal codes of conduct or



conventions but can be seen through industry best practice.” Welford also attempts to “go beyond the general definition of CSR and begin to construct a more detailed picture of what it might constitute” (p. 32), proposing a 20-factor framework that includes six internal aspects and 14 external aspects (p. 34). The internal aspects are: 1) non-discrimination; 2) equal opportunities; 3) fair wages; 4) employee development; 5) freedom of association; and 6) protection of human rights. As can be seen, these internal aspects are primarily measures that target employee interests. In the external aspects, Welford includes 7) labour standards policies; 8) child labour policies; 9) commitment to the protection of human rights; 10) suppliers’ facilities; 11) local heritage protection; 12) procedures for the resolution of complaints; 13) policies on fair trade;<sup>6</sup> 14) policies on the protection of indigenous populations; 15) ethics (including bribery and corruption); 16) reporting; 17) two way communication with stakeholders; 18) supporting third party sustainable development; 19) education; and 20) campaigns to raise social development issues. Of these external aspects, numbers 7, 8 and 9 address labour and social issues, 11 and 14 primarily target environmental development, 15, 16 and 17 can be classified as governance practices and 13, 18, 19 and 20 represent elements of “citizenship”. This leaves aspect 10 as the only dimension that addresses suppliers’ issues. Among the various stakeholders, e.g. customers, employees, etc., suppliers should be regarded as a key stakeholder of integral interest to companies, as they provide the input components a company uses to create its products or to support its services to customers. Hence, it is argued that the interests of the supplier as a stakeholder in a company represent a vital part of its own interests as a lack of a reliable supply in the operational chain would significantly limit its strategic competitiveness and its ability to serve its customers. However, instead of regarding suppliers as a stakeholder, as a provider of

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<sup>6</sup> Fairtrade changes the way trade works through better prices, decent working conditions and a fairer deal for farmers and workers in developing countries (<https://www.fairtrade.net/about/what-is-fairtrade>).

goods as well as credit, whose interests need to be addressed, aspect 10 is in place to ensure that suppliers adopt CSR practices and are monitored.

This remains the case in Blowfield and Murray (2011), who draw up in reference to their stakeholder group a list of seven areas including labour, environment, human rights, bribery, anti-money laundering, governance and reporting, but where suppliers are not explicitly mentioned. Indeed, the authors argue that the key concern involving suppliers is not one of a supplier's own interests, but rather ethical sourcing and fair trade where the focus is on conditions of production and labour standards.

Blowfield and Murray (2011) acknowledge that suppliers are important as they represent a key part in the production process. In fact, suppliers are frequently viewed in management accounting literature (Axelsson et al., 2002; Dekker, 2003; Malmi and Brown, 2008) and textbooks (Horngren, et al., 1990) as the product of make-or-buy decisions, because products or services provided by supplier firms can actually be internalised and form part of the customer firm's production processes. Consequently, the role of suppliers is not dissimilar to that of employees. In fact, for many companies the decision to engage suppliers (the buy aspect of the make-or-buy decision) is the result of the rational choice not to take on employees (the make aspect of the make-or-buy decision). This is especially true when it comes to using services provided by subcontractors rather than employees. In certain cases, this practice is used to circumvent legislation where the provisions governing employment can be rather stringent, e.g. health and retirement benefits. The supplier's interest in this regard should not be regarded as significantly less than the interest of a company's own employees.

## **1.7 Supplier trade finance: an ethical challenge**

As argued in prior sections, in addition to providing supplies for the production process, supplier firms effectively often also provide trade credit to their customer firms and take on (credit) risk. The result of this common practice in various industries is that trade credit plays a significant role in the economy (Elliehausen and Wolken, 1993; Kohler et al., 2000; Fitzpatrick and Lien, 2013). A practice in which delay payment to trade creditors is questionable ethical conduct.

Recently, finance textbooks (Ross et al., 2018; Block et al., 2019; Brealey et al., 2020) and research (Dalton, 2007; Fabozzi et al., 2008; Ek and Guerin, 2011; Boyce, 2014; Michalski, 2014) in the area of working capital management explicitly suggest that the effective management of assets requires financial officers to minimise the cash conversion cycle (CCC), which involves minimising days sales outstanding for accounts receivable (DSO) as well as days inventory outstanding (DIO) and maximising the days taken to pay suppliers, i.e. the days payable outstanding (DPO). This suggestion frequently leads to a conclusion similar to the one stated in Fabozzi et al. (2008): “the longer that the company takes to pay on its accounts, the greater the DPO and, hence, the shorter the cash conversion cycle”.

To be clear, the use of a supplier’s credit has always been a part of standard business practice, and frequently represents a means for suppliers to obtain business orders from customer firms. There is nothing inherently unethical about the use of supplier’s credit if two conditions are satisfied. First, when the terms of payment are negotiated on an equal basis. Second, when there is no delay in payment that goes beyond the agreed terms (Solomon, 1993). Indeed, while delayed payments of wages and salaries to employees can easily land an

employer in court, a delay in payments to suppliers typically has few legal ramifications (Sorell and Hendry, 1994; Wilson, 2014).

While it is true that, in theory, suppliers, like employees, have every right to take their case to court when they are not paid in accordance with the agreed terms, they rarely take legal action against a customer for delayed payment of a trade credit. Indeed, interest is seldom charged on delayed payments. This is because suppliers are operators with assets that are trade-specific (Sorell and Hendry, 1994). Consequently, it is frequently in their interest to maintain a “good relationship” with their customers, and not to “rock the boat”. This is especially the case for suppliers with a size disadvantage, i.e. small suppliers in relation to large customers (Wilson, 2014). Given the disparity in relationship and size, it is not surprising that customer have an incentive to practise delayed payment to suppliers.

Arguably, the practice of delayed payments to suppliers, a key stakeholder, beyond agreed terms is unethical.

## **1.8 Implications beyond Ethics**

The topic of payment behaviour by corporate buyers where the cost is shifted to suppliers has implications beyond ethics. First, delayed payments to suppliers also represent an additional cost to be absorbed in the supply chain by the economy and society. This is the case, as a delayed payment may force suppliers, which typically are smaller companies and have weaker credit Wilson (2014), to borrow from financial institutions and commercial banks (Sihler, 2004; Barrow, 2006) at a higher cost. Furthermore, as discussed in Cowton and San-Jose (2017), the credit decisions of suppliers are evaluated and granted by organisations that

do not possess the level of credit evaluation expertise, nor economies of scale, that commercial banks do, which results in greater economic inefficiencies. Both of these will represent adverse implications into the supply chain as well as for the economy and the society as a whole. It is thus of significant academic and practical interest to gain an understanding of whether corporate buyers that are concerned with CSR practices treat suppliers more in line with the perspective of shareholder value maximisation, i.e. prolonging payment periods as much as possible, or whether these companies that are concerned with social interest treat their suppliers in a way that is more consistent with the concept of social responsibility and ethics.

## **1.9 Aim of the research**

Based on the discussions above, it is important for academic researchers and practitioners alike to acquire a better understanding of payment practices, its' financial as well as CSR implications to the suppliers, and in turn, the impact on supply chain, economy and society as a whole.

While from a financial ethics perspective, prior studies – see, for example, the collection of research in Boatright (2010), which addressed ethics in financial markets (Heath, 2002), in derivative contracts in financial services (Kolb and Overdahl, 2006, 2007); in financial management (Ragatz and Duska, 2010) and in investor relations (Williams and Ryan, 2007), financial ethical with regard to practices in the area of credit payment by customer firms to supplier firms have received little attention. The interest of suppliers as stakeholders in a CSR context has not been examined.

Indeed, the subject of financial ethics in payment practices to suppliers has been explored by San Jose and Cowton (2008) and Cowton and San-Jose (2017) in their attempt to establish the maximum period for which the use of suppliers' fund is appropriate for British/European companies. However, the issue of how companies concerned with CSR practices behave has not been examined. More specifically, from a payment practices perspective, how corporations that are concerned with CSR practices ("good companies") behave towards their suppliers, i.e., do companies that practice CSR with their CSR awareness and ethical awareness, better address suppliers' interest and pay their suppliers early.

#### **1.10 Research Design on data collection and methodology**

In order to examine payment practices from the perspective of financial ethics based on evidence from companies in Asia, more specifically in Hong Kong.

Hong Kong, officially the Hong Kong Special Administrative Region of the People's Republic of China (HKSAR), is a city and special administrative region of China on the eastern Pearl River Delta in South China. From a business practice perspective, Hong Kong is selected as it is a key business hub in the Asian region, which is emerging as increasingly important on the global economic scene, and also serves as a commercial gateway to China, which is now a leading global economy measured by GDP.

Being a leading business hub in Asia as well as gateway to and for China, Hong Kong has historically been in the forefront of western business practices in Asia. Hong Kong has been ranked as the freest economy since 1996 (Canada-based Fraser Institute), the world's number

1 in economic openness (UK-based Legatum Institute: Global Index of Economic Openness 2019) and the world leader in enterprise conditions for five consecutive years (Legatum Institute: Legatum Prosperity Index 2020). In terms of financial markets, Hong Kong is the world number one when it comes to its financial system (WEF's Global Competitiveness Report 2019) and was ranked third and fourth globally for foreign direct investment inflows and outflows respectively in 2020 (UNCTAD: World Investment Report 2021). In the area of international trade, it is the world's sixth-largest exporter (International Trade Statistics, 2021) and seventh-largest importer (WTO, 2022).

Companies in Hong Kong are of interest not only because it is a leading business centre in an emerging Asian region, but also because it represents a mix of east and west. The east meets west nature of business culture in Hong Kong not only represent the adoption of western business practices by Asian companies in Hong Kong from a historical perspective, but also, from a forward-looking perspective.

With China working towards building "Capitalism with Socialist Characteristics" (Spar, et. al., 2006), its companies are moving towards western market economy practices, but has not quite fully adopted capitalist practices yet. Indeed, Charles Li, ex-chief executive of the Hong Kong stock exchange suggested that "Hong Kong has a high degree of connectivity, globally and with the Mainland of China, serving as "Asia's world city". "One of the most obvious traits that separates Hong Kong from the rest of China is its position as a free and open economy. That allows the territory to attract money from different parts of the world more efficiently than other mainland Chinese cities which are subject to capital controls. Increasingly, the city is also becoming a gateway for Chinese investors to invest in international companies". As Chinese companies expand their investments overseas, much

of that money flow is routed through Hong Kong to “take advantage of the territory’s favourable regulatory environment and available professional services,” according to Washington-based think tank Peterson Institute for International Economics. As such, it is expected that companies in Hong Kong are ahead in terms of business practices in Asia and China, and Chinese companies will learn from the Hong Kong experience and move towards adopting western market practices. Hence, how companies in Hong Kong behaves will likely mean how other Asian companies will behave in the coming years and decades. So, studying and understanding how “good” companies in Hong Kong behaves in the CSR context shall provide insights and guidance with respect to how Asian companies might eventually behave. This is especially the case as China continues to emerge as an increasingly important player in the global economy, Hong Kong, which is mainly populated by ethnic Chinese but was under British rule for 100 years, offers a rare opportunity to gain an insight into what practices by Chinese companies may look like as China’s economy integrates into the global market.

The non-probability method of quota sampling has been used as the sampling methodology to hand-pick the companies for this research. This study examines a sample of firms that match a certain profile. In order to study the how companies behave, it is necessary to access company data. This means that the firms to be studied are restricted to listed companies. The firms in the sample to be studied thus have to be companies listed on the Hong Kong Stock Exchange. Furthermore, from an accounts payable and accounts receivable perspective, the companies being examined for this study cannot include financial institutions and property developers as well as service-based firms, as their operations and payment practices differ significantly from “standard” industrial companies. For instance, accounts receivable at banks and financial institutions are primarily in the form of loans and accounts payable are



predominantly in the form of deposits, making it inappropriate to include banks and financial institutions in the sample. A similar rationale also applies to property developers, the accounts payable of which are typically settled in the end by a “one-shot” mortgage arrangement once the buyer obtains a mortgage loan from a bank. “Service-based” companies, meanwhile, are companies that operate primarily in the retail sector, where transactions are typically settled by cash or credit card payments, rather than trade terms, and the accounts receivable days are thus very close to zero.

For our study, payment practices of buyer/customer firms towards sellers/suppliers fall within the realm of CSR, and specifically in the area of ethical behaviour, because of their potential social impact. A sample of benchmark group of companies, i.e. CSR firms, are therefore identified by going through three different CSR indices of firms in Hong Kong. Of the three CSR indices, the Oxfam Blue Chip CSR index was ultimately selected mainly because Oxfam appointed the independent third party RepuTex-ESG to carry out research on 50 companies on the Hang Seng Index (HSI), accounting for almost 60 per cent of market capitalisation in the whole of Hong Kong, which thus produced the largest sample for this study. The Oxfam research examined companies based on four areas: corporate governance; environment impact; social impact; and workplace practices. The final sample of 23 companies, designated as “Oxfam selected” firms in this study, were chosen after removing banks and financial institutions, property developers and service-based companies, as indicated above. The final 23 Oxfam selected companies are from manufacturer, consumer services, energy, entertainment, material/resources; technology; telecommunication services, and transportation/logistics industries based on classification by FactSet. Another 132 “non-Oxfam selected” companies were identified based on the same criteria, i.e. including all non-financial, non-construction and non-service-based listed companies in Hong Kong, resulting

in a study sample comprising only companies with significant manufacturing operations. This is to ensure that the companies in the sample make regular purchases of raw materials from their trade suppliers, which thus produces measurable signals regarding their decisions and behaviour towards suppliers as reflected in the speed of their payments. This sample is used to facilitate the comparison of payment practices and performance for this study.

The variable of interest is a new construct in the form of Net Payment Days (NPDs), which is defined as actual payment days minus payment term days. The former representing the actually number of days it takes for the corporate buyer to pay its suppliers is derived from accounts payable to suppliers while the latter is proxied by accounts receivables based on payment days per industry standard. From a theoretical perspective, if a corporate buyer were to behave ethically toward its suppliers, it would pay the suppliers based on its receiving payment from its customers, i.e., accounts receivables. In this case, accounts payable days should be very close to accounts receivable days. On the other hand, if the corporate buyer stretches out payment to suppliers in an unethical manner, a significance difference will exist between account payable days and account receivable days.

After careful consideration of all available resources and the advantages and disadvantages of the different methods, this study investigates the issue using a quantitative approach based on accounting data obtained primarily from annual reports. The study examines the descriptive statistics of the samples to obtain an initial picture of the basic characteristics of the data captured, including the mean, the medium, the standard deviation and so on.

Furthermore, correlation analysis, multiple regression analysis, panel data analysis, the pooled ordinary least square (OLS) model, the random effect model (RE) and the propensity

score matching (PSM) technique will be applied to examine the relationships between all the data and how it behaves in terms of payment practices.

### **1.11 Objectives of the research**

As can be seen from the earlier discussions, good CSR-conscientious companies are companies that address the interests of stakeholders that extend beyond those of their shareholders. As suppliers are identified as part of the stakeholders' group, good CSR-conscientious companies should behave ethically towards them. As a key factor in the corporate buyer–supplier relationship is the payment practices of the corporate buyer, how CSR companies behave in this area is thus of interest from a CSR perspective. This is especially true when it is common in financial management practice to advocate the extension of supplier payment terms and to use suppliers' funds as a means of financing. This is in contrast to a CSR practice that addresses supplier interests. The main research objective of this study is to find out how “good” companies (i.e. companies that engage in CSR activities) behave towards their suppliers in terms of their payment practices, and what factors drive these payment practices behaviour. As such, this study shall firstly aim at obtaining evidence to facilitate an understanding of payment practices by corporate buyers towards their supplier counterparts and to examine these from an ethical and ESG performance perspective. Conceptually, corporate buyers who are concerned with CSR and ESG from an ethical perspective in order to perform a social good should pay their suppliers in a prompt and proper manner. Secondly, finding out if the interests of suppliers, both as providers of inputs for the provision of goods and services and as providers of funds to the corporate buyer, are well understood and addressed from a social perspective in the ESG framework. Payment practices represent an important issue in Asia, just as the issue of late

payments has been regarded in the western world, for example since the late 1990s in the UK, where Parliament passed the Late Payment of Commercial Debts (Interest) Act 1998, which enables UK businesses to charge other business customers interest on overdue accounts and to obtain compensation. However, neither “late payment” policies nor an awareness of the issue has been examined or explored in Hong Kong. It is of interest to find out whether companies that are considered to be CSR-aware have paid their suppliers on time in Hong Kong. Thirdly, we shall examine payment practices by firms in Hong Kong. As Hong Kong is a financial centre in Asia and a gateway to China, an emerging economic power in the world, it is of interest to academics, policymakers and practitioners to understand corporate conduct in this region. The study therefore explores the behaviour of listed companies in Hong Kong. Furthermore, to gain insights into the practices of companies that are concerned with CSR, i.e. “good” companies, and companies that are not, this research sets out to compare the payment performance of these two groups. The companies that are identified as “good/ethical” in the study are based on a sample from an independent third party, Oxfam and the Oxfam Blue Chip CSR Survey (Oxfam BC CSR). Finally, this research shall potentially influence CSR and ESG standards by offering evidence supporting the need to address the interests of suppliers in the same way as other stakeholders as opposed to treating them simply from a CSR compliance perspective.

This study consequently seeks to answer the following research questions (RQs):

RQ1: Are CSR-conscientious companies more likely to pay their suppliers on time or even ahead of schedule?

In order to answer RQ1, it is necessary to properly identify and measure payment practices. Although studies have previously been conducted on good payment practices in UK/Europe (e.g. San-Jose and Cowton, 2008; Cowton and San-Jose, 2017), no study has yet been performed today in Asia or in Hong Kong. Given that Hong Kong is one of the major financial centres in Asia and a gateway to China. If current CSR/ESG approach, as set out by the UN, the OECD, Bloomberg, etc., has provided appropriate guidance to CSR-conscientious companies, they will have taken of suppliers' interests into appropriate account. Otherwise, the suppliers' interest in the form of on-time payment may have been overlooked. With this in mind, the second research question considers whether CSR-conscientious companies, even if they have the ethical willingness to pay their suppliers early, may not have the financial ability to do so. Consequently, the question that needs to be addressed is:

RQ2: How has financial ability and ethical willingness affected payment practices by CSR-conscientious companies?

### **1.12 Contribution made by this research**

The research offers a few of new and original contributions, firstly, the data is examined using a novel concept and measurement of payment practices in terms of timeliness in the form of net payment days (NPD), measured as days payable outstanding

(DPO)<sup>7</sup> less days sales outstanding (DSO)<sup>8</sup>. This particular measurement uses to quantify the company payment practice which is utilised to potential finding answer for our RQ1 stated above. This is different from prior studies which have typically measured relationships between accounts receivable (AR) and accounts payable (AP) scaled by total assets rather than looking at them from payment days' perspective. Also, payment practices, in the form of NPD, is compared and examined in this research for a sample of CSR-conscientious companies (Oxfam companies) against a sample of control companies (non-Oxfam) to determine whether a.) there is a significant difference in terms of payment practices behaviour by CSR-conscientious companies versus the control companies, and b.) if the different is one of negative, i.e., CSR-conscientious companies pay their suppliers faster than the control sample of companies, or positive, i.e., CSR-conscientious companies pay their suppliers slower than the control sample of companies. Secondly, payment practices, in the form of NPD, is examined as a dependent variable against drivers of the corporate buyer's behaviour in the form of financial ability to pay. Financial ability is measure by a number of independent financial variables using regression methodology, i.e. cash%, cash flow%, current asset%, inventory turnover rate, change in inventory; inventory%, debt%, fixed asset% and profitability in terms of net income% (e.g. Abdulla et al., 2017, 2020). No prior research has examined this relationship of NPD against financial ability with companies in Hong Kong or in the western world. In addition to payment practices behaviour driven by the corporate buyer's financial ability, this research also builds on the Hersey and Blanchard (1969a, b) "willingness-ability" framework from the behavioural leadership literature and examined the willingness dimension that drives corporate buyer's payment practices

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<sup>7</sup> DPO is calculated using accounts payable multiplied by days in accounting period and the dividing the product by the cost of goods sold.

<sup>8</sup> DSO is measured by dividing the total accounts receivable by the total net credit sales and then multiplying the result by the number of days in the accounting period.

behaviour. Based on the Hersey-Blanchard willingness-ability framework, companies can then be classified into – “delinquent risks”, “dragged exploiters”, “willing payers” and “speedy goodies”, which has never been done and delivered additional understanding towards payment practices which led to possible answer for our RQ2 stated in section 1.11. Thirdly, this research also applies the propensity score matching (PSM) technique to the regression models, which has never been done before when analysing payment practices, and the sample of Hong Kong companies. Last but not least, in the process of searching for explanations for the behaviour corporate buyers in their payment practices, especially in CSR-conscientious firms, this research appears to have found signs that suppliers’ interests are overlooked in the current CSR/ESG frameworks, which focus on the suppliers’ role in CSR from a compliance perspective. In sum, this research is expected to contribute to the literature by providing an in-depth understanding of payment practices behaviour of CSR-conscientious firms as compared to other firms as well as insights of financial and behavioural drivers to the behaviour.

In terms of policy implications, it is hoped that the findings in this study can deliver changes to ESG frameworks so that greater attention is paid to suppliers as stakeholders and so that their interests are addressed. Furthermore, legislators would be able to appreciate that fact that ethical payment practices towards suppliers are crucial to the well-being of the SME sector and, consequently, the economy and society’s long-term sustainability. Laws could then be adopted to guide and govern ethical payment practices, in Hong Kong and elsewhere (see for example the Late Payment of Commercial Debts (Interest) Act 1998 in the UK), which would not only allow supplier companies to charge buyer firms interest on any overdue balance as compensation, but also promote a prompt payment culture in the business world.

Finally, from the perspective of professional organisations, it is hoped that disclosure requirements can be improved, especially when it comes to payment practices as a gauge of ESG performance. For example, the UK introduced guidance on the “duty to report on payment practices and performance guidance” in September 2019, which requires businesses to report their statistics on “1) the average number of days taken to make payments in the reporting period, 2) measured from the date of receipt of invoice or other notice to the date the cash is received by the supplier, 3) the percentage of payments made within the reporting period which were paid in 30 days or fewer, between 31 and 60 days, and in 61 days or longer, and 4) the percentage of payments due within the reporting period which were not paid within the agreed payment period” (p. 11).

Furthermore, the UK government’s guidance also requests qualitative descriptions of a business’s standard payment terms, which must include the standard and the maximum contractual length of time for payment of invoices as well as information on how suppliers are to be notified or consulted on changes in the contractual length and what process are in place for resolving payment disputes.

### **1.13 Summary of main findings**

Initial findings show that the “Oxfam selected” companies have mean net payment days (NPDs) that are higher than those of the “non-Oxfam selected” companies. In general, the results from the “non-Oxfam selected” companies reported negative NPDs, signify that these companies paid their suppliers faster than they received payment from their customers. In contrast, the “Oxfam selected” companies were characterised by positive NPDs, indicating that, even though these companies are supposed to be designated as CSR-conscientious firms,



these companies appear to consistently have longer payment days with delayed payments to their suppliers. From a conceptual perspective, all these results appear to be contrary to expectations (RQ2). The “Oxfam selected” companies did not perform as “ethical” or “good” companies as might have been expected, while the “non-Oxfam selected” companies behaved the other way round.

In order to further understand payment practices, based on NPDs, by the Oxfam and non-Oxfam groups, this study examines a number of key financial variables that might have an impact on payment practices (e.g. Abdulla et al., 2017, 2020). The results generated using various regression models indicate that NPDs are consistently positive and significantly related to the Oxfam selected dummy variable, suggesting that “Oxfam selected” companies tend to have higher NPDs, meaning that they pay their suppliers later. In fact, the results indicate that all the variables in the NPD1 model – Oxfam, cash flow, size, net income and inventory – are statistically significant for predicting the net payment date. Results obtained from the more robust PSM approach also suggest conclusions that are consistent with the findings based on methodologies from prior regression analysis, thus providing additional support for and also confirming the reliability and confidence of our earlier findings that “Oxfam selected” companies in fact pay their suppliers late when compared with their “non-Oxfam selected” counterparts (RQ2).

This study has found evidence suggesting that firms that are CSR-conscientious, with higher NPDs, tend to take longer to pay suppliers in comparison to “non-Oxfam selected” firms. This would contradict the argument that ethical firms, which concern themselves with CSR practices, will pay their suppliers on time. In addition to examining the influence of financial ability factors as drivers to the corporate buyer’s behaviour, this study also applies the

Hersey-Blanchard willingness-ability framework to examine payment practices (RQ6). The results in the “willingness” and “ability” analysis suggest that the firms in the “Oxfam selected” group, all with high NPDs, do NOT lack the ability to pay, but, rather, a deliberate act to hoard cash and drag out payments in the majority of cases.

#### **1.14 Implications for future research and practice**

With the current findings, a natural extension of the current research would be to apply the methodology used here to other countries. As mentioned, Hong Kong companies are chosen, in addition to the city’s status as an Asian financial centre, is the fact that Hong Kong is a first stop for Chinese companies in their attempt to adopt western practices and integrate into the global business community. Hence, this study leveraged Hong Kong’s special status to study Chinese firms, as China becoming a dominant player in the business world. Future study could potentially study Chinese companies directly.

In addition to applying the approach in this research to Chinese companies, it would also be interesting to examine how companies in other countries may behave. Another possible extension of the current research would be to apply the methodology to the post-Covid-19 period.

From a policy and practice perspective, it appears that the interests of suppliers as stakeholders have been overlooked in the current CSR approach, and ESG performance measurement framework. Rather than considering suppliers as stakeholders, the current frameworks focus on the monitoring of suppliers in terms of compliance. It would be of interest to research the impact of this on suppliers’ interests and, potentially, how they might

change if the current CSR framework and ESG performance measures were adapted to take suppliers' interests as stakeholders into more explicit account. The finding in this study appears to be consistent with financial management practices which advocates leveraging supplier funds by corporate buyers for operation, even though the practice is questionable from an ethical and CSR perspective. With the increasing concern of stakeholders' interests in addition to shareholders' interest, it may be appropriate for policy makers and decision makers to take into account of suppliers' interests in CSR policy and practices. This would be especially important as suppliers play as a key role in the value chain. Furthermore, with supplier firms tend to be smaller entities, and SMEs being key to economic well-being, the interest of suppliers is also important to the wider economic community.

### **1.15 Structure of the thesis**

**Chapter 2 – Literature review:** This chapter examines previous literature in the areas of corporate decision making and its relationship to stakeholders, thus providing a basis for determining how corporate decisions have evolved from a shareholder wealth-centric view focusing on profit maximisation, and whether this is indeed the result of the separation of ownership and control, to a consideration of the need to address the interests of other stakeholders in the form of CSR, the performance of which is measured in the form of ESG. Although suppliers are listed as one of the stakeholder groups in textbooks, their well-being has largely been ignored in reality. This is all the more true because late payment practices are frequently implemented by customer/buying firms in the relationship with these seller/supplier firms. The chapter therefore explores prior research conducted in the above-mentioned areas.

**Chapter 3 Background to ethical companies:** This chapter describes how ethical companies are potentially identified for the study. It examines the different methodologies used by a number of global ESG rating agencies and determines how ethical companies are identified in Hong Kong. These include the identification methodology used by the Hong Kong Quality Assurance Agency Corporation Social Responsibility Index (HKQAA CSRI), which produced only 11 listed companies in their CSR list, the Hong Kong Business Sustainability Index (HKBSI), which produced 20 listed companies as a sample, and the Oxfam Blue Chip CSR Survey (Oxfam BC CSR), which lists 50 companies in its index. My thesis studies the sample of companies identified in the Oxfam BC CSR survey because it included the highest number of companies in its survey. Moreover, Oxfam used an independent research company to conduct its survey in order to reduce possible bias.

**Chapter 4 Defining ethical payment practices in trade credit finance:** In this chapter, I look at various ways for defining and measuring payment practices that are “ethical and fair”. This entails first of all exploring different methods for defining and measuring payment practices and subsequently defining and measuring what may be considered as fair payment practices between customer/buying firms and supplier/seller firms as well as evaluating what has previously been assessed as fair payment practice. Cowton and San-Jose (2017) propose the view that the buyer/customer should pay its seller/supplier when it receives payment from its own customer/buyer, and the implication here is that “fair credit days” can be measured as the number of days that buying firms need to have their accounts receivable settled, i.e. AR days. Based on this, “fair” payment practices will be defined in this analysis as net payment days (NPD), measured as accounts receivable days less accounts payable days, and that the NPD should equal zero.

**Chapter 5 Methodology employed:** This chapter explores the methodologies to be employed when analysing the data on a multitude of variables related to the payment behaviour of companies. These include correlation analysis, regression analysis, panel data analysis and the propensity score matching (PSM) method using the variables defined in chapter 5. Also, data collected will be winsorized at 1% to handle any outliers.

**Chapter 6 Sample and data:** This chapter sets out to identify sample companies for the study. They include a group of companies that are considered “good” and ethical, i.e. the “Oxfam selected” companies taken from the Oxfam BC CSR Index. A sample of comparison companies is also carefully identified to provide context. In the final analysis, 23 companies are identified from the “Oxfam selected” group, after financial companies, construction companies and service-based companies have been filtered out, as, from the perspective of buyer behaviour towards creditors, they operate differently from the typical industrial company. Using the same criteria, a sample of 132 “non-Oxfam selected” companies are identified for comparison. Moreover, these 132 companies are also companies with manufacturing operations, thus ensuring that they make regular purchases of raw materials from their suppliers and have to make payment decisions in order to avoid any possible bias. The financial information of these firms is tracked over a six-year period from 2014 to 2019 inclusive, i.e. cash%, cash flow%, current assets%, inventory%, debt%, fixed asset%, net income%, size, DPO(w) using cost of goods sold (COGS) including depreciation expenses, DSO(w) calculated using gross AR, as well as DPO(x) excluding depreciation expenses in the calculation of COGS and DSO(x) using net AR in the calculation.

**Chapter 7 Empirical results: bivariate analysis:** The four NPD measures based on the different ways of calculating DPO and DSO, i.e. DPO(w) and DPO(x), and DSO, i.e. DSO(w) and DSO(x) as well as AP% – AR%, are examined using empirical data collected from both the “Oxfam selected” and the “non-Oxfam selected” companies. In the first part of the chapter, descriptive statistics, i.e., mean, media, minimum, maximum, 25 percentile, 75 percentile, and standard deviation, are calculated and investigated. The significance of the statistical measures for these measures of payment practices, APvAR%, NPD1 and NPD3, is further examined using the independent two-sample *t*-test, or Mann-Whitney test, to ensure the results generated from the descriptive statistics are not due to chance. In fact, the results consistently provide strong statistical evidence of significance in the mean values of both groups (“Oxfam selected” vs “non-Oxfam selected”), suggesting that the two groups are indeed different when it comes to payment practices, the difference is not due to sampling errors and consequently they adopt very different payment practices.

**Chapter 8 Empirical results: regression analysis:** This chapter examines payment practices in relation to potentially independent variables from a whole host of possible optimal linear specifications, where NPD is a dependent variable. These independent variables include a dummy variable for “Oxfam selected” companies, where “0” indicates “non-Oxfam selected” and “1” signifies “Oxfam selected” companies respectively. The various financial variables are studied using correlation analysis, multiple regression analysis, panel data analysis in the form of pooled OLS and the random effect model in this chapter, which then concludes with an analysis using the propensity score matching technique to confirm the robustness of the results obtained from the various regressions.

**Chapter 9 Payment practices and classification of companies:** The empirical findings from the earlier analysis appear to provide consistent evidence suggesting that “ethical” and “good” companies tend to have higher NPDs, i.e. longer periods for payment to suppliers. This chapter draws on additional financial information related to the buyer firm’s ability to repay and examines the possibility that these ethical buyers may be forced to delay payment not because of unethical practices (willingness), but because of a lack of liquidity (ability). This section looks into the application of the willingness verse ability framework to payment practices and comes up with four different classifications of companies: willing payers (high willingness and low ability), speedy goodies (high willingness and high ability), delinquent risks (high willingness but low ability) and dragged exploiters (low willingness and high ability).

**Chapter 10 Conclusion:** The concluding chapter reflects on the results obtained in the study and points out specifically that a key stakeholder, the supplier, is commonly overlooked as far as its well-being is concerned. This is especially true, as suppliers not only provide raw material and parts as inputs for buying firms, but also financing in the form of trade credit. The study also shows that, on the evidence of net payment days, NPDs, obtained from firms interested in CSR in Hong Kong, that these so-called CSR-conscious “ethical” companies do not, in fact, operate ethically when it comes to paying their suppliers on time, i.e. they are characterised by a high NPD.

The following chapter reviews the literature on finance and ethics as well as ethical practices in respect of stakeholder groups.

## **Chapter 2 – Literature review**

### **2.1 Introduction**

This research examines the social ethics implication of financial decisions made by firms in respect of their payment practices towards trade suppliers. This study views suppliers as stakeholders in the context of CSR, and examines payment performance by buyer firms in the environmental, social and governance (ESG) context as oppose to a shareholder value maximization context.

The study of finance relates to business activities in the areas of investing (or personal finance), borrowing (or corporate finance) and trading. This field of study has primarily been built on a platform that assumes rational behaviour in the form of wealth maximisation based on the self-interest of the decision makers involved (Smith, 1776). In modern corporate finance, this is translated into maximising the interests of the owners, i.e. the shareholders (Ross et al., 2018; Block et al., 2019; Brealey et al., 2020).

The objective of shareholder wealth maximisation has led to a number of questions in the field of corporate finance. First, do decision makers have the ability to maximize shareholder value (Simon, 1947, 1957), Cyert and March (1963). Second, in corporate structures with separation of management and ownership, would management as agents to owners make decisions that maximize shareholders' wealth (Berle and Means, 1932, Jensen and Meckling 1976). Third, are managers of corporations only responsible to shareholders, or should their decisions address the interests of other stakeholders (Bowen, 1953), and, finally, who are



these stakeholders (Ansoff, 1965) and what are the corporate's responsibilities (Carroll 1979), i.e., corporate social responsibilities (CSR)?

## **2.2 Factors affecting corporate decisions and the principal-agent relationship**

As discussed in the section above, a key driver to corporate decisions lies in the objective of shareholder wealth maximisation (Kolb, 2010; Ross et al., 2018; Block et al., 2019; Brealey et al., 2020). However, the concept of shareholders wealth maximization as a decision driver has been put into questions.

### **2.2.1 Bounded rationality in corporate decision making**

In view of the shareholder value maximization principle, Simon (1947, 1957), Cyert and March (1963) and Loasby (1976, 2004) raised doubt on whether corporate decision makers, with 1.) limited information and 2.) a limited capacity to process information, can truly pursue the objective of maximisation. As such, they put forth the concept of rational decisions within the bounds of ability and availability of information, hence, the term “bounded rationality”.

### **2.2.2 Corporate decisions and the principal-agent relationship**

In addition, with a structure that separates ownership and control in corporations (Berle and Means, 1932), Jensen and Meckling (1976) raise the question of “whose” interests should be addressed by corporate financial decisions, giving rise to Agency theory.

In the meantime, seminal study by Berle and Means (1932) and, later, Jensen and Meckling (1976) raised questions on issues arising from the “separation of ownership and control”. This separation gave rise to a complex relationship between corporate management and shareholders. More specifically, when management, acting as agents of shareholders (the principals), are responsible for the daily corporate decisions instead of the owner(s), “there is good reason to believe that the agent will not always act in the best interests of the principal” (Jensen and Meckling, 1976, p. 308), resulting agency risk. While such practices may be inappropriate, or even unethical, there were limited mechanisms for addressing these issues.

Jensen and Meckling (1976) initially attempted to address this inadequacy with the “black box” profit maximisation approach in the theory of the firm when explaining managerial behaviour in large corporations, as identified by Cyert and March (1992) and Williamson (1964, 1970, 1975). The authors’ view of the relationship between ownership and control was significantly influenced by the work of Coase (1937, 1959, 1960, 1964), who characterised the bounds of the firm as the range of exchanges accomplished by authority and direction. Their conclusion that the relationship is an agency relationship under a contractual arrangement, however, can be traced to the work by Alchian and Demsetz (1972), and Hart and Holmstrom (1986), who looked at the role of contracts in the firm, which viewed the relationships between owners and management from an agency contract perspective

As such, agency theory views the firm as a set of contracts among individuals with interest in the firm. In the owner-management scenario, an agency relationship is created when the owner (principal) authorizes the management (agent) to act on his or her behalf. An agency

risk may arise when the agent acts opportunistically and not in the best interests of the principal.

The need to address the issues arising from the separation of ownership and control and from agency theory has been well illustrated throughout history, from events involving firms founded in the 1700s, such as the South Sea Company, to more recent incidents affecting Fortune 500 companies, such as Enron and WorldCom, and even major audit firms such as Arthur Andersen at the turn of the century or large investment banks such as Lehman Brothers in 2008. These and other cases have provided continuous evidence of practices in the agency context that result in significant impact not only on investors, but also on wider society, both domestically and globally. These led to the need for a contract or agreement to be designed to eliminate or minimize the potential risk of inappropriate act by the agent.

Indeed, the multiplicity of the many relationships among the different principals, e.g., equity owners, bondholders, etc. and the various agents, not only led to a whole host of contracts, but the continuous development of governance systems that address the needs of the different stakeholders, e.g., minority stake investors.

Taking the multiplicity of the contracts into a broader perspective, the question arises of “whose” interests corporate decisions should cater to. To address the need to align the interests of agents and shareholders, Jensen and Meckling (1976) proposed putting systems that include “auditing, formal control systems, budget restriction” in place (p. 328).

### **2.2.3 CSR in corporate decisions**

Indeed, additional dimensions to issues in corporate decision making was mentioned in Bowen (1953) where he raised the issue of the “social responsibilities of the businessman”. While Friedman (1962) argued in his book *Capitalism and Freedom* that “there is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud” (p. 133), McGuire (1963), countered that the “idea of social responsibilities supposes that the corporation has not only economic and legal obligations, but also certain responsibilities to society which extend beyond these obligations” (p. 144). However, until an accepted definition of these “responsibilities of companies” can be arrived at, a company’s pursuit of its social responsibility will remain a significant challenge (Backman, 1975).

#### **2.2.4 Stakeholders in corporate decisions**

Freeman (1984) attempted to refine corporate responsibilities and coined the term “stakeholders” in the corporation, raising awareness of the relationships of a company and its many stakeholders. This expanded definition of stakeholders beyond shareholders to encompass parties that are closely related to the corporation and its activities, including employees, customers, community members, competitors, vendors, contractors, and shareholders. Stakeholders could also be institutions, like banks, governmental bodies, oversight organizations, and others. Together with the view propounded by Alchian and Demsetz (1972) and Hart and Holmstrom (1986), that the firm is a collection of contracts, this means the firm has a duty not only to increase value for shareholders, but also to cater to the needs of related stakeholders in stakeholder theory.

### 2.2.5 Stakeholders and CSR

Carroll (1979) expanded the stakeholder concept as well as the contractual responsibilities to the field of CSR, where firms not only have a duty to shareholders, which Carroll identified as an economic responsibility, but also to address the issues of other related parties in terms of the law, i.e. legal responsibility, ethics, i.e. ethical responsibility, as well as philanthropic and discretionary responsibility. Table 2.1 below illustrates Carroll's view on CSR.

**Table 2.1: Carroll's categories of social responsibilities**

<b>Categories of social responsibilities</b>	Discretionary responsibilities
	Ethical responsibilities
	Legal responsibilities
	Economic responsibilities

According to Carroll (1979), economic responsibilities are “the first and foremost social responsibility of business”. As a corporation exists as a “basic economic unit”, it “has a responsibility to produce goods and services that society wants and to sell them at a profit” (p. 500).

As far as legal responsibilities are concerned, Carroll (1979) views these as the “ground rules” where “society expects business to fulfil its economic mission within the framework of legal requirements” (p. 500).

Indeed, prior to Carroll (1979), economic contracts and legislation were deemed sufficient to ensure proper corporate behaviour towards stakeholders. Coase (1937) suggests that private transaction allocations can be efficient when a small number of parties are involved and

transactions costs are low, thus supporting decisions to select alternatives. Market-based decisions, however, would fail to address the issue of fairness when external stakeholders' transactions costs are high, e.g. one party is unable to negotiate with the other party on an equal basis or to exercise the decision to pursue an alternative course of action. These scenarios, directly or indirectly, produce the justification of the use of legislation by governments as remedies (Stiglitz, 1989). Examples of laws that address the interests of external stakeholders include the Consumer Rights Act, 2015 (for consumers), the Sarbanes-Oxley Act, 2002 (for investors), the National Minimum Wage Act, 1998 (for employees), the Environmental Protection Act, 1990 (for the environment) and the Fair-Trading Act, 1973 (for businesses).

However, there are challenges as to whether the law can actually restore Pareto optimality or merely represent “second best” alternatives (Lipsey, 2007). Indeed, it is clear that legislation cannot be perfect and constitute a complete code, as it is frequently insufficient for meeting moral standards (Gottlieb and Sanzgiri, 1996; Appelbaum, et al., 2009). Moreover, because of the complex nature of social culture and dynamics, Di Lorenzo (2007) argues that laws are ineffective in making companies behave ethically.

Firms therefore have ethical responsibilities. Carroll (1979) states that these are “behaviours and activities that are not necessarily codified into law but nevertheless are expected of business by society's members” (p. 500). Where ownership and control are separated, the concern is that situations can arise where a certain flexibility can exist that facilitates management decisions that may be within legal boundaries, but might not be consistent with the interests of the owners. Management decisions and actions, in these cases, may then be

determined as unethical. It is then the responsibility of the corporation to ensure that its ethical responsibilities are fulfilled.

At the highest level in the framework put forward by Carroll (1979) stand the discretionary responsibilities of companies. These are purely “voluntary”, they are “not mandated, not required by law, and not even generally expected of business in an ethical sense” (p. 500), and they include philanthropic contributions for example.

Given the four fundamental levels of responsibilities, at issue is how “a manager attempts to get a fix on what social issues should be of most interest to the organisation” (Carroll, 1979, p. 501). To address this, Carroll incorporates the corporate social responsiveness framework proposed by Wilson (1975) in his model. The corporate social responsiveness framework sets out to examine the capacity of a corporation to respond to social pressures (Frederick, 1978). Wilson proposed a four-type responsiveness approach ranging from reaction (i.e. similar to doing nothing in the meantime) to defence to accommodation to pro-action (i.e. “do much”). The result of combining Carroll’s four levels of CSR with Wilson’s corporate social responsiveness framework is the two-dimensional CSR model displayed in table 2.2 below (adapted from Carroll, 1979, p. 503).

**Table 2.2: Corporate social responsibilities x corporate social responsiveness**

<i>Philosophy of social responsiveness → Categories of social responsibilities ↓</i>	Do nothing				Do much
	<i>Reaction</i>	<i>Defence</i>	<i>Accommodation</i>		<i>Proaction</i>
Discretionary					
Ethical					
Legal					

<b>Economic</b>				
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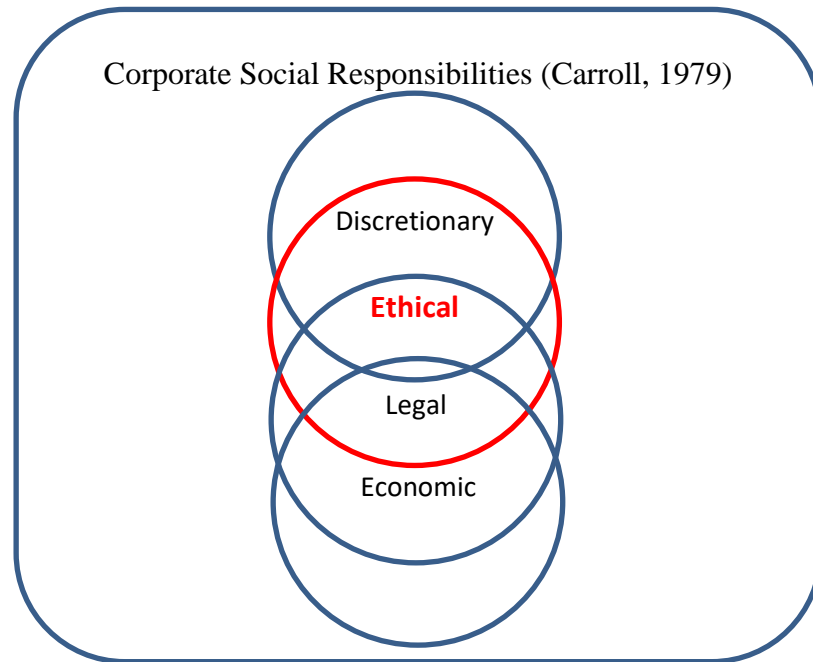
The review so far on ethics, corporate governance and CSR serves as an in-depth examination of the impact the practice of separation of ownership and control by modern corporations has on corporate decisions. More specifically, if control by management is separated from owners, would management make decisions that are in line with the owners' interests?

Clearly, given the separation, there is room for potential abuse and unethical practices. Unethical practices by management, as agents, against shareholders, as principals, have been addressed in the form of agency costs – by Jensen and Meckling (1976) – and, more specifically, in the form of governance practices and structures (Tricker, 1995, 2019). However, when we broaden the perspective of a corporation's interest groups to “stakeholders” rather than simply shareholders, issues beyond governance structures emerge in the form of corporate social responsibility, or CSR.

Synthesising the analyses above delivers important insights into the relationships between ethics, corporate governance and CSR. First, given that Carroll (1979) classifies ethics as one of four levels of CSR, ethical practices are naturally a subset of CSR. The relationship between CSR and the four responsibilities is displayed in figure 2.1 below.

**Figure 2.1: CSR and the four responsibilities**





There are overlaps between the four categories of responsibilities. As Carroll (1979) argued, “these four categories are not mutually exclusive” (p. 499). As our focus is on ethical practices in this research, the position of ethics is highlighted in the figure.

#### **2.2.6 CSR and governance in corporate decisions**

Kroos and Schwab (1971) put forth that for a corporation to be able to achieve long-term growth and prosperity, it must address not only the shareholders’ interests, but also the interests of all stakeholders. As Jensen and Meckling (1976) also suggest, governance issues at a company can also arise from the conflicts between the company's owners (shareholders), its managers and the stakeholders who provide debt finance. Freeman and Reed (1983) and Riyadh et al. (2019) advocate the consideration of stakeholder interests at the level of the board of directors, while Freeman (1984) suggests incorporating stakeholder interests in company strategies. Since then, the area of study has expanded from the focus on the interests of shareholders and bondholders to include “non-financial stakeholders such as employees,

suppliers, customers, and other interested parties” (Farinha, 2003). Hence, in addition to the agency issues arising from the separation of ownership and control, the concern over multi-stakeholders and its rising to the board level resulted to changes and development at the highest level in the form of board decisions (Shleifer and Vishny, 1997; John and Senbet, 1998; William and Ryan, 2007). Indeed, John and Senbet (1998, p.372) in governance frameworks (Tricker, 1995, 2019) where “mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected” are examined. Tricker (1995, 2019) provided comprehensive reviews of academic work in this area, which covered board structures, the role and responsibilities of directors, board activities, the performance roles and conformance roles of the governance system, as well as governance structures appropriate for specific groups (public companies, family firms and non-profit groups), resulting an expanded examination that has further broadened the need for companies to address the interests not only of owners but also of stakeholders in their decisions within a corporate social responsibility context (Elkington, 1998; Windsor, 2013; Cassimon et al., 2016), and propose a more comprehensive definition.

Beyond the academic arena, corporate governance principles have been most prominently put into practice from a legal perspective in the US with the introduction of the Sarbanes-Oxley Act in 2002 (section 302), which requires the CEO and the CFO of a publicly listed company to certify in their company’s annual and quarterly reports that they have fulfilled their corporate responsibilities. Globally, governance guidelines have been drawn up by leading world organisations such as the World Bank (2001) and the OECD (2015). The Organisation for Economic Cooperation and Development (OECD) (2015, p. 9) expanded the scrutiny of corporate governance to include the “set of relationships between a company's management, its board, its shareholders and other stakeholders”. The result is an expansion of stakeholder

interests and at the board level in the corporate governance area in a “system by which companies are directed and controlled” (Cadbury 1992, p. 15).

Indeed, this interest in governance has since evolved to become part of the ESG movement that addresses corporate responsibility towards the environment, society and other stakeholders in an appropriate governance structure and, together with the issue of the separation of ownership and control in public companies, has been reasonably well covered by studies in the area of corporate governance. One finding of these studies is that:

... shareholders of publicly held corporations and the directors whom they elect are commonly recognised as having *de jure* control, but these shareholders and directors, as well as the managers, who typically exercise *de facto* control, are subject to the power of many groups which, acting within their legal rights, strongly influence, and often determine, corporate decisions. (Boatright, 2014, p. 254)

Furthermore, corporate governance practices have been addressed from a legal perspective in the US with the introduction of the Sarbanes-Oxley Act in 2002, section 302 of which requires the chief executive officer (CEO) and the chief financial officer (CFO) of a publicly listed company to certify that they have fulfilled their corporate responsibilities in their company’s annual and quarterly reports.

Challenges arising from this behavioural perspective are illustrated in Kolb (2010, p. 39), who points out that profit maximisation may lead to an “extremely unequal (or perhaps any unequal) division” and goes on to suggest that an extremely unequal division may offend

“against our sense of fairness and we tend to punish those who treat us unfairly.” He concludes that:

Successful firms know that they must treat their employees and customers with a modicum of dignity, respect, and fairness. They cannot treat these constituencies with blatant unfairness and escape reprisal. Thus, an adequate finance theory must expand its conception of rationality to correspond more accurately to human nature and must adjust its prescriptions for financial management to a model more true to human behaviour. Kolb (2010, p. 40)

Based on the above, and especially in view of Kolb’s discussion of how rational corporate decision makers may focus on maximising shareholder value only at the cost of other stakeholders, e.g. employees and suppliers, it is clear that ethics in financial management is an area that needs to be examined.

A report by the Committee for Economic Development in 1971 acknowledged a significant movement in the relationship between business and society, noting that:

Business is being asked to assume broader responsibilities to society than ever before and to serve a wider range of human values. Business enterprises, in effect, are being asked to contribute more to the quality of American life than just supplying quantities of goods and services. In as much as business exists to serve society, its future will depend on the quality of management’s response to the changing expectations of the public. (p. 16)

In 2015, the Organisation for Economic Cooperation and Development (OECD) (2015, p. 9) expanded the scrutiny of corporate governance to include the “set of relationships between a company's management, its board, its shareholders and other stakeholders”.

This came into particular focus when Jensen and Meckling (1976) adopted the view that a firm is “the nexus of a set of contracting relationships among individuals” (p. 313), which increases the attention paid to the interests of the other individuals who have (contractual) relationships with the firm, e.g. customers, employees, managers, etc. Carroll (1979) further explored these relationships and extended these “individuals” related to the firm’s concept beyond contractual responsibilities to CSR, where firms have an economic responsibility not only to their shareholders, but also to society as a whole, to legal responsibilities and ultimately to responsibilities that go beyond the legal and are found in the form of ethical responsibilities.

With Boatright (2014, p. 224) observing that many “groups have a claim on a corporation’s revenues”, ethical practices in financial management decisions, which are typically carried out with the objective of shareholder wealth maximisation, is an area that warrants academic interest. This is the case as ethical practices in financial management is not only an area beyond that of corporate governance, which examines management’s allocation decisions that represents a departure to those of shareholders’ interest, it also represents examination of ethical financial practices towards other stakeholders that may result in further social implications. For instance, Kolb (2010) raises the point that trade credit, defined as delayed payment extended by a seller to a firm, represents an important contractual relationship in corporate financial management, and related payment practices may entail ethical implications on the part of the buyer, and paying, firm. This is especially the case when the

buyer firm makes payment after the agreed credit term. Indeed, the practice of late payments by a buyer (customer) firm to its seller/supplier counterpart is unfair and unethical, and Solomon (1993) described it as a “steal”, (Cowton and San-Jose, 2017, p. 679).

The following sections provide in-depth reviews of the literature regarding the various related areas of ethical financial decisions and practices by buying firms in respect of supplier firms.

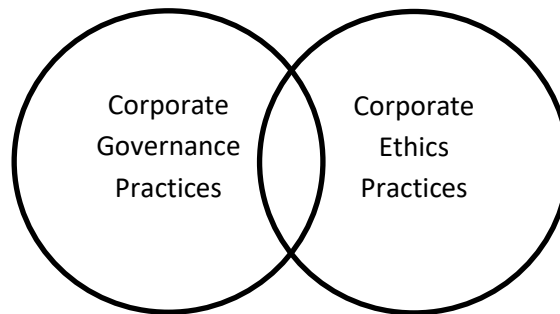
### **2.3 Ethics, corporate governance and CSR**

In their original work, Jensen and Meckling (1976) came to the view that, as the firm is “the nexus of a set of contracting relationships among individuals... the firm is not an individual” (p. 313) and cannot have a social responsibility.

By combining Jensen and Meckling (1976) and Carroll (1979), we can come to the conclusion that governance structures are put in place to ensure ethical decisions are made by the corporation (management) with regard to the shareholders, and this is only a subset of corporate social responsibilities. Separately, the relationship between corporate governance practices and ethical decisions can be represented by two sets, drawn as two circles in figure 2.2 below. Based on this figure, it is obvious that the objective would be to maximise the area of intersection between the set of corporate governance practices and the set of corporate ethics as much as possible. Panel a illustrates a common relationship between the two where there is a certain degree of overlap, with corporate governance practices addressing some corporate ethics issues. An extreme would be a complete overlap as illustrated in panel b, indicating that ethical issues are completely addressed by corporate governance issues. Panel c represents the other extreme where corporate governance practices (system) have no impact on corporate ethical practices and vice versa.

**Figure 2.2: Corporate governance practices and corporate ethics practices**

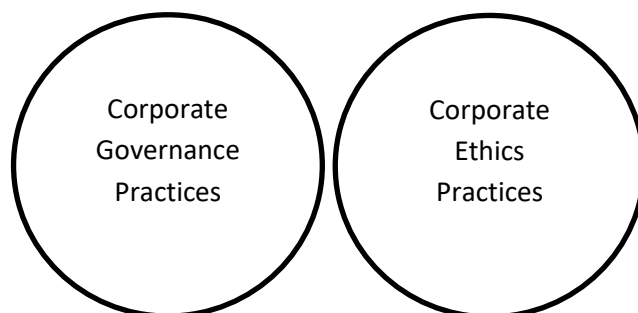
**Panel a.**



**Panel b.**



**Panel c.**



These analyses provide useful guidance for governance and ethical practices in other stakeholder sectors in society.

## **2.4 Ethics and CSR for non-shareholder stakeholders**

With management separated from ownership, Jensen and Meckling (1976) bring out attention to potential unethical decisions by corporations affecting owners. Freeman (1984) broadens the application and draws attention to the ethical implications of corporate decisions that go beyond shareholders to affect other stakeholders. But who are these other stakeholders?

In his original work, Carroll (1979) suggests applying his CSR model to a “range of issues” (p. 503) comprising six groups of stakeholders/areas: (1) consumers; (2) the environment; (3) discrimination; (4) product safety; (5) occupational safety and (6) shareholders.

Shareholders’ interests are addressed by corporate governance practices and systems (Tricker, 1995, 2019), so attention should be devoted to ethical practices in the other areas.

While consumer and product safety practices address consumer interests, occupational safety practices look to safeguard the interests of employees as stakeholders, which typically also include discrimination, e.g. age, sex etc. It is also useful to note that discrimination against certain types of consumers can also exist, e.g. banking charges imposed on accounts containing a low balance, which are typically held by senior citizens. Corporate decisions in this area have implications for society in general. Environmental protection, in the meantime, addresses issues involving corporate decisions that impact nature and the sustainability of the Earth and its resources. The result of all this is that Carroll’s range of issues are logically classified into three key categories: environment, social and governance. This in turn produces the ESG model of CSR management, which is displayed in table 2.3 below.



**Table 2.3: ESG categories of Carroll’s “range of issues”**

<b>ESG categories</b>	<b>Six issues identified by Carroll (1979)</b>
Environmental	1. Environment
Social	2. Consumer; 3. Product safety; 4. Occupational safety; 5. Discrimination
Governance	6. Shareholders

Three distinct dimensions in CSR are derived from this: an environmental dimension (E), which addresses a company’s practices from the perspective of long-term sustainability with regard to nature and natural resources; a social dimension (S), which addresses a company’s relationship with society, including consumers and employees; and a governance dimension (G), which deals with a company’s management and ownership rights. The ESG dimensions have since been adapted by Elkington (1998) as key measures of corporate performance in the form of the “triple bottom line”.

## **2.5 Ethical implications for finance**

The “triple bottom line” approach has certainly focused attention on ethical practices in the area of finance. Taking the approach further, Boatright (2014) argues that, in actuality, many “groups have a claim on a corporation’s revenues”.

From a finance and investment perspective, Boatright (2014) examines studies in financial ethics and looks at the moral issues that arise in (1) *personal finance*, which covers sales practices, credit cards, mortgage lending, etc., (2) *investment*, which covers mutual funds, relationship investing, microfinance etc., (3) *financial markets*, which covers insider trading,

etc., and (4) *financial management*, which covers corporate objectives, risk management, bankruptcy and governance.

As Boatright suggests, the academic field of financial ethics is relatively new and largely neglected. He attributes this to two causes. First, “ethical issues in finance are often perceived as *merely* legal or regulatory matters.” This results in a role of “prescribing conduct and developing rules to law and regulation or to public policy.” However, as argued in the preceding section, e.g. Carroll (1979), legalistic compliance is typically insufficient for addressing ethical issues. Indeed, Coleman (2010) found, after necessary filtering, that of 396 firms from the S&P 500 index, “just over a third did not have an ESG (Environmental, Social, and Governance) breach” (p. 253). Second: “Within finance theory, ethical issues are typically conceptualised as side constraints, externalities, or market failures” (Boatright, 2010, p. 4). However, as Appelbaum, et al. (2009) suggest, “there has been a marked increase in the study of, and in the demand for, business ethics and corporate ethics in the last 30 years largely due to corporate misconduct” (p. 530).

In fact, a micro-level study by DeLoughy et al. (2011), which was based on a survey of members of a large national finance professional association on items pertaining to organisational and managerial ethics, found that while 90.5% of participants reported that their organisation has a written/published code of ethics and 82.7% reported that the codes were very strictly or strictly enforced (p. 12), only 69.9% concurred that “my organisation has a strong commitment to social responsibility beyond the interests of shareholders”, while 60.3% agreed that “as long as corporates generate acceptable shareholder returns, managers have a social responsibility beyond the interests of shareholders” and 40% accepted that the

“socially responsible manager must occasionally place the interests of society over the interests of the company” (p. 15).

When CSR fails at both the economic and the legal level, Boatright concludes that, while the academic study of finance ethics is relatively new, it is important to understand them, as they represent the issues and norms that “form the basis of much of the regulation of financial markets and institutions, including industry and firm self-regulation” (Boatright, 2010, p. 4).

## **2.6 Ethical practices in financial management**

From the above examination, and especially in view of the discussion in Kolb (2010) on how rational corporate decision makers may only focus on maximising shareholder value at the cost of other stakeholders, e.g. employees and suppliers, it is clear that ethics in the area of financial management is an area that needs to be examined.

Financial management as defined in Boatright (2014) “is a function within a corporation, usually assigned to a chief financial officer (CFO) and his or her staff, which is concerned with raising and deploying capital” (p. 223). These activities are typically carried out with the objective of shareholder wealth maximisation (SWM) (p. 224).

However, in a structure that typically separates ownership and control in public companies, the ethical nature of management’s decisions has come to the forefront of financial ethics studies in financial management since the issue was raised by Berle and Means (1932).

To date, the issue of the separation of ownership and control in public companies has been reasonably well covered by studies in the area of corporate governance. In summary:

Shareholders of publicly held corporations and the directors whom they elect are commonly recognised as having *de jure* control, but these shareholders and directors, as well as the managers, who typically exercise *de facto* control, are subject to the power of many groups which, acting within their legal rights, strongly influence, and often determine, corporate decisions. (Boatright, 2014, p. 254)

Furthermore, corporate governance practices have been addressed from a legal perspective in the US with the introduction of the Sarbanes-Oxley Act in 2002 (section 302), which requires the CEO and the CFO of a publicly listed company to certify in their company's annual and quarterly reports that they have fulfilled their corporate responsibilities.

Studies and practices in the area of corporate governance, however, have not addressed whether maximising shareholder wealth is in fact an appropriate objective of a firm, especially in light of the presence of other stakeholders. As Boatright indicates, many groups can lay claim to a corporation's revenues:

These include bond-holders, who have claims for interest and principal payments; employees, who have claims on revenues for pay of wages; suppliers, who have claims for the payment of materials; government, which has claim for payment of taxes; and so on. (Boatright, 2014, p. 256).

While the shareholders have obviously paid in equity capital to support the operations of the corporation, each of the other claimants has also made a contribution to those operations.

A possible reason why the interests of these claimants/stakeholders have been overlooked, in contrast to the relatively high attention paid to those of the shareholders, may be that the claims of these stakeholders are fixed in nature, whether they are wages, taxes, interest and principal or trade payables. Furthermore, these claims are also senior in nature to those of the shareholders. These claims are thus typically deemed less risky in comparison with equity claims.

## **2.7 Financial ethics issues and the implications of bankruptcy for non-shareholder groups**

While the fixed, and senior, nature of the claims of non-shareholder groups may have resulted in them attracting reduced attention in the governance literature because of the perceived lower risk, issues of concern from an ethical perspective remain. Indeed, the very fact that they have traditionally received less attention, creating the potential that their risks will go unnoticed, makes them a legitimate concern.

Given that “risk is central to finance” and, of the different types of risks, credit risk is one of the main types (Boatright, 2014, p. 235), creditors – employees, suppliers, debt holders and the government – to whom payables and debts are owed are exposed to the hazard that these may not be repaid and are thus subject to the possibility of default and bankruptcy.

### **2.7.1 Payables to debt holders**

Ethical issues may arise:

... from the use – or some would say, abuse – of bankruptcy protection... to defer or avoid payments, renege on contracts, stop litigation, evade legal liability, break unions, and get rid of pension plans. Instead of being a last resort in a fight for survival, bankruptcy has become, in the view of its critics, just another management strategy for maximising profits. (Boatright, 2014, p. 244).

In these cases, non-shareholder groups face risks and issues involving financial ethics and it is only appropriate that their needs here should be looked into.

Studies on ethics and debt issuers typically focus on the cost of debt to the issuer. In this area of study, the general belief is that a company that is ethical will represent a more sustainable and, hence, low risk operation. As a result, ethical firms should achieve a lower cost of debt.

However, empirical evidence to date paints a rather different picture. Menz (2010), Goss and Roberts (2011) and Magnanelli and Izzo (2017) all find evidence suggesting that measures of high ethical practice are related to a high cost of debt. While this appears counterintuitive, a reasonable argument that has been proposed suggests that “banks do not attribute to CSR practices an important role in reducing the operating risk facing by the firms” (Magnanelli and Izzo, 2017, p. 260). Indeed, as Menz points out (2010, p. 129), “credit ratings already to some extent include governance, environmental and social issues, an extra CSR rating does not seem to add informational value to bondholders.”

In practice, furthermore, lenders typically design contracts with mechanisms that give them the ability to continuously monitor and protect their position with covenants. It should therefore be of no surprise that further ethical behaviour can help reduce the cost of debt. It is interesting to note that a study by Ye and Zhang (2011) found a U-shaped cost of debt relationship for companies in China. In their research, companies with low ethical practices (as measured by a CSR score) and companies with high ethical practices both face a high cost of debt, suggesting that, for Chinese companies, there may be an optimal level of ethical practice. This evidence does not contradict findings in the west, as credit markets are less developed in China, which renders credit ratings in the market less informative.

### **2.7.2 Payables to employees**

Payables to employees can be classified into two types, firstly short-term payables in the form of salaries and wages and, secondly, long-term payables in the form of pensions, with exceptions in certain jurisdictions where employee pensions are a state responsibility.

The risk of the non-payment of salaries and wages is an area where employees are well protected by labour laws in many jurisdictions that have mechanisms in place for settling claims, e.g. the Labour Tribunal in Hong Kong.<sup>9</sup>

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<sup>9</sup> The Labour Tribunal is a court service provided by the government of the HKSAR that settles monetary disputes between employees and employers. The most common items of claim lodged by employees include: 1) wages due for work done; 2) wages in lieu of notice of termination of a contract of employment by an employer without giving the required notice; 3) payment for statutory holidays, annual leave or rest days; 4) severance pay, long service payment or terminal payments; 5) end of year payment, double pay or annual bonus; 6) commission; and 7) unpaid wages of up to two months asserted against the principal contractor and superior sub-contractors in the building and construction industry.  
[www.judiciary.hk/en/court\\_services\\_facilities/labour.html#1](http://www.judiciary.hk/en/court_services_facilities/labour.html#1)

With regard to long-term pensions paid by companies to employees, these vary depending on the jurisdiction, e.g. state pensions are paid in China, and company practices, e.g. whether they set up a defined contribution plan or a defined benefit plan and whether the plan is outsourced to a pension fund or otherwise. Given the diverse regulations, policies and practices, this study does not address the ethical dimension of corporate pension management at this time.

### **2.7.3 Payables to government**

The non-payment of tax liabilities to government comes in two types. First, there are non-payments prompted by tax strategies in the form of avoidance (but not evasion). Tax avoidance is an attempt to use “loopholes” to reduce tax liabilities and is legal within the regulatory framework and code. Furthermore, corporations engaged in tax avoidance strategies typically pay tax accountants and tax advisors. As a result, there are no significant legal implications. The second type of non-payment to government is non-payment as a result of business failure. In this case, the bankruptcy code helps determine who gets paid what defined amount and in what order, so while non-payments due to bankruptcy can be complex matters, these complexities are clearly addressed by bankruptcy codes and procedures.<sup>10</sup>

### **2.7.4 Payables to trade suppliers**

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<sup>10</sup> The bankruptcy code and procedures are listed in detail on the website of the Official Receiver’s Office, which was established on 1 June 1992 and performs various statutory functions relating to insolvency in the HKSAR. It also acts as the liquidator and trustee of last resort in the administration of both corporate and personal insolvency cases.

[https://www.oro.gov.hk/eng/our\\_services/publications/bankruptcy/simple\\_guide\\_on\\_bankruptcy.html](https://www.oro.gov.hk/eng/our_services/publications/bankruptcy/simple_guide_on_bankruptcy.html)



For payables to trade suppliers, Sorell and Hendry (1994, p. 138) point out that “suppliers are not always included in the list of a firm’s stakeholders, but they deserve to be”. This is especially true, as many companies use suppliers and subcontractors instead of employees in order to circumvent legislation that governs employment, which tends to be more stringent. Indeed, Sorell and Hendry (1994) argue that a company’s obligation to suppliers “should be greater than to employees, since employees give only of their time while the subcontractors also invest their savings” (p. 139).

The lack of attention paid to trade suppliers continues in Blowfield and Murray (2011), who include seven areas comprising, labour, the environment, human rights, bribery, anti-money laundering, governance and reporting in their group of stakeholders, but where suppliers are not explicitly mentioned. Indeed, the authors argue that the key concern involving suppliers is not one of the supplier’s interests, but rather one of ethical sourcing and fair trade that focuses on conditions of production and labour standards. The next section takes an in-depth look at who trade creditors are and the economic significance of their role.

## **2.8 The role of trade credit and suppliers as a credit funding alternative**

With trade suppliers as an overlooked stakeholder (Sorell and Hendry, 1994; Blowfield and Murray, 2011), it is important to explore the role of trade credit further. Trade credit is defined as credit extended by a seller, in the course of business, who does not require immediate payment for delivery of a product. This is typically done to facilitate sales transactions. From the buyer’s perspective, trade credit is frequently utilised as an important source of funds.

As discussed earlier, “suppliers are not always included in the list of a firm’s stakeholders, but they deserve to be” (Sorell and Hendry, 1994, p. 138), as many companies turn to subcontractors, rather than employees, in order to get around labour protection legislation governing employment. The use of suppliers can thus be viewed here in management accounting literature (Horngren et al., 1990) as the result of a make-or-buy decision, as many of the products or services provided by the supplier firms could in fact be internalised as part of the customer firm’s production processes. In these scenarios, the role of the suppliers is not too dissimilar to that of employees, and their existence is simply the natural result of the buy aspect of the make or buy decision, i.e. outsourcing, which arises from the corporation’s rational choice not to take on employees in this role, i.e. the make aspect of the make or buy decision. Because of this, the argument that Sorell and Hendry (1994) put forward that a company’s obligation to its suppliers “should be greater than to employees, since employees give only of their time while the subcontractors also invest their savings” (p. 139) certainly has merit.

As Kolb (2010) suggests, trade credit is an important contractual relationship in corporate financial management. As stated above, trade credit is defined as credit extended by a seller/supplier, in the course of business, who does not require immediate payment for the delivery of a product. From the buyer firm’s perspective, then, trade credit facilitates the use of supplies without the need to pay for them in the short term. As a result, an entry on the liability side of the balance sheet is created in the form of AP. This outstanding balance on the buyer firm’s balance sheet is also frequently regarded as a source of funds for its operations.

At issue is the fact that this funding is sometimes regarded by the buyer firm as interest-free financing, e.g. for 30 days before payment is contractually due. This gives rise to an incentive on the part of the buyer firm for the unethical practice of delaying payment to the supplier firm. Clearly, under normal circumstances, when the cost of money is non-negative, this funding is not “free”, but rather is absorbed by the seller/supplier firm as a cost, in the form of an extension of an interest free loan, of doing business with the buyer firm (Ng et al., 1999; Van Horne and Wachowicz, 2001; Stern and Chew, 2003).

## **2.9 Macroeconomic significance of trade credit**

With trade credit playing a significant role in corporate funding, this section looks at the significance of this form of funding from a macro perspective.

Ng et al. (1999) examine trade credit from a macroeconomic perspective and finds that during the 1990s vendor financing, i.e. trade credit provided by sellers/suppliers, represented approximately 2.5 times the combined value of all new public debt and primary equity issued. Furthermore, the authors conclude that, in the form of AP, trade credit exceeds the primary money supply M1 by a factor of 1.5 on average.<sup>11</sup>

In fact, Nilsen (2002) finds that during periods of monetary contractions, both small and large firms incur more accounts payable, i.e. they use trade credit, to finance their operations. Choi and Kim (2005) find that both accounts payable and accounts receivable increase for US

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<sup>11</sup> M1 is typically defined as a country’s basic money supply, which includes physical currency and coin, cheques, including travellers’ cheques, but excludes near cash such as liquid financial assets.

companies when the government implements a tighter monetary policy. This increase in the use of trade credit is also observed during the subprime financial crisis (Yang, 2011).

In sum, trade credit provided by seller/supplier firms is a general substitute for financial credit obtained from banks by buying firms (Petersen and Rajan 1997; Cunat 2007) when bank credit is difficult to come by (Gertler and Gilchrist 1994; Jaffee 1969; Nilsen 2002; Schwartz 1974), or during economic downturns (Smith 1987; Walker 1991).

From a balance sheet funding perspective, Seiden (1964) suggests that trade credit by non-financial firms has long been one of the most important forms of financing in the US economy. Elliehausen and Wolken (1993) obtained evidence suggesting that trade credit accounted for about 15% of the liabilities of non-farm, non-financial businesses in the US.<sup>12</sup> This is approximately the same percentage as these firms' non-mortgage loans from banks. For small firms, trade credit is apparently of particular importance, as it represents about 20% of their liabilities. Murfin and Njoroge (2015) find trade payables to be the second largest liability on the aggregate balance sheet of non-financial businesses in the US.

In the UK, Kohler et al. (2000) suggest that about 70% of the total short-term debt and 55% of the total credit received by firms is accounted for by trade credit. In Australia, Fitzpatrick and Lien (2013) find that trade credit represented around 10% of companies' total liabilities in the period from 1988 to 2013. Specifically, trade credit can represent over 20% to over 30% of total assets for manufacturing and construction industries respectively. Evidence from

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<sup>12</sup> Non-farm and non-financial firms are typically considered here, as financial figures for companies in the farming sector tend to be seasonally volatile, while financial firms have balance sheets that are very different in nature, e.g. based on mark-to-market of financial assets, from those of standard industrial companies.

a sample of large traded non-financial firms of the G7 countries<sup>13</sup> finds that trade credit taken (accounts payable) represents a sizeable 11.5% to 17 % of total assets on average (Cunat and Garcia-Appendini, 2012).

Given the significance of trade credit provided by the seller/supplier firms both from the perspective of the economy and of the individual firms, it would be useful to examine the motive behind the acceptance of seller/supplier firms in providing this credit. One obvious motive is the desire to increase demand and sales and to gear up production. This is supported by findings in Meltzer (1960), Schwartz (1974), Brennan et al. (1988) and Petersen and Rajan (1997).

Furthermore, Emery (1987) proposes and finds evidence that trade credit is used by seller/supplier firms to manage fluctuations in demand, with suppliers loosening credit when demand for products is weak in order to encourage purchases. This is consistent with findings by Brennan, Maksimovic and Zechner (1988) and Petersen and Rajan (1997), which support the view that trade credits are offered to reduce the effective price in order to attract marginal customers.

On the expense side, in the meantime, Nadiri (1969) puts forward evidence that trade credit is treated as a “selling expenditure, like advertising outlays” (p. 420). Smith (1987) and Long, Maliutz and Ravid (1993) argue that trade credit is put in place to allow buyers time to learn

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<sup>13</sup> The G7 is a group of seven of the world’s advanced economies comprising Canada, France, Germany, Italy, Japan, the UK and the US. As of 2020, this group collectively accounts for over 50% of global net wealth (which is \$418 trillion) (Global Wealth Databook 2021 published by Credit Suisse), 32% to 46% of global gross domestic product (The World Economic Outlook 2020) and approximately 770 million people or 10 per cent of the world’s population ([https://www.international.gc.ca/world-monde/international\\_relations-relations\\_internationales/g7/index.aspx?lang=eng](https://www.international.gc.ca/world-monde/international_relations-relations_internationales/g7/index.aspx?lang=eng)).

about, and ensure, the quality of the product before they issue the final payment. This is especially true as far as seller/supplier firms that work with buying firms in a high-growth industry are concerned, as Garcia-Teruel and Martinez-Solano (2009) point out in their finding that higher-growth forms use more trade credit, potentially, to finance sales growth.

## **2.10 Unethical practices towards suppliers**

The section above illustrates the economic incentives for suppliers to provide credit to buying firms. Clearly, given the costs and the benefits relating to the provision of credit, a supplier's decision to enter into a contract to supply based on the stated credit is simply an economic decision, and trade credit would thus simply represent an element in the normal course of business and have no ethical implication. Furthermore, when it encounters delayed payments, the supplier has legal remedies to which it can resort. In this case, the issue of suppliers as stakeholders should not be a problem from an ethical perspective.

This line of reasoning would indeed be true, if the following conditions are met: 1) the contract terms are arrived at on an equal and fair basis; and 2) effective remedial action can be taken in the event of breaches or violations of contract terms.

At issue here is whether when a supplier is presented with certain contract terms and the terms are less than desirable from their perspective, they have the choice to not agree to the terms. Wilner (2000) argues that, in most cases, seller/supplier firms are not in a position even to negotiate payment terms. Wilson (2014) suggests that this is true for suppliers with a size disadvantage, i.e. suppliers tend to be smaller in relation to their customers, and this may be one of the causes of their lack of ability to negotiate on a fair and equal basis.

Sorell and Hendry (1994) add that the small-to-large nature of the supplier-buyer position does not represent the only cause of an inferior negotiating position on the part of the seller/supplier firm. The authors observe that many of the assets of the seller/supplier firm are trade-specific in nature and that the small seller/supplier firm also frequently encounters a “many-to-one” disadvantage, where the large buyer firm has many alternative suppliers to choose from. This “many-to-one” disadvantage faced by small suppliers in negotiating power has been well documented in monopsony analyses since the term appeared in Robinson (1933).

As mentioned above, Sorell and Henry (1994) observe that many of the seller/supplier firm’s assets are trade-specific in nature, meaning that they can be most effectively deployed specifically for a certain buyer or buyers. Where the seller/supplier firm acts as a “dedicated supplier” and there are limited alternative uses for the assets invested in, they are naturally in a relatively weak strategic position when negotiating with the buyer and “it would clearly be wrong to take business away from a dedicated supplier without very good reason, ample notice, and in some cases, substantial compensation...” (p. 139).

Under these three conditions, the supplier firm will be put in a strategically disadvantaged position, as Sorell and Hendry (1994) point out. If any of these conditions are present, the contractual terms arrived at will consequently not be equal or fair.

## **2.11 Limited effective remedial action against payment delays**

Even when contract terms are arrived at under conditions that support a fair and equal outcome, a second condition needs to be met to ensure ethical payment practices. Here, the concern is whether, if payments are delayed beyond the contract terms, effective remedial arrangements, such as legal action, can be taken by the supplier firm.

It is true that, in theory, suppliers who are not paid in accordance with the agreed terms have every right to 1) withhold supplies, 2) take their case to court and 3) charge interest or penalties on the late payment.

Regarding the situation where a supplier encounters a delay in payment beyond the agreed terms, Mian and Smith (1992) look at the extent to which they withhold supplies (and sell them to other buyers) in order to enforce payment terms. They suggest, however, that this is frequently impracticable in a seller-buyer situation characterised as “many-to-one” and asset-specific. While suppliers can also consider the alternative of taking the buyer to court when payment is delayed beyond the agreed terms, Sorell and Henry (1994) observe that, as suppliers are operators with assets that are trade-specific, it is frequently in their interest to maintain a “good relationship” with their customers in the hope of “reciprocal loyalty” and not to “rock the boat”. This is again consistent with the “big-versus-small”; “many-to-one” and asset-specific nature of the relationship discussed above. In practice, therefore, actions of this kind are rarely taken in most cases of breaches and delayed payments (Sorell and Hendry, 1994).

In the area of payment penalties, Fitzpatrick and Lien (2013) found that seller/supplier firms “tend not to enforce late payment penalties against trading partners” (p. 43). Moreover, they found that buying firms “attempt to manage their cash flows efficiently by stretching their



payments (*to seller/supplier firms*) beyond the due date...” and are “... more willing to face the risk of an interest rate penalty rather than default on other debt obligations, such as bank credit, for which the consequences can be more severe” (p. 43).

Sorell and Hendry (1994) go a step further and suggest that, when faced with potential default by a large client, sellers/suppliers may be forced to raise funding to support the client instead of working to diversify their client base.

These findings suggest that supplier credit not only plays the role of trade facilitator to increase sales (Brennan et al., 1988; Emery 1987; Meltzer 1960; Petersen and Rajan 1997; Schwartz 1974) or of supporting the supplier firm’s efficient utilisation of its resources in production (Cunat 2007; Petersen and Rajan 1997), but also serves as a substitute for bank credit.

Schwartz (1974), Emery (1984), Smith (1987), Brennan et al. (1988) all look into the issue of trade credit being used by buying firms as a substitute for bank credit. They come to the view that this practice should not be an issue as, typically, seller/supplier firms can perform the financing role more efficiently than banks. This is because the seller/supplier firms have a more in-depth understanding of the nature of the business of the buyer firm(s) as well as the conditions prevailing in the industry. This view that, from the viewpoint of a financial decision, seller/supplier firms may actually be in better position to grant credit (than banks) as well as to enforce payment (by withholding supplies) suggests that trade credit and its related terms may be a financial outcome rather than a strategic one.

While the arguments by several researchers (Schwartz, 1974; Emery, 1984; Smith, 1987; Brennan, Maksimovic and Zechner, 1988; Mian and Smith, 1992) may appear to be valid from a finance perspective, it seems rather unusual to observe in reality that trade credit terms are typically industry-driven, i.e. similar terms apply to general participants in the same industry (Fitzpatrick and Lien, 2013), rather than buyer firm-driven, i.e. credit terms are determined based on credit characteristics of a particular buyer firm. For instance, a common trade credit term widely adopted in the US is the so-called “2/10, net 30” term, which does not vary, irrespective of the credit quality of the buyer.

A common practice in Hong Kong and China (PRC) is to use “AMS days” (after month ends), where AMS 60, for example, means that the buyer firm has been granted a 60-day credit term that is calculated from the end of the month in which the invoice is dated; if the invoice date is 10 February 2022, the payment date is then 60 days from the end of February and the buyer firm can pay the full amount on or before 29 April 2022. These types of practice clearly point to the view that trade credit terms are unlikely to be “financial decisions based on credit characteristics of the buyer firm” and more likely to be strategic decisions that take business and operating elements into account.

This implies not only that the fair and equal aspect of credit terms can be called into question, but also that there is evidence suggesting that suppliers have a limited ability to take remedial actions if payment is delayed beyond the agreed term. More importantly, the evidence indicates that financing by suppliers is frequently used by buyers as equivalent to and a substitute for bank credit, as most trade credit under standard terms is “free” of interest costs. The concern with this practice, however, is that this provision of credit naturally puts a strain on a seller/supplier firm’s own financial resources. These resources require funding by the

supplier firm in the form of working capital, which is typically financed either through short-term bank loans or through long-term financing in the form of debt or even through equity from the capital markets. While it is in certain cases possible for a supplier firm to pass their funding requirements along the supply chain to their own suppliers, it remains true that one or more supplying parties in the chain will, eventually, have to finance the trade credit with funding provided by financial institutions or markets. And this kind of financing ultimately, of course, comes at a cost, whether in the form of interest on loans or return to shareholders or growth.

Along these lines, Murfin, and Njoroge (2015) calculate that, “on average, a one-month extension of the payment terms required by a significant buyer corresponds to a reduction in capital expenditures, representing 1.2% of lagged assets—roughly 13% of the estimated total cash deficit induced by such a demand” (p. 113). Furthermore, the authors find evidence to support the view that “large, highly rated borrowers with unfettered access to capital markets may also borrow via trade credit, often from smaller, weaker suppliers” (p. 112). Oliveira et al. (2017) come to the same conclusion based on the evidence they furnish that suppliers of large buying firms have to increase their leverage ratio over the two years prior to the filing date to the regulators and reduce their leverage after the customer reorganises its liabilities. Murfin, and Njoroge (2015) estimate that that these small “suppliers are sacrificing their own growth in order to finance their buyers” (p. 114). In their focus on the practice of late payments by buyers to suppliers, Sorell and Hendry (1994) believe it to be of particular concern because there appears to be no justification for payment beyond the agreed time even if “the cash-wealthy firm [is] willing to have the payment postponed” (p. 141) and because the practice “disproportionally affects small companies” (p. 140).

A number of trade credit management associations have been set up in various countries to advocate the wellbeing of seller/supplier firms on their behalf. For instance, the Chartered Institute of Credit Management (CICM, established in 1939) in the UK; the Credit Research Foundation (CRF, established in 1949); the Finance, Credit and International Business Association (FCIB, established in 1919); the National Association of Credit Management (NACM, established in 1896), all in the US, the NACM of Canada, the Australian Institute of Credit Management (AICM) and the Hong Kong Credit and Collection Management Association (HKCCMA, established in 1999) are a few examples of the industry associations set up to aid seller/suppliers and advance their cause. In fact, substantial resources have been deployed in the area of trade credit management over the years, and their size and long history demonstrate their significance. They also constitute resources that can be redeployed elsewhere in society if ethical trade credit were practised.

The above discussion suggests two things: 1) the view that credit terms are arrived at on a fair and equal basis between sellers/suppliers and buyers is questionable. This is especially true when the sellers/suppliers are small in relation to the buyers, in a one-to-many relationship and/or have trade-specific assets; 2) the access of sellers/suppliers to effective action in the event of delayed payment is limited. Furthermore, there are frequent cases where sellers/suppliers adapt their leverage to support buyers and serve as a substitute for bank credit. As buyers are often the relatively larger entity with better access to financial resources than seller/supplier firms, this is not ideal from a cost perspective, a credit risk perspective or a growth perspective.

All in all, the discussion above together paints a picture where a relatively small trade seller/supplier, with limited negotiation power to agree fair credit terms because of their size,

competitive position and/or the specificity of their assets, and with limited possibilities for taking effective remedial action, such as withholding supply, initiating court action or charging late payment penalties, has to go along with a practice in which they increase their own leverage and serve as a substitute for bank credit for a larger buyer that actually has access to financial resources that may be cheaper, and where this practice comes at the opportunity cost of growth. Serving as a substitute for bank credit for buyers, the seller/supplier firm now faces additional funding costs, credit risks and slower growth.

In sum, given the strategic nature of the seller/supplier-buyer relationship and the resulting contractual disadvantages as well as the lack of effective remedial actions on the part of the seller/supplier firm in the event of breach of contract, the buyer firm has the flexibility as well as the incentive to delay payment to supplier firms beyond the agreed term. Indeed, it is not hard to see the appeal of the intense use of trade credit by the buyer firm in support of its operation and strategy. Clearly, however, it is also reasonable to ask whether trade credit practices of this kind are fair and ethical. Specifically, should buying firms use trade credit provided by seller/suppliers as a source of funding for their operations, especially when those seller/suppliers are in a relatively disadvantaged position from the perspective of size, market position and asset specificity? Despite all the issues that arise, trade credit is a practice that is typically neither subject to law, nor regulation, nor public policy (Boatright, 2010), and an in-depth examination from an ethical perspective is thus even more important (Kolb, 2010).

## **2.12 Conclusion**

This chapter has reviewed prior studies on corporate decision making and its relationship to stakeholders and how the literature has evolved from a shareholder-centric view focused on

profit maximisation – and whether this view in fact holds true where ownership and control are separate (e.g. Berle and Means, 1932; Jensen and Meckling, 1976) – to encompass the need to address the interests of other stakeholders in the form of CSR, e.g. Carroll (1979), and performance in the form of ESG, e.g. OECD, the European Commission, Blowfield and Murray (2011).

Although suppliers are listed as one of the stakeholder groups, according to international institutions, e.g. OECD and the European Commission, their well-being has largely been overlooked (Sorell and Hendry, 1994; Blowfield and Murray, 2011). With trade credit provided by suppliers frequently treated as an extension of an interest-free loan and the cost of doing business with a buyer firm (Ng et al., 1999; Van Horne and Wachowicz, 2001; Stern and Chew, 2003), the practice of delaying payment to suppliers can have an adverse impact on them. This is especially the case when evidence points to the increased use of trade credit during periods of monetary contraction (Nilsen, 2002) when money is in tight supply (Choi and Kim, 2005), and during the subprime mortgage crisis (Yang, 2011). The significance of this practice is, of course, that the financing is not “free” simply because the cost is borne by the suppliers either in the form of interest or economic hardship or adversity. The ethical nature of this practice thus needs to be questioned. Indeed, the practice of late payments by a buyer (customer) firm to its seller/supplier counterpart can be regarded as unfair and unethical. Solomon (1993) actually calls it a “steal” (Cowton and San-Jose, 2017, p. 679).

The practice of delaying payment to suppliers deserves academic attention for three reasons. Firstly, from a macroeconomic perspective, there is evidence to suggest that supplier credit plays a significant role in the economy (Ng, Smith and Smith, 1999; Elliehausen and Wolken, 1993; Kohler et al., 2000). Secondly, suppliers are typically smaller firms (Wilson, 2014) in

an inferior negotiating position (Sorell and Hendry, 1994) and with limited options to enforce timely payment from buyers (Mian and Smith, 1992; Fitzpatrick and Lien, 2013). Given their macroeconomic significance, and the significance of SMEs in the economy, and the evidence that supplier firms tend to be smaller, the interests of suppliers should not be ignored. Finally, as Sorell and Hendry (1994) suggest, “suppliers are not always included in the list of a firm’s stakeholders” (p. 138). This is illustrated in many frameworks that gauge a company’s ESG performance, where there is frequently no mention of suppliers in any of the stakeholder groups (Blowfield and Murray, 2011).

In conclusion, the ethical nature of the practice of delaying payment to suppliers needs to be questioned. However, this is an issue that has received limited academic interest and practical attention to date. The interest in suppliers in ESG performance frameworks has primarily focused on whether suppliers, who tend to be smaller firms, comply with environmental and social criteria, rather than whether they have been treated ethically from a finance perspective by buyers, who tend to be larger firms. This study examines this aspect of ethical practices implemented with regard to *suppliers*.

## **Chapter 3 – Background to the ethical companies**

### **3.1 Introduction**

The previous chapter examined the conceptual frameworks on firms' decisions and practices and their implications from a financial perspective, as well as, going beyond shareholders' interests to other stakeholder groups in the form of corporate social responsibility (CSR). The current chapter examines how the concepts are translated into practices by companies. More specifically, how companies that are concerned with corporate social responsibility, "good" companies from a CRS perspective, would behave to stakeholders.

#### **3.1.1 Research questions**

As the principle of value maximization as decision driver in finance (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020) has been put into question, in the context of 1) decision makers' ability and access to information, Simon (1947, 1957), Cyert and March (1992) and Loasby (1976, 2004); 2) whether management, acting as agent to owners, would make decisions that are in line with shareholders' interests, in the form of agency theory (Berle and Means, 1932, Jensen and Meckling 1976), and 3) whether shareholders' interest represents the sole responsibility of corporates, or should corporate decisions take into account of the interests of other stakeholders (Ansoff, 1965), in the form of social responsibility, (Carroll, 1979).

As such, in the social responsibility context, companies that practices corporate social responsibility will adopt behaviour that is not only financially driven, but also behave responsibly and be good to the society, i.e., "good" companies. In this regard, it is expected



that “good” companies will go beyond to address stakeholder interests. As such, CSR companies are expected to develop products that are safe and reliable for consumers with minimal environmental and social costs to the society for consumers, provide a safe work environment, pay salaries in a fair and equitable way for employees, fulfil its tax obligation to government, and pay according to terms to suppliers. While consumer interests are likely addressed via market forces with inferior products being phased out by superior products as well as environmental, social and governance (ESG) practices, employee interests addressed by employment law, government societal interest taken care of by tax codes, suppliers interests are typically left out as their interest are not within the typical ESG framework as stakeholders, and being smaller entities (Wilson, 2014), supplier firms are usually in an inferior negotiating position (Sorell and Hendry, 1994) to negotiate equitable trade terms, and with limited recourse to late payment by buyer firms (Mian and Smith, 1992; Fitzpatrick and Lien, 2013).

Based on the above discussion, the practice of buying firms paying seller/supplier firms late, whether the delayed payment takes the form of cash hoarding after the buyer firm has received payment from its own client or the payment is made beyond the agreed contract terms, needs to be examined as neither scenario is ethical. This is especially true when the buyer firm is fully aware that they will incur neither legal action nor interest charges as result of their late payment. Furthermore, as indicated earlier, the seller/supplier firms also tend to be firms that are smaller in size in relation to the buying firms and also hold dedicated, specific assets. Finally, the practice of delayed payment has social implications along the supply chain.

It would seem clear, then, that it is unethical for buying firms to pay seller/supplier firms late. Corporate practices and their implications for society have been the subject of increasing examination starting from Bowen (1953), who raised the issue of the responsibilities that companies have to society. Based on our discussion so far, payment practices implemented by buying firms with regard to seller/suppliers fall into the realm of CSR because of their potential social impacts, especially as far as ethical behaviour is concerned.

In this regard, then, it would be logical to assume that “good” buyer companies that fulfil their ethical duties pay their seller/suppliers on or before the agreed term while “bad”, unethical companies will consistently delay payments. But who are these “good” companies and how exactly do they behave? As such, this research examines whether

RQ1: CSR-conscientious companies more likely to pay their suppliers on time or even ahead of schedule? And

RQ2: How has financial ability and ethical willingness affected payment practices by CSR-conscientious companies?

### **3.1.2 Research hypothesis development**

To study the above, this research shall identify a sample of companies that are concerned with CSR practices and examine their behaviour towards suppliers. Following from above, corporate finance theory suggests that buyer firms should utilize supplier funds as much as possible to finance their operation, (e.g. Weston and Copeland, 1992; Ross et al., 2018; Block et al., 2019; and Brealey et al., 2020). However, it is hypothesized here that “good” company that are CSR conscientious should follow Bowen (1953), who raised the issue of the

responsibilities that companies have to society, should address the interests of stakeholders (Ansoff, 1965), in the form of social responsibility, (Carroll, 1979). In this case, the prediction by RQ1 is that “good” CSR conscientious companies would, instead, pay their suppliers (stakeholders, in this case), on time or earlier than trade term. As such, a test of the null hypothesis from a statistical perspective would be a test that CSR conscientious firms would pay suppliers on time, hence, there would be no difference between the actual payment days versus payment terms. To test this hypothesis, from a statistical perspective, this translates to a test of no difference between actual payment days and payment terms, i.e.,  $H_0$ : actual payment days = payment term days. The alternative hypothesis would have the CSR conscientious firms having payment practices along the lines suggested by finance theorists and having actual payment days that exceeds those specified by payment terms, i.e.,  $H_a$ : actual payment days > payment term days. This forms the main underlying anticipation with regard to payment practice by buyer firms to supplier firms.

In order to gain insight to the practices by -CSR conscientious firms and non-CSR conscientious firms, this research further examine research question 2, RQ2, how has financial ability and ethical willingness affected payment practices by CSR-conscientious companies? In this case, this research should examine financial variables looked at by prior studies (e.g. Abdulla et al., 2017, 2020) and study the statistical significance of the variables.

### **3.2 The “good” companies**

As indicated earlier, the act of buying firms to withhold payments to seller/supplier firms beyond the agreed term, affecting the financial well-being of suppliers, raises ethical concerns from a CSR perspective.

In this regard, then, buying firms that are high CSR performers should logically be “good”, ethical companies that pay their suppliers on or before the agreed term, whereas unethical buyers would be low performers in terms of CSR and “bad” participants in society who are guilty of consistent delays in making payments. But how are good CSR performers identified?

### 3.3 Rating CSR performance

As the importance and popularity of CSR have increased, so objective measures have been developed to measure CSR performance along environmental, social and corporate governance (ESG) lines. A number of CSR performance frameworks have now been developed and introduced by a number of organisations. The major ones are briefly summarised in Huber and Comstock (2017). Table 3.1 below sets out the key CSR scoring and rating tools.

**Table 3.1 Key CSR scoring and rating methodologies**

I	Bloomberg ESG Performance Scores
II	Corporate Knights Global 100
III	DJSI/RobecoSAM Corporate Sustainability Assessment
VI	ISS QualityScore
V	MSCI ESG Ratings
IV	Sustainalytics' ESG Risk Ratings
VII	Thomson Reuters ESG Scores (replaces ASSET4)

Launched in 2009, the Bloomberg ESG Performance Scores represent a comprehensive collection of ESG data covering over 10,000 publicly listed companies around the globe that is broken down into 120 ESG indicators. A majority of the data covers environmental and governance elements. As far as social aspects are concerned, a significant focus is placed on human rights and labour practices.

The Corporate Knights Global 100 is an index covering the 100 most sustainable companies in the world. All the companies have a market capitalisation in excess of US\$ 2 billion. The scoring is based on 21 performance indicators, most of which are focused on the environment with nine different criteria in total: energy; GHG emissions; water; waste productivity; VOC emissions; NOx emissions; SOx emissions; particulate matter emissions; and clean revenue. Social factors are covered by eight criteria: innovation capacity; percentage tax paid; sanction deductions; pension fund status; supplier sustainability score; injuries; fatalities; and employee turnover. Finally, four criteria make up governance factors: women in executive management; women on boards; sustainability pay link; and CEO-average employee pay.

DJSI/RobecoSAM is the result of the combination of the RobecoSAM index and the Dow Jones Sustainability Index (DJSI), which was launched in 1999 and was the first global index to track the sustainability performance of companies. The areas that the index covers are economic (which includes governance), social (e.g. human rights) and environmental. The index is industry-driven. As a result, the categories and weights may vary depending on the specific industry. For example, supply chain management, which is a component within the economic area, is given a 7% weighting in the retail industry, a 6% weighting in the

semiconductor equipment industry, but a weight of 0% in the software industry. Good performers are judged here by industry rather than across the full range of companies.

The ESG performance measure introduced by the Institutional Shareholder Services group (ISS) uses approximately 100 criteria relating to the environment (climate change, eco-efficiency, energy management, environmental impact of products, environmental management, water risk), social (equal opportunities, freedom of association, health and safety, human rights, product responsibility, social impact of product portfolio, supply chain management, taxes) and governance (business ethics, compliance, independence of the board, remuneration, shareholder democracy, shareholder structure). The performance scores from these areas are then summarised into a 12-point letter-based scale from A+ to D–, where A is excellent, B+ is good, C is medium and D is poor. The scores can additionally be separated into two categories: the ISS Quality Score is basically a governance performance score that tracks the factors based on four pillars – board structure, remuneration, shareholder rights and audit and risk – while the ISS-Ethix score is more macro focused and examines human rights, labour standards, the environment and anti-corruption.

The MSCI ESG Ratings were launched in 2010 and primarily cover securities (over 650,000 equity and fixed income securities) issued by over 7,500 global companies, or 13,500 issuers when subsidiaries are included. The ratings measure 37 key concerns including climate change, i.e. environmental, human capital, i.e. social, and corporate governance, i.e. governance. These are summarised into seven grades, where AAA and AA represent leaders, A, BBB and BB denote average performers and B and CCC describe laggards.

Sustainalytics covers over 6,500 global companies both small (less than US\$2 billion in market capitalisation) and large (more than US\$10 billion in market capitalisation). The Sustainalytics ratings are industry-driven and assess a company's preparedness (i.e. management systems), disclosure and performance. The Sustainalytics scores are divided into two dimensions: an exposure dimension, i.e. risks faced by the company, and a management dimension, i.e. the company's efforts to manage the ESG risks it is exposed to. The net result is "unmanaged risk", a metric that typically range from zero (no unmanaged risks) to 50. For quality-driven users, a company's unmanaged risk score can be classified into five categories: negligible; low; medium; high; and severe.

Finally, Thompson Reuters derives its ratings from more than 400 ESG metrics reported for over 6,000 public companies. The ESG score for each company is arrived at based on a subset of the 178 most relevant data points from the 400 plus metrics in 10 categories including resources (20), emissions (22), innovation in the form of environmental technology (19), workforce (29), human rights (8), community in the form of public health protection (14), product responsibility (12), management in the form of governance (34), shareholders (12) and CSR strategy in the form of communication (8). The scores from each of the 10 categories are then weighted to produce a score ranging from 0 to 1, which is then translated into a 12 letter-based scale running from A+ to D-, similar to the ISS approach presented above.

### **3.4 Suppliers as a stakeholder group in ESG frameworks**

As suggested from the frameworks above, "suppliers" as stakeholders are very much an overlooked group in the measurement of ESG performance. In fact, a detailed search of

Bloomberg's ESG practices with regard to suppliers finds a supplier code of conduct that "... defines our minimum *requirements* (italics added) with respect to the environmental, social and governance performance of our suppliers" (p. 1). The code lays out five areas of requirements for suppliers: (A) labour and human rights; (b) health and safety; (c) environmental; (d) ethics; and (e) management systems. Consequently, and most interestingly, the code represents a document that binds suppliers rather than defining Bloomberg's ethical practices towards its suppliers (Bloomberg, 2017).

In the Corporate Knights ratings, suppliers' scores include goals aiming at no poverty (end poverty in all its forms everywhere), zero hunger (end hunger, achieve food security and improved nutrition and promote sustainable agriculture), good health and well-being (ensure healthy lives and promote well-being for all at all ages), gender equality (achieve gender equality and empower all women and girls), clean water and sanitation (ensure availability and sustainable management of water and sanitation for all), affordable and clean energy (ensure access to affordable, reliable, sustainable and modern energy for all), decent work and economic growth (promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all), industry, innovation and infrastructure (build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation), reduced inequality (reduce inequality within and among countries), sustainable cities and communities (make cities and human settlements inclusive, safe, resilient and sustainable), responsible consumption and production (ensure sustainable consumption and production patterns), climate action (take urgent action to combat climate change and its impacts), life below water (conserve and sustainably use the oceans, seas and marine resources for sustainable development), life on land (to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification,



and halt and reverse land degradation and halt biodiversity loss), peace, justice and strong institutions (promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels), partnerships for the goals (strengthen the means of implementation and revitalise the global partnership for sustainable development).

In its Principles of Corporate Governance published in 2015 the OECD states that the “rights of stakeholders are often established by law (e.g. labour, business, commercial, environmental, and insolvency laws) or by contractual relations that companies must respect” and that “stakeholders should have the opportunity to obtain effective redress for violation of their rights” (p. 34). It goes on to say:

Creditors are a key stakeholder and the terms, volume and type of credit extended to firms will depend importantly on their rights and on their enforceability. Companies with a good corporate governance record are often able to borrow larger sums and on more favourable terms than those with poor records or which operate in less transparent markets. (OECD, 2015, p. 36)

The creditors referred to here are clearly financial creditors rather than trade creditors in the form of suppliers.

In sum, the current frameworks for measuring ESG performance listed above overlook the interests of suppliers as a stakeholder group. Furthermore, the ones that do address suppliers’ performance mostly focus on how to enforce suppliers’ compliance with ESG requirements rather than on the company’s own responsibilities to their suppliers. This runs contrary to the

argument that ethical performers will pay suppliers on time. Because of the significant role that trade creditors (suppliers) play as discussed above, payment practices in trade credit finance and more appropriate measures in ethical practices should be developed to take suppliers' interests into better account in ESG models.

### **3.5 Identifying ethical companies in Hong Kong**

The previous section examined in detail how ethical companies are identified and ranked in terms of ESG dimensions.

With Asia becoming an increasingly important part of the global economy, the interest in understanding the business practices of companies in the region has increased. This is especially true in the case of China, as it is the largest country in Asia and its significance for the world's economy is continuously expanding. The country has grown over the past decades to become the second largest economy in the world in 2011. In terms of gross domestic product, the figures of the World Bank show that China's GDP was US\$ 14.3 trillion in 2019, while the GDP of the US was US\$ 21.4 trillion; Japan, the third largest economy, had a GDP of US\$ 5.2 trillion. Moreover, the Chinese government sets a target GDP growth rate of around 6% compared with a historical GDP growth rate of around 3% in the US, so China is expected to overtake the US to become the world's largest economy in the next decade or so. It is therefore very important to understand business practices in Asia.

Following the discussion in chapter 2, this research now sets out to examine the ethical behaviour of companies from the perspective of payment practices with regard to suppliers.

When trying to gauge how Asian businesses behave, directly examining practices by Chinese companies in the current circumstances may not offer the necessary insight, as China is still emerging from its position as a pure communist state into a “socialist market economy” following the launch of its economic reforms in 1978. As Chinese business practices continue to evolve, and are still developing and learning and adapting to the free market to become more market-oriented and consistent with economies in the western world, it may be more useful to examine companies in other areas, e.g. Hong Kong, where business practices lie between east and west.

Hong Kong is a good match for the purposes of this study as it has always served as business gateway to China and is also Asia’s financial centre. It is additionally chosen for this study as many of the business practices in Hong Kong follow those of Britain for historical reasons.

Hong Kong, a former British colony and a part of China since 1997, offers a good opportunity for understanding business practices that combine elements of the east and west.

This is even more the case because, before the handover in 1997, Hong Kong was under British rule as a colony and primarily operated in a free-market environment dubbed

“positive non-interventionism” that is comparable to the environment in the UK and Europe.

Indeed, the IMD World Competitiveness Yearbook in 2020 ranked Hong Kong fifth out of 63 economies.

The focus on Hong Kong in this study is not purely driven by its international business standing, but also its relationship with China, which is an increasingly important player in the Asian as well as the global economy. China’s GDP was US\$ 14.7 trillion in 2020 according to the World Bank, making it the world’s second largest economy. In its 2021 report, the UK-based Centre for Economics and Business Research (CEBR) projected China would be the

world's largest economy by 2030. In the process of becoming the world's number one economy, China is also gradually adapting to western business practices, and it is therefore of interest to try to gain an insight into how China may evolve in the course of that transition. In addition, a majority of Hong Kong's key companies are run by entrepreneurs of Chinese origin. Hong Kong's business practices have thus always been a blend of east and west. Since the changeover in 1997, the economy has seen Chinese companies play an increasing role. According to Hong Kong Stock Exchange data from 2018, approximately 25% of its listings are Chinese companies. As a result, Hong Kong offers a unique combination of east and west that could yield insights into future business practices by companies in a region that is becoming increasingly significant on the global scene.

In this regard, the results of this study may also allow parallels to be drawn with results from earlier studies. Against the background of the continuous development of China's economy and its constant influence in the global market, it is possible that an understanding of Hong Kong's business practices will yield useful insights into business practices in China both now and in the near future. This is especially true when a significant number of companies in Hong Kong are run by ethnic Chinese who share some cultural traits with their mainland counterparts.

### **3.6 Ethical companies in Hong Kong**

As this study plans to focus on the practices of companies in Hong Kong, the next task is to identify ethical companies in Hong Kong.

As of the date of this report, no list exists that specifically identifies companies practising financial ethical behaviour, so this study looks at lists from organisations that examine the behaviour of companies from a social responsibility perspective. This is reasonable, because if a company is identified by an external entity as a candidate engaged in socially responsible activities, it is likely that the company will also behave ethically from a financial perspective when dealing with its suppliers and pay its suppliers on or before the agreed payment term.

At the time of research, there are three indices in Hong Kong that identify companies from the perspective of socially responsible behaviour:

- The Hong Kong Quality Assurance Agency Corporate Social Responsibility Index (CSRI);
- The Hong Kong Business Sustainability Index (BSI); and
- The Oxfam Blue Chip CSR Survey (Oxfam).

The CSRI is compiled by the Hong Kong Quality Assurance Agency (HKQAA), which was established by the Hong Kong Government Industry Department in 1989 to enhance management performance to benefit the community as a whole. One of the most trusted conformity assessment bodies (CABs) in Asia Pacific, the HKQAA is accredited by Social Accountability Accreditation Services (SAAS) to the SA8000 standard for ethical auditing and approved for social auditing by large purchasers that practise social responsibility, such as Tesco in the UK.

In 2016, a total of 34 organisations, including government departments and listed and non-listed companies, participated in the HKQAA CSR Index. An aggregate measure is produced that covers seven areas:

- Organisational governance
- Human rights
- Labour practices
- Environment
- Fair operating practices
- Common issues, and
- Community involvement and development

**Table 3.2: The 2016 list – 34 participating organisations in the HKQAA CSR Index**

<b>HKQAA CSR Index list of participating organisations</b>		
<b>Stock code</b>	<b>Listing on HKEx - Main Board</b>	<b>Name of organisation</b>
	No	A.S Watson Industries
	No	Alliance Construction Materials Limited
	No	ATAL Engineering Group
00341	Yes	Café De Coral Holdings Limited
00257	Yes	China Everbright International Limited
	No	Chun Lee Engineering Company Limited
00002	Yes	CLP Holdings Limited
02232	Yes	Crystal Group
	No	Driltech Ground Engineering Limited
	No	FrieslandCampina (Hong Kong) Limited
	No	Fuji Xerox (Hong Kong) Limited
	No	GP Batteries International Limited
00896	Yes	Hanison Construction Holdings Limited
	No	Hip Hing Engineering Company Limited
	No	Hong Kong Trade Development Council*
	No	Housing Department (Development and Construction Division) *
	No	Housing Department (Estate Management Division) *
00404	Yes	Hsin Chong Group Holdings Limited
	No	Jumbo Orient Contracting Limited
	No	Kai Shing Management Services Ltd. International Commerce Centre Management Services Office (ICC)
	No	Leo Paper Group (Hong Kong) Limited
	No	Megastrength Security Service Co., Ltd.
00017	Yes	New World Development Company Limited

00659	Yes	NWS Holdings Limited
	No	Paul Y. Engineering Group Limited
00178	Yes	Sa Sa International Holdings Limited
	No	Shinryo (Hong Kong) Limited
	No	Shinryo Technical Services Limited
	No	Shui On Building Contractors Limited
00242	Yes	Shun Tak Holdings Limited
	No	Shun Yuen Construction Company Limited
00004	Yes	The Wharf (Holdings) Limited
	No	Tong Kee Engineering Limited
	No	Well Born Real Estate Management Limited
<b>Listed companies</b>		<b>11</b>
<b>Non listed companies</b>		<b>20</b>
<b>Government departments*</b>		<b>3</b>
<b>Total number of organisations</b>		<b>34</b>

Of the 34 organisations in the CSRI, there are three government departments, 20 private companies and 11 listed companies.

A second source that identifies companies that are engaged in social responsibility practices is the Hong Kong Business Sustainability Index (the BSI). The BSI was jointly developed in 2015 by the Sustainability Management Research Centre (SMRC) of the Department of Management and Marketing at the Hong Kong Polytechnic University, the Hong Kong Council of Social Service and the Hong Kong Productivity Council to promote the appreciation and adoption of CSR as a progressive model for achieving business sustainability among listed companies in Hong Kong. The BSI sample rates companies on the Hang Seng Index as companies that practise sustainability, but only includes the top 20 companies in its findings. As a result, and for the purpose of this study, only 20 companies can be considered as involved in and practising social responsibility. The table below shows the companies examined by the BSI.

**Table 3.3: The companies examined by the BSI in 2016, 2017 and 2018**

Stock code	2018 **	2017 **	2016 **
0001	CK Hutchison Holdings Ltd.	CK Hutchison Holdings Ltd.	Hutchison Whampoa Ltd.
0002	CLP Holdings Ltd.*	CLP Holdings Ltd.*	CLP Holdings Ltd.*
0003	Hong Kong and China Gas Co. Ltd., The*	Hong Kong and China Gas Co. Ltd., The*	Hong Kong and China Gas Co. Ltd., The
0004	Wharf (Holdings) Ltd., The	Wharf (Holdings) Ltd., The	Wharf (Holdings) Ltd., The
0005	HSBC Holdings plc*	HSBC Holdings plc*	HSBC Holdings plc*
0006	Power Assets Holdings Ltd.*	Power Assets Holdings Ltd.*	Power Assets Holdings Ltd.*
0011	Hang Seng Bank Ltd.*	Hang Seng Bank Ltd.*	Hang Seng Bank Ltd.*
0012	Henderson Land Development Co. Ltd.*	Henderson Land Development Co. Ltd.*	Henderson Land Development Co. Ltd.*
0016	Sun Hung Kai Properties Ltd.*	Sun Hung Kai Properties Ltd.*	Sun Hung Kai Properties Ltd.*
0017	New World Development Co. Ltd.*	New World Development Co. Ltd.*	New World Development Co. Ltd.*
0019	Swire Pacific Ltd. 'A'*	Swire Pacific Ltd.*	Swire Pacific Ltd.*
0023	Bank of East Asia, Ltd., The*	Bank of East Asia, Ltd., The*	Bank of East Asia, Ltd., The*
0027	Galaxy Entertainment Group Ltd.	Galaxy Entertainment Group Ltd.	Galaxy Entertainment Group Ltd.
0066	MTR Corporation Ltd.*	MTR Corporation Ltd.*	MTR Corporation Ltd.*
0083	Sino Land Co. Ltd.*	Sino Land Co. Ltd.*	Sino Group*
0101	Hang Lung Properties Ltd.*	Hang Lung Properties Ltd.*	Hang Lung Properties Ltd.*
0135	Kunlun Energy Co. Ltd.	Kunlun Energy Co. Ltd.	Kunlun Energy Co. Ltd.
0144	China Merchants Ports Holdings Co. Ltd.	China Merchants Ports Holdings Co. Ltd.	China Merchants Holdings (International) Co. Ltd.
0151		Want Want China Holdings Ltd.	Want Want China Holdings Ltd.
0175	Geely Automobile Holdings Ltd.		
0267	CITIC Ltd.	CITIC Ltd.	CITIC Ltd.
0291			China Resources Beer (Holdings) Ltd. (Formerly known as 'China Resources Enterprise, Ltd.')
0293	Cathay Pacific Airways Ltd.*	Cathay Pacific Airways Ltd.*	Cathay Pacific Airways Ltd.*
0322		Tingyi (Cayman Islands) Holding Corp.	Tingyi (Cayman Islands) Holding Corp.
0386	China Petroleum and Chemical Corporation	China Petroleum and Chemical Corporation	China Petroleum and Chemical Corporation
0388	Hong Kong Exchanges and Clearing Ltd.*	Hong Kong Exchanges and Clearing Ltd.*	Hong Kong Exchanges and Clearing Ltd.*
0494	Li and Fung Ltd.	Li and Fung Ltd.	Li and Fung Ltd.
0688	China Overseas Land and Investment Ltd.	China Overseas Land and Investment Ltd.	China Overseas Land and Investment Ltd.
0700	Tencent Holdings Ltd.	Tencent Holdings Ltd.	Tencent Holdings Ltd.
0762	China Unicom (Hong Kong) Ltd.	China Unicom (Hong Kong) Ltd.	China United Network Communications Group Co.,Ltd.



0823	Link Real Estate Investment Trust	Link Real Estate Investment Trust	Link Real Estate Investment Trust (Formerly known as 'The Link Real Estate Investment Trust') *
0836	China Resources Power Holdings Co., Ltd.*	China Resources Power Holdings Co., Ltd.*	China Resources Power Holdings Co., Ltd.*
0857	PetroChina Co. Ltd.	PetroChina Co. Ltd.	PetroChina Co. Ltd.
0883	CNOOC Ltd.*	CNOOC Ltd.	CNOOC Ltd.
0939	China Construction Bank Corporation*	China Construction Bank Corporation*	China Construction Bank Corporation
0941	China Mobile Ltd.	China Mobile Ltd.	China Mobile Ltd.*
0992	Lenovo Group Ltd.*	Lenovo Group Ltd.*	Lenovo Group Ltd.*
1038	CK Infrastructure Holdings Ltd.	Cheung Kong Infrastructure Holdings Ltd.	
1044	Hengan International Group Co. Ltd.	Hengan International Group Co. Ltd.	Hengan International Group Co. Ltd.
1088	China Shenhua Energy Co. Ltd.	China Shenhua Energy Co. Ltd.	China Shenhua Energy Co. Ltd.*
1109	China Resources Land Ltd.	China Resources Land Ltd.	China Resources Land Ltd.
1113	CK Asset Holdings Limited (Formerly known as 'Cheung Kong Property Holdings Ltd.')	Cheung Kong Property Holdings Ltd.	Cheung Kong (Holdings) Ltd.
1299	AIA Group Ltd.	AIA Group Ltd.	AIA Group Ltd.
1398	Industrial and Commercial Bank of China Ltd.	Industrial and Commercial Bank of China Ltd.*	Industrial and Commercial Bank of China Ltd.
1880	Belle International Holdings Ltd.	Belle International Holdings Ltd.	Belle International Holdings Ltd.
1928	Sands China Ltd.	Sands China Ltd.	Sands China Ltd.
2018	AAC Technologies Holdings Inc.		
2318	Ping An Insurance (Group) Co. of China Ltd.	Ping An Insurance (Group) Co. of China Ltd.	Ping An Insurance (Group) Co. of China Ltd.
2319	China Mengniu Dairy Co. Ltd.	China Mengniu Dairy Co. Ltd.	China Mengniu Dairy Co. Ltd.
2388	BOC Hong Kong (Holdings) Ltd.*	BOC Hong Kong (Holdings) Ltd.*	BOC Hong Kong (Holdings) Ltd.*
2628	China Life Insurance Co. Ltd.	China Life Insurance Co. Ltd.	China Life Insurance Co. Ltd.
3328	Bank of Communications Co., Ltd.	Bank of Communications Co., Ltd.	Bank of Communications Co., Ltd.
3988	Bank of China Ltd.	Bank of China Ltd.	Bank of China Ltd.
<b>Total number of companies:</b>	<b>50</b>	<b>50</b>	<b>50</b>

\* Denotes top 20 companies in the BSI study.

\*\* 2018 (2017) sample is from 50 Hang Seng Index constituents as at 6 June 2017 (2016), no information was given for the 2016 sample.

\*\*\* Blank cells indicate the company was not included in the sample for particular year in question.

A third source that may provide a list of companies engaged in social responsibility is from the *Oxfam Corporate Social Responsibility Survey of Hang Seng Index Constituent Companies*, or the Oxfam list.

Oxfam describes itself on its website (<https://www.oxfam.org/en>) as a global movement of people working together to end the injustice of poverty.

Oxfam examines companies on the HSI in terms of CSR based on four categories: corporate governance, environmental impact, social impact and workplace practices.

The objective of the study is to gain insights into the CSR practices of major companies in Hong Kong and is the first attempt of its kind in Asia. To achieve the objective, constituent companies on the Hang Seng Index (HSI) are examined, as they are leaders in the economy, both from a financial and a social perspective, where selection is based on market capitalisation, turnover and financial performance as well as the representation of relevant subsectors.

Oxfam commissioned RepuTex-ESG to examine these companies on a 100-point scale equally distributed over four categories:

1) Corporate governance:

An organisation can achieve a high corporate governance ranking if it demonstrates excellence in corporate governance, i.e. the ability to self-govern and self-regulate ethically, reliably and sustainably in a socially acceptable manner.

2) Environmental impact:

In this area, an organisation can achieve a high score if it shows outstanding environmental stewardship and a commitment to environmental sustainability in the areas

of environmental impact, environmental policy, environmental management system, sustainable investing and commitment to ecologically sustainable development.

3) Social impact:

Social impact measures a company's awareness of its community relationships and commitment to high levels of socially responsible conduct, i.e. involvement in the community, human rights and supply chains, consumer rights and empowerment and stakeholder engagement and reporting.

4) Workplace practices:

The examination of workplace practices focuses on an organisation's management systems, policies and strategies for creating a positive cultural setting for employees that includes employee development and training, organisational culture and diversity and occupational health and safety.

Oxfam's assessments of the companies are based not only on information in the public domain, i.e. information obtained from company websites, annual and sustainability reports, market announcements and market briefings, but also on voluntary input from companies, where companies are provided an opportunity to submit additional information to verify their performance and expand on their achievements using a standardised feedback and verification form. Oxfam states that inputs from third parties are also considered.

It is interesting to note that not all companies responded to Oxfam's request for additional information for feedback and verification. This provides another filter for the Oxfam list of companies for this study. In addition to being both on the HSI and on the Oxfam list, the

companies that responded to the request for information are obviously concerned about their social responsibility status in the Oxfam survey. It is consequently reasonable to consider these companies as companies who care not only about social responsibility, but also about and ethical practices, which makes them interesting candidates in a study of socially responsible behaviour and, more specifically for our purposes, ethical payment practices towards suppliers.

Table 3.4 summarises the CSR identifiers in Hong Kong, while table 3.5 lists the companies in these three identifiers.

**Table 3.4 Three CSR identifiers in Hong Kong**

<b>Index name</b>	<b>Founding organisation</b>	<b>Companies considered</b>	<b>Criteria</b>
Hong Kong Quality Assurance Agency Corporation Social Responsibility Index (CSRI)	Hong Kong Quality Assurance Agency	464 HK listed companies are included for review	Seven areas – organisational governance; human rights; labour practices; environment; fair operating practices; common issues, and community involvement and development
Hong Kong Business Sustainability Index (BSI)	SMRC at HK Polytechnic University, HK Council of Social Service; and the HK Productivity Council	50 companies in the Hang Seng Index (HSI)	Companies are invited to complete a 54-page online questionnaire
Oxfam Blue Chip CSR Survey (Oxfam BC CSR)	Oxfam, which engages RepuTex-ESG to carry out the research	50 companies in the Hang Seng Index (HSI)	Four areas – corporate governance, environment impact, social impact, and workplace practices.

**Table 3.5 Summary of the list of companies examined by the three sources**

“1” indicates that the company is included in the research studies for the relevant socially responsibility index, while “0” signifies that the company is not.

Stock code	Company Name	1 HKQAA CSR Index	2 HKBS Index	3 Oxfam HSI CSR Survey
0001	CK Hutchison Holdings Ltd.	0	1	1
0002	CLP Holdings Ltd. *	1	1	1
0003	Hong Kong and China Gas Co. Ltd., The*	0	1	1
0004	Wharf (Holdings) Ltd., The	1	1	1
0005	HSBC Holdings plc*	0	1	1
0006	Power Assets Holdings Ltd.*	0	1	1
0011	Hang Seng Bank Ltd.*	0	1	1
0012	Henderson Land Development Co. Ltd.*	0	1	1
0016	Sun Hung Kai Properties Ltd.*	0	1	1
0017	New World Development Co. Ltd.*	1	1	1
0019	Swire Pacific Ltd.*	0	1	1
0023	Bank of East Asia, Ltd., The*	0	1	1
0027	Galaxy Entertainment Group Ltd.	0	1	1
0066	MTR Corporation Ltd.*	0	1	1
0083	Sino Land Co. Ltd.*	0	1	1
0101	Hang Lung Properties Ltd.*	0	1	1
0135	Kunlun Energy Co. Ltd.	0	1	1
0144	China Merchants Ports Holdings Co. Ltd.	0	1	1
0151	Want Want China Holdings Ltd.	0	1	1
0178	Sa Sa International Holdings Limited	1	0	0
0242	Shun Tak Holdings Limited	1	0	0
0257	China EB Int'l	1	0	0
0267	CITIC Pacific Ltd.	0	1	1
0291	China Resources Enterprise Ltd.	0	0	1
0293	Cathay Pacific Airways Ltd.*	0	1	1
0322	Tingyi (Cayman Islands) Holding Corp.	0	1	1
0341	Café De Coral Holdings Limited	1	0	0
0386	China Petroleum and Chemical Corporation	0	1	1
0388	Hong Kong Exchanges and Clearing Ltd.*	0	1	1
0404	Hsin Chong Group Holdings Limited	1	0	0
0494	Li and Fung Ltd.	0	1	1
0659	NWS Holdings Limited	1	0	0
0688	China Overseas Land and Investment Ltd.	0	1	1
0700	Tencent Holdings Ltd.	0	1	1
0762	China Unicom (Hong Kong) Ltd.	0	1	1
0823	Link Real Estate Investment Trust	0	1	1
0836	China Resources Power Holdings Co. Ltd.*	0	1	1
0857	PetroChina Co. Ltd.	0	1	1
0883	CNOOC Ltd.	0	1	1
0896	Hanison Construction Holdings Limited	1	0	0
0939	China Construction Bank Corporation*	0	1	1
0941	China Mobile Ltd.	0	1	1
0992	Lenovo Group Ltd.*	0	1	1
1038	Cheung Kong Infrastructure Holdings Ltd.	0	1	0
1044	Hengan International Group Co. Ltd.	0	1	1
1088	China Shenhua Energy Co. Ltd.	0	1	1
1109	China Resources Land Ltd.	0	1	1

1113	Cheung Kong Property Holdings Ltd.	0	1	1
1299	AIA Group Ltd.	0	1	1
1398	Industrial and Commercial Bank of China Ltd.*	0	1	1
1880	Belle International Holdings Ltd.	0	1	1
1928	Sands China Ltd.	0	1	1
2232	Crystal International Group Ltd.	1	0	0
2318	Ping An Insurance (Group) Co. of China Ltd.	0	1	1
2319	China Mengniu Dairy Co. Ltd.	0	1	1
2388	BOC Hong Kong (Holdings) Ltd.*	0	1	1
2628	China Life Insurance Co. Ltd.	0	1	1
3328	Bank of Communications Co. Ltd.	0	1	1
3988	Bank of China Ltd.	0	1	1
	<b>Total</b>	<b>59**</b>	<b>59**</b>	<b>59**</b>
	<b>Companies designated as Socially responsible</b>	<b>11</b>	<b>20*</b>	<b>50</b>

\* Denotes top 20 companies reported in the BSI.

\*\* Total number of companies that have been included in one or more studies.

Table 3.5 shows that 11 listed companies are considered socially responsible in the HKQAA list and 20 in the BSI list, while the Oxfam sample yields 50 companies. These companies will be the subject of our study of ethical firms and their practices in Asia.

### 3.7 Conclusion

In sum, this chapter has explored the potential identification of ethical companies for this study. It has examined the different methodologies deployed by a number of global ESG rating agencies as well as how ethical companies are identified in Hong Kong. They include the identification methodology used by the Hong Kong Quality Assurance Agency Corporation Social Responsibility Index (HKQAA CSRI), which produces only 11 listed companies in their CSR list, the Hong Kong Business Sustainability Index (HKBSI), which includes 20 listed companies on the list, and the Oxfam Blue Chip CSR Survey (Oxfam BC CSR), which yields 50 companies in its index. This thesis, then studies the companies from the Oxfam BC CSR sample, as it produces the highest number of the companies for its survey. In addition, Oxfam engaged an independent research company to perform their survey and thus reduce possible bias.

Companies in Hong Kong, as an economy straddling east and west, are specifically examined in this study as they potentially offer insight into what future business practices may look like for Chinese companies emerging from a country that is likely to be the world's largest economy in the near future.

## **Chapter 4 – Defining ethical payment practices in trade credit finance**

### **4.1 Introduction**

Now that we have identified companies deemed ethical for our study in the previous chapter, it is necessary to examine their business practices from an ethical perspective. The focus of this study is a company's behaviour and practices towards its suppliers. Payments to suppliers that can be considered a form of trade credit are of interest because of both their macro and micro significance.

As discussed in previous chapters, trade credit is significant from a macroeconomic perspective, because the trade credit provided by sellers/suppliers represents approximately 2.5 times the combined value of all new public debt and primary equity issued (Ng et al., 1999). The authors additionally conclude that trade credit, in the form of accounts payable, exceeds the primary money supply  $M1$ <sup>14</sup> by a factor of 1.5 on average.

From a microeconomic perspective, Elliehausen and Wolken (1993) find evidence suggesting that trade credit accounted for about 15% of the liabilities on the balance sheet of non-farm, non-financial businesses in the US. The importance of trade credit on the balance sheet of businesses is reaffirmed in Murfin and Njoroge (2015), who show trade payables to be the second largest liability on the aggregate balance sheet of non-financial businesses in the US.

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<sup>14</sup>  $M1$  is a narrow measure of the money supply that includes currency, demand deposits and other liquid deposits, such as savings deposits.

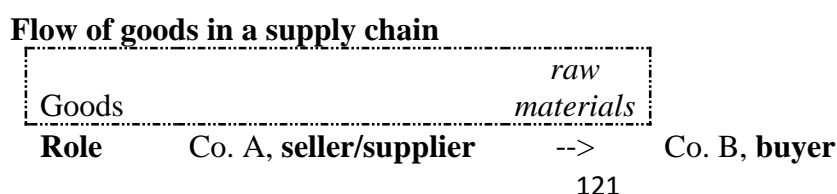


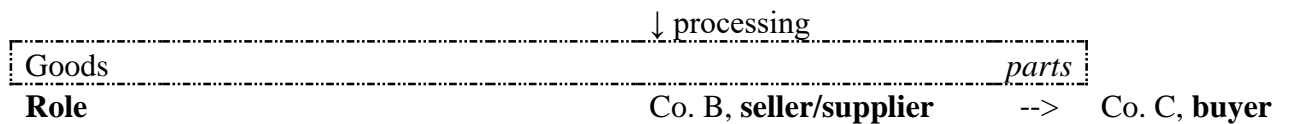
The importance of trade credit can also be found in Kohler et al. (2000) in the UK and Fitzpatrick and Lien (2013) in Australia. In fact, for G7 countries, it is shown that trade credit taken represents a sizeable 11.5–17 % of total assets on average (Cunat and Garcia-Appendini, 2012). It is consequently important, and of interest, to be able to examine in detail the payment practices of buyers with regard to their sellers/suppliers. More specifically, what are fair payment practices from an ethical perspective? Are all “late” payments unfair and unethical?

As discussed in previous sections, trade credit represents interest-free financing for buying firms that is granted by seller/supplier firms. As a result, many credit receiving firms (buyers) use trade credit as a substitute for bank credit, particularly when that is difficult to come by (Gertler and Gilchrist, 1994; Jaffee, 1969; Nilsen, 2002; Schwartz, 1974). This practice, as argued in the earlier section, does not mean that there is no cost to the finance provided by seller/supplier firms. Even if the cost to the seller/supplier (of semi-finished products) at a particular point in the supply chain may be passed on to a seller/supplier upstream, there will ultimately be a company up the supply chain (e.g. raw material suppliers) that will have to bear this cost in the form of interest and/or a reduced return to investors. This is illustrated in the diagram below with a simple supply chain relationship.

To address this issue, it is necessary to understand payment practices and ethical payment practices and measure “fair” payments.

**Figure 4.1a: Flow of goods in a supply chain**

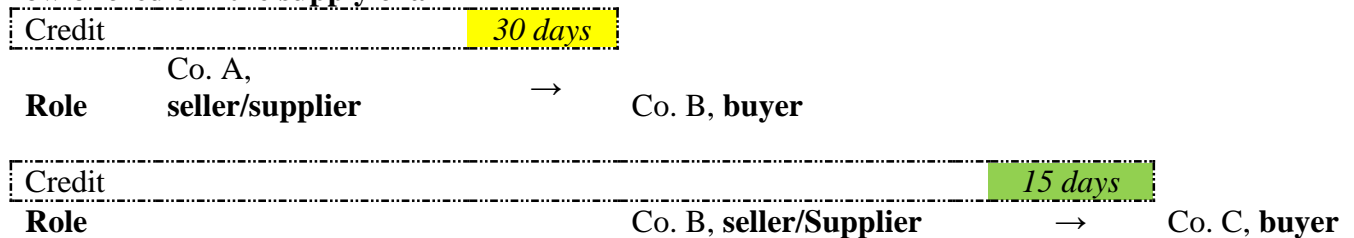




As can be seen from the above diagram, from a goods flow perspective, at the beginning of the supply chain company A (the seller/supplier at this stage of the supply chain) sells raw materials to company B (the buyer of company A at this first stage of the supply chain). Upon receiving the raw materials, company B then processes and transforms them into semi-finished parts. Company B then takes on the role of the seller/supplier in this second stage of the supply chain by selling to company C (the buyer of the parts supplied by company B).

**Figure 4.1b: Flow of goods in a supply chain with payment terms**

**Flow of credit in the supply chain**

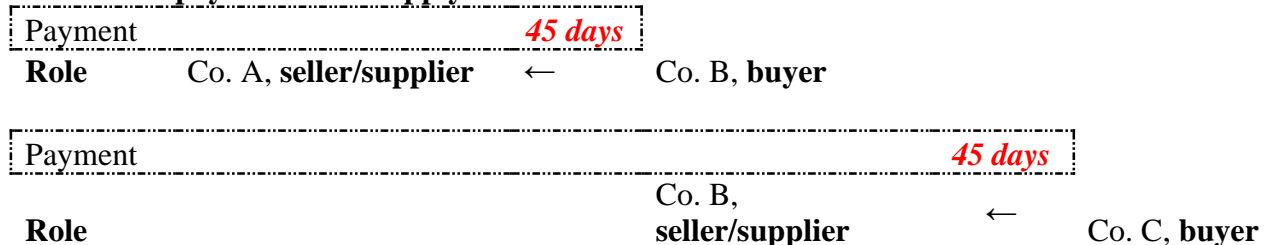


From a credit flow perspective, a 30-day credit term is created as a result of the sale of raw materials from company A (the seller/supplier at phase 1) to company B (the buyer in phase 1). Here, company A provides interest-free financing to company B for a period of 30 days as a result of the sale of raw materials. Furthermore, a 15-day credit term is created as a result of the sale of semi-finished parts by company B (the seller/supplier in phase 2) to company C (the buyer in phase 2). Again, this means that company B provides 15 days of interest-free financing in the form of AR to company C, which now has an AP, as a result of the sale of semi-finished parts. This means company C pays company B within 15 days from receipt of

the semi-finished parts. In general, if it takes less than 15 days (e.g. 10 days) for company B to transport and process the raw materials and get them to company C, company B should not need to finance company C's purchases, as it should have received payments from company C (within 15 days from delivery) before it has to pay company A (30 days after receipt of raw materials).

**Figure 4.1c: Flow of goods in a supply chain reflecting actual payments days**

**Flow of cash/payments in a supply chain**



Finally, if company C pays company B late, for example 45 days following receipt of the semi-finished parts rather than the 15 days according to the credit term, company B will have to come up with the amount that it needs to pay company A on time. However, if company B decides not to pay company A on time and pays only after it has received payment from company C, then no financing is taken on by company B, but the delay will force company A to come up with the money to fund its own operations and it will incur an interest cost and/or a loss of return to shareholders. So while trade credit appears to be interest-free funding for one party, there is a cost that has to be borne by a company along the supply chain (Lyroudi and McCarty, 1993).

Furthermore, as can be concluded from the discussion in the previous sections, seller/supplier firms tend to be smaller companies with trade-specific assets and limited bargaining power in

the relationship with the buyer. So the use of “free” trade credit by a larger buyer firm represents the passing on of the interest cost to another party, mostly relatively disadvantaged seller/supplier firms along the supply chain, an action that clearly has ethical ramifications.

From the strain that this causes on the financial resources of a seller/supplier firm along the supply chain, together with the earlier results from Sorell and Hendry (1994), Wilner (2000) and Oliveira et al. (2017) suggesting that the majority of seller/supplier firms are in a relatively disadvantaged position in comparison with the buyer firm when seeking fair contract terms, either because they are in a “many-to-one” relationship and/or because the own trade-specific assets, a picture of the social impact of trade credit begins to emerge.

Tracking back along the supply chain in this way illustrates that towards the end of the supply chain there tends to be a business buyer that is a large firm (Murfin and Njoroge, 2015) that pays its smaller sellers/suppliers late, who then pay their own smaller sellers/suppliers late, and so on all along the supply chain (Wilson, 2014). It is not difficult to see not only the impact of a potential default by the large customer on the chain of smaller suppliers, but also the stress that a delayed payment can exert on the liquidity positions of all the small supplier firms in the chain and the challenges this poses them. Indeed, Sorell and Hendry (1994) cite evidence that the practice of delaying payment to suppliers “disproportionally affects small companies.” In the long term, the impact of this on society may be even more pronounced if we consider the fact that these small firms are also, typically, high growth firms (Elliehausen and Wolken, 1993).

While the motive of the buyer firm in delaying payment to seller/supplier firms is obvious from an interest cost perspective, it is unclear whether the cost of interest is significant

enough to motivate buying firms to withhold and delay payment to seller/supplier firms.

Cumby and Donnellan (2017) find a statistically significant negative relationship between AP days (i.e. length of days to pay AP by a company) and economic value added. In addition, the comprehensive study performed by Chang (2018) examining 31,612 companies from 46 countries for the period between 1994 and 2011 found a reduction in the cash conversion cycle (CCC),<sup>15</sup> a popular measure used in supply chain finance management involving accounts receivable (or AR, i.e. trade credit granted to buyers of the firm), inventories<sup>16</sup> and accounts payable (or AP, i.e. trade credit granted by the supplier of the firm)<sup>17</sup>, positively affects return on assets. In short, a relative increase in AP, based on the CCC definition, has a positive effect on return on assets.

The logic of “managing” payments to suppliers by extending APs is also well documented in mainstream finance textbooks for students, who learn that this is a way to create value for companies. In general, the goal is to decrease working capital ( $AR + Inventory - AP$ ), so an appropriate action here would be to increase AP and lengthen payment days to sellers/suppliers of the firm (Ross et al., 2018; Block et al., 2019; Brealey et al., 2020).

Cowton and San Jose (2017) also observe that, in addition to interest costs, there is a risk involved in trade credit that actually “puts suppliers in a vulnerable position as they wait to discover when they will be paid (if at all), notwithstanding their setting of terms of payment

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<sup>15</sup> Cash conversion cycle (CCC) measures in days a firm’s operating cycle converting its inventory into credit sales and, eventually, cash from sales. In general,  $CCC = \text{inventory turnover in days} + \text{AR turnover in days} - \text{AP turnover in days}$ .

<sup>16</sup> AR and inventories are both short-term assets for companies that require the investment of funds to support the operation of its business. AR, in particular, are investments by companies to support sales to its buyers.

<sup>17</sup> AP represents a supply of funds to a company. They are typically provided by its suppliers in the form of trade credit.

and the underpinning of contract law” (San Jose and Cowton, 2008, p. 3) and this risk might have wider implications when the financial strain is spread to other stakeholders, e.g. employees (San Jose and Cowton, 2008, p. 3, Cowton and San Jose, 2017, p. 676).

To manage or avoid these risks for the seller/supplier firm and their related stakeholders, many companies deploy resources from credit investigation and its granting decision, through credit administration and monitoring, to credit workout upon default. To get a feel for the degree of resources devoted to these functions, it is useful to point to a few professional associations, e.g. the CICM<sup>18</sup>, the Credit Research Foundation (CRF), the National Association of Credit Management (NACM), the Finance, Credit and International Business Association (FCIB), the HKCCMA,<sup>19</sup> etc., that have been established with the aim of serving the needs of practitioners in this field. On the commercial side, companies providing services to seller/supplier firms include Dun & Bradstreet (D&B), Equifax and Experian. These three for-profit organisations had a combined revenue of close to US\$ 10 billion on an annual basis in 2018.

Given the significance of the credit term and payment issues in terms of interest costs and credit risks and the fact that the issues apply regardless of country, whether it is the US (Elliehausen and Wolken, 1993), the UK (Kohler et al., 2000) or Australia (Fitzpatrick and Lien, 2013) or whether it is from a supply chain perspective (Meltzer, 1960; Nadiri, 1969; Schwartz, 1974; Emery, 1987; Smith, 1987; Brennan et al., 1988; and Long, Maliutz and Ravid, 1993), and given their implication as a financing tool for small and high growth firms

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<sup>18</sup> The Chartered Institute of Credit Management (CICM) is one of the largest recognised professional bodies for credit management in the world.

<sup>19</sup> The Hong Kong Credit and Collection Management Association (HKCCMA) is a non-profit organisation and the first and only association for credit and collection practitioners in Hong Kong.

(Petersen and Rajan, 1997), and thus with implication on the community's future growth, it is important to take a close look into trade payment practices (Sorell and Hendry, 1994). More specifically, what types of practices can be considered fair payment practices?

From a broad perspective, fair payment practices can be viewed as the credit days the supplier agrees to with the aim of increasing sales (Nadiri, 1969) and gearing up production (Meltzer, 1960; Schwartz, 1974; Emery, 1987; Smith, 1987; Brennan et al., 1988; Long, Maliutz and Ravid, 1993; and Petersen and Rajan, 1997). Going beyond the possibility of a monopsony exercising its power and any asset specificity restricting seller/supplier firms from switching to other buyers, it can be argued that the seller/supplier firms have, in the long run, the option to switch to serve buyers in other industries under fair trade credit terms. If that is indeed the case, then the trade credit terms agreed to by both parties and accepted by the seller/supplier firms should represent fair trade terms for both parties. In this argument that seller/supplier firms have the ability to switch in the long run, it is not important whether the term has been determined by the buyer irrespective of the supplier's input or as a result of industry practice irrespective of the supplier's view, because the supplier's simple act of consent represents their conscious willingness to agree after deliberate consideration.

## **4.2 Analysing trade credit payment practices**

Based on the argument above, payment practices may be considered as "fair", irrespective of the view of the seller/supplier view, when the credit days the supplier agrees to is arrived at after deliberate considerations such as with the aim of increasing sales.

However, one may argue that the credit terms set by the buyer firm in the manner above are unfair and unethical, as they do not take the view of the seller/supplier into account. While this may indeed be true based on the earlier discussions (Sorell and Hendry, 1994; Wilner, 2000; Baker and Martin, 2011; Oliveira et al., 2017) in the case where a large customer firm exercises market power in the form of a monopsony and forces the seller/supplier to accept significantly disadvantageous terms, the argument is limited when the buyer firm is simply large, but not to the extent that it possesses and exercises the power of a monopsony. It is then possible that the credit terms agreed to are fair.

In addition, if seller/supplier firms do in the long run have the choice to switch and supply buyers in other industries in order to avoid unfair credit terms forced upon them by a buyer exercising its monopsonistic power or as a result of asset specificity constraints, then the credit terms agreed to must be fair.

In this case, unfairness can only exist where the buyer firm engages in payment practices that deviate from the agreed terms, which then results in unfavourable conditions to the seller/supplier (i.e. extension of payment beyond credit terms).

To examine whether unfair payment practices exist, we must measure agreed credit term days and payment days. If payment days are shorter than or equal to agreed term days, then no unethical practices have been engaged in by the buyer firm. However, if payment days are longer than agreed term days, then the practice by the buyer firm is suspected of being unethical. Thus:

Payment days  $\leq$  agreed credit term days: fair payment practices by buyer



Payment days > agreed credit term days: unfair payment practices by buyer

### **4.3 Measuring payment days**

Payment days are typically measured in terms of APdays, i.e. the days a buyer firm takes to pay its seller/supplier firms. The APdays number is measured as

$$\text{APdays, or DPO} = \text{AP balance} / \text{purchases for the period} \times 365 \text{ days}$$

In an ideal world, the numerator would consist purely of accounts payable to suppliers.

However, in reality, while the number is typically driven by payables to sellers/suppliers, the accounts payable balance number reported in the company's balance also includes other general short-term obligations, such as office supplies payables (not necessarily related to the purchase of inventory for resale purposes). Using the accounts payable balance as reported to represent amounts due to seller/supplier firms is not a perfect solution, but from a practical perspective it is impossible to segregate the other payment items and, in general, these general obligations are likely to be small and should not affect the result significantly.

For the denominator, purchases for the period are the appropriate figure to use. However, this number is typically not reported under generally accepted accounting principles (GAAP) or International Financial Reporting Standards (IFRS). Frequently, the cost of goods sold figure is used, again, as a proxy.

Although the cost of goods sold figure does not provide the most accurate result, it does provide a robust alternative for our purpose. This is especially true when our interest is not

simply APdays, but the difference between AP days and agreed credit term days.

Furthermore, using cost of goods sold instead of purchases for the period is likely to produce a consistent underestimate of the actual AP days, as the figure will probably be an overestimate of the purchases for the period number with the inclusion of direct labour and depreciation.<sup>20</sup>.

#### **4.4 Measuring payment term days**

In theory, to obtain the payment term days, we can simply obtain the data on payment days from individual contracts to measure agreed credit term days. However, from a practical perspective, this would be a monumental challenge, as we would need to go through and track transactions contract by contract for the company in question.

However, as our interested in is not simply agreed credit term days, but fair credit practices or fair credit days, it is reasonable to follow Cowton and San-Jose (2017) put forward the view that trade credit should actually be considered as two components, an operating trade credit and a financial trade credit.

From an operating perspective, it is reasonable to consider the act by sellers/suppliers to grant trade credit as a deliberate decision to manage demand, ensure quality or attract buyers.

Cowton and San-Jose (2017) pointed out that this component trade credit is justified when both the buyer and their seller/supplier wait for a sale to be made and, ultimately, for cash to be received from the ultimate customer, i.e., the consumer. At the same time, Cowton and

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<sup>20</sup> Cost of goods sold in manufacturing industries includes cost of labour, materials and manufacturing overheads (MOH). MOH includes utilities to operate factory equipment, depreciation on factory equipment and buildings, factory supplies and factory indirect labour.

San-Jose (2017) put forth the concept that the seller/supplier firm should be paid once the cash is received by the customer/buyer firm from the ultimate customer, especially when this is after the credit term. A buyer holding the money back at this point is “to forcibly borrow the money due to the supplier would no longer be operating, but financial.” In this case, fair credit days should be measured as the number of days it takes for buying firms to have their accounts receivable settled, i.e. AR days.

$$\text{Fair credit days} = \text{AR days}$$

With fair credit days, proxy to payment term days, determined, we are now in the position to form hypothesis to examine payment practices behaviour by buyer firms.

#### **4.5 Hypotheses research development**

Based on the above, AP days as the proxy to the actual days the buyer firms used to pay supplier firms, and AR days used as fair credit payment days, this section develops the main hypotheses to be tested with empirical relationship between the two.

Firstly, with CSR-conscientious companies that do good and address the interests of stakeholders that extend beyond those of their shareholders (Carroll, 1979), Ansoff (1965), i.e., suppliers in our case, it is reasonable to expect good CSR-conscientious companies to behave ethically and pay their suppliers before or on time Solomon (1993), Cowton and San-Jose (2017), when it comes to payment practices to suppliers. In contrast, companies that are less CSR-conscientious would be more focused on shareholder as stakeholders and make

decisions that are geared towards shareholder value maximizing and utilize suppliers fund, (e.g. Weston and Copeland, 1992; Ross et al., 2018; Block et al., 2019; and Brealey et al., 2020) with actual payment days, AP days, that are longer than fair credit term days, AP days. This can be translated into a first research question of :

RQ1: Are CSR-conscientious companies more likely to pay their suppliers on time or even ahead of schedule?

Indeed, while it is possible for a company to pay its suppliers late due to CSR orientation, it is also possible for companies to pay their suppliers late as a result of other finance conditions, e.g., the buyer's own liquidity position. It is hence important to also examine payment practices in the context of buyer firm's own financial ability. A firm's financial situation is measure by a number of independent financial variables, e.g., cash, cash flow, current asset, investment in fixed assets, debt and profitability (Abdulla et al., 2017, 2020). This can be transformed into a second research question of

RQ2: How has financial ability and ethical willingness affected payment practices by CSR-conscientious companies?

#### **4.6 Developing a hypothesis in the context of payment practices**

The above discussion lays the theoretical groundwork for assessing the behaviour of ethical companies with regard to how they might act towards suppliers from a payment perspective. According to the deductive theory approach, theoretical conjectures must be subject to “empirical scrutiny” as per Bryman and Bell (2016, p. 23), who also state that the theoretical

concepts must be translated into “operational terms” (p. 23), so data can be collected and evidence evaluated in the context of the proposed theory to produce a conclusion. This is in contrast to the inductive research process, where theory is developed in a “data-driven manner” (p. 26).

Given this theoretical conjecture, it is important to examine whether it can stand up to “empirical scrutiny”. This is accomplished by developing hypotheses in which the theoretical conjecture can be operationalised into a variable or variables that facilitate the collection of data and the concept is tested against the evidence. Typically, in the context of statistical research, the evidence collected is tested against a “null” hypothesis, in which there is no statistical significance or relationship. If the null hypothesis of no statistical significance is rejected based on the statistical evidence, this suggests that the alternative hypothesis of statistical significance may not be a random or chance result under the current definition and measurement of the variable(s). It is also important to note that each hypothesis is associated with one explanation and that there may be others that fit the facts just as well. In an abductive reasoning process, which is one way to overcome the limitations associated with both the deductive and inductive processes, a back-and-forth process between theory and evidence is deployed to arrive at the best explanation out of competing explanations or interpretations of the data.

As seen in the previous discussions, a key hypothesis of this study is that ethical and “good” companies will pay their sellers/suppliers on time, or possibly earlier, and companies that are unethical and “bad” will delay payments. The null hypothesis of no difference here implies that there is no difference in the payment practices of ethical firms and other companies.

The next issue is how to operationalise the concept of payment practices in order to test the hypothesis against the evidence.

#### **4.7 Payment practices versus payment terms**

The discussion above lays the foundation for how payment practices can be examined. It concludes that ethical buying firms will pay seller/supplier firms according to agreed payment terms. The discussion on “measuring payment term days” has also established that a reasonable proxy for payment terms is days sales outstanding (DSO). Firstly, this is due to the argument that payment terms tend to be similar for upstream and downstream companies along the same supply chain, meaning that payment terms for a firm’s customers tend to be the same as a firm’s term for its suppliers. DSO is therefore a reasonable proxy for payment terms. Secondly, as Cowton and San-Jose (2017) point out, a situation where a buyer has received cash from its customers in settlement of accounts receivable, but continues to withhold the money at this point is a one where the decision “to forcibly borrow the money due to the supplier would no longer be operating, but financial”. As a result, fair credit days can be measured as the number of days it takes for the buyer firm to obtain settlement of its accounts receivable, i.e. AR days.

Furthermore, DSO reflects the number of days the client of the buyer firm takes to settle the account and is thus a measure that is equivalent to the receipt of cash by a buyer firm. This is consistent with the view expressed by Cowton and San-Jose (2017).

With DSO as a proxy for fair credit payment terms for suppliers, payment practices can be analysed by comparing DSO with actual payment days as measured in the form of days

payment outstanding, or DPO (Murfin and Njoroge, 2015). The previous discussion consequently proposed that an ethical company will have

$$DPO \leq DSO.$$

To further operationalise this for the purpose of testing the hypothesis, this can be transformed into  $DPO - DSO \leq 0$  or, as discussed above, an NPD that is less than zero, where NPD is defined as the difference between days payment outstanding (DPO) and days sales outstanding (DSO). This means that the null hypothesis of no difference can be written as:

$$H_0: DPO = DSO, \text{ or } NPD = 0$$

Another question that arises before the hypothesis is tested is how should DPO and DSO be measured?

For DSO, the standard measure based on accounts receivable is  $AR/\text{net sales} \times 365$ . This leads to the question in practice of whether accounts receivable should include bad debt? As bad debt cannot be collected and will be written off once recognised, its inclusion in accounts receivable will introduce an upward bias to the accounts receivable number, resulting in a higher DSO. In this case, net accounts receivable (where provisional bad debt is deducted) are used to calculate the DSO number, where  $DSO(x)$  is calculated as  $(\text{accounts receivable} - \text{bad debt})/\text{net sales} \times 365$ . Both standard DSO and DSO less provisional bad debt ( $DSO(x)$ ) will be examined in this analysis.

For DPO, the standard measure based on accounts payable is  $AP/\text{cost of goods sold} \times 365$ .

While this is a commonly accepted measure, it is arguably true that cost of goods sold (COGS) does not represent purchases from suppliers and thus does not represent a payable to suppliers. This is the case as COGS is the estimated cost over the whole production process, which includes at the very least direct labour and depreciation in addition to supplies. So using COGS as a proxy for payment to suppliers will produce an inflated number, which will in turn introduce a downward bias to the DPO number.

One possibility for obtaining a proxy for purchases from suppliers is to filter depreciation out from COGS. A cleaner proxy for payment to suppliers would thus be  $\text{COGS} - \text{depreciation}$ , or  $\text{COGS}(x)$ . In this case,  $\text{DPO}(x)$  will be calculated based on  $\text{accounts payable}/\text{COGS}(x) \times 365$ .

Given the refinement in the measurement of DPO and DSO, the basic hypothesis can now be tested:

$$H_0: \text{DPO} = \text{DSO}$$

$$H_A: \text{DPO} < \text{DSO} \quad (\text{to answer the Q1})$$

$$H_0: O_{ij} = E_{ij}$$

$$H_A: O_{ij} \neq E_{ij} \quad (\text{to answer the Q2 that the Willingness and the Ability really are different in terms of Oxfam selected companies vs non-Oxfam})$$



If the seller/supplier firm receives the payment from their buyer earlier than the agreed contract date, the number of days it takes them to pay their own sellers/suppliers may be shorter than the contractually agreed days, i.e.

$$\text{Fair credit days} = \text{AR days} < \text{contractually agreed days.}$$

On the other hand, if the seller/supplier firm receives payment from their buyer later than the agree contract date, the number of days it takes them to pay their own sellers/suppliers may extend beyond the contractually agreed days, i.e.

$$\text{Fair credit days} = \text{AR days} > \text{contractually agreed days.}$$

AR days, in turn, are measured as accounts receivable balance divided by sales for the year and then multiplied by 365 business days (Ross et al., 2018; Brealey et al., 2020), which is also known as DSO.

The other challenge in arriving at the difference is how to obtain the fair credit days number. Again, this number is not commonly available and a proxy must consequently be used. A reasonable proxy for this number would be days sales outstanding (DSO), which is measured as:

$$\text{AR days or DSO} = \text{AR balance} / \text{net sales} \times 365 \text{ days}$$

From a fair credit days perspective, the DSO number does not represent a perfect surrogate. It can; however, be treated as a robust proxy, as it reflects the number of days it takes for the

client of the buyer firm to settle the account and is thus a very similar measure to the receipt of cash. This concept is consistent with Cowton and San-Jose (2017). The measure is widely adopted by business credit professionals across industry and has been used for many years in the US. For instance, the CRF, the corporate membership arm of the NACM, has reported industry-based DSO for half a century. In addition, from a conceptual perspective, the DSO number is used as a comparison with the ARdays number in the form of days payables outstanding (DPO) to guide decision makers on their cash conversion management.

DSO represents the actual number of days, regardless of any credit terms between the buyer firm and its clients, before the buyer firm receives cash payment from its clients. Prior to the DSO, and regardless of any credit terms, the buyer would not have the money from its client to pay the seller/supplier firm; after the DSO, and again regardless of any credit terms, payment would have been received by the buyer and cash would be available to settle what it owes the seller/supplier. The DSO number can thus be used as a proxy for fair credit days from an operational perspective.

If the credit from delayed payments is in fact a financial one, and not an operating one, i.e. when a buyer firm delays payment beyond the time it receives cash, then the buyer firm is hoarding cash that is supposed to belong to its seller/supplier. In these cases, with the seller/supplier effectively providing funding to the buyer firm, interest should be charged to compensate the seller/supplier for the use of these funds as well as for the credit risk. Delaying payments to seller/supplier firms when the buyer firm actually has the cash and not compensating them for the use of this financing should be classified as an unethical financial practice.

Indeed, Cowton and San Jose (2017) correctly suggest that other external parties should also look into and assess the risk of default by buying firms in terms of the speed of payment to seller/suppliers. These external parties may include rating agencies such as Moody's and D&B, or banks who provide credit to buying firms or regulators who manage the financial stability of the economy. If this is the case, the question then becomes: Is the current financial reporting/disclosure requirement or standard sufficient in helping these external users assessing payment practices? More specifically, and based on current reporting requirements, can external parties accurately assess the degree of lateness? This is especially true when the actual contractual terms are not disclosed to the public. Cowton and San-Jose (2017) further argue that in these cases banks have, or should have, greater expertise in granting (financial) credit and managing credit risks. In any event, interest should be charged to compensate the seller/supplier firm.

Furthermore, delaying payment beyond the agreed contractual terms is equivalent to a legal breach of contract. Legal action can clearly be taken by the seller/supplier firm here.

In reality, however, legal action is rarely taken by suppliers. This commonly applied leniency on the part of suppliers may perhaps arise from sheer "ability and voluntary willingness", but in the majority of cases is based on 1) the expenses incurred by a non-financial organisation in calculating, invoicing and collecting interest and 2) the risk of damaging potential future commercial relationships. Indeed, Wilner (2000) point out that trade creditors typically "have a stake in the continued relationship with the customer and are in a disadvantaged position in debt renegotiation." A buyer (customer) firm delaying payment to its seller/supplier in this situation is unfair and, as Solomon (1993) called it, a "steal".

In sum, both the APdays (DPO) and the ARdays (DSO) numbers are widely used and well understood payment metrics in practice (Boston Consulting Group, 2010; ACCA, 2014; Boyce, 2014), in the classroom (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; and Brealey et al., 2020) and in research. APdays have recently been applied in corporate performance studies (e.g. Van den Bogaerd and Aerts, 2015 and Cumbie and Donnellan, 2017) and can consequently serve as reasonable proxies in this study going forward.

One possible way to gain insight into measuring on-time payment is thus to compare DPO days and DSO days in the (same) supply chain, i.e. DPO days from upstream (i.e. days to pay seller/suppliers) versus DPO days from downstream (i.e. days to get paid by buyers). The hypothesis here is that payment practices should be standardised within a supply chain, thus  $DSO = DPO$  based on industry norms.

Establishing on-time payment in the form of payment days (DSO) and payment terms (DPO) allows the payment practices of buying firms to be analysed.

In sum, ethical buying firms will pay seller/supplier firms according to the agreed payment terms. Hence:

$$DPO \leq DSO, \text{ or}$$

$$DPO - DSO \leq 0$$

i.e. the net payment days figure is small (close to zero) or negative. While the difference between the DPO and the DSO has never been used directly, a similar approach can be found

in accounting and finance textbooks, e.g. Block and Hirt (1994), Gitman (1988), Weston and Copeland (1992), Ross et al. (2018), Brealey et al. (2020), where it is defined as,

$$\text{Cash conversion cycle (in days)} = \text{AR days (DSO)} + \text{inventory days (DIO)} - \text{AP days (DPO)}.$$

As the concept of DPO versus DSO has never been used directly, we introduce the concept in this research and define it as net payment days (NPD), thus  $\text{DPO} - \text{DSO}$ .

When looking at the payment practices of unethical buying firms that take advantage of seller/supplier firms, the firm will have a large net payment days figure, i.e.

$$\text{DPO} \geq \text{DSO}, \text{ or}$$

$$\text{NPD} = \text{DPO} - \text{DSO} \geq 0$$

Net Payment Days, NPD, hence, forms the basis for developing hypotheses for further exploration in the subsequent chapters.

## **4.8 Conclusion**

According to Bryman and Bell (2016), theoretical concepts need to be translated into “operational terms” in order to determine the type of data to be collected and analyses to be performed. A key to analysing trade payment practices is the ability to define and measure trade payment. For the purposes of this study, an additional challenge would be the need to define and measure payment practices that are “ethical and fair”. This chapter has explored

ways to first define and measure payment practices and then to define and measure what may be deemed fair payment practices between customer firms and supplier firms. It has also evaluated what is considered to be fair payment practice. The use of trade credit by companies as an interest-free financing tool has also been explored and analysed.

In theory and practice, payment practices in terms of days can be determined using accounts payable days (AP days), which is a well-defined concept in accounting and finance (Ross et al., 2018; Block et al., 2019; Brealey et al., 2020) and measures accounts payable outstanding in terms of days typically over a 365-day cycle. A conceptual challenge is that accounts payable days are typically measured in relation to cost of goods sold rather than, from a straight theoretical perspective, cost of goods purchased from suppliers. This is because most accounting reporting principles and standards do not require disclosure of the goods purchased number. As a result, the cost of goods sold number is used as a proxy. A key difference between the figure for the cost of goods sold number and the figure for the cost of purchases from suppliers lies in depreciation and amortisation. This study consequently also measures accounts payable days using a proxy for cost of purchases as cost of goods sold net of depreciation and amortisation.

As the interest of this study lies not simply in payment practices, but rather in whether customer firms are fair to their supplier firms, it is necessary to explore, define and understand ethical payment practices and measure “fair” payments.

The basis is provided by Cowton and San-Jose (2017), who put forward the view that trade credit is justified when both the buyer/customer and the seller/supplier wait for a sale to be made and, eventually, for cash to be received, but that the seller/supplier firm should be paid

once the cash is in fact received, especially when it is after the agreed credit term. Fair credit days can thus be measured as the number of days for buying firms to collect settlement of their accounts receivable, i.e. AR days. Combining the two concepts that have been developed, “fair” payment practices are defined in this analysis as net payment days (NPD) and measured as accounts receivable days less accounts payable days. Following on from this line of argument, a null hypothesis of  $NPD = 0$  is arrived at.

## **Chapter 5 – Methodology**

### **5.1 Introduction**

In the previous chapter, the variable that is the focus of this study, i.e. payment practices by buying firms, is measured by net payment days (NPD). In addition, the last chapter also developed hypotheses on how the variable may behave to reflect payment practices by CSR-conscientious buyers in light of their decisions. This chapter now goes on to explore the methodologies to be deployed when analysing the data on the payment behaviour of companies. They include correlation analysis, regression analysis, panel data analysis and propensity score matching (PSM).

### **5.2 Research philosophy**

In terms of research philosophy, a first issue that needs to be addressed in the research methods is the proposed view on whether payment practices by good companies should be different from those of typical companies. Ideally, in fact, the payment practices of good companies should produce shorter net payment days than those of typical companies, as good companies will address the interests of their suppliers and should thus tend to pay them early or on time. The interest of the present study lies in potentially verifying this through research and evidence.

The philosophy behind research and knowledge was first explored by the Positivist school, which emerged in the mid-19th century based on the thoughts of the French philosopher Auguste Comte (1798-1857). This school believes that a proposed view can only become



knowledge after it has been confirmed by the scientific process of gathering evidence from measurable observations and subjecting these observations to empirical testing using quantitative statistical methods. In contrast, interpretivism is an approach developed by Max Weber (1864-1920) that builds on the importance of the meaning of actions and behaviour. This school believes that the analysis of any action observed is the result of an individual's subjective perspective based on their own beliefs, values and experience. As such, evidence is primarily qualitative in nature and should be obtained from unstructured interviews. A third branch of thought is pragmatism, proposed by Charles Peirce (1839-1914) and popularised by William James (1842-1910), which combines both positivism and interpretivism and suggests that the two concepts represent a continuum rather than simply opposing constructs. According to Bryman (1988), pragmatism is “a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, how results should be interpreted”. Finally, proponents of realism represent a belief that the social sciences can and should apply the **same** approach to data collection and explanation as the natural sciences, thus supporting a focus of constructs that can be measured and analysed in a controlled manner similar to a laboratory setting.

Although this research is conducted as a social science-oriented study looking into ethical practices by companies, it approaches the topic in a scientific manner based on the realist approach by collecting data that is objectively generated from generally accepted measurements, i.e. accounting data, and then analysed by comparing the subject companies against other companies as control candidates.

### **5.3 Qualitative versus quantitative evidence**

Based on the above, research evidence can be obtained qualitatively in line with the Interpretivism school and quantitatively in line with the Positivism school. Qualitative research methods focus on evidence of individuals' interpretation of their environment and are obtained from records, cases, observations, ethnographic interactions, focus groups and one-on-one interviews (Bryman and Bell, 2016).

Quantitative research methodology, on the other hand, looks into the collection of measured results involving a large number of cases from the population. The data collected is typically subjected to statistical analysis (Bryman and Bell, 2016).

As we are examining payment practices towards suppliers by companies with a commitment to ESG as set against typical companies, the comparative nature of this study makes it analogous to studies in a scientific setting, but where it is the payment practice construct measured for the target group, ethical companies, that is compared to that of the controlled group, typical companies, in a "laboratory" setting.

At the same time, it is also possible to carry out this study by applying a qualitative approach comprising case studies, interviews and surveys. Accessibility, time and cost constraints typically mean, however, that only a few companies can be examined. A small sample is available by nature, which makes this approach limited from the perspective of scientific rigour, while the ability to generalise its finding is frequently questioned. In addition, as the evidence may be case-specific, it may be hard to replicate the findings in other studies.

In addition to issues concerning the accessibility of respondents, cost and time, a highly disadvantageous aspect of interviews is inherited in the nature of the responses. Indeed,

responses may be subject to bias both on the part of the interviewer, who might ask “leading” questions, as well as on the part of the interviewees, whose answers might be affected by their status as representatives of a company that practises a high level of ethics.

An alternative to interviews in a qualitative approach is quantitative approach. The quantitative approaches examine hypotheses through the quantification of behaviours. For example, survey questionnaires may be designed and applied to a sample of survey participants to capture behaviour.

While surveys may deliver advantages, e.g., they are easier to administer from both a geographic and an accessibility perspective and are as relatively more cost-effective – the reliability of the responses may be susceptible to limited adaptability when compared to the interactive nature of interviews and also subject to how questions and answers are interpreted by respondents. Indeed, this approach may be subjected to biases. Firstly, selection/participant bias is typically the result from selecting of participants when the study’s design to automatically include/exclude a relevant/irrelevant group/participant from the research process, resulting bias in the results. In addition, measurement bias may arise from distorted measurement of key study variables. This occurs when a tool or instrument has not been assessed for its validity or reliability. If there is significant measurement error present in the study results, it can lead to different interpretations that do not accurately reflect reality. Furthermore, surveys may suffer from non-responses to certain questions and finally, and perhaps most significant of all, a low response rate, which is not atypical for survey research.

In financial research, in addition to studying behaviours via surveys, financial reports providing quantitative data on a consistent basis over time provides opportunities for

researcher to look into corporate decisions and behaviours in an economic and efficient manner.

After careful consideration of all the available resources and the advantages and disadvantages of the different methods, this study examines the issue using a quantitative approach based on accounting data obtained primarily from annual reports. The use of secondary quantitative data not only offers advantages in terms of cost and time when compared to interviews and survey research, it also provides the benefits of consistency. With the secondary quantitative data in this research drawn from annual reports, the financial data obtained has not only been subjected to common reporting standards established by accounting boards, but has also been audited by professionally qualified accountants. Furthermore, the definitions of the constructs and their measurements are widely accepted and understood. This allows an analysis that overcomes potential biases arising from issues of respondent interpretation. Another advantage of using accounting data from annual reports is that this data is available from all qualified observations in the sample. While it is true that the sample size may be reduced due to the nature of the firms, but the data will be available as long as a firm remains listed, making it a qualified observation in the sample.

The fact that annual reports are published over time also means that the financial data examined in this study may also support analysis over time.

Based on the arguments above, the quantitative approach is adopted for this study. As payment behaviour can be quantitatively measured in the form of DPO (Van den Bogaerd and Aerts, 2015; Cumbie and Donnellan, 2017) and, based on concepts discussed in various finance textbooks (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et

al., 2018; Brealey et al., 2020), DSO can be used as a proxy for payment terms (Murfin and Njoroge, 2015; Cowton and San Jose, 2017), net payment days (NPD), defined as the difference between DPO and DSO, can be derived as a proxy for payment practices for examination in this study.

The objective of this section is thus to examine the payment practices of companies in the form of NPD based on payment behaviour (DPO) and payment terms (DSO). According to the discussions in the previous chapters, ethical companies are companies that act in accordance with their social responsibility, while unethical companies will “steal” from their suppliers (Solomon, 1993) by paying them late. Indeed, Sorell and Hendry (1994), Wilner (2000) and Oliveira et al. (2017) find that large customer firms exercise their market power in the form of monopsony. So, it is worth examining evidence of the payment practices of firms. Ethical firms are assumed to engage in payment practices that take the interests of their suppliers into account, which should result in them having lower NPDs, as a group, than other firms.

The companies selected for examination in this study are from Hong Kong, which is of interest as it is not only a key business hub in Asia, but also a gateway to China, which is turn expected soon to become the world’s largest economy in terms of GDP. Furthermore, as it was a British colony until its handover to China, Hong Kong companies are ahead of their Chinese counterparts in the adoption of global business practices and are perceived by them as setting examples and benchmarks of behaviour. As a result, understanding how companies in Hong Kong behave may yield insights into how Chinese companies will behave in the future.

Companies that practise ethical behaviour in Hong Kong have been identified using three sources:

- The Hong Kong Quality Assurance Agency Corporate Social Responsibility Index (HKQAA CSRI);
- The Hong Kong Business Sustainability Index (BSI); and
- The Oxfam Blue Chip CSR Survey (Oxfam).

As the HKQAA CSRI sample only consists of 11 listed companies and the BSI has only 20 companies in its findings and all of them are included in the Oxfam survey, the “Oxfam” companies are identified as the most appropriate sample for this study.

This study hypothesises that companies in the Oxfam sample can be considered ethical companies, as they were actively willing to take part in the CSR survey by sending back questionnaires and answering Oxfam’s enquiries. It is likely that they put a conscious and greater effort into social responsibility activities in general. From a social responsibility perspective, therefore, these companies in the Oxfam sample should, conceptually, behave ethically towards their suppliers and pay them in accordance with the agreed payment terms (Solomon, 1993).

Payment behaviour, in the meantime, is examined based on measures of accounts payable. According to finance and accounting textbooks, accounts payable are typically measured as the amount of the accounts payable divided by total assets (AP%) or accounts payable divided by cost of goods sold multiplied by 365 days (DPO) (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020). Instead of simply examining AP% and DPO, it is necessary to put these numbers into context in order to

conduct a proper analysis of payment behaviour. Cowton and San-Jose (2017) suggest that accounts payable practices may be considered from a “cash received” perspective. “Cash received” refers to accounts receivable by a company from its customers. As such, AP% should be examined against accounts receivable as a percentage of total assets (AR%), while DPO should be examined against accounts receivable divided by sales multiplied by 365 days (DSO).

To study the relationships of the variables, this study shall deploy statistical tools such as correlation analysis, regression analysis, panel data analysis and propensity score matching (PSM)

#### **5.4 Correlation analysis**

Correlation analysis is a statistical method that is typically used to explore the existence, or strength, as well as the direction, of relationship between a pair of variables. In the case of this study, the key variable of interest will be net payment days (NPD) and its relationship (positive or negative) with each of a number of financial variables of interest (Abdulla et al., 2017, 2020), e.g. cash, current assets, size of company, etc., and how strong the specific relationship between the two variables may be.

While correlation analysis examines the relationship between two variables in a pair-wise context, multiple regression is a statistical technique that offers the possibility of analysing the relationship between a single dependent variable and a number of independent variables simultaneously.

## 5.5 Multiple regression analysis

To examine relationships beyond a pair-wise context, multiple regression analysis looks at how a variable, payment practices in NPD in this research, may be affected by a host of independent variables, whose values are hypothesized to be related to the value of the single dependent variable, simultaneously. In this research, net payment days (NPD) will be examined against financial drivers (independent variables), e.g. cash, current assets, debt, company size, etc. (Abdulla et al., 2017, 2020).

Frequently, to enhance robustness of the results, the panel data approach is deployed by pooling cross sectional observations, firms in this case, across time, hence financial time series data in the form of years of annual observations. The combination of cross-section observations collected from regular time interval and time-series observations across a collection of observation potentially provides more information and more variability than pure time series data or cross-sectional data. The nature of the data in this study will be examined in detail in the next chapter.

From an analytical perspective, panel data can be analysed using the pooled OLS, fixed effect or random effect technique, this research also explores whether to apply these techniques to the data. Wooldridge (2010) suggested that, pooled OLS is employed when you select a different sample for each year/month/period of the panel data, otherwise, fixed effects or random effects are employed when you are going to observe the same sample of individuals, companies in our case. In the meantime, Searle et al. (1992) state, “effects are fixed if they are interested in themselves or random if there is interest in the underlying population”. This study focuses on payment practices from the perspective of financial ethics and is based on



evidence from companies in Hong Kong, which represent the underlying population of interest in this research. The random effect model will therefore tend to be more appropriate for this study. Moreover, as Green and Tukey (1960) point out, “when a sample exhausts the population, the corresponding variable is fixed; when the sample is a small (i.e. negligible) part of the population the corresponding variable is random.” With our sample in the Oxfam selected group consisting of only 23 firms, the data for this group is considered small, even after taking account of six years of data that produces 138 company years. Moreover, as the dummy variable of “Oxfam selected companies”, where we use “0” to represent non-Oxfam selected companies and “1” to denote Oxfam selected companies, has never changed over the sample period from 2014 to 2019, the fixed effect model is deemed not to be applicable in this study.

From statistical perspective, this study also used Breusch-Pagan Lagrange multiplier (LM) test on whether a random effects regression approach or a simple OLS regression approach will be more appropriate (Breusch & Pagan, 1979). The null hypothesis in the LM test is that there exists no significant difference in the variances across entities (i.e. no panel effect). To determine, again from a statistical perspective, between fixed or random effects approach, this study applies the Hausman test (Hausman, 1978). This test states the null hypothesis is that the preferred model is random effects and the alternative model is the fixed effects. It basically tests whether the unique errors ( $ui$ ) are correlated with the regressors, the null hypothesis is they are not. If  $\alpha < 0.05$  (i.e. significant), then fixed effects approach should be used.

Finally, the quasi-experimental method of propensity score matching (PSM) is deployed to analyse the regressions. PSM is a non-experimental causal inference technique that works

towards constructing an artificial control group by matching each treated unit with a non-treated unit of similar characteristics to facilitate the comparability of two groups, and is appropriate for the study as the behaviour of CSR-conscientious companies are examined, to some extent, against non-CSR-conscientious counterparts.

In this study, PSM is deployed to construct an artificial control group by matching each treated unit with a non-treated unit having similar characteristics. In particular, the dummy variable of “Oxfam selected companies” is manipulated using Stata software as a treatment variable. The results generated in PSM help to reduce selection bias, and the outcome will thus potentially give us a better sense of how trustworthy the output from the regression analysis is.

The concept of payment days is established in the form of DPO (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020) and has been examined in various studies (e.g. Van den Bogaerd and Aerts, 2015; Cumbie and Donnellan, 2017), while fair credit days are measured as the number of days it takes for buying firms to obtain settlement of their accounts receivable, i.e. AR days and thus DSO (Murfin and Njoroge, 2015; Cowton and San Jose, 2017). The above section argues for the use of the difference between these two constructs, DPO and DSO, to arrive at net payment days, where  $NPD = DPO - DSO$ , as a measure of companies’ payment practices. With the constructs in place, it is appropriate to dive into the research philosophy and research process that encompasses the subject (Tsang, E., 2016). The above-mentioned methods will be described and explained in detail in the following sections.

## 5.6 Dependent variables in this study

With AP% benchmarked against AR% and DPO against DSO, we set out to capture payment behaviour. The dependent variables will be  $AP\% - AR\%$  and  $DPO - DSO$ . This latter quantity can be labelled net payment days (NPD), as it measures the days between payment made by the company to suppliers and payment received by it from its customers.

From a conceptual perspective, companies that are considered to be ethical, socially responsible performers as surveyed by Oxfam are expected to pay their suppliers on time or early. As discussed earlier, while the standard payment days figure is not generally available for determining whether payment is made on time or early, it is also generally true that, as a result of industry norms, upstream payment practices (terms of payment to suppliers) tend to mirror downstream payment practices (terms of payment by customers) in the same supply chain. It is therefore hypothesised that DSO will be very close, if not equal, to DPO. As a result, an ethical firm will pay its suppliers over approximately the same number of days as its customers pay it, i.e.  $DPO = DSO$ .

Where  $DPO = DSO$  and  $NPD = DPO - DSO$ , this indicates that the NPD is expected to be equal to 0. If  $NPD > 0$ , this indicates that  $DPO > DSO$ , which means the company is paying its suppliers later than its own customers pay it.  $NPD < 0$  is an indication that  $DPO < DSO$  and that the company is paying its suppliers more quickly than its own customers pay it.

For companies that behave ethically towards their suppliers and pay them early or on time, i.e.  $DPO \leq DSO$ , the NPD is expected to be small and even  $\leq 0$ , while for companies that pay

their suppliers late and beyond the agreed term, i.e.  $DPO \geq DSO$ , the NPD is expected to be  $\geq 0$ .

### **5.7 Measuring net payment days (NPD)**

This study proposes four possible measures of NPD, where alternative measures of both DPO and DSO are examined.

In general, DPO, or accounts payable turnover days, is typically calculated as accounts payable/cost of goods sold x 365 days. However, from a conceptual perspective, DPO could be calculated as accounts payable/annual purchases x 365 days, rather than cost of goods sold, as the COGS figure typically also includes depreciation expenses, which are not related to payables to suppliers. However, with the annual purchases figure frequently unavailable due to disclosure constraints in annual reports, COGS is widely accepted as a proxy for the cost of purchases. While measuring COGS with the inclusion of depreciation expenses is accurate from a costing perspective, as far as DPO is concerned the inclusion of depreciation expenses in the calculation of account payable days would overstate the COGS figure and understate the DPO figure. As an alternative, therefore, cost of goods sold – depreciation, or  $DPO(x)$ , is also examined in this study in addition to cost of goods sold with depreciation included, or  $DPO(w)$ .

DSO (days sales outstanding) is typically calculated as accounts receivable/sales x 365 days, where the gross accounts receivable figure, i.e. including possible bad debt (while leaving provision for bad debt out of consideration), is used. As bad debt is not “collectible”, its inclusion in the calculation of accounts receivable would overstate accounts receivable as

well as the DSO figure. Hence, an alternative DSO number,  $DSO(x)$ , calculated as accounts receivable– bad debt is also examined in this study in addition to  $DSO(w)$ , or accounts receivable with bad debt included.

Given the need to consider  $DPO(x)$  and  $DSO(x)$  in addition to  $DPO(w)$  and  $DSO(w)$ , four possible measures of NPD result:  $DPO(w) - DSO(w)$ , i.e. NPD1, the traditional way of measuring DPO and DSO; NPD2, which measures net payment days in the form of  $DPO(x) - DSO(w)$ ; NPD3, which is calculated as  $DPO(w) - DSO(x)$ ; and NPD4, which is calculated as  $DPO(x) - DSO(x)$ . In addition to NPD, this study also examines payment behaviour in the form of  $AP\% - AR\%$  as discussed in earlier paragraphs.

To examine the relationship between payment practices and receivables, i.e. DPO and DSO, four net payment days figures are derived.  $DPOwDSOw$  is the standard measure of net payment days calculated as DPO inclusive of depreciation compared to DSO inclusive of bad debt. To take the impact of bad debt into account,  $DPOwDSOx$  is the difference in DPO days and  $DSO(x)$  as defined above.  $DPOxDSOw$  is calculated to address the impact of depreciation on the COGS figure, i.e.  $DPO(x)$ , and finally  $DPOxDSOx$  is calculated to take both into account.

While the  $COGS(x)$  figure takes us a step closer to the true payment practices in respect of suppliers, it is not totally equivalent to payment to suppliers, because direct labour still remains in the figure. A possible alternative to circumvent the issues arising from the use of COGS versus purchases is to examine whether the accounts payable figure is excessive when compared to the accounts receivable figure from a balance sheet perspective. Here, accounts payable as a percentage of total assets is compared with accounts receivable as a percentage

of total assets. Two more hypotheses can then be examined. In line with the above convention, AR signifies accounts receivable and AR(x) is additionally used to represent an accounts receivable figure adjusted for bad debt provision. As far as accounts payable are concerned, COGS is no longer part of the equation and the focus is simply on accounts payable, so no adjustments are required in this part of the analysis. APvARw% is calculated as AP/total assets less of gross AR/total assets and APvARx% is AP/total assets less of net AR/total assets. These numbers are extracted for analysis only and no hypotheses in the context of the magnitude of the difference are implied as AP/total assets is logically lower than AR/total assets where AR includes profit in the figure.

**Table 5.1: Payment practices examined in the study**

Name of variable	Description	Operational definition
AR% *	Gross AR compared to total assets	Gross AR/total assets
AP% *	AP compared to total assets	AP/total assets
APvAR%	Difference between AP% and AR%	(AP/total assets) – (Gross AR/total assets)
DPO	Accounts payable turnover days	AP/purchase x 365 days
DPO(w)	Accounts payable turnover days (using cost of goods sold to proxy purchases)	AP/COGS (incl. depreciation expense) x 365 days
DPO(x)	AP turnover days (exclude depreciation)	AP/COSG(x) x 365 days
DSO	Days sales outstanding	AR/net sales x 365 days
DSO(w)	Days sales outstanding (using gross AR)	Gross AR/net sales x 365 days
DSO(x)	Days sales outstanding (deduct bad debt to arrive at net AR)	Net AR/net sales x 365 days
NPD	Net payment days	DPO - DSO
NPD1(DPOwDSOw)	Net payment date on DPO(w) and DSO(w)	DPO(w) – DSO(w)
NPD2(DPOxDSOw)	Net payment date on DPO(x) and DSO	DPO(x) – DSO(w)
NPD3(DPOwDSOx)	Net payment date on DPO(w) and DSO(x)	DPO(w) – DSO(x)
NPD4(DPOxDSOx)	Net payment on date DPO(x) and DSO(x)	DPO(x) – DSO(x)

\* These variables are defined in line with the study by Abdulla et al. (2017), “Stock market listing and the use of trade credit: Evidence from public and private firms”, published by the *Journal of Corporate Finance*.

## 5.8 Multivariate analyses of key factors affecting payment practices

In addition to the various measures of payment practices, e.g. AP%vAR% and NPD applied to the Oxfam companies and the non-Oxfam companies, this study also explores how these

payment practices are determined from a financial perspective. This is accomplished by first identifying potential drivers of payment practices based on the literature and then examining the relationships between these factors and NPD from a statistical perspective using regression methodology.

Abdulla et al. (2017, 2020) examine how trade credit and accounts receivable practices are related to a number of variables commonly studied in the field of accounting and finance. They include: 1) cash position, cash/total assets; 2) cash flow, (net profit plus depreciation)/total assets; 3) short-term debt, short-term debt/total assets; 4) size,  $\ln(\text{sales})$ ; 5) fixed assets, fixed assets/total assets; and 6) profitability, net income/total sales. In their papers, the authors examine how practices in trade credit and receivables and these accounting/finance variables are different in public and private firms. It is interesting to note that the authors also examine two independent variables in their study, a dummy variable tracking “positive growth” and another dummy variable tracking “negative growth”. Both of these will be examined in this study as well.

## **5.9 Factors affecting payment practices**

This section further examines the theoretical rationale for including these potential drivers of payment practices and explores possible alternative measures to the constructs.

### **5.9.1 Cash**

A first driver of payment practices in Abdulla et al. (2017, 2020) is cash, which is used to measure a company’s ability to meet its obligations in the form of “stock liquidity” on the

assets side of the balance sheet, i.e. the pool of cash to settle dues. The authors measure the cash position of a company, cash%, as cash scaled by total assets. As cash is a key resource for settling dues, it is not surprising that it represents a key determinant in payment practices. Indeed, in finance and accounting textbooks (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020), a key relationship between accounts receivable (in the form of DSO), inventory (in the form of DIO) and accounts payable (in the form of DPO) is identified as the cash conversion cycle (CCC). In general, it is expected that cash position and payment practices will have a negative relationship, i.e. the higher the cash position, the faster a company can afford to repay its suppliers, thus producing a lower net payment day figure, NPD.

### **5.9.2 Current assets**

As an extension of cash, Abdulla et al. (2020) also look at current assets, net of cash and scaled by total assets, as a possible determinant of payment practices towards suppliers (Cumbie and Donnellan, 2017). This variable is expected to have a positive relationship with accounts payable (Abdulla et al., 2020, p. 397), as a higher level of current assets will require more funding, resulting in a higher payment days figure.

### **5.9.3 Cash flow**

Abdulla et al. (2017, 2020) measure cash flow as (net income + depreciation)/total assets. While net income represents the earnings ability of a company, the adding back of depreciation, a non-cash expense, represents the capacity a company has to generate cash each period to meet its payment obligations. As a result, it is expected that a higher cash flow



number would, all other things being equal, signify a higher capacity for the company to generate cash to pay its suppliers, thus producing a lower net payment days (NPD) figure.

#### **5.9.4 Debt**

A third variable considered in Abdulla et al. (2017, 2020) is short-term debt scaled by total assets.

Again, in finance and accounting textbooks (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; and Brealey et al., 2020), working capital (primarily in the form of cash), accounts receivable and inventory are typically financed by accounts payable and debt.

The specific role of debt, in the meantime, is driven by economic conditions. Stressful economic situations may be the result of strains on financial resources, meaning financing capacity in the form of cash and cash flow (San Jose and Cowton, 2008, p. 3; Cowton and San Jose, 2017, p. 676), for example where buyers are forced to use trade credit in lieu of bank financing, or of slow growth, when assets are tied up at customers in the form of accounts receivable, or of inventories and high growth (Elliehausen and Wolken, 1993), when extra financial resources are required to support enhanced market opportunities.

Where stress is created by insufficient financing capacity, net payment days (NPD) are expected to be positively related to debt, as the company will try to raise funding from all sources, including supplier and financial institutions (Choi and Kim, 2005; San Jose and

Cowton, 2008; Abdulla et al., 2017; Cowton and San Jose, 2017; and Abdulla et al., 2020), to finance working capital and assets.

### **5.9.5 Size**

Size has been used in prior studies of trade credit as a proxy for a firm's credit practices (Petersen and Rajan, 1997; Abdulla et al., 2017, 2020). From a finance perspective, larger firms are hypothesised to have greater and more diverse access to financing and should be able to pay suppliers on time, thus reducing net payment days. A negative relationship is expected between firm size and NPD here. From a market negotiation perspective, however, larger firms may exercise their market power to achieve a higher payment days term with regard to their suppliers (Sorell and Hendry, 1994; Murfin and Njoroge, 2015). A positive relationship is expected between firm size and NPD here. The question of whether the finance aspect or the market power aspect actually determines payment practice will depend on the empirical findings. In this study, size is measured as  $\ln(\text{total sales})$  (Abdulla et al., 2017, 2020).

### **5.9.6 Fixed assets**

In the studies by Abdulla et al. (2017, 2020), firms with a high level of fixed assets are hypothesised to have a positive relationship with payment days, as supplier funds are expected to be used to help finance these fixed assets. Empirically, fixed assets are measured as property, plant and equipment scaled by total assets.

### **5.9.7 Profitability**

Profitability in Abdulla et al. (2017, 2020) is used as a proxy for internally generated funds to support payments to suppliers. Firms with a higher profit generating capacity are hypothesised to have the ability to pay suppliers on time, thus producing a lower net payment days figure. As a result, NPD is expected to be negatively related to profitability. The studies by Petersen and Rajan (1997) and Abdulla et al., (2017, 2020) measure profitability as net income scaled by total sales.

In addition, while Abdulla et al. (2017, 2020) adopt net income divided by sales as a proxy for profitability, earnings before interest and tax (EBIT) is also used as an alternative to measure profitability from an unleveraged perspective (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020). This study also explores the possible relationship between EBIT divided by sales (EBIT%) and payment practices.

### **5.9.8 Growth**

Growth is hypothesised to have a significant impact on payment practices (Abdulla et al., 2017, 2020). When a firm is experiencing positive growth, it is generally expected that it will pay its suppliers promptly in order to ensure supplies, thus reducing payment days (Abdulla et al., 2017, 2020) and, *ceteris paribus*, a lower net payment days figure (NPD). However, it is also possible that firms in a fast growth scenario will require increased investments in working capital and capital expenditure, which creates funding stress. In this case, high growth may be accompanied by a high NPD.

In contrast, when a firm is experiencing slow or negative growth, it will pay its suppliers more slowly, which produces a high net payment days number. Growth is thus expected to be negatively related to NPD. In Abdulla et al. (2017, 2020), the authors explicitly take growth into account when examining payment practices. More specifically, the authors use dummy variables as proxies for positive and negative growth. This research replicates their approach and also proposes an alternative measure for growth in the form of percentage change in sales. In general, a negative percentage change in sales will reflect negative growth and be accompanied by a high NPD, while a positive percentage change in sales will reflect positive growth and can be associated with a low NPD.

#### **5.9.9 Payment practices during slow sales growth**

It is possible that any positive growth that a company experiences will be slow in nature, which will cause the company financial stress and impact its ability to pay its suppliers. In this case, even a positive change in sales can be associated with a positive NPD. When a company is experiencing slow sales growth, it would typically report a low positive percentage change in sales, but would at the same time also experience increases in accounts receivable and inventories that are larger than the increase in sales. This situation often reflects a company's effort to push sales by extending credit terms to customers while inventories are not moving. As a result, it becomes necessary to look at trends in accounts receivable and inventories as well as in the change in sales. In general, it is expected that a high net payment days figure (DPO–DSO) will be related to a low percentage change in sales and to high percentage changes in accounts receivable as well as inventories.

#### **5.9.10 Inventory**

A variable not explicitly taken into account in the studies by Abdulla et al. (2017, 2020) that can be of considerable importance is inventory, which is traditionally considered as a key factor impacting payment practice decisions. This is especially true as inventory, expressed in days, i.e. DSI, is a key element in the cash conversion cycle covered in accounting and finance textbooks (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020).

The comprehensive study performed by Chang (2018). in which he examined 31,612 companies from 46 countries in the period from 1994 to 2011, found that a reduction in the cash conversion cycle (CCC),<sup>21</sup> a popular measure used in supply chain finance management, involving accounts receivable (or AR, i.e. trade credit granted to buyers), inventories<sup>22</sup> and accounts payable (or AP, i.e. trade credit granted by the supplier)<sup>23</sup> positively affects return on assets. As a result, inventory will also be taken into account in this study. In general, companies with a high inventory level will feel less urgency to pay their suppliers early or on time. On the other hand, these companies will have a more urgent need to fund their higher inventory levels using supplier funding. Both of these factors will drive DPO and. all other things being equal, NPD higher.

The following table provides a summary of the variables to be examined in this research.

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<sup>21</sup> The cash conversion cycle (CCC) measures in days a firm's operating cycle converting its inventory into credit sales and, eventually, cash from sales. In general,  $CCC = \text{inventory turnover in days} + \text{AR turnover in days} - \text{AP turnover in days}$ .

<sup>22</sup> AR and inventories are both short-term assets for a company that requires funds to be invested to support the operation of its business. AR in particular represents investments by companies to support sales to its customers.

<sup>23</sup> AP represents a supply of funds to a company, which are typically provided by its suppliers in the form of trade credit.

**Table 5.2 List of all behaviour drivers and their operational definition**

<b>Name of variable</b>	<b>Description</b>	<b>Operational definition</b>
Debt BS <sub>1</sub> (DebtwAsset%)	Measure of debt capacity from a balance sheet perspective	Debt/total assets
Debt BS <sub>2</sub> (DebttxAsset%)	Measure of debt capacity from a balance sheet perspective (debt excluding lease obligation to assets)	(Debt – lease obligation)/total assets
Debt IS <sub>1</sub> (DebtwEBITDA%)	Measure of debt capacity from a profitability perspective	Debt/EBITDA
Debt IS <sub>2</sub> (DebttxEBITDA%)	Measure of debt capacity from a profitability perspective (debt excluding lease obligation to assets)	(Debt – lease obligation)/EBITDA
ND	Net debt	Debt outstanding – cash
NDwAsset%	Net debt to assets	Net debt/total assets
NDxAsset%	Net debt excluding lease obligation to assets	(Net debt – lease obligation)/total assets
CapEx	Capital expenditure	PPE – Beg PPE + depreciation
InvTot%	Inventory to total assets	Inventory/total assets
Sales G	Growth in sales	$(S_t / S_{t-1}) - 1$
ChgAR <sub>1</sub>	Change in gross AR	$(\text{Gross AR}_t / \text{gross AR}_{t-1}) - 1$
ChgAR <sub>2</sub>	Change in net AR	$(\text{Net AR}_t / \text{Net AR}_{t-1}) - 1$
ChgInv	Change in Inventory	$(\text{Inv}_t / \text{Inv}_{t-1}) - 1$
AP <sub>1</sub> % *	AP compare to total assets	AP/total assets
AP <sub>2</sub> %	AP compare to Sales	AP/Sales
ARw <sub>1</sub> %	Gross AR compare to total assets	Gross AR/total assets
ARw <sub>2</sub> %	Gross AR compare to sales	Gross AR/sales
ARx <sub>1</sub> %	Net AR compare to total assets	Net AR/total assets
ARx <sub>2</sub> %	Net AR compare to sales	Net AR/sales
AP <sub>1</sub> vARw <sub>1</sub> %	Difference between AP <sub>1</sub> % and ARw <sub>1</sub> %	(AP/total assets) – (gross AR/total assets)
AP <sub>2</sub> vARw <sub>2</sub> %	Difference between AP <sub>2</sub> % and ARw <sub>2</sub> %	(AP/Sales) – (gross AR/sales)
AP <sub>1</sub> vARx <sub>1</sub> %	Difference between AP <sub>1</sub> % and ARx <sub>1</sub> %	(AP/total assets) – (net AR/total assets)
AP <sub>2</sub> vARx <sub>2</sub> %	Difference between AP <sub>2</sub> % and ARx <sub>2</sub> %	(AP/Sales) – (net AR/sales)
Opleverage%	Operating leverage %	$(\text{SGandA} + \text{DandA}) / \text{total costs}$
EBIT%	Earnings before interest and taxes in %	EBIT / sales
EBITDA%	Earnings before interest, tax, depreciation and amortisation in %	EBITDA / sales
NI%	Net income in %	NI / Sales
OxfamSelectedCo	Oxfam selected company	Dummy Variable, “1” if Oxfam selected Co, and “0” if non-Oxfam
Cash% *	Cash to total assets	Cash/total assets
CashFlow% *	Cash flow %	(Net profit + depreciation)/total assets
CurrentAsset% *	Current assets %	(Current assets – cash)/total assets
ShortTermDebt% *	Short-term debt %	Short-term debt/total assets
Size(LN) *	Size (LN)	Natural logarithm of total sales
Positive *	Positive growth	Sales growth times the positive growth dummy variable, which is “1” if sales growth is positive and “0” otherwise

Negative *	Negative growth	Sales growth times the negative growth dummy variable, which is “1” if sales growth is negative and “0” otherwise
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\* These variables are defined in the study of Abdulla et al. (2017), “Stock market listing and the use of trade credit: Evidence from public and private firms”, published by the *Journal of Corporate Finance*.

## 5.10 Relationships between payment practices and behaviour drivers

With a list of variables potentially shedding light into the behaviour of Oxfam and non-Oxfam companies, it would be of interest to examine the nature of the relationships between these variables and how they affect payment practices by the two types of companies.

Based on the discussions above, the expected relationships between these control variables and NPD are reported in the table below.

**Table 5.3 Expected relationships between NPD and payment behaviour drivers**

Behaviour drivers	Expected sign	Relationship to NPD
Cash	Negative	Higher cash position implies that company can afford to pay suppliers, hence lower NPD.
Current assets	Positive	Higher level of current assets requires more funding, company might pay suppliers slower, therefore higher NPD.
Cash flow/profitability	Negative	Higher cash flow implies a higher capacity by company to generate cash to pay its suppliers.
Debt	Undetermined	If financial debt is used as a substitute for financing from suppliers, a low level of debt will be associated with a high NPD, hence a negative relationship. In contrast, if funding stress is the main cause, then the firm may experience both high levels of financial debt as well as a high NPD, hence a positive relationship.
Size	Undetermined	Financially, large companies are expected to have access to funding from more diverse sources, thus reducing their need to exploit supplier funding, hence a negative relationship between size and NPD. Strategically, large companies may exercise their market power and impose credit terms that are more stringent than the industry average on their suppliers, resulting in a higher NPD, hence a positive relationship between size and NPD.
Fixed assets	Positive	Companies with a large fixed asset base are expected to have more financing needs, making it more likely they will tap financial funding and supplier funding. Hence, firms with high fixed asset base are expected to have a high NPD figure.

Growth	Undetermined	While high-growth firms are expected to pay their suppliers promptly to ensure supplies, a high growth rate may also require increased investment in working capital and capital expenditure, thus exerting pressure on funding and producing a high NPD. On the other hand, firms with low or negative growth are expected to have high NPDs due to a lack of ability to pay suppliers.
Inventory	Positive	A company with high inventory levels is likely to feel a lower urgency to pay their suppliers as well as potentially higher funding stress, hence a higher NPD.

## 5.11 Statistical methods implementation

The relationships hypothesised above between payment practice, i.e. NPD, and payment driver variables, e.g. cash, are examined using various statistical analysis techniques, which are set out below.

### 5.11.1 Correlation analysis

Correlation analysis is a statistical method frequently used to measure the strength of the relationship between two variables. It is applied here to payment practices and their potential drivers. The main benefits of correlation analysis include its ability to assist researchers in determining which variables have a strong relationship with the variable of interest and in pursuing further analysis, while it also allows rapid hypothesis testing. The main type of correlation analysis uses Pearson's  $r$  formula to identify the degree of the linear relationship between two variables, where correlation is calculated as

$$r = \frac{Cov(x,y)}{\sqrt{var(x)*var(y)}} \text{ where } x \text{ and } y \text{ are paired observation of two variables, and}$$

$Cov(x, y)$  is the covariance of  $x$  and  $y$ , calculated as

$$Cov(x, y) = \frac{\sum[(x - \bar{x})*(y - \bar{y})]}{n-1}, \text{ and}$$



$Var(x)$  and  $Var(y)$  are calculated as

$$Var(x) = \frac{\sum(x - \bar{x})^2}{n-1} \text{ and } Var(y) = \frac{\sum(y - \bar{y})^2}{n-1}$$

A strong and positive correlation statistic represents a strong and positive relationship between the independent variable and the dependent variable. According to the table above, for example, the level of cash is hypothesised to be negatively related to net payment days, as a high cash position should facilitate the speedy settlement of accounts payable to suppliers, thus producing a low net payment days figure (NPD). A positive correlation, if it occurs, could potentially signify that companies are not paying their suppliers in a prompt manner, thus producing a high NPD and a high cash position. This could potentially indicate a practice by a non-ethical company.

In addition to positive and significant relationships and negative and significant relationships, another potential relationship that may exist is where the independent variable is hypothesised to have no relationship with the dependent variable, i.e. a correlation that statistically is not significantly different from zero.

While the correlation method can help to provide the researcher with a quick and simple image of the strength of the variable of interest and another variable in a pair-wise scenario, in addition to whether two variables are highly correlated and whether the relationship is positive or negative in nature, it also provides the degree of impact of a variable, typically an independent variable, on the variable of interest, typically the dependent variable. It is often difficult, however, to draw a conclusive reason as to why there is a relationship, and the

results do not offer the basis for any interpretations. Furthermore, if there are other independent variables that possess information on the power of influence on the dependent variable, this type of information will not be identified. As a result, the multiple regression technique is frequently employed to provide more information than correlation analysis.

### **5.11.2 Multiple regression**

In addition to correlation analysis, multiple regression is typically used to examine the effects that a number of independent variables, our behaviour drivers in this study, have on the dependent variable, here payment practices. The objective of multiple regression analysis is to use the independent variables whose values may contain information to influence the value of the single dependent variable. Multiple linear regression allows the researcher to account for all of the potentially important factors in one model, beyond a pair-wise context. The advantages of this analysis are that it may lead to a more comprehensive image of the relevant factors that affect the dependent variable, thus providing a more accurate and precise understanding of the association of each individual factor with the outcome, i.e. the dependent variable. So, while correlation analysis examines the relationship between the two variables from a pair-wise perspective, i.e. one independent variable at a time against the dependent variable, multiple regression takes into account the effect of all of the independent variables and their combined impact on the dependent variable. If too many independent variables are included in a multiple regression model, however, issues of multicollinearity arise, where the impact of an independent variable may be “diluted” and become statistically insignificant.

A general specification of the multiple regression analysis technique is

$$y = \alpha + \sum \beta_i x_i + \varepsilon_i$$

where  $y_i$  denotes the dependent variable

$x_i$  denotes the independent variable

$\alpha$  represents the estimate of the parameter for the intercept,

$\beta$  represents the parameters estimated for each  $x_i$ , and

$\varepsilon_i \sim N(0, 1)$

In this study, the specification of the regression model will be adapted to address two issues.

First, a dummy variable is employed in order to take the behaviour both of Oxfam and of non-Oxfam companies into account. The dummy variable approach is used in a regression specification to take into account the presence or absence of some categorical effect that may be expected to impact the outcome of the dependent variable. Our hypothesis here is that ethical companies will behave differently from companies in the other category and this will be reflected in their payment practices, or NPD. As a result, our specification taking into account the Oxfam versus the non-Oxfam dummy variable will be

$$y = \alpha + \lambda D + \sum \beta_i x_i + \varepsilon_i$$

where  $y_i$  denotes the dependent variable

$D_i$  denotes the dummy variable

$x_i$  denotes the independent variables

$\alpha$  represents the estimate of the parameter for the intercept,

$\lambda$  represents the parameter estimated for the dummy variable,  $D$ ,

$\beta$  represents the parameters estimated for each  $x_i$ , and

$\varepsilon_i \sim N(0, 1)$

### 5.11.3 Panel data analysis

In addition, the specification also needs to address the fact that this study uses panel data combining cross section and time series observations. It is therefore modified to:

$$y_n = \alpha + \lambda D_n + \sum \beta_i x_{i,n} + \varepsilon_i$$

where  $y_n$  denotes the nth observed value of the various variables  
 $y_n$  denotes the observed values of the dependent variable  
 $D_n$  denotes the observed values of the dummy variable  
 $x_{i,n}$  denotes observation of the independent variable  $i$   
 $\alpha$  represents the estimate of the parameter for the intercept,  
 $\lambda$  represents the parameter estimated for the dummy variable,  $D$ ,  
 $\beta_i$  represents the parameters estimated for each variable  $x_i$ , and  
 $\varepsilon_i \sim N(0, 1)$ .

Panel data regression is a powerful way to control for dependencies of unobserved independent variables on a dependent variable (Wooldridge, 2002, 2012). For instance, in our case, potentially unobserved independent variables may include company culture, management philosophy, board attitude to ESG, etc., which can lead to biased estimators in traditional linear regression models. Time-series data only observes one object recurrently over time and cross-sectional data observes the objects at only one point in time, but panel data combines characteristics of both in one model by collecting data from the same, multiple objects over time. The advantage of panel data is that we can control for heterogeneity in our regression model by acknowledging heterogeneity as fixed or random. The limitation of panel data analysis is that it suffers from problems of reciprocal causality and measurement error. It pays little attention to dynamic processes in systems, i.e. how time 1 observation influences time 2 and time 3 respectively.

There are basically three types of regression techniques that can be applied to panel data: the pooled OLS approach, the fixed effect technique and the random effect technique. The pooled OLS technique can be described as a simple OLS (ordinary least squares) approach that is applied to panel data. A typical drawback with this technique, however, is that it ignores the time and individual characteristics of the variables in the sample. This implies a lack of consideration for any cross-sectional or time effects, i.e. it focuses only on dependencies between the companies. Furthermore, simple OLS requires the condition that  $Cov(e_{it}, X_{it}) = 0$  be satisfied and that regressors (explanatory variables, i.e. cash, net income% in this study) are non-stochastic, i.e. errors are not correlated with explanatory variables (independent variables). By lumping the companies with different characteristics together in a pool formed over time in one pooled OLS estimation, we may have accidentally hidden some of these fixed effects with *firm-specific* characteristics included in the error term,  $v_{it}$ , giving rise to an endogeneity problem where the error term is correlated with one or more of the regressors:  $Cov(v_{it}, X_{it}) \neq 0$ . As a result, we may obtain potentially biased and inconsistent estimates of regression coefficients ( $\widehat{\beta}_i$ ), which will give rise to erroneous inferences. To address these potential issues, the fixed effect and the random effect techniques, both of which have the ability to take unobserved heterogeneity into account, can be used as alternatives. Indeed, while the fixed effect (FE) model treats the effects of the unobserved, independent variables as “fixed” over time, the random effects (RE) model regards the effects of the unobserved, independent variables as “random” over time. It is also called the error components model and combines firm heterogeneity ( $\omega_i$ ) within the error term ( $v_{it}$ ) rather than being specified as dummy variables, while allowing for a common intercept  $\beta_0$ . Instead of treating  $\beta_{0i}$  as fixed, the RE model assumes it to be a random variable with mean,  $\beta_0$ , and random firm-specific error term,  $\omega_i$ , so that  $\beta_{0i} = \beta_0 + \omega_i$ . A random

effects model assumes that independent variables have fixed relationships with the dependent variable across all observations, but that these fixed effects may vary from one observation to another, e.g. the relationship between cash% and NPD exists among all companies in this research, but the effect might vary from one individual company to another.

Applying the general specification using pooled OLS to the concepts discussed in Abdulla et al. (2017, 2020) produces the following specification:

$$\text{NPD}_n = \alpha + \lambda D_n + \beta_1 \text{cash}_n + \beta_2 \text{current assets}_n + \beta_3 \text{cash flow}_n + \beta_4 \text{profitability}_n + \beta_5 \text{debt}_n + \beta_6 \text{Size}_n + \beta_7 \text{fixed assets}_n + \beta_8 \text{growth}_n + \beta_9 \text{inventory}_n + \epsilon_n$$

where a company's payment practice behaviour, measured in the form of net payment days (NPD), is analysed – irrespective of whether the company is classified as an ethical player or otherwise as represented by a dummy variable – in relation to its cash position, current assets position, cash flow position, profitability, debt position, size, fixed assets position, growth prospects and inventory position.

#### **5.11.4 Propensity score matching**

In addition to panel data analysis, the propensity score matching (PSM) technique is also applied in the analysis of the payment practices of the Oxfam selected and the non-Oxfam selected groups in order to reduce selection bias. PSM is a non-experimental causal inference technique that works towards constructing an artificial control group by matching each treated unit with a non-treated unit of similar characteristics to facilitate the comparability of two groups. The propensity score (PS) was first introduced by Rosenbaum and Rubin (1983) and

is the conditional probability of assignment to a particular treatment given a vector of observed covariates (p. 41). The authors further argue that PSM can also be used to reduce the high dimensionality of the observed covariates by constructing a propensity score and to reduce possible bias. Dehejia and Wahba (2002) state that PSM provides a natural weighting scheme that yields unbiased estimates of the treatment impact. In this study, the dummy variable “Oxfam selected company” is set as a “treatment” variable and the measurement are performed on the NPD variable. The following chapters apply these statistical techniques to the data and the variables.

## **5.12 Conclusion**

After careful consideration of all the available resources and the advantages and disadvantages of the different methods, this study sets out to examine the issues using a quantitative approach based on accounting data obtained mostly from annual reports. From a philosophical perspective, this research addresses the topic from a scientific angle following the realist approach by collecting data that is objectively generated based on generally accepted measurements. With the data collection process and the sample determined in line with the description in the previous chapter, this chapter explores the various ways the data may be analysed. Possible methods for the analysis include correlation analysis, multiple regression for panel data with pooled OLS, fixed effect analysis and random effect analysis. However, as fixed effects do not apply to data with the dummy variable that is fixed over time – there are no changes in our case to the membership of the “Oxfam selected companies” versus “non-Oxfam selected companies” in our sample over the six years period of study – the fixed effect approach would not be appropriate for this data set.

Given the small sample nature of the data set because CSR and ESG are still not widely practiced by companies, there may be risks of selection bias in the analysis. To examine this possible scenario, this study also applies the propensity score matching (PSM) technique to the data and assesses the robustness of the result from the regression analysis.



## **Chapter 6 – Sample and Data**

### **6.1 Introduction**

With the previous chapter assessing the methodologies to be deployed in the current research, this chapter looks at the data to be examined for the analysis, i.e., the sample identified and the data collection process, to test the stated hypotheses from the prior chapter and help answer the stated research questions and to evaluate outcomes. A number of potential samples and sampling methods are considered to arrive at the most appropriate sample for the study. The result will be a sample of “good” companies that can be examined against a list of “regular” listed companies. The data to be collected from these companies will include key financial variables that may potentially be related to payment practices and decisions (Abdulla et al., 2017, 2020), including cash, current assets, cash flow, debt, size of the company, fixed assets, and their profitability as well as inventories (Knauer and Wohrmann, 2013; Rani, 2013; and Cumbie and Donnellan, 2017).

### **6.2 Sample and data**

In line with the concepts and initial hypotheses developed in the previous chapters, it is important to be able to compare what we believe to be true (doxology) with empirical evidence (Tsang, E., 2016).

Rather than carry out research on the whole population, which would be a monumental task, observations are obtained from sampling. Two key advantages offered by sampling include

economy and speed of data collection. This is especially true when evidence from the population is available only to a limited extent.

### **6.3 Sampling methods**

As sampling involves only a subset of observations from the entire population, it is important to ensure that the sample selected is fully representative. Examples of sampling errors may include: 1) selecting the wrong subjects/observations. In the case of payment practices, “real” decision maker –whether it is the CEO or the CFO or the front-line collection officer who interacts with the client – may not be correctly identified; 2) survivor bias in the sample, i.e. only the participant of interest for the analysis responds to the researcher’s request for data.

To address potential sampling errors, researchers can broadly use two types of sampling methodologies: probabilistic sampling and non-probabilistic sampling (Bryman and Bell, 2016).

**Probabilistic sampling** is any sampling that utilises some form of random selection of subjects and observations. Examples include simple random sampling, stratified random sampling, systematic random sampling and cluster random sampling.

**Simple random sampling** is carried out based on random draws from the population. The process and rationale can be easily explained to others. More importantly, as simple random draws represent a reasonably fair way to select a sample, researchers tend to encounter few questions when generalising results from the sample to the population.

**Stratified random sampling** involves first dividing the population into homogeneous subgroups, e.g. based on specific size criteria, and then taking a simple random sample from each subgroup. For instance, for a specific economy, there may be fewer large companies than small companies and simple random sampling may lead to large companies being underrepresented. Stratified random sampling would yield a more representative sample here.

**Systematic random sampling** involves selecting sample observations based on specific steps. **Typically, each observation in the population is assigned a number** from 1 to N, e.g. 1 to 100. Based on the sample size required, say  $n = 20$ , the researcher establishes an interval size  $k$ , where  $k = N/n = 100/20 = 5$ . The researcher then randomly selects an integer between 1 to  $k$  (here 5), e.g. 3, and then takes every  $k$ th unit, i.e. the third, as an observation in the sample of 20. For this to work, it is important that the population is randomly ordered with respect to the characteristics being measured.

In **cluster sampling**, the researcher first divides the population into clusters and then randomly draws samples from them. The difference between stratified sampling and cluster sampling is that the subgroups in the former are determined by the researcher, whereas the clusters in the latter are based on some natural boundaries, e.g. geographic.

Non-probabilistic sampling does not involve random selections. Non-probabilistic may be purposive in nature, where a sample is chosen with a particular purpose in mind. This deliberate action would produce specific predefined groups in the sample but, as a result, it is an approach that would likely overweight subgroups in the population.

A **modal instance sample** from non-probabilistic sampling targets the most “typical” case. In many informal public opinion polls, for instance, a “typical” voter is interviewed. The challenge of modal instance sampling is that the researcher may not know what the “typical” or “modal” case looks like. Alternatives to the “modal” case can be: 1) expert sampling; or 2) heterogeneity sampling.

**Expert sampling** involves the solicitation of views from a person or persons with expertise in the area, e.g. a “panel of experts” determining the appropriateness of candidates for sampling. With expert advice on sampling, it is likely that selected cases can be defended from the perspective of how representative they are.

In **snowball sampling**, the researcher begins by identifying a subject that meets the criteria for inclusion in the study, then asks the subject to recommend other potential subjects they may know that also meet the criteria.

**Heterogeneity sampling** involves sampling for heterogeneity when the intent is to include all views and there are no concerns about the representative nature of these views or whether they are proportional. In this case, no effort is attempted to identify the “average” or “modal” case.

A final non-probabilistic approach is **quota sampling**, where the samples selected are based on characteristics or traits of the population, e.g. 20% are large companies and 80% are small companies. Quota sampling differs from stratified sampling in that the latter is random in nature, whereas the former is not. In proportional quota sampling, the researcher more closely adheres to the major characteristics of the population by sampling a proportional amount of

each category, while non-proportional quota sampling is slightly less restrictive, as the researcher simply specifies the minimum number of sampled units required in each category.

#### **6.4 Sample of firms in this study**

Companies in Hong Kong are selected for this study, as Asia is emerging as an increasingly important region on the global economic scene and Hong Kong is a key business hub within it. Hong Kong is additionally of interest, as it is a part of China, which is widely expected to become the largest economy in terms of GDP soon and the patterns of behaviour of Chinese companies will therefore become more relevant. Companies in Hong Kong are studied rather than companies in China, because the latter is still integrating into the global economy and Hong Kong, as a British colony prior to its handover to China, is to a large extent ahead of Chinese companies in terms of economic development. Studying Hong Kong companies' practices today may provide some insight into how Chinese companies' practices in the coming years. The non-probability method, more specifically using quota sampling, has then been used to hand-pick the companies for this research.

This study examines a sample of firms that fit a certain profile. First, to allow access to the required data, the firms in the sample have to be companies listed on the stock exchange, Sarhan et al. (2019a, b).

Furthermore, it is sensible from accounts payable and accounts receivable perspective to exclude financial institutions, property developers and service-based firms from the sample, as their operational and payment practices differ significantly from those of the what we might term standard industrial companies (Van den Bogaerd and Aerts, 2015). For financial

institutions such as banks, accounts receivable are mostly derived from loans, which also represent a significant proportion, typically over 50%, of a bank's assets. In addition, the liabilities side of a bank's balance sheet contains accounts payable that mostly comprise deposits, which typically form about 70% of the liabilities. It is thus not appropriate to include banks in our sample. A similar rationale applies to property developers and their accounts payable, which are ultimately settled in a mortgage arrangement. Service companies are mainly companies in the retail sector where transactions are typically settled by cash/credit card payments rather than on trade terms.

Based on these criteria, the HKQAA sample yields 11 companies, the BSI reports 14 companies, while the Oxfam sample provides 23 companies for this study. The sample is admittedly small, but this is due to the nature of the statistical population, with CSR still not widely adopted by companies at present.

Table 6.1 below identifies the companies from the Oxfam survey.

**Table 6.1: Oxfam-designated “ethical” companies**

Stock code	Company name	Oxfam HSI CSR Survey
0001	CK Hutchison Holdings Ltd.	1
0003	Hong Kong and China Gas Co. Ltd., The	1
0019	Swire Pacific Ltd.	1
0027	Galaxy Entertainment Group Ltd.	1
0135	Kunlun Energy Co. Ltd.	1
0144	China Merchants Ports Holdings Co. Ltd.	1
0151	Want Want China Holdings Ltd.	1
0267	CITIC Pacific Ltd.	1
0291	China Resources Enterprise Ltd.	1
0293	Cathay Pacific Airways Ltd.	1
0322	Tingyi (Cayman Islands) Holding Corp.	1
0386	China Petroleum and Chemical Corporation	1
0700	Tencent Holdings Ltd.	1
0762	China Unicom (Hong Kong) Ltd.	1

0836	China Resources Power Holdings Co. Ltd.	1
0857	PetroChina Co. Ltd.	1
0883	CNOOC Ltd.	1
0941	China Mobile Ltd.	1
0992	Lenovo Group Ltd.	1
1044	Hengan International Group Co. Ltd.	1
1088	China Shenhua Energy Co. Ltd.	1
1928	Sands China Ltd.	1
2319	China Mengniu Dairy Co. Ltd.	1
<b>Total number of companies:</b>		<b>23</b>

These companies are hereinafter denoted as Oxfam companies, and their behaviour is examined against a sample of companies not on the Oxfam list.

The broader sample of non-ESG firms has to follow the same criteria, i.e. non-financial, non-construction and non-service-based firms selected from all listed companies in Hong Kong. In addition, only companies with significant manufacturing operations have been selected in order to ensure that the companies in the sample make regular purchases of raw materials from their trade suppliers and thus produce measurable signals regarding their decisions and behaviour in respect of suppliers as reflected in the speed at which they settle their payables. This is compared to the speed at which they receive payments from their customers in order to benchmark their practices from an industry perspective. Table 6.2 above lists a total of 132 companies selected for this study.

**Table 6.2: Non-Oxfam selected companies**

<b>Stock code</b>	<b>Company name</b>	<b>Denoted as "non-Oxfam" selected</b>
0031	China Aerospace International Holdings Ltd.	0
0038	First Tractor Co. Ltd.	0
0042	Northeast Electric Development Co. Ltd.	0
0055	Neway Group Holdings Ltd.	0
0057	Chen Hsong Holdings Ltd.	0

0076	SOUTH SEA PETRO (Elate Holdings Ltd.)	0
0096	Yusei Holdings Ltd.	0
0103	Shougang Concord Century Holdings Ltd.	0
0117	Tianli Holdings Group Ltd.	0
0118	Cosmos Machinery Enterprises Ltd.	0
0148	KINGBOARD CHEM (Kingboard Holdings Ltd.)	0
0161	AVIC International Holdings Limited	0
0213	National Electronics Holdings Ltd.	0
0252	Southeast Asia Properties and Finance Ltd.	0
0255	Lung Kee (Bermuda) Holdings Ltd.	0
0256	Citychamp Watch and Jewellery Group Ltd.	0
0317	CCSSC Offshore and Marine Engineering (Group) Co. Ltd.	0
0365	Sino ICT Holdings Ltd.	0
0377	Huajun International Group Ltd.	0
0382	WELLING HOLDING (Edvantage Group Holdings Ltd.)	0
0403	Starlite Holdings Ltd.	0
0438	IRICO Group New Energy Co. Ltd.	0
0445	CHINA FIRE (CIMC-TianDa Holdings Co. Ltd.)	0
0451	GCL New Energy Holdings Ltd.	0
0468	Greatview Aseptic Packaging Co. Ltd.	0
0469	Capxon International Electronic Co. Ltd.	0
0515	TC Orient Lighting Holdings Limited (China Silver Technology Holdings Ltd.)	0
0532	Wong's Kong King International (Holdings) Ltd.	0
0556	Pan Asia Environmental Protection Group Ltd.	0
0558	LK Technology Holdings Ltd.	0
0564	Zhengzhou Coal Mining Machinery Group Co. Ltd.	0
0566	Hanergy Thin Film Power Group Ltd	0
0567	Daisho Microline Holdings Ltd.	0
0580	Sun.King Power Electronics Group Ltd.	0
0586	China Conch Venture Holdings Ltd.	0
0591	China High Precision Automation Group Ltd	0
0631	Sany Heavy Equipment International Holdings Co. Ltd.	0
0641	CHTC Fong's International Co. Ltd.	0
0658	China High Speed Transmission Equipment Group Co. Ltd.	0
0675	KandP International Holdings Ltd.	0
0679	Asia Tele-Net and Technology Corp. Ltd.	0
0712	Comtec Solar Systems Group Ltd.	0
0716	Singamas Container Holdings Ltd.	0
0725	Perennial International Ltd.	0
0729	FDG Electric Vehicles Ltd.	0
0757	Solargiga Energy Holdings Ltd.	0
0819	Tianneng Power International Ltd.	0
0822	Ka Shui International Holdings Ltd.	0
0838	EVA Precision Industrial Holdings Ltd.	0
0840	Xinjiang Tianye Water Saving Irrigation System Co. Ltd.	0
0842	Leoch International Technology Ltd.	0
0868	Xinyi Glass Holdings Ltd.	0
0876	MEGA MEDICAL (Kaisa Health Group Holdings Ltd.)	0
0889	Datronix Holdings Ltd.	0
0894	Man Yue Technology Holdings Ltd.	0
0906	COFCO PACKAGING(CPMC Holdings Ltd.)	0
0929	IPE Group Ltd.	0
0951	Chaowei Power Holdings Ltd.	0
0968	Xinyi Solar Holdings Ltd.	0
1002	V.S. International Group Ltd.	0
1008	Brilliant Circle Holdings International Ltd.	0



1020	Cybernaut International Holdings Co. Ltd.	0
1037	Maxnerva Technology Services Ltd.	0
1039	Fortunet E-Commerce Group Ltd.	0
1043	Coslight Technology International Group Ltd.	0
1106	SINO HAIJING (Ming Lam Holdings Ltd)	0
1108	Luoyang Glass Co. Ltd.	0
1122	Qingling Motors Co. Ltd.	0
1133	Harbin Electric Co. Ltd.	0
1157	Zoomlion Heavy Industry Science and Technology Co. Ltd.	0
1165	Shunfeng International Clean Energy Ltd.	0
1166	Solartech International Holdings Ltd.	0
1172	Magnus Concordia Group Ltd.	0
1185	China Energene International (Holdings) Ltd.	0
1197	China Hengshi Foundation Co Ltd	0
1201	Tesson Holdings Ltd.	0
1239	JIN BAO BAO H (Teamway International Group Holdings Ltd.)	0
1289	Wuxi Sunlit Science and Technology Co. Ltd.	0
1296	Guodian Technology and Environment Group Corp. Ltd.	0
1301	DandG Technology Holding Co. Ltd.	0
1305	Wai Chi Holdings Co. Ltd.	0
1332	China Touyun Tech Group Ltd.	0
1335	Sheen Tai Holdings Group Co. Ltd.	0
1366	Jiangnan Group Ltd.	0
1399	Scud Group Ltd.	0
1415	Cowell e Holdings Inc.	0
1439	China Packaging Holdings Development Ltd. (Mobile Internet (China) Holdings Ltd.)	0
1452	Denox Environmental and Technology Holdings Ltd.	0
1480	Yan Tat Group Holdings Ltd.	0
1527	Zhejiang Tengy Environmental Technology Co. Ltd.	0
1536	Yuk Wing Group Holdings Ltd.	0
1596	Hebei Yichen Industrial Group Corp. Ltd.	0
1611	PANTRONICS HOLDINGS LIMITED (Huobi Technology Holdings Ltd.)	0
1629	Mengke Holdings Limited (Champion Alliance International Holdings Ltd.)	0
1673	Huazhang Technology Holding Ltd.	0
1685	Boer Power Holdings Ltd	0
1689	Huaxi Holdings Co. Ltd.	0
1766	CRRC Corp. Ltd.	0
1786	CRCC High-Tech Equipment Corp. Ltd.	0
1882	Haitian International Holdings Ltd.	0
1888	Kingboard Laminates Holdings Ltd.	0
1899	Xingda International Holdings Ltd.	0
1991	Ta Yang Group Holdings Ltd.	0
2039	China International Marine Containers (Group) Ltd.	0
2208	Xinjiang Goldwind Science and Technology Co. Ltd.	0
2283	TK Group (Holdings) Ltd.	0
2300	AMVIG Holdings Ltd.	0
2310	Forebase International Holdings Ltd.	0
2323	HKBridge Financial Holdings Ltd (Renco Holdings Group Ltd.)	0
2338	Weichai Power Co. Ltd.	0
2345	Shanghai Prime Machinery Co. Ltd.	0
2357	AviChina Industry and Technology Co. Ltd.	0
2382	Sunny Optical Technology Group Co. Ltd.	0
2398	Good Friend International Holdings Inc.	0
2722	Chongqing Machinery and Electric Co. Ltd.	0
2788	Yorkey Optical International (Cayman) Ltd.	0
3300	China Glass Holdings Ltd.	0

3339	Lonking Holdings Ltd.	0
3378	Xiamen International Port Co. Ltd.	0
3393	Wasion Holdings Ltd.	0
3626	Hang Sang (Siu Po) International Holding Co. Ltd.	0
3628	Renheng Enterprise Holdings Ltd.	0
3800	GCL-Poly Energy Holdings Ltd.	0
3808	Sinotruk (Hong Kong) Ltd.	0
3816	KFM Kingdom Holdings Ltd.	0
3828	Ming Fai International Holdings Ltd.	0
3898	Zhuzhou CRRC Times Electric Co. Ltd.	0
3996	China Energy Engineering Corp. Ltd.	0
6118	Austar Lifesciences Ltd.	0
6163	Gemilang International Ltd.	0
6865	Flat Glass Group Co. Ltd.	0
6898	China Aluminum Cans Holdings Ltd.	0
	<b>Total number of companies:</b>	<b>132</b>

## 6.5 Data collected for this study

To study the payment behaviour of the companies, this research has looked into using both primary and secondary data.

In order to facilitate comparability, this study has explored the possibility of research with the examining of primary data based on the above sample of “good” companies identified by attempting to establishing connection with Oxfam Hong Kong. This is particular the case in relations to their studies in the “*Corporate Social Responsibility Survey of Hang Seng Index Constituent Companies*”. After several e-mails and phone calls to Oxfam Hong Kong, the organisation indicated that it would not be able to entertain the request until it has read the completed thesis.

This research consequently sets out to examine payment practices based on secondary data and focuses here on published financial data from annual reports. The use of published secondary data is not only based on ease, cost and time considerations, but on the fact that this kind of data has been widely examined in studies of accounting and finance, and this

ensures consistency and facilitates comparison with these studies. Furthermore, the use of secondary data also supports longitudinal analysis, providing in our case the ability to examine practices/policies in prior years that current decision makers may or may not be aware of.

For our study, a data set combining a cross section of companies over a longitudinal period of six years will be examined. The approach where data of a two-dimensional nature – cross sectional and inter-temporal – is pooled is known as panel data analysis (Maddala, 2001). One advantage of using the panel data approach is that panel data contains more information than purely cross-sectional data and purely time series data. Furthermore, the enlarged data set containing more information offers, potentially, more sample variability and larger degrees of freedom, thus improving the efficiency of econometric estimates (Hsiao, 2007). Finally, it is also argued that panel data may facilitate a greater capacity for uncovering dynamic relationships (Hsiao, 2007, p. 4). This final advantage, however, may also lead to unobserved heterogeneity, which is a challenge cited in the use of the panel data methodology (Hsiao, 2007, p. 8).

The financial data for the study is primarily obtained from a centralised source established by FactSet, a company that provides real-time data to global professionals in portfolio investment in the form of industry analysis and company screening for portfolio optimisation.

Data for the firms from the two samples was collected over a six-year period from 2014 to 2019, a common time frame for studies of this type (Wu, et al., 2016; Sarhan et al., 2019 a, b). While the number of companies in the Oxfam sample, i.e. “ethical” companies, appears to be small, the panel data approach allows accounting data from six years (2014-2019) also to

be examined to enhance the statistical robustness of this study (Maddala, 2001; Hsiao, 2007).

With data from the 23 Oxfam firms covering a six-year period, the sample of “good” companies consists of a total of 138 company years.

To facilitate comparison of the behaviour of “ethical” companies with that of other companies, a total of 132 non-Oxfam firms are identified. These companies are basically listed companies in Hong Kong that are not in the Oxfam sample. Again, due to the nature of their operations and similar to the Oxfam sample, companies in the financial, property development and service sectors are excluded. With data from the same six-year period, the results from the 132 non-Oxfam companies cover 792 company years.

Combining the Oxfam and non-Oxfam sample companies produces a total of 155 companies and 930 company years of data for this study. When the data was first collected in 2018, Factset (via the WSJ website which provide real-time data to global professionals in investment in the form of industry analysis and company screening for portfolio optimization), the database only provided five years of data from 2014 to 2018. With 2019 data becoming available, an additional year of data was also collected via Factset. The data obtained have all been manually cross-checked against the numbers in annual report on all companies again to ensure consistency. The reason why the data collected does not extend beyond 2019 is primarily due to the Covid-19 pandemic, which significantly impacted economic activities globally and thus affected the financial performance of the companies during the period. Therefore, the finally data set was only covered from 2014 to 2019.

## 6.6 Techniques used to address outliers

With a pooled data set of 155 companies from across different industries and spanning over a six-year period, it is likely that outliers exist in the sample. Outliers are extreme values that exhibit significant deviation from the other observations in the data set, either on the high or the low side. These extreme values may lead to a disproportionate effect on statistical results leading to mis-interpretation of the true underlying characteristics. In the meantime, incorrectly ignoring the presence of outliers by leaving them out in the data set may also lead to erroneous conclusions.

A number of statistical techniques have been deployed for handling outliers in a data set, e.g., Data transformation; Winsorizing data and Trimmed data.

Data transformation is useful when the data is highly skewed. By transforming the variables, we can eliminate the outliers. A popular transformation method, for example, is taking the natural log of a value, hence, reducing the variation caused by the extreme values.

Transformation using natural log can also be used for data sets that do not have negative values.

Winsorizing data, on the other hand, involves replacing the extreme values in a data set with a certain percentile value from each end, while Trimming or Truncating data involves removing the extreme values. Since observations which display characteristics of outliers for a particular feature may be inliers from other perspectives, it is conceivable that the process could end up trimming more inliers than outliers.

An important property of Winsorizing is that it preserves some of the original information since Winsorizing aims at reducing the weight of outliers without eliminating them, the “former” outliers still retain its influence in models or statistical calculations. As such, a key advantage of Winsorizing is that there is less collateral damage. Indeed, it is possible that a data set of a 2,000-column can have its outliers Winsorized for every feature without dropping a single row. Therefore, Winsorizing should be deployed in with the current data set at 1% significance level (Quote).

## **6.7 Conclusion**

This chapter explains the sampling of the companies included in the study. They comprise a sample of companies that are considered as “good” and ethical, i.e. the Oxfam selected companies from the Oxfam BC CSR Index, and a sample of companies that were carefully identified for comparison purposes. In the final analysis, 23 companies are identified in the “Oxfam selected” group after filtering out financial, construction and service-based companies, as they operate differently from typical industrial companies in terms of buyer behaviour towards creditors, i.e. they do not make regular and consistent supplier payments (in the case of financial institutions) or regular and consistent customer payments (in the case of retailers). Using the same criteria, a sample of 132 “non-Oxfam selected” companies is identified as a peer group. In order to avoid any possible bias, these 132 companies are additionally companies with manufacturing operations, thus ensuring they make regular purchases of raw materials from their suppliers and have to make payment decisions. The behaviour of these firms is tracked over a six-year period (Hsiao, 2007, p. 4; Wu et al., 2016; Sarhan et al., 2019 a, b.), enabling a panel data analysis that combines a cross section of 155

companies over a longitudinal period of six years, which results in an analysis of 930 company years.

This chapter also introduces the application of two sampling methods: the probability vs the non-probability method. Based on the nature of the samples, the non-probability method is ultimately used, where the quota sampling approach is applied to hand-pick the companies identified based on the Oxfam results for this research in accordance with the set criteria. During the course of the research, attempts were made to obtain primary data by contacting Oxfam Hong Kong by e-mail and phone, but these proved unsuccessful in the end, and the study therefore resorts to secondary data, with the focus on published financial data from annual reports, for the analysis of payment practices.

## Chapter 7 – Empirical results: bivariate analysis

### 7.1 Introduction

To examine the behavioural characteristics of payment terms, their drivers and their relationships, this chapter looks at the issues from an empirical perspective. Typically, to enhance comparability, AP and AR are either expressed in balance sheet terms, e.g. as a percentage of assets (Abdulla et al., 2017, 2020), or scaled by measures of sales volume, e.g. cost of goods sold for AP and sales for AR, which are then expressed in days by multiplying the fraction by 365 business days, i.e. DPO and DSO, as described in finance textbooks (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020).

As discussed above, companies identified as having adopted socially responsible practices, i.e. the Oxfam selected companies, should also be companies that are more concerned with the interests of their suppliers, and ethical behaviour in this regard should result in shorter net payment days, i.e. DPO–DSO, when compared with other (non-Oxfam selected) companies.

Table 7.1 displays the summary statistics of the four different ways of arriving at NPD based on the different ways of calculating DPO, i.e. DPO(w) and DPO(x), and DSO, i.e. DSO(w) and DSO(x) as well as AP% - AR%.

**Table 7.1: Summary statistics for dependent variables: APvAR% and NPDs**



Name of variable	Sample	Mean	Standard deviation	Median	Min	Max	25 percentiles	75 percentiles
<b>APvAR%</b> (AP/total assets) - (gross AR/total assets)	<b>non-Oxfam</b> <b>(n = 792)</b>	-10.41%	12.39%	-7.93%	-59.03%	15.30%	-15.95%	-2.01%
	<b>Oxfam</b> <b>(n=138)</b>	2.37%	4.20%	0.30%	-5.65%	15.30%	0.00%	4.36%
<b>NPD 1</b> (DPO(w) - DSO(w))	<b>non-Oxfam</b> <b>(n = 792)</b>	-74.63	190.63	-30.68	-1,382.11	309.76	-91.60	0.00
	<b>Oxfam</b> <b>(n=138)</b>	36.06	58.20	18.22	-49.93	309.76	0.00	42.43
<b>NPD2</b> (DPO(x) - DSO(w))	<b>non-Oxfam</b> <b>(n = 792)</b>	-49.74	225.97	-25.06	-1,182.42	1,855.97	-83.74	5.61
	<b>Oxfam</b> <b>(n=138)</b>	55.56	92.46	23.29	-47.60	493.68	1.87	59.68
<b>NPD 3</b> (DPO(w) - DSO(x))	<b>non-Oxfam</b> <b>(n = 792)</b>	-45.92	119.13	-22.02	-807.93	313.54	-72.55	6.70
	<b>Oxfam</b> <b>(n=138)</b>	37.80	58.92	18.96	-33.68	313.54	0.00	43.68
<b>NPD 4</b> (DPO(x) - DSO(x))	<b>non-Oxfam</b> <b>(n = 792)</b>	-23.16	192.61	-16.13	-667.92	1,900.24	-67.29	12.73
	<b>Oxfam</b> <b>(n=138)</b>	57.32	93.30	25.17	-31.35	500.22	2.10	60.45

Table 7.1 displays sample statistics of the dependent variables in this study, AP% and AR%, following Abdulla et al. (2017, 2020) as well as the individual components of our measures of payment practices in the form of net payment days (NPD), i.e. DPO and DSO. As discussed previously, this study attempts to arrive at more accurate measure of DPO and DSO by taking depreciation into account in the calculation of cost of goods sold. As such, DPO(w) represents a DPO number that is calculated based on the cost of goods sold figure recorded in the company's annual report, while DPO(x) is a DPO number that is calculated based on an adjusted cost of goods sold figure where this adjusted figure is cost of goods sold – depreciation. With depreciation removed from the reported cost of goods sold, the resulting number, DPO(x), more closely reflects the cost paid to suppliers, i.e. purchases.

At the same time, and again as discussed previously, this study examines the DSO number from two perspectives. First, a DSO number is calculated based on the gross accounts receivable figure presented in the company's annual report with no adjustment for bad debt, i.e. DSO(w). Then the study attempts to arrive at a more accurate measurement of the DSO figure by taking bad debts into account in the calculation of accounts receivable. As such,

DSO(w) represents a DSO number that is calculated based on the reported gross accounts receivable published in the company's annual report, while DSO(x) is a DSO figure produced by subtracting bad debt from the accounts receivable, i.e. net accounts receivable are accounts receivable – bad debt. With bad debt removed from the reported accounts receivable figure, the resulting number, DSO(x), more closely reflects the receivables amount collected from customers.

Initial results suggest that companies identified as ethical and socially responsible, i.e. the Oxfam selected companies, have a higher AP% – AR% figure, based on the measurement methodology deployed in Abdulla et al. (2017, 2020), and a smaller NPD when compared with the typical company. For AP% – AR%, the results in table 7.1 report a mean value of –10.41% for non-Oxfam selected companies and 2.37% for Oxfam selected companies.

These initial results appear to be in contrast to the view derived from the earlier discussion that payments to suppliers scaled by total assets will be bigger than the receivables from customers for the Oxfam group of firms. They suggest that these “ethical” firms pay their suppliers later than their customers pay them. More importantly, the “non-Oxfam selected” companies, i.e. companies **not** selected from the Oxfam survey for socially responsible practices, reported a negative mean statistic, suggesting that they tend to have more AP than AR, with both scaled by total assets, and signalling that, although not identified as firms that behave in a socially responsible manner, they may actually pay their suppliers more quickly than the Oxfam selected firms do.

As the mean value is known to be susceptible to outliers, results of the median, the minimum, the maximum, the 25<sup>th</sup> percentile, the 75<sup>th</sup> percentile and the standard deviation are calculated and displayed in table 7.1. In addition, the data applied is winsorized at the 1% significance

for both types of firms examined in this study as the Winsorizing process is frequently used to address outlier issues. As a result, the median value for AP% – AR% for non-Oxfam companies and Oxfam companies are –7.93% and 0.30% respectively, indicating that non-Oxfam firms also tend to have a lower AP% than AR%, although to a lesser extent, while the Oxfam firms report a statistic that is positive but closer to zero (whether this is significantly different from zero will be addressed using statistical tests in the following section). Finally, the table shows that the minimum value, the 25<sup>th</sup> percentile value, and the 75<sup>th</sup> percentile value are negative (–59.03%, –15.95%, and –2.01%) for non-Oxfam companies, which is suggesting that they have a smaller payment to suppliers figure in comparison with the receivables from their customers. In the meantime, the 0% (25<sup>th</sup> percentiles), 4.36% (75<sup>th</sup> percentiles), and the 15.30% (maximum) are all positive values for Oxfam companies, indicating that these companies have a larger payment to suppliers figure when compared with receivables from their customers.

From a conceptual perspective, all these results appear to be different from expectations. The statistical results point to behaviour where non-Oxfam companies tend to pay their suppliers earlier than their customers pay them, which produces a negative number for the mean, the trimmed mean and the median for AP% – AR%. At the same time, the statistics appear to suggest that Oxfam companies tend to pay their suppliers later than their customers pay them, and so the mean, trimmed mean and median values are positive, meaning that the AP% is greater than the AR%. If Oxfam companies are “good” companies that behave responsibly towards their suppliers, these numbers should be close to zero or negative.

In addition to AP% and AR%, the results in table 7.1 also report statistics on payment practices from the perspective of DPO and DSO in the form of net payment days. The mean

of NPD1 for the non-Oxfam selected companies indicates a negative value of 74.63 days while for the Oxfam selected companies the number has a positive value of 36.06 days. As discussed earlier, the companies in the Oxfam sample are companies that have been selected and examined by Oxfam for their engagement in social responsibility. As such, it is expected that these companies would likely pay their suppliers on time or early. In this case, DPO should be small or equal to DSO, thus producing a negative or zero NPD. Based on the same logic, the contrary is expected for the non-Oxfam companies, i.e. the expectation for this group is that DPO will be larger than DSO and NPD will be positive. Instead, a negative number is obtained. These initial statistical results from NPD1, as  $DPO(w) - DSO(w)$ , the traditional way of measuring DPO (based on COGS) and DSO (based on Gross AR), paint a picture that is in direct contrast to what was expected.

As argued above, this may be due to measurement issues, and so alternative measures of NPD, NPD2 as  $DPO(x) - DSO(w)$ , NPD3 as  $DPO(w) - DSO(x)$  and NPD4 as  $DPO(x) - DSO(x)$  are examined to see if this is the case. The question here is whether DPO and DSO should be measured differently. Specifically, should DSO be measured based on net AR, from which bad debt has already been deducted, and should DPO be measured based on COGS excluding depreciation? The results show that mean values for NPD3 are largely consistent with those for NPD1, i.e. a negative value for the non-Oxfam selected companies (45.92 days) and a positive value for the Oxfam selected companies (37.80 days). This is again very much contrary to the expectations derived from the earlier rationale. For NPD2 and NPD4, results were also negative for both the non-Oxfam companies at 49.74 days and 23.16 respectively and for the Oxfam samples at positive of 55.56 and 57.32 respectively). Again, both the numbers from Oxfam selected for NPD2 and NPD4 are positive based on these alternative measures, which provides evidence that runs contrary to the expectation that

firms considered “good” and ethical will pay early and have a small or even negative NPD. The larger two standard deviation results for the non-Oxfam groups (NPD2 of 225.97 days and NPD 4 of 192.61 days) would, from an interpretation perspective, the larger the standard deviation the larger dispersion among all data. The magnitude of the mean numbers for NPD2 and NPD4 raise questions about their robustness, therefore, those two measurements will not be further tested in this research.

Since we have utilized the Winsorizing (1% level of significance) technique to treat outliers in this research, we shall look at the result of the Median, Minimum and Maximum to understand the distribution characteristics of the dataset. The median value of NPD1 is -30.68 days; the Minimum is -49.93 days; the Maximum is 309.76 days for the non-Oxfam samples versus the median of NPD1 is 18.20 days; the Minimum is -1,382.11 days; and the Maximum is 309.76 days for the Oxfam samples. For the NPD2, the median is -25.06 days for the non-Oxfam data compared to 23.29 days for the Oxfam data. The Minimum value for NPD2 produces -47.60 days for the non-Oxfam selected samples and -1,182.42 days for the Oxfam selected sample. The Maximum values of NPD2 is 493.68 days for non-Oxfam verse 1,855.97 days for Oxfam Selected companies. The NPD3 median is shown as -22.02 days (non-Oxfam) versus 18.96 days (Oxfam), while the Minimum produces -33.60 days (non-Oxfam) compared to -807.93 days (Oxfam). Also, the Maximum values of NPD3 is 313.54 days for both Oxfam Selected and Non-Oxfam companies. Last but not least, for NPD4 median is -16.13 days for the non-Oxfam samples versus 25.17 days for the Oxfam samples and the Minimum is -667.92 days for the non-Oxfam samples compared to -31.35 days for the Oxfam samples. The Maximum values of NPD4 is 500.22 days (non-Oxfam) and 1,900.24 days (Oxfam). The median, the Minimum, and the Maximum numbers appear to provide a very consistent picture of the characteristics of the NPD figures for the samples. The

NPD median and mean for all four NPD measures for the non-Oxfam samples are consistently negative, i.e.  $DPO < DSO$ , while the NPD figures for the Oxfam samples are consistently positive, i.e.  $DPO > DSO$ . Both not only appear to be contrary to the view hypothesised above where NPD is expected to be close to zero, but also provide a picture that is very much in contrast to the generally held view that ethical companies will pay their suppliers on time or early and thus fulfil their obligation in an ethical manner. This is especially the case when, with NPD1, DPO is supposed to understate the payment days where depreciation in the cost of goods sold is included in the denominator and DSO is supposed to overstate the receivable days where bad debt is included in the numerator. A positive result in the Oxfam selected samples is therefore even more striking.

Given that NPD2 and NPD4, as alternative measures of NPD, may be susceptible to measurement errors, this study decides not to examine them further and to focus on NPD1 and NPD3 instead.

## **7.2 Statistical behaviour of control variables**

The statistical characteristics of these variables for “ethical” firms and other firms are also examined and the related statistics are reported in table 7.2 below:

**Table 7.2: Summary of descriptive statistics of other variables**

Variable	Oxfam selected company	Operational definition	Mean	Standard deviation	Median	Min	Max	25 percentiles	75 percentiles
DebtwAsset% (N)	No	Debt/total assets	8.45%	13.12%	2.22%	0.00%	84.78%	0.00%	12.33%
DebtwAsset% (Y)	Yes	Debt/total assets	13.49%	11.80%	11.80%	0.00%	46.19%	0.79%	20.51%
Cash% * (N)	No	Cash/total assets	20.21%	15.45%	15.31%	0.00%	75.98%	9.74%	27.14%
Cash% * (Y)	Yes	Cash/total assets	13.80%	13.33%	11.16%	0.00%	57.86%	3.91%	20.15%
InvTot% (N)	No	Inventory/total assets	12.12%	9.67%	10.52%	0.00%	64.22%	5.40%	16.40%
InvTot% (Y)	Yes	Inventory/total assets	3.41%	4.45%	1.33%	0.00%	15.40%	0.12%	6.11%
Sales G (N)	No	$(S_t / S_{t-1}) - 1$	5.67%	41.37%	0.00%	-80.19%	279.87%	-8.09%	11.48%
Sales G (Y)	Yes	$(S_t / S_{t-1}) - 1$	4.30%	12.07%	0.00%	-21.96%	55.82%	0.00%	8.72%
ChgInv (N)	No	$(Inv_t / Inv_{t-1}) - 1$	10.82%	93.67%	0.00%	-97.49%	1091.53%	-11.84%	15.16%
ChgInv (Y)	Yes	$(Inv_t / Inv_{t-1}) - 1$	3.52%	20.85%	0.00%	-62.44%	125.26%	-3.08%	7.84%
InvTurnover(N)	No	COGS/average inventory	8.28	30.09	4.43	0.28	422.00	2.40	6.97
InvTurnover(Y)	Yes	COGS/average inventory	43.40	83.91	11.81	0.28	422.00	3.73	40.50
EBIT% (N)	No	EBIT / sales	-2.36%	38.31%	4.31%	-315.74%	45.38%	-0.94%	10.47%
EBIT% (Y)	Yes	EBIT / sales	14.37%	12.55%	12.44%	0.00%	44.43%	3.16%	23.97%
NI% (N)*	No	Net income / sales	-3.79%	44.04%	3.35%	-337.34%	127.42%	-0.45%	9.04%
NI% (Y)*	Yes	Net income / sales	12.61%	16.16%	5.62%	-1.40%	93.98%	1.22%	17.85%
CashFlow%*(N)	No	(Net profit + dep) / total assets	2.79%	11.62%	4.20%	-73.83%	24.25%	1.06%	7.59%
CashFlow%*(Y)	Yes	(Net profit + dep) / total assets	8.28%	5.92%	7.95%	0.00%	22.76%	4.49%	12.09%
CurrentAsset%*(N)	No	(CA – cash) / total assets	38.76%	18.47%	38.10%	-13.40%	87.07%	26.66%	51.32%
CurrentAsset%*(Y)	Yes	(CA – cash) / total assets	8.82%	10.51%	7.48%	-13.40%	50.33%	2.64%	13.17%
ShortTermDebt%*(N)	No	Short-term debt / total assets	11.58%	11.32%	8.84%	0.00%	47.04%	0.95%	17.61%
ShortTermDebt%*(Y)	Yes	Short-term debt / total assets	4.66%	8.07%	1.83%	0.00%	47.04%	0.00%	5.86%
FixedAsset%(N)*	No	Fixed assets/total assets	25.38%	17.04%	21.62%	1.42%	75.44%	11.87%	36.56%
FixedAsset%(Y)*	Yes	Fixed assets/total assets	37.56%	30.15%	31.19%	1.42%	87.02%	8.03%	67.20%
Size(LN) * (N)	No	Natural logarithm of total sales	7.48	1.91	7.32	3.27	12.59	6.17	8.80
Size(LN) * (Y)	Yes	Natural logarithm of total sales	10.32	3.42	11.17	3.27	14.64	10.09	12.57
Negative * (N)	No	Sales growth times the negative growth dummy variable, which is “1” if sales growth is negative and “0” otherwise	0.38	0.49	0.00	0.00	1.00	0.00	1.00
Negative * (Y)	Yes	Sales growth times the negative growth dummy variable, which is “1” if sales growth is negative and “0” otherwise	0.25	0.43	0.00	0.00	1.00	0.00	0.00
Positive * (N)	No	Sales growth times the positive growth dummy variable, which is “1” if sales growth is positive and “0” otherwise	0.43	0.50	0.00	0.00	1.00	0.00	1.00
Positive * (Y)	Yes	Sales growth times the positive growth dummy variable, which is “1” if sales growth is positive and “0” otherwise	0.42	0.50	0.00	0.00	1.00	0.00	1.00

\* These variables are defined in the study by Abdulla et al. (2017), “Stock market listing and the use of trade credit: Evidence from public and private firms”, published by the *Journal of Corporate Finance*

The results reported in the table do not appear to suggest any significant difference in behaviour between the Oxfam sample and the non-Oxfam sample for the majority of the variables. The only ones that stand out are the profitability measures, with EBIT% for non-Oxfam companies at  $-2.36\%$  and for Oxfam companies at  $14.37\%$  and NI% for the former at  $-3.79\%$  and for the latter at  $12.61\%$ . In both cases, the non-Oxfam companies displayed negative earnings numbers, i.e. losses, while Oxfam companies showed positive earnings numbers. However, the non-Oxfam means are related to larger standard deviations at  $38.31\%$  for the EBIT% and  $44.04\%$  for the NI%, which suggests that the differences could potentially be caused by large variance in the sample. This is partially confirmed by the median and 5% trimmed mean statistics, with both the EBIT% and NI% reporting negative numbers in the non-Oxfam sample.

Another variable of potential concern is the current assets% variable ((current assets – cash)/total assets). The mean for the current assets% for the non-Oxfam and the Oxfam sample is  $38.76\%$  and  $8.82\%$  respectively. Unlike the profitability numbers, the standard deviation numbers do not appear to be too large, standing at  $18.47\%$  for the non-Oxfam companies and  $10.51\%$  for the Oxfam companies (the statistical implication is examined further below). Furthermore, the reported numbers for the sample median and mean for both non-Oxfam ( $38.10\%$  and  $38.76\%$ ) and Oxfam ( $7.48\%$  and  $8.82\%$ ) do not appear to deviate greatly from the mean figures reported, suggesting consistent behaviour between the two samples (again, a more rigorous statistical examination is studied in the next section).

### **7.3 Independent 2 sample *t*-tests of payment behaviour of the Oxfam and non-Oxfam companies**



As a result of the various characteristics displayed among the different variables for the two groups of companies, Oxfam and non-Oxfam, it is important to examine whether the two groups do indeed behave differently from each other from a statistical perspective. The examination of values between the two groups is accomplished using the two-sample t-test.

The independent t-test is an inferential statistic that is used to determine if there is a statistical difference between the means in two groups. In essence, the test allows the average values of the two data samples under examination to be compared and helps to determine if the two samples are from the same population. Statistically, the t-test takes observations from each of the two sample sets and examines the data from the perspective of a null hypothesis. More specifically, the test examines if the means from the two samples are equal taking their variability into account.

The t-test contains four assumptions. The first assumption embedded in the t-tests concerns the scale of measurement, i.e. whether the data collected follows an interval or ratio scale, such as the net payment date. The second is that the data is collected from a representative, random selection of the total population of interest, e.g. the cash% of the non-Oxfam companies in our case. The third assumption in the independent t-test is the requirement that the dependent variable is approximately normally distributed within each group. And the fourth and final assumption is the homogeneity of variance; i.e. it is necessary for the standard deviations of samples to be approximately equal.

The null and alternative hypotheses for the two-sample independent t-test are:

The independent two-sample t-test:

$$H_0 = \mu_{Oxfam\ co} = \mu_{non-Oxfam\ co}$$

$$H_A = \mu_{Oxfam\ co} \neq \mu_{non-Oxfam\ co}$$

The small sample of the Oxfam group poses questions about the robustness of the two-sample t-test, and so this study also examines the characteristics of the data using the Mann-Whitney test (Bryman and Bell, 2016). As the data collected and shown in table 7.1 produces a standard deviation in the NPD1 of the non-Oxfam companies of 190.63 days set against 58.20 days for the Oxfam companies and the standard deviation in the NPD3 of the non-Oxfam companies is reported as 119.13 days compared with a reported 58.92 days for the Oxfam companies, the homogeneity assumption stated above is not met. Moreover, the sample sizes of the two groups are not the same, with 32 companies in the Oxfam group and 123 companies in the non-Oxfam group. As a result, it is desirable to examine the data from a non-parametric perspective by running the Mann-Whitney U test, which is the non-parametric equivalent of the two-sample t-test. While the t-test is based on assumptions about a t-distributed population, the Mann Whitney U test makes no such assumptions.

The null and alternative hypotheses for the tests are:

Mann-Whitney Test:

$$H_0 = \text{The population}_{Oxfam\ co} = \text{The population}_{non-Oxfam\ co}$$

$$H_A = \text{The population}_{Oxfam\ co} \neq \text{The population}_{non-Oxfam\ co}$$

Table 7.3 displays the results of the two-sample independent t-test and of the Mann-Whitney test for NPD1 to NPD4 for the two samples.

**Table 7.3: Independent two-sample t-test; Mann-Whitney Test for APvAR% and NPD1 and NPD3**

	Oxfam selected company	Mean	Independent two-sample t-test (statistic)	Mann-Whitney test (statistic)
<b>APvAR%</b> (AP/total assets) - (gross AR/total assets)	<b>non-Oxfam (n = 792)</b>	-10.41%		
	<b>Oxfam (n=138)</b>	2.37%	-11.998 ***	12265.000 ***
<b>NPD1</b> (DPO(w) - DSO(w))	<b>non-Oxfam (n = 792)</b>	-74.63		
	<b>Oxfam (n=138)</b>	36.06	-6.763 ***	17602.500 ***
<b>NPD2</b> (DPO(x) - DSO(w))	<b>non-Oxfam (n = 792)</b>	-49.74		
	<b>Oxfam (n=138)</b>	55.56	-5.394 ***	18705.500 ***
<b>NPD3</b> (DPO(w) - DSO(x))	<b>non-Oxfam (n = 792)</b>	-45.92		
	<b>Oxfam (n=138)</b>	37.80	-8.083 ***	20154.500 ***
<b>NPD4</b> (DPO(x) - DSO(x))	<b>non-Oxfam (n = 792)</b>	-23.16		
	<b>Oxfam (n=138)</b>	57.32	-4.810 ***	21400.500 ***

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

The results in table 7.3 suggest that the null hypothesis of no difference between the Oxfam and non-Oxfam companies is rejected both in the two-sample t-test and in the Mann-Whitney test for all the dependent variables in this study (AP% – AR%, NPD1 and NPD3).

The reported means for NPD1 for the Oxfam and the non-Oxfam samples are 36.06 and –74.63 respectively with significance levels at the three-digit level of 0.000 in the two-sample t-test and 0.000 in the Mann-Whitney test. For NPD3, the reported means for the Oxfam and non-Oxfam samples are 37.80 and –45.92 respectively and the three-digit level of significance is 0.000 in both the two-sample independent t-test and the Mann-Whitney test.

Again, in addition to the statistical results indicating that the two samples are companies whose payment behaviour is different from each other, it is important to note that the statistics obtained for the non-Oxfam companies are negative while those obtained for the Oxfam sample are positive. As argued above, the Oxfam companies are supposedly socially responsible companies that behave ethically towards their suppliers, thus paying faster and having a low

NPD, while the non-Oxfam companies go in the opposite direction. The positive (negative) results obtained for Oxfam (non-Oxfam) companies again appear to suggest a finding that is contrary to this line of reasoning. However, these results are consistent with the findings in table 7.1.

For  $AP\% - AR\%$ , the results in table 7.3 indicate that the mean difference between  $AP\%$  and  $AR\%$  is 2.37% for the Oxfam samples and -10.41% for the non-Oxfam samples. In both cases, both the two-sample independent t-test and the Mann-Whitney test suggest that the hypothesis of no difference between the two samples is rejected with  $p = 0.000$ .

Given that the statistics suggest the companies from the two samples, Oxfam and non-Oxfam, behave differently, it is then necessary to look into the nature of the difference. It appears that Oxfam companies have (again, a statistically significant) higher  $AP$  than  $AR$ , which is consistent with the conclusions from earlier results. Moreover, non-Oxfam companies reportedly have (again, statistically significant) lower  $AP$  numbers than  $AR$  numbers. These findings definitely point to a difference in behaviour where Oxfam companies pay their suppliers more slowly than their non-Oxfam counterparts do, once more offering a picture that runs counter to the view that companies that are designated as socially responsible and ethical will pay their suppliers early (compared to companies not designated as ethical).

In sum, there appears to be consistent statistical evidence suggesting that companies from the Oxfam sample behave differently when compared with the non-Oxfam sample. Furthermore, the signs of the estimates again suggest that the  $AP\% - AR\%$  and the NPDs of the two samples behave very differently than expected, i.e. that the Oxfam group will pay their suppliers early or on time when compared with the non-Oxfam group, and indicate that these

“good” companies pay their suppliers late. The signs not only suggest that the Oxfam companies do not pay their suppliers early, but in fact pay them later than the non-Oxfam companies pay their own suppliers.

#### 7.4 Independent two-sample t-tests of control variables for the Oxfam and non-Oxfam companies

For the behaviour of the non-Oxfam and Oxfam samples with regard to independent and control variables, table 7.4 displays the results of the two-sample independent *t*-test and of the Mann-Whitney test.

**Table 7.4: Independent two-sample t-test and Mann-Whitney test for independent and control variables**

Variable	Oxfam selected company	Mean	Independent two-sample t-test (statistic)	Mann-Whitney test (statistic)
DebtwAsset% (N)	No	8.45%		
DebtwAsset% (Y)	Yes	13.49%	-4.226 ***	38428.000 ***
Cash% * (N)	No	20.21%		
Cash% * (Y)	Yes	13.80%	4.592 ***	38766.500 ***
InvTot% (N)	No	12.12%		
InvTot% (Y)	Yes	3.41%	10.392 ***	19008.000 ***
Sales G (N)	No	5.67%		
Sales G (Y)	Yes	4.30%	0.385	50094.000
ChgInv (N)	No	10.82%		
ChgInv (Y)	Yes	3.52%	0.911	52473.000
InvTurnover(N)	No	8.28		
InvTurnover(Y)	Yes	43.40	-8.946 ***	31962.000 ***
EBIT % (N)	No	-2.36%		
EBIT % (Y)	Yes	14.37%	-5.081 ***	33138.500 ***
NI%* (N)	No	-3.79%		
NI%* (Y)	Yes	12.61%	-4.324 ***	39493.500 ***
CashFlow% * (N)	No	2.79%		
CashFlow% * (Y)	Yes	8.28%	-5.430 ***	35762.000 ***
CurrentAsset% * (N)	No	38.76%		
CurrentAsset% * (Y)	Yes	8.82%	18.522 ***	9020.500 ***
ShortTermDebt%*(N)	No	11.58%		
ShortTermDebt%*(Y)	Yes	4.66%	6.882 ***	33689.000 ***
FixedAsset%(N)*	No	25.38%		
FixedAsset%(Y)*	Yes	37.56%	-6.761 ***	45694.000 ***
Size(LN) * (N)	No	7.48		
Size(LN) * (Y)	Yes	10.32	-13.959 ***	21500.000 ***
Negative * (N)	No	0.38		
Negative * (Y)	Yes	0.25	2.976 ***	47481.000 ***

<b>Positive * (N)</b>	No	0.43		
<b>Positive * (Y)</b>	Yes	0.42	0.252	54018.000

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\* 10% significance level  
\*\* 5% significance level  
\*\*\* 1% significance level

The results displayed in table 7.4 suggested that Oxfam and non-Oxfam companies behave very differently in respect of most of the variables, where  $p = 0.000$ . The only exceptions are the sales growth, the change in inventory and the positive growth dummy variables.

The sales growth of the non-Oxfam and Oxfam companies is reported to have mean values of 5.67% and 4.30% respectively. The associated  $p$  values are 0.701 for the two-sample  $t$ -test and 0.116 for the Mann-Whitney test, suggesting that, from a statistical perspective, the idea that the companies from the two samples behave differently cannot be rejected. This conclusion also applies to the change in inventory variable for the non-Oxfam sample (10.82%) and the Oxfam sample (3.52%),, with the two-sample  $t$ -test and Mann-Whitney test producing  $p$  values of 0.362 and 0.453 respectively. The same is found with the positive growth dummy variable with mean values of 0.43 for the non-Oxfam companies and 0.42 for the Oxfam companies. The two-sample  $t$ -test and Mann-Whitney test produce  $p$  values of 0.801 and 0.801 respectively here. However, other than these two, the variables suggest that Oxfam and non-Oxfam firms behave differently when looked at in terms of statistical significance.

## 7.5 Conclusion

The four measures of NPD based on the different ways of calculating DPO, i.e. DPO(w) and DPO(x), and DSO, i.e. DSO(w) and DSO(x) as well as AP% - AR%, are examined for both the Oxfam selected and non-Oxfam selected companies. In the first part of the chapter,

descriptive statistics, i.e. mean, media, minimum, maximum, 25 percentiles, 75 percentiles, and standard deviation, indicate that NPD2, calculated as  $DPO(x) - DSO(w)$ , reports a standard deviation value of 225.97 days for the non-Oxfam selected companies, while NPD4, calculated as  $DPO(x) - DSO(x)$ , showed a standard deviation value of 192.61 days for these companies. These two numbers are larger different from the other summary statistics as well as the summary statistics for NPD1, or  $DPO(w) - DSO(w)$ , and NPD3, or  $DPO(w) - DSO(x)$ . The NPD2 and NPD4 measures are therefore removed from the analysis going forward.

In addition, the results show that, on average, NPD1 was  $-70.63$  days for non-Oxfam selected companies, but  $36.06$  days for Oxfam selected companies. Results of a similar nature were also found for NPD3, i.e.  $-45.92$  days for non-Oxfam selected companies and  $37.80$  days for Oxfam selected companies. This signifies that the non-Oxfam selected companies pay their suppliers on average  $70.63$  days (under NPD1) or  $45.92$  days (under NPD3) faster than they receive payments from their customers.

The reported statistics indicate the opposite for the Oxfam selected companies, however: they hold on to the money longer and on average take an additional  $36.06$  days (under NPD1) or  $37.80$  days (under NPD3) before they pay their suppliers in comparison to the time it takes their customers to pay them. This goes against the expectation that the Oxfam selected companies, as “good” and ethical based on ESG measures and scores, will act responsibly and pay their suppliers if not faster, then at least on time.

As the difference between the mean values of the two groups (Oxfam selected versus non-Oxfam selected) is significant, the two-sample independent  $t$ -test and the Mann Whitney U test are set up in this chapter to test whether this is true in fact and not due to chance. The

results in table 7.3 indicate that the  $p$ -value in the two-sample t-test NPD1 and for NPD3 are 0.000 and, in the Mann Whitney U test, 0.000 for both NPD1 and NPD3 too. These results show a strong statistical significance that the mean values of the two populations (Oxfam selected versus non-Oxfam selected) are indeed different and this is not the result of sampling errors. This suggests that the two groups behave very differently as far as their payment practices are concerned.



## **Chapter 8 – Empirical results: regression analysis**

### **8.1 Introduction**

To examine the relationships between payment practices, measured as NPD, and the key financial variables that are likely to have an impact on them as discussed in earlier sections, this chapter looks into possible optimal linear specifications with NPD as a dependent variable and a number of independent variables, including the dummy variable and the various financial variables, by means of correlation analysis, multiple regression analysis, panel data analysis in the form of pooled OLS and the random effect model. Finally, propensity score matching will be employed to further confirm the results of the regressions.

### **8.2 Correlation analysis of the data**

As mentioned in the previous chapter, both correlation analysis and multiple regression analysis are used to examine relationships between two variables. In our case, the relationship of interest is first of all how payment practices may be driven by the variables discussed in table 5.3, e.g. how a high cash position may potentially lead to prompt payment.

Table 8.1 displays the correlations between net payment days, measured as NPD1 and NPD3, and the various payment behaviour drivers based on table 5.3, together with the corresponding significance level.

As can be seen in the table, the evidence suggests that cash is not related to payment practices in the full sample or in the non-Oxfam sample. It is, however, found to be positively and significantly correlated with net payment days in the Oxfam sample, suggesting that

companies in this group will tend to have a high net payment days figure, meaning they pay suppliers more slowly, and a high cash position, which is potentially a result of them adopting slow payment practices.

Based on this finding, the current assets net of the cash variable, which potentially measure a firm's investments in accounts receivable and inventories, are revealed to be negatively related to payment practices in the full sample. This shows that high current assets net of the cash variable is related to a low net payment days figure, which in turn signifies that companies with a high need for investments in accounts receivable and inventories are likely to pay their suppliers with a shorter delay, resulting in a lower NPD. This would be inconsistent with accounting and finance logic. It is important to note, however, that the positive and significant relationship is not observed for the two variables in either the non-Oxfam or the Oxfam sample.

The results of the correlation analysis indicate that cash flow and payment practices are positively and significantly related to each other and thus that a high cash flow is related to high net payment days. This should not be interpreted as signifying an unethical practice, as cash flow is defined as net income plus depreciation, which, unlike cash balance, cannot be driven up by delaying payments to suppliers. This statistically significant relationship, if not spurious in nature, certainly warrants further investigation.

Based on the statistical results, debt does not appear to be related to payment practices. This would be consistent with the reasoning displayed in table 5.3, as on the one hand debt may be high as a result of a high net payment days figure, as companies in a financially stressed position will delay payments to their suppliers and also have high debt, while, on the other,

firms can use debt, and thus have high debt, to pay their suppliers, and thus have a low NPD. The evidence, however, does not appear to point to a significant relationship in either case.

As far as company size is concerned, a positive and significant correlation exists with payment practice for all the samples. This would suggest that large firms tend to delay their payments to their suppliers and have a high net payment days figure. This is logical from the perspective of relative market power, i.e. large companies with market power can “afford” to pay their suppliers late, but this practice has to be questioned from an ethical perspective.

When it comes to fixed assets, the evidence suggests a positive and significant relationship with net payment days. Again, this is not surprising, as companies that need to invest in fixed assets also tend to need funds for that purpose. A high payment days figure could potentially signify that this need for funds is met by paying suppliers later, resulting in a high NPD, which would thus create a positive and significant relationship between fixed assets and NPD.

While the evidence appears to portray a positive relationship between company growth and net payment days, this relationship is only found to be significant in the full sample and the non-Oxfam sample. In the Oxfam sample, the relationship is positive, but it is not statistically significant. In general, the positive and significant finding is logical when we consider that high-growth companies will have a higher need for funding and part of that funding could come from suppliers, which will thus result in a high NPD.

Finally, the correlation between inventory and net payment days is found to be positive and significant for the full sample and the non-Oxfam sample, indicating that high inventory

levels are related to high payment days for firms in these samples. The relationship is the reverse, and significant, in the Oxfam sample, however. The contrast between the two potentially represents ground for further investigation using other statistical tools.

**Table 8.1 Pearson correlation ( $r$ ) between NPD1, NPD3 and payment behaviour drivers**

	Sample size (N)	Cash/total assets %	(Current assets - cash) %	Cash flow (%)	Debt/total assets %	LN (size)	Fixed assets %	Growth in sales	Inventory /total assets %
<b>Pearson <math>r</math> (NPD1) ALL</b>	930	0.006	-0.247 ***	0.363 ***	0.037	0.283 ***	0.187 ***	0.180 ***	0.089 ***
<b>Pearson <math>r</math> (NPD3) ALL</b>	930	-0.005	-0.310 ***	0.271 ***	0.082 **	0.287 ***	0.207 ***	0.166 ***	0.078 **
<b>Pearson <math>r</math> (NPD1) non-Oxfam</b>	792	0.028	-0.166 ***	0.333 ***	0.010	0.239 ***	0.164 ***	0.188 ***	0.180 ***
<b>Pearson <math>r</math> (NPD3) non-Oxfam</b>	792	0.014	-0.223 ***	0.223 ***	0.057	0.206 ***	0.169 ***	0.178 ***	0.189 ***
<b>Pearson <math>r</math> (NPD1) Oxfam</b>	138	0.334 ***	-0.037	0.555 ***	-0.041	0.349 ***	0.217 **	0.097	-0.144 *
<b>Pearson <math>r</math> (NPD3) Oxfam</b>	138	0.333 ***	-0.041	0.568 ***	-0.032	0.356 ***	0.228 ***	0.095	-0.154 *

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

In sum, while the results from the correlation analysis provide some insight into and support for the hypothesised views displayed in table 5.3, it also yields evidence suggesting inconclusive findings with results that contradict the expected relationships. Furthermore, there are findings that are inconsistent between the samples, i.e. they display one relationship in certain samples but another, contradictory relationship in others. This is partially due to the limitations inherent in correlation analysis, which include the inability to take into account the presence, or absence, of other variables apart from the two being examined. In this case, multiple regression can potentially be used as an alternative analysis tool.

### 8.3 Multiple regression analysis of the data

As a key limitation of correlation analysis is its inability to take into account the potential presence or absence of other variables and their impacts in the latter case as well as spurious relationships, an alternative tool that can be used to address these issues is multiple regression analysis to obtain parameters that attempt to find the optimal fit with the data.

In general, the pooled ordinary least squares (OLS) method is typically employed to estimate the parameters in the regression for panel data without any cross-sectional or time effects. The error structure is simple and is independently and identically distributed (iid) with zero mean and variance. The pooled OLS method arrives at parameters for independent variables of a linear model by minimising the sum of the squares of the distance between the observed values of the dependent variable and the estimated values based on the linear function of the independent variable. Parameters estimated with the pooled OLS method are optimal when the independent variables are exogenous and the errors are homoscedastic and non-autocorrelated.

In fact, the pooled OLS model is often used in many panel data sets as the benchmark or baseline model to facilitate comparison with statistical performance in other models. For pooled OLS to yield robust results, however, five assumptions have to be satisfied. If all five of the OLS assumptions are satisfied, then, according to the Gauss-Markov theorem, OLS estimators are best linear unbiased estimators (**BLUE**), i.e. the results generated using that regression method will produce better unbiased estimations. These *five assumptions are (1) linearity, (2) exogeneity, (3) homoskedasticity (4) non-autocorrelation and (5) no multicollinearity*. The assumption of **linearity** requires that the relationship between the independent and dependent variables is linear. When each independent variable in the regression is multiplied by a coefficient ( $\beta$ ) and all the terms are aggregated, the result can be

used to predict the outcome of the dependent variable, i.e. the NPD in this study. For instance, one of the regressions examined in this study is expressed as

$$\text{NPD}_n = \alpha + \lambda D_n + \beta_1 \text{cash}_n + \beta_2 \text{current assets}_n + \beta_3 \text{cash flow}_n + \beta_4 \text{profitability}_n + \beta_5 \text{debt}_n \\ + \beta_6 \text{size}_n + \beta_7 \text{fixed assets}_n + \beta_8 \text{growth}_n + \beta_9 \text{inventory}_n + \epsilon_n$$

and is a linear representation of the relationship between the dependent variable and the independent variables. A second assumption is **exogeneity**. A typical assumption made in regression analysis; it refers to the requirement that any independent variable (X) in the regression cannot be a function of the dependent variable (Y). In our case, this means that the Oxfam selected company dummy variable, cash/total assets%, cash flow%, (current assets – cash)%, fixed assets%, short-term debt%, LN (size), NI%, negative growth and positive growth cannot be determined by the net payment days (NPD) dependent variable. As stated in the previous chapter, NPD is calculated from DPO and DSO, so it is unlikely that it would be a variable dependent on the independent variables in this model. The **homoskedasticity** assumption refers to the need for the error term in the regression to remain constant or have equal variance. It also refers to the requirement that, as the value for the dependent variable varies, the error term does not vary much for each observation. If the homoskedasticity condition is not met, the estimates for the coefficients will be less accurate. The requirement for **non-autocorrelation** involves the need for the data collected not to display any degree of similarity between the values of the same variables over time, meaning there should not be any relationship between a variable's present value and any adjacent values. If the non-autocorrelation requirement is not satisfied, then the previous error terms can be used to predict the next one. This means that the error estimates will not be random and the assumptions on the randomness in the error will not apply. In order to ensure robustness in

the regressions, the Breusch-Pagan Lagrange multiplier (LM) is deployed to test for heteroskedasticity in linear models and whether random effects are significant in panel data models. In the meantime, the Hausman test is deployed to test for autocorrelation and making decisions between fixed and random effects. The results are indicated in table 8.2, 8.3 respectively. Last but not least is the requirement that **multicollinearity** is ensured for the analysis. Multicollinearity exists when two or more independent variables are highly correlated with each other and therefore cannot simultaneously yield unique/random information contributing to the explanatory power in the regression model. If two or more variables are highly correlated, this causes problems in the inference of the estimated parameters and the interpretation of the results in the estimated model. According to the results shown on table 8.1, the Pearson  $r$  ranged from  $-0.310$  to  $0.363$  in 7 payment behavior drivers, only  $r = 0.555$  for NPD1 (Oxfam selected) and cashflow%. Therefore, there is no obvious multicollinearity issues among the NPD1, NPD3, and payment behaviour drivers. For the pooled OLS technique to be reliable, assumptions (2) to (4) need to be examined thoroughly and their confirmation ensured. If assumptions (2), (3) and/or (4) are not satisfied, then the FE model or the RE model might be more suitable.

As discussed in an earlier chapter, a general linearity to be estimated in a panel data context with a dummy variable is specified as:

$$y_n = \alpha + \lambda D_n + \sum \beta_i x_{i,n} + \varepsilon_i$$

where  $n$  denotes the  $n$ th observed value of the various variables

$y_n$  denotes the observed values of the dependent variable

$D_n$  denotes the observed values of the dummy variable

$x_{i,n}$  denotes observation of independent variable  $i$

$\alpha$  represents the estimate of the parameter for the intercept,

$\lambda$  represents the parameter estimated for the dummy variable,  $D$ ,  
 $\beta_i$  represents the parameters estimated for each variable  $x_i$ , and  
 $\varepsilon_i \sim N(0, 1)$ .

Furthermore, in our case,  $x_i$  denotes cash, current assets, cash flow, profitability, debt, size, fixed assets, growth and inventory. As a result, different versions of the following are estimated and examined, hence:

$$\begin{aligned} \text{NPD}_n = & \alpha + \lambda D_n + \beta_1 \text{cash}_n + \beta_2 \text{current assets}_n + \beta_3 \text{cash flow}_n + \beta_4 \text{profitability}_n + \beta_5 \text{debt}_n \\ & + \beta_6 \text{size}_n + \beta_7 \text{fixed assets}_n + \beta_8 \text{growth}_n + \beta_9 \text{inventory}_n + \epsilon_n \end{aligned}$$

#### 8.4 The Breusch-Pagan Lagrange multiplier (LM) analysis

The Breusch-Pagan Lagrange multiplier (LM) is used to test for heteroskedasticity in a linear regression and determine whether random effects are significant in panel data models. The Breusch–Pagan test, developed in 1979 by Trevor Breusch and Adrian Pagan, and Lagrange multiplier tests whether the variance of the errors from a regression is dependent on the values of the independent variables, i.e., the presence of heteroskedasticity. If this is the case, then pooled OLS might not be preferred.

$H_0: \lambda = 0$  (Simple OLS regression is appropriate)

$H_A: \lambda \neq 0$  (Random Effect is appropriate)



As can be seen in Table 8.2 below, the results in the LM tests indicated that the null hypothesis is rejected at the 1% level, indicating that random effect models are preferred.

The table 8.2 presents the results with the hypotheses set up as:

**Table 8.2 The Breusch-Pagan Lagrange multiplier (LM) analysis results**

Independent variables	Regression listed	LM ( $\chi^2$ )	Conclusion
Oxfam selected companies	Table 8.2	504.96 ***	Random Effect is preferred
Cash, CashFlow, CurrentAsset, FixedAsset, Short-termdebt, size, NI, Negative, Positive	Table 8.3	834.06 ***	Random Effect is preferred
Oxfam selected companies, Cash, CashFlow, CurrentAsset, FixedAsset, Short-termdebt, size, NI, Negative, Positive	Table 8.4	820.58 ***	Random Effect is preferred
Oxfam selected companies, Cash, CashFlow, CurrentAsset, FixedAsset, Short-termdebt, size, NI	Table 8.5	500.63 ***	Random Effect is preferred
Oxfam selected companies, Cash, CashFlow, CurrentAsset, FixedAsset, size, NI	Table 8.6	501.85 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, CurrentAsset, FixedAsset, size, NI	Table 8.7	506.61 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, CurrentAsset, size, NI	Table 8.8	537.28 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTot	Table 8.9 (panel A)	629.68 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, ChginInv	Table 8.9 (panel B)	632.85 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTurnover	Table 8.9 (panel C)	598.90 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTot, DebtwAssets	Table 8.10 (panel A)	606.90 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, ChginInv, DebtwAssets	Table 8.10 (panel B)	617.50 ***	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTurnover, DebtwAssets	Table 8.10 (panel C)	585.22 ***	Random Effect is preferred

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

## 8.5 Hausman test

In addition to testing for heteroskedasticity, it is also necessary to test for autocorrelations. To test for autocorrelations, James Durbin proposed a test for “errors in variables” in a linear regression back in 1954, and had a comparison of ordinary least squares (OLS) and instrumental variables (IV) estimators. Hausman (1978) further extended the methodology to

test between fixed effects model and random effects model in panel analysis. The table 8.3 presented the hypotheses and results in the following paragraphs.

$H_0$ : Random Effect is preferred

$H_A$ : Fixed Effect is preferred

**Table 8.3 Hausman test results**

Independent variables	Regression listed	Hausman Test ( $X^2$ )	Hausman Test ( $p$ value)	Conclusion
Oxfam selected companies, CashFlow, size, NI, InvTot	Table 8.9 (panel A)	5.26	0.261	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, ChginInv	Table 8.9 (panel B)	2.99	0.560	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTurnover	Table 8.9 (panel C)	4.29	0.368	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTot, DebtwAssets	Table 8.10 (panel A)	9.19	0.102	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, ChginInv, DebtwAssets	Table 8.10 (panel B)	5.97	0.310	Random Effect is preferred
Oxfam selected companies, CashFlow, size, NI, InvTurnover, DebtwAssets	Table 8.10 (panel C)	7.68	0.175	Random Effect is preferred

## 8.6 NPD behaviour by Oxfam and non-Oxfam companies

As argued above, companies in the Oxfam sample should, by intuition, be companies that are more aware of the ethical implications of payment practices towards their suppliers and, if anything, should pay their suppliers on time if not early, thus  $DPO \leq DSO$  and  $NPD \leq 0$ . The evidence obtained from our samples so far suggests otherwise, however. In fact, the results display something that appears to be contrary to the intuitive reasoning previously discussed: positive NPDs are in fact shown for the Oxfam sample, i.e. ethical companies. At the same time, the non-Oxfam companies are as a group allegedly less aware of the ethical implications of payment practices towards suppliers and supposedly indifferent to them. Indeed, from a financial perspective, their preference ought to be to pay their suppliers late

and to use the payments intended for them to finance their own operations, hence  $DPO \geq DSO$ , or  $NPD \geq 0$ . However, the evidence from table 7.1 and table 7.3 once again points to consistent early payment by this group, where  $DPO < DSO$  and  $NPD \leq 0$ . So, again, the numbers offer evidence that is contrary to the intuitive reasoning. This is examined, at a first level, by regression analysis setting the NPD as the dependent variable against a dummy variable created to represent the Oxfam companies, “1”, and non-Oxfam companies, “0”.

The use of dummy variables in studies of payment practices can also be found in Abdulla et al. (2017, 2020), where the authors apply them to represent positive growth, negative growth, public, and growth in the use of equity financing.

Table 8.2 reports the regression statistics of this line analysis with NPD as the dependent variable and a dummy variable tracking Oxfam companies that are identified as socially responsible performers and other companies.

$$NPD_n = \alpha + \lambda D_n + \varepsilon_n$$

where  $D_n$  is a dummy variable representing Oxfam and non-Oxfam companies

The data is analysed using pooled OLS regression and random effect regression by means of the Stata software. The results are presented side by side in the table below.

**Table 8.4: Regression analysis of NPD performance by Oxfam and non-Oxfam companies**

NPD1		NPD3	
Pooled OLS	Random effect	Pooled OLS	Random effect

<b>(Constant)</b>	-74.629 *** (6.304)	-74.629 *** (11.567)	-45.920 *** (3.990)	-45.920 *** (6.857)
<b>Oxfam selected companies</b>	110.686 *** (16.365)	110.689 *** (30.027)	83.721 *** (10.358)	83.721 *** (17.800)
<b>Number of observations</b>	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

As can be seen from table 8.4, the regression results report significant and positive estimated coefficients for NPD1 of 110.686 with the pooled OLS model and 110.689 with the random effect model and for NPD3 of 83.721 with both the pooled OLS and the RE models. From a statistical perspective, the estimates are significant at the 1% level with  $p$  value reported to be 0.000 for both NPD1 and NPD3 respectively when using the pooled OLS method and also 0.000 for both NPD1 and NPD3 when using the RE model. This provides evidence suggesting that the dummy variable representing the behaviour of the companies towards their suppliers from an ethical perspective is statistically significantly and positively related to the two NPD measures. This suggests that when the dummy variable is “1”, i.e. ethical Oxfam companies, the NPD tends to be positive,  $DPO > DSO$ , i.e. payment days to suppliers are longer than payment days from customers. This is consistent with the initial findings above, suggesting ethical companies pay their suppliers late, while the non-Oxfam companies actually pay earlier, but is contrary to the initial belief that ethical companies will pay their suppliers early.

To investigate how the above relationship between NPD and the ethical behaviour dummy variable behaves in the presence of other financial variables, this study performs further analyses with the ethical company dummy variable taking key financial variables into account. The financial variables explored are based on earlier studies (Cowton and San-Jose, 2017; Cumbie and Donnellan, 2017; Abdulla et al., 2017, 2020). More specifically, the main

financial variables examined are based on Abdulla et al. (2017, 2020), who investigated payment and receivable practices by public and private firms. These variables primarily include cash% of assets, cash flow (net income plus depreciation) as a percentage of assets, current assets (total current assets net of cash) as a percentage of assets, short term debt% of assets, size in the form of natural log of sales, fixed assets as a percentage of assets, profit as a percentage of sales and dummy variables representing positive as well as negative growth.

To ensure comparability of the results, this study applies the data from the Oxfam and the non-Oxfam group to the Abdulla et al. (2017, 2020) studies. The regression model is set as:

$$\text{APvAR}\% = \alpha + \beta_1 \text{cash}\% * + \beta_2 \text{cash flow}\% * + \beta_3 \text{current assets}\% * + \beta_4 \text{fixed assets}\% * + \beta_5 \text{short-term debt}\% * + \beta_6 \text{size(LN)} * + \beta_7 \text{NI}\% * + \beta_8 \text{negative} * + \beta_9 \text{positive} * + \epsilon$$

**Table 8.5 Analysis of trade financing practices based on Abdulla et al. (2017, 2020)**

<b>APvAR% = (AP/total assets) - (gross AR/total assets) %</b>		
	<b>Pooled OLS</b>	<b>Random effect</b>
<b>(Constant)</b>	-0.064 *** (0.015)	-0.055 *** (0.013)
<b>Cash/total assets %*</b>	-0.28 (0.023)	-0.021 (0.023)
<b>Cash flow (%)*</b>	0.089 * (0.047)	0.090 ** (0.037)
<b>(Current assets - Cash) %*</b>	-0.306 *** (0.18)	-0.267 *** (0.020)
<b>Fixed assets %*</b>	0.025 (0.019)	-0.053 ** (0.232)
<b>Short-term debt %*</b>	-0.043 (0.314)	-0.025 (0.030)
<b>LN (size) *</b>	0.011 *** (0.002)	0.010 *** (0.002)
<b>Net income %*</b>	0.004 (0.012)	0.012 (0.009)
<b>Negative growth*</b>	-0.005 (0.009)	-0.003 (0.006)
<b>Positive growth*</b>	-0.007 (0.009)	-0.003 (0.006)

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\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

The results obtained from the analysis with our data are only partially consistent with those obtained in Abdulla et al. (2017, 2020).

Only cashflow%, current asset%, and size variables yield comparable results in terms of statistical significance, however, the dummy variables in Abdulla et al. (2017, 2020) for positive growth and negative growth, cash%, fixed assets%, short-term debt and net income are all insignificant. With our data, cash flow, current assets – cash, short-term debt and size in both the pooled OLS and the random effect model, are all significant at the 1% level, while net income is significant at the 5% level and the statistical significance of short-term Debt barely falls outside this level. Our result, however, indicate that both the growth dummy variables are statistically insignificant. Given the fact that the current data is 1) from a different time period, 2) from a different market location and 3) based on a different set of macroeconomic conditions, i.e. Hong Kong, as the region has been on a consistent growth path, this is not unexpected and should not pose any significant concerns about the comparability of our results with those of Abdulla et al. (2017, 2020).

To examine how ethical companies behave in the presence of the financial variables, this study introduces the Oxfam selected company dummy variable into the equation in Abdulla et al. (2017):

$$\begin{aligned} \text{APvAR\%} = & \alpha + \lambda \text{ Oxfam selected company} + \beta_1 \text{ cash\%} * + \beta_2 \text{ cash flow\%} * + \beta_3 \text{ current} \\ & \text{assets\%} * + \beta_4 \text{ fixed assets\%} * + \beta_5 \text{ short-term debt\%} * + \beta_6 \text{ size(LN)} * + \beta_7 \text{ NI\%} * \\ & + \beta_8 \text{ negative} * + \beta_9 \text{ positive} * + \epsilon \end{aligned}$$

**Table 8.6 Analysis of trade financing practices based on Abdulla et al. (2017, 2020) using Oxfam selected companies**

<b>APvAR% = (AP/total assets) - (gross AR/total assets) %</b>		
	<b>Pooled OLS</b>	<b>Random effect</b>
<b>(Constant)</b>	-0.061 *** (0.015)	-0.057 *** (0.014)
<b>Oxfam selected companies</b>	-0.019 (0.013)	0.019 (0.021)
<b>Cash/total assets %*</b>	-0.036 (0.023)	-0.017 (0.023)
<b>Cash flow (%)*</b>	0.093 ** (0.047)	0.089 ** (0.037)
<b>(Current assets - cash) %*</b>	-0.323 *** (0.021)	-0.260 *** (0.021)
<b>Fixed assets %*</b>	0.198 (0.019)	0.051 ** (0.023)
<b>Short-term debt %*</b>	-0.048 (0.032)	-0.023 (0.030)
<b>LN (size)*</b>	0.013 *** (0.002)	0.010 *** (0.002)
<b>Net income %*</b>	0.003 (0.012)	0.012 (0.009)
<b>Negative growth*</b>	-0.006 (0.009)	0.003 (0.006)
<b>Positive growth*</b>	-0.008 (0.009)	-0.003 (0.006)
<b>Number of observations</b>		930

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

The results in table 8.6 suggest that the Oxfam dummy variable is not statistically significant in either the pooled OLS or the random effect model. One possible cause of the difference may be model misspecification, especially when this model consists of more independent variables, which may make it more susceptible to multicollinearity issues. In addition, the variable of interest in this study is NPD and not exactly AP% – AR%. As the current model with AP% – AR% as a dependent variable is mainly examined to ensure that the behaviour of

our data is mostly consistent with prior studies, we proceed here and examine these relationships using the NPD as the dependent variable.

## 8.7 NPD as the dependent variable

We proceed to examine how the model behaves with our independent variable, NPD1 or NPD3 and the introduction of an additional variable that is a proxy for the practice in Abdulla et al. (2017, 2020), i.e. Oxfam selected companies. At the same time, as the positive growth and negative growth variables from Abdulla et al. (2017, 2020) are insignificant with regard to the current set of data, we leave the two variables out of this analysis. The results of this analysis are reported in table 8.7.

$$\text{NPD}_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash\%} * + \beta_2 \text{ cash flow\%} * + \beta_3 \text{ current assets\%} * + \beta_4 \text{ fixed assets\%} * + \beta_5 \text{ short-term debt\%} * + \beta_6 \text{ size(LN)} * + \beta_7 \text{ NI\%} * + \epsilon$$

**Table 8.7 Regression result on two different types of NPD based on Abdulla et al. (2017, 2020) (seven independent variables) and Oxfam selected companies**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
(Constant)	-110.008 *** (21.208)	-96.754 *** (21.389)	-63.679 *** (14.622)	-52.951 *** (15.344)
Oxfam selected companies	-1.426 (18.413)	23.807 (29.270)	-1.047 (12.695)	6.337 (19.013)
Cash/total assets %*	29.040 (33.378)	10.989 (36.258)	2.254 (23.012)	-20.515 (26.128)
Cash flow (%)*	-328.286 *** (68.279)	-337.23 *** (60.996)	-148.066 *** (47.074)	-125.021 *** (45.559)
(Current assets - cash) %*	-136.291 *** (31.204)	-91.352 *** (34.561)	-146.462 *** (21.513)	-131.817 *** (24.893)
Fixed assets %*	100.248 *** (28.253)	-7.885 (35.776)	46.362 ** (19.478)	-0.913 (24.865)
Short-term debt %*	-38.760 (46.011)	-16.131 (48.275)	22.140 (31.722)	26.027 (35.183)
LN (size) *	10.847 *** (2.468)	11.169 *** (3.058)	9.130 *** (1.701)	9.029 *** (2.143)
Net income %*	277.607 ***	277.451 ***	116.955 ***	120.559 ***



	(17.638)	(15.693)	(12.160)	(11.729)
<b>Number of observations</b>	930		930	
* 10% significance level				
** 5% significance level				
*** 1% significance level				
Standard errors are listed in parentheses.				

The results from table 8.5 indicate that the model with NPD as the dependent variable in place of AP% – AR% behaves closely in line with prior findings, with most of the financial variables – current assets – cash, fixed asset, size and net income – remaining significant. Indeed, the significance level of net income changes from insignificant to statistically significant at 1%; while fixed asset under the random effect model changes from significant at 5% as reported in the earlier specification with AP% – AR% as the dependent variable to strongly statistically significant in this model, where  $p = 0.000$ . The key though is that the results indicate that the cash, short-term debt and fixed assets variables are statistically insignificant.

From a conceptual perspective, the finding that the statistical significance of cash, cash flow and short-term debt is cast in doubt is not surprising, as that the ethical practice variable is probably related to the liquidity variables, i.e. cash, cash flow and short-term debt. This is reasonable, as cash, cash flow and short-term debt are all variables that drive the liquidity position of companies, i.e. in the cash flow statement it is the ending balance of the previous year's net cash position (cash – short-term debt) plus the change in cash flow (cash flow from operations – cash flow from investing – cash flow from financing) that forms the basis for the ending balance of the current year's net cash position. Hence, it is likely that they are related to the cash flow variable. This, together with the fact that companies manage their liquidity position by adjusting their payment practices to suppliers, probably leads to the introduction of ethical payment practices that renders both the cash and the short-term debt variables

insignificant. We consequently look into dropping the liquidity variables from the model to test for any significant impact on the model.

It is important to note, however, that the dummy variable indicating whether a company is behaving ethically or otherwise remains insignificant. Given the potential for misspecification in the model with the cash and short-term debt, the study proceeds to examine if dropping the short-term debt variable will help avoid the misspecification issue(s).

With liquidity potentially featuring an impact with the ethical practice dummy variable, the following tables report the results with the liquidity variable of cash dropped. Table 8.8 reports the results after dropping the fixed asset and short-term debt variables.

$$\text{NPD}_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow\%} * + \beta_2 \text{ current assets\%} * + \beta_3 \text{ size(LN)} * + \beta_4 \text{ NI\%} * + \epsilon$$

**Table 8.8 Regression results from two different types of NPD based on Abdulla et al. (2017, 2020) (four independent variables) and Oxfam selected companies**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
(Constant)	-90.209 *** (18.563)	-98.856 *** (20.573)	-45.467 *** (12.761)	-55.841 *** (14.613)
Oxfam selected companies	-9.340 (17.748)	27.710 (28.362)	-5.033 (12.201)	8.670 (18.305)
Cash flow (%)*	-256.614 *** (65.509)	-339.113 *** (59.702)	129.279 *** (45.034)	-131.725 *** (44.496)
(Current assets – cash) %*	-176.677 *** (28.166)	-87.815 *** (32.249)	-158.268 *** (19.362)	-124.279 *** (23.152)
LN (size) *	13.563 *** (2.329)	10.463 *** (2.426)	10.655 *** (1.601)	8.872 *** (1.770)
Net income %*	263.668 *** (17.255)	278.189 *** (15.363)	111.262 *** (11.862)	121.420 (11.4840)
Number of observations	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

The results in table 8.8 shows that after the cash%, fixed asset %, and short-term debt variables are dropped, the model shown as all variables are statistical significance at 1% level except for the dummy variable associated with Oxfam selected companies. However, the Oxfam selected companies variable is stated as statistical significance at 1% level on table 8.4, in fact the  $p$  value was 0.000. Given the robustness in the findings in other specifications, we shall proceed to explore look into potential issues in this specification.

Indeed, the variable in question here is current assets – cash. While the results indicate that it is significantly related to NPD, it is for most companies, from a conceptual perspective, equivalent to AR + inventories and other current variables. With AR already part of the dependent variable and “Other” current variables representing individually unimportant variables to the extent that they do not warrant a separately reported accounting line item, this means that the current assets – cash variable mainly represents some measure of inventory.

Moreover, let us recall that in table 7.2 the means for the current assets% variable displayed characteristics that were suspicious, with the mean and median numbers for the non-Oxfam and the Oxfam samples differed sharply at 38.76%, 38.10%, respectively for the non-Oxfam sample and 8.82%, 7.48% respectively for the Oxfam sample. Furthermore, these differences were not driven by extreme observations in the sample, as the magnitude of the numbers of the median and the mean remained very similar.

Based on the conceptual reasoning and the identified statistical characteristics, this study therefore proceeds to examine the role of inventory in model specifications instead of the current assets% variable.

## 8.8 Adding inventory to capture working capital management practices

From a working capital management perspective, inventory is closely related to payables to suppliers, thus to payment days, so it is likely necessary to introduce inventory into the model. In fact, various studies (Knauer and Wohrmann, 2013; Rani, 2013; Cumbie and Donnellan, 2017) find that investments in inventory are key for managing working capital at firms. Ek and Guerin (2011) find investments in inventory to be of particular importance especially for smaller firms. This study therefore adds inventory to the model.

Following Abdulla et al. (2017, 2020), who scaled the variables as a percentage of total assets, the inventory variable in our analysis is also scaled and expressed as a percentage of total assets. Furthermore, it is likely that payment practices will be dependent on whether the firm needs the supplier's input materials or not. If it does, it will pay the supplier faster, and if it does not, it will pay the supplier late. It is possible that this will be captured by a change in the inventory variable, thus  $(Inv_t/Inv_{t-1}) - 1$ . If inventory is trending higher, i.e. inventory is accumulating and inventory levels are increasing, it is likely that the need to order new inventory will be lower and the urgency to pay suppliers lower, resulting in a high DPO and hence NPD. In this case, the change in inventory will be positively related to NPD. One further perspective on inventory involves how efficiently a firm handles its inventory to support sales (Khan et al., 2016). If a firm is efficient in this regard, it will have a low inventory turnover figure, i.e.  $COGS/average\ inventory$ . A reduction in the need for inventory will allow the firm to be less reliant on its suppliers, meaning it might pay its suppliers more slowly, thus producing a higher DPO and a higher NPD.

These three approaches to inventory are added to our model. Table 8.9 reports the statistical results of this analysis.

**Panel A:**  $NPD_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow\%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ InvTot\%} + \epsilon$

**Panel B:**  $NPD_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow\%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ ChginInv} + \epsilon$

**Panel C:**  $NPD_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow\%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ InvTurnover} + \epsilon$

**Table 8.9 (panel A) Regression result from two different types of NPD based on Abdulla et al. (2017, 2020) (three independent variables), Oxfam selected companies and inventory%**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
(Constant)	145.123 *** (17.931)	-137.532 *** (19.743)	-102.315 *** (12.509)	-97.315 *** (14.211)
Oxfam selected companies	80.763 *** (16.016)	101.510 *** (27.450)	69.620 *** (11.173)	86.453 *** (18.023)
Cash flow (%)*	-275.683 *** (66.1999)	-344.509 *** (58.389)	-135.130 *** (46.181)	-137.340 *** (43.971)
LN (size) *	7.788 *** (2.307)	5.085 ** (2.305)	5.904 *** (1.609)	3.309 * (1.712)
Net income %*	272.643 *** (17.379)	281.132 *** (14.958)	118.974 *** (12.124)	126.669 *** (11.291)
Inventory/total assets %	249.618 *** (53.952)	372.310 *** (58.051)	169.157 *** (37.638)	290.959 *** (42.729)
Number of observations	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

**Table 8.9 (panel B) Regression result from two different types of NPD based on Abdulla et al. (2017, 2020) (three independent variables), Oxfam selected companies and change in inventory**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
(Constant)	-132.237 ***	-116.149 ***	-93.776 ***	-80.840 ***

	(17.719)	(19.550)	(12.338)	(14.054)
<b>Oxfam selected Co</b>	54.510 ***	62.573 ***	51.950 ***	55.959 ***
	(14.923)	(26.789)	(10.392)	(17.364)
<b>Cash flow (%)*</b>	-264.572 ***	-344.377 ***	-127.869	-135.929 ***
	(66.444)	(58.714)	(46.267)	(44.291)
<b>LN (size) *</b>	9.776 ***	7.930 ***	7.255 ***	5.554 ***
	(2.280)	(2.265)	(1.587)	(1.686)
<b>Net income %*</b>	270.737 ***	281.713 ***	117.651 ***	126.823 ***
	(17.459)	(15.041)	(12.157)	(11.375)
<b>Change in inventory</b>	19.642 ***	22.994 ***	14.860 ***	18.223 ***
	(5.552)	(4.152)	(3.866)	(3.178)
<b>Number of observations</b>	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

**Table 8.9 (panel C) Regression result from two different types of NPD based on Abdulla et al. (2017, 2020) (three independent variables), Oxfam selected companies and inventory turnover ratio**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
<b>(Constant)</b>	-129.849 ***	118.722 ***	-92.005 ***	-81.003 ***
	(17.819)	(20.040)	(12.408)	(14.354)
<b>Oxfam selected companies</b>	50.029 ***	61.990 ***	46.548 ***	54.214 ***
	(15.434)	(26.865)	(10.747)	(17.351)
<b>Cash flow (%)*</b>	-261.171 ***	-345.049 ***	-125.309 ***	-136.095 ***
	(66.861)	(59.751)	(46.558)	(45.112)
<b>LN (size) *</b>	9.624 ***	8.720 ***	7.072 ***	5.856 ***
	(2.297)	(2.372)	(1.600)	(1.753)
<b>Net income %*</b>	270.679 ***	282.405 ***	117.292 ***	127.060 ***
	(17.579)	(15.314)	12.241	(11.594)
<b>Inventory turnover ratio</b>	0.094	-0.097	0.134 *	-0.013
	(0.114)	(0.121)	(0.080)	(0.089)
<b>Number of observations</b>	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

Panel A in table 8.9 reports the results for the model after inventory/total assets is introduced as an inventory variable in place of the current assets – cash variable. These results indicate that the inventory/total assets variable remain as significant as its current assets – cash counterpart. Moreover, with the variable focusing only on inventory rather than including information content from accounts receivable and other current assets, the Oxfam dummy

variable becomes statistically significant beyond the traditional 1% level, with  $p = 0.000$  in both the NPD1 and the NPD3 model. In fact, the results show that all the variables in the NPD1 model – Oxfam, cash flow, size, net income and inventory – are statistically significant beyond the traditional 1% level with the exception of size, which is marginally outside at  $p = 0.027$  in Random Effect model, suggesting that the Oxfam dummy reliably captures the behaviour of firms designated as “ethical” and the other firms. From a conceptual perspective, the Oxfam dummy variable has a positive sign indicating that it is positively related to NPD1. As “1” represents Oxfam selected companies and “0” represents non-Oxfam selected companies, this means that Oxfam selected companies are typically associated with a higher NPD, i.e. a higher level of DPO, which means in turn that Oxfam selected companies tend to pay suppliers later, while non-Oxfam selected companies tend to pay their suppliers earlier with a lower DPO and thus NPD. This is consistent with our earlier finding when no accounting and finance variables are deployed in the model.

The results with NPD3 as the dependent variable in panel A continue to point to the finding that the Oxfam dummy is statistically significant and also robust. The only difference here is that the cash flow variable is insignificant. Given that this is consistent with the findings involving NPD3 in earlier model results, this is probably caused by the measurement with NPD3 rather than the model specification or the behaviour of the Oxfam dummy, i.e. the behaviour of firms designated as ethical.

Panel B in table 8.9 reports the results for the model where change in inventory replaces the current assets – cash variable. The result again indicates that the change in the inventory variable, as  $(\text{inventory at time } t / \text{inventory at time } t-1) - 1$ , remains significant, which is similar to the current assets – cash variable it replaces in both the NPD1 and NPD3 model.

In addition, all the variables in the NPD1 model in Random Effect and Pooled OLS models are statistically significant at the 1% level, with the exclusion of Oxfam selected dummy variable, which is at  $p = 0.020$  in Random Effect model. It is highly likely that this is due to measurement issues arising from inventory/total assets (panel A) compared with change in inventory.

Furthermore, the result for the dummy variable that tracks Oxfam selected companies is consistent with the result in panel A, i.e. the Oxfam selected company variable is both statistically significant and has a positive sign in both NPD1 and NPD3. This result provides further support for the view that Oxfam selected companies tend to pay suppliers later, while non-Oxfam selected companies tend to pay them earlier, thus with a lower NPD. This again raises the question: are “good” companies acting ethically towards their suppliers?

Panel C in table 8.9 reports the results for the model using inventory turnover, as measured by cost of goods sold/average inventory (Khan et al., 2016), to replace the (current assets – cash)/total assets variable (Abdulla et al., 2017, 2020). The result again shows that this new inventory surrogate is not statistically significant in either the NPD1 or NPD3 model. This is not exactly unexpected as, from a conceptual perspective, this variable contains more sales and income statement information than the variable more oriented on asset and balance sheet information, (current assets – cash)/total assets, it replaces. Nevertheless, all the variables in both the NPD1 and NPD3 models behave similarly to the results found in panels A and B, which again adds confidence to the model specification.



Most importantly, the results for the dummy variable for Oxfam selected companies remain statistically significant with a positive sign, confirming the view that the Oxfam selected companies tend to pay suppliers later and the non-Oxfam selected companies tend to pay them earlier. Once again, the question is raised at two whether “good” companies are acting responsibly and ethically towards their suppliers from a payment practice perspective.

## 8.9 Incorporating debt

Prior studies have suggested that supplier credit may be used as a substitute for financial credit (Jaffee, 1969; Schwartz, 1974; Emery, 1984; Smith, 1987; Brennan et al., 1988; Gertler and Gilchrist, 1994; Nilsen, 2002; Cowton and San-Jose, 2017). This is especially the case when trade credit can be considered as interest-free financing (Ng et al., 1999; Van Horne and Wachowicz, 2001; Stern and Chew, 2003). It then becomes necessary to examine how debt affects the payment behaviour of ethical firms and other companies. To examine this, a debt variable is added to the models examined.

Following Abdulla et al. (2017, 2020), debt is measured as debt scaled by total assets, as with most of the other variables in their studies on payment practices of public and private firms. The results are reported in table 8.10.

$$\text{Panel A: } \text{NPD}_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow\%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ InvTot\%} + \beta_5 \text{ DebtwAsset\%} + \epsilon$$

$$\text{Panel B: } \text{NPD}_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow \%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ ChginInv} + \beta_5 \text{ DebtwAsset\%} + \epsilon$$

$$\text{Panel C: } \text{NPD}_n = \alpha + \lambda \text{ Oxfam selected companies} + \beta_1 \text{ cash flow \%} * + \beta_2 \text{ size(LN)} * + \beta_3 \text{ NI\%} * + \beta_4 \text{ InvTurnover} + \beta_5 \text{ DebtwAsset\%} + \epsilon$$

**Table 8.10 (panel A) Regression result after the addition of debt%**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
<b>(Constant)</b>	-146.644 *** (17.859)	-136.652 *** (19.731)	-103.517 *** (12.441)	-95.985 *** (14.174)
<b>Oxfam selected companies</b>	81.115 *** (15.946)	101.679 *** (27.220)	69.898 *** (11.108)	86.839 *** (17.861)
<b>Cash flow (%)*</b>	-264.969 *** (66.001)	-344.107 *** (58.447)	-126.662 *** (45.978)	-136.742 *** (43.918)
<b>LN (size)*</b>	6.115 *** (2.362)	4.500 * (2.419)	4.582 *** (1.645)	2.277 (1.788)
<b>Net income %*</b>	277.002 *** (17.362)	282.726 *** (15.105)	122.419 *** (12.095)	129.478 *** (11.368)
<b>Inventory/total assets %</b>	282.282 *** (54.782)	378.012 *** (58.596)	194.971 *** (38.163)	302.375 *** (43.079)
<b>Debt/total assets %</b>	117.730 *** (38.793)	33.762 (40.871)	93.044 *** (27.024)	60.320 ** (30.093)
<b>Number of observations</b>	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

Again, the results from panel A of table 8.10 are largely in line with the earlier results, with most of the previously identified variables in the model for NPD1 significant at the 1% level. The newly introduced debt variable is also significant at the 1% level, with  $p = 0.002$  in Pooled OLS model. The sign of this newly added variable is positive, indicating that the higher the debt is, the higher NPD will be. One possible way of interpreting this result is that debts are not used as a substitute for trade credit, but rather that both are elements in a broader financial management strategy, i.e. firms needing financing use both trade credit and debt for funding purposes. In the random effect model, however, not only is the debt variable not significant, with a  $p$ -value at 0.409, but the size variable is also not significant, with a  $p$ -value at 0.063 for NPD1. Similar results of insignificance for the one variable are also found for NPD3, where the  $p$ -value for the debt variable is 0.131, while the  $p$ -value for the size variable is 0.203.

**Table 8.10 (panel B) Regression result after the addition of debt%**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
(Constant)	-131.973 *** (17.680)	-115.572 *** (19.595)	-95.556 *** (12.296)	-69.398 *** (14.062)
Oxfam selected Co	52.143 *** (14.927)	62.350 ** (26.656)	49.980 *** (10.382)	55.345 *** (17.262)
Cash flow (%)*	-255.385 *** (66.420)	-344.083 *** (58.770)	-120.224 *** (46.195)	-135.367 *** (44.275)
LN (size)*	8.729 *** (2.321)	7.666 *** (2.363)	6.384 *** (1.614)	4.866 *** (1.750)
Net income %*	273.796 *** (17.472)	282.488 *** (15.188)	120.197 *** (12.152)	128.874 *** (11.461)
Change in inventory	20.400 *** (5.550)	23.132 *** (4.173)	15.491 *** (3.860)	18.599 *** (3.190)
Debt/total assets %	86.959 ** (38.370)	16.627 (40.865)	72.374 *** (26.686)	44.138 (30.082)
Number of observations	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

For the purpose of this study, the most important finding is that, even with the introduction of a new variable, debt, which impacts payment behaviour (NPD), the Oxfam selected company dummy variable remains significant and positive. This finding is also observed in NPD3 and in panel B when inventory is measured in terms of change. It is useful to note that, in this case, the debt variable is significant only at the 5% and 1% level with a  $p$  value of 0.024 and 0.007 for NPD1 and NPD3 respectively. Again, the results are different using the random effect model, where the debt variable is reported as insignificant at the 5% level with the  $p$ -value at 0.684 for NPD1 and at 0.142 for NPD3. However, the same finding where the Oxfam dummy is significant and positive is also found with the Oxfam dummy variable in panel C when inventory is measured in terms of inventory turnover. As with the prior findings, the inventory turnover variable is not significant in both Pooled OLS and Random Effect models, and neither is the debt variable but only in Random Effect model. Again, however, and as previously argued, this can be attributed to how the inventory variable is measured rather than to model specification issues. The results for panel C are given below.

**Table 8.10 (panel C) Regression result after the addition of debt%**

	NPD1		NPD3	
	Pooled OLS	Random effect	Pooled OLS	Random effect
<b>(Constant)</b>	-129.524 *** (17.792)	-118.758 *** (20.077)	-91.738 *** (12.379)	-80.106 *** (14.363)
<b>Oxfam selected companies</b>	48.470 ** (15.430)	61.956 ** (26.760)	45.270 *** (10.735)	53.832 *** (17.275)
<b>Cash flow (%)*</b>	-252.981 *** (66.886)	-344.795 *** (59.807)	-118.594 ** (46.537)	135.639 *** (45.120)
<b>LN (size)*</b>	8.722 *** (2.339)	8.727 *** (2.459)	6.333 *** (1.627)	5.397 *** (1.811)
<b>Net income %*</b>	273.469 *** (17.608)	282.353 *** (15.464)	119.580 *** (12.251)	128.500 *** (11.688)
<b>Inventory turnover ratio</b>	0.076 (0.115)	-0.096 (0.121)	0.120 (0.080)	-0.017 (0.089)
<b>Debt/total assets %</b>	76.392 ** (38.697)	-0.364 (41.369)	62.633 ** (26.924)	30.946 (30.456)
<b>Number of observations</b>	930		930	

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

Standard errors are listed in parentheses.

## 8.10 Propensity score matching

Propensity score matching (PSM) is a quasi-experimental method in which the researcher uses statistical techniques to construct an artificial control group by matching each treated unit with a non-treated unit with similar characteristics. The propensity score (PS) concept was introduced by Rosenbaum and Rubin (1983) and is defined as the probability of a subject receiving a specific treatment conditional on a group of observed covariates.

Another way to conceptualize propensity score matching is to think of it as a method of *choosing a sample from the control group and examining it against "matches" in the treatment group, the Oxfam group in this case*. If any differences between the treatment group and the matched control are identified, it is likely that the differences are the result of the treatment. The PSM methodology consists of four phases, first estimating the probability

of participation for each unit in the treatment group, hence the propensity score, then a matching algorithm (i.e., nearest-neighbour matching, stratification matching) is selected to match the untreated sample to the treated sample. The two groups are then checked for difference in the characteristics of the treatment and control groups. In order for the propensity scores to correctly estimate the probability of participation, the characteristics, included in the propensity score estimation should be well-considered and as exhaustive as possible, and refer to as many as relevant variables shall be included. Once all relevant covariates are selected for inclusion, a logit regression is performed with the STATA software (the logit regression function is pre-set as default with the STATA software) and then the predicted probabilities can be obtained.

Different methods of matching algorithms can be used, for example, nearest-neighbour matching would match treated and comparison units by minimising the total distance in propensity scores between each treated unit and their matched non-treated unit. This is achieved by taking each treated unit and searching for the comparison unit(s) with the *closest* propensity score. An alternative would be stratification matching method which consists of dividing the range of variation of the propensity score in intervals, and if it falls within such interval, treated and control units, will have, on average the same propensity score. In the stratification matching, there may be treated units that are discarded because no control is available in their block, but in the nearest-neighbor matching, all treated units find a match.

In our case, nearest-neighbour matching is selected to match the non-Oxfam selected companies to the Oxfam selected companies in term of their NPD using the Mahalanobis distance method, in which the weights are based on the inverse of the covariates' variance-covariance matrix to estimate the average treatment effect of "Oxfam selected company" on

“NPD”. Subjects are matched using the Mahalanobis distance method defined by covariates CashFlow%, size, NI%, InvTot%, which are indicated in the regressions listed under table 8.9 (panel A, B, and C), and the results shown in table 8.11 below.

Once the units are matched, the matched units in the treatment and comparison groups should be statistically comparable. After the matching, differences in the outcomes across the treated and non-treated units, i.e., the comparison pairs, is computed and the average is obtained. The difference is generally tested using a t-test to compare the means of all covariates included in the propensity score in order to determine if the means are statistically similar in the treatment and control groups.

The results in table 8.9 (panel A) suggest that as the Oxfam selected company have a NPD1 of 61.693 days more, and 57.824 days more for NPD3. In the other words, Oxfam selected company, in general, according to the PSM results, causes higher of NPDs. Hence, the outcomes are in line with our research results, which indicates that Oxfam selected companies took longer time to pay their suppliers after all.

**Table 8.11 Propensity score matching (nearest neighbour matching)**

Table 8.11 Independent variables	Regression listed	ATET <sup>^</sup>	
		NPD1	NPD3
CashFlow, size, NI, InvTot	Table 8.9 (panel A)	61.693 *** (9.574)	57.824 *** (9.586)
CashFlow, size, NI, ChginInv	Table 8.9 (panel B)	38.820 *** (7.991)	34.216 *** (7.979)
CashFlow, size, NI, InvTurnover	Table 8.9 (panel C)	37.393 *** (8.669)	31.812 *** (7.972)
CashFlow, size, NI, InvTot, DebtwAssets	Table 8.10 (panel A)	47.448 *** (10.510)	44.140 *** (10.448)
CashFlow, size, NI, ChginInv, DebtwAssets	Table 8.10 (panel B)	48.860 *** (10.562)	42.843 *** (9.220)
CashFlow, size, NI, InvTurnover, DebtwAssets	Table 8.10 (panel C)	52.625 *** (10.209)	46.722 *** (9.115)

\* 10% significance level  
 \*\* 5% significance level  
 \*\*\* 1% significance level  
 ^ Average Treatment Effect on Treated  
 Standard errors are listed in parentheses.

The two regressions analysed above in section 8.8 “Adding inventory to capture working capital management practices” and 8.9 “Incorporating debt” are evaluated using PSM with the nearest neighbour matching technique. The results consistently suggest that the Oxfam selected companies on average pay their suppliers late, with the delay ranging from 31.812 days to 61.693 days depending on the regression model. They are all statistically significant and achieve a  $p\text{-value} = 0.000$ .

Suggesting conclusions that are consistent with the results arrived at using methodologies from prior analysis, the PSM results provide additional reliability and confidence for our findings that Oxfam selected companies are in fact paying their suppliers late when compared with their non-Oxfam selected counterparts. The ethical implication is that late payment practices exist in Hong Kong, especially at companies that engaged with CSR. This points to the need for organisations that promote CSR, e.g. the OECD, the government and companies, to pay attention to these late payment practices.

## 8.11 Conclusion

The evidence found in the above analyses appeared consistently to suggest that companies rated by Oxfam, the independent international organisation whose aim is to eradicate poverty, as “ethical” and “good” performers pay their suppliers with a longer delay than their non-Oxfam counterparts. This is observed in the findings from simple mean statistics in table 7.1, where the  $AP\% - AR\%$  and NPDs are negative for non-Oxfam companies and positive for

Oxfam companies, which indicates that non-Oxfam companies have smaller payables as well as lower payment days in respect of suppliers than Oxfam companies do.

The same conclusion can be drawn from the findings of a simple regression model with NPD as the dependent variable and the Oxfam selected dummy variable as the independent variable. The results indicate that NPD is consistently positive and significantly related to the Oxfam selected variable, suggesting that Oxfam companies tend to have a higher NPD, meaning that they pay their suppliers with a longer delay.

To confirm that this result was not obtained as a result of model misspecification issues, and more specifically missing variables, this study introduces into the model financial and accounting variables found to be of significance for supplier payments. Initial findings where the finance and accounting variables are incorporated did not show significant statistical relationships between NPD and the dummy variable that tracks whether a company is Oxfam selected or not.

When the model is modified with an inventory measure replacing the (current assets – cash)/total assets variable, however, the findings suggest that the Oxfam dummy variable is consistently significant and positively related to NPD. Replacing the current assets variable is justified on two grounds, first from a statistical perspective as reported in table 7.2 and second from a conceptual perspective, as current assets, as measured here as current assets – cash, mainly represent accounts receivable and inventories, and accounts receivable are already in the left-hand side of the model, so it is reasonable from a conceptual perspective to replace current assets with an inventory measure to remove the noise in the current assets variable.



Further analysis after a debt variable is introduced continues to support the result where the Oxfam dummy variable is consistently significant and positively related to NPD, which suggests robustness in the findings even under the various specifications. The random effect model is also employed to test for all regressions, producing results that are overwhelmingly consistent, to provide a better picture of the whole situation.

One final issue of interest is that the use of NPD1, the traditional way of measuring DPO and DSO, tends to provide stronger results than NPD3. This is probably due to the possibility that decisions are driven by the traditional measures. The fact that DPO and DSO are not measured “accurately” from a conceptual perspective does not invalidate our findings because, as discussed earlier, the traditional way of measuring DPO by cost of goods sold including depreciation probably *underestimates* the true DPO and the traditional way of measuring DSO including bad debt probably *overestimates* the true DSO. Given these conditions, it is likely that our NPD (an understated DPO minus an overstated DSO) is also *underestimated*. If that is the case, then the degree of late payment to supplier firms by the Oxfam selected firms may actually be higher.

As the previous section mentioned, PSM offers a more robust tool for an enhanced verification of the estimates. The consistent findings from the PSM analysis strengthen the conclusion that the Oxfam selected companies on average take a longer time to pay their suppliers than it takes to receive payments from their customers. The PSM results above, which are based on nearest neighbour matching, show a positive NPD range, in the comparison of the Oxfam selected companies and the non-Oxfam selected companies, of 31.812 days to 61.693 days. This means that the so-called “good” and “ethical” companies do

not act very ethically when it comes to paying suppliers in contrast to their non-Oxfam counterparts.

In sum, it is generally expected that companies with a positive social responsibility indicator, i.e. ethical companies, will be more likely to pay their suppliers early, and thus have a low NPD. What is not unexpected is that the evidence points to the contrary, i.e. firms with a high ethical indicator pay their suppliers late and thus have a high NPD. The results are robust, as they remain consistent even in the presence of key financial variables. The evidence in this study therefore supports the view that “ethical” companies pay their suppliers late, which calls their ethicality into question. This is certainly something that needs to be followed up on especially by the rating organisation, but also because ethical practices with regards to suppliers is an overlooked area and needs to be addressed.

## **Chapter 9 – Payment practices and classification of companies**

### **9.1 Introduction**

The discussions and results in the previous chapters examine how “good” companies are identified and how payment practices vary between these “good” companies and the other companies identified in this study.

With empirical results pointing to higher NPDs, i.e. longer payment days to suppliers, for “good” companies, the question naturally arises whether these slow paying buyers should be considered unethical. To answer this question, we need to draw on additional financial information relating to the buyer firm’s ability to pay, thus moving beyond AR days, or DSO, and NPD, as it is possible for ethical buyers to be forced into delaying payment not because of unethical practices, but a lack of liquidity. The impact of liquidity and financial constraints is likely to show up in the firm’s cash and cash equivalent position and/or on the liability side of the firm’s balance sheet in the form of financial debt. Firms with a limited financial ability to pay suppliers on time/early, as suggested by Cowton and San-Jose (2017), may be accepted as ethical, however, if they have not yet received cash and thus no intentional hoarding or unethical practices have been taken place. Paying beyond the agreed terms can therefore not simply be equated with unethical practices on the part of these buyers. Their liquidity and leverage positions must also be looked at in order to assess their ability to pay. It is only when a buyer with a comfortable liquidity position still practises delayed payments that they should be labelled unethical.

This chapter takes a more in-depth look at the nature of long payment days to suppliers and examines it in the context of ethical practice. In sum, this chapter explores the behavioural characteristics of payers in terms of their payment practices and establishes a new classification framework for different types of ethical and other companies. At the heart of the issue is the question: does late payment to suppliers, resulting in a high NPD, mean a company can automatically be categorised as unethical?

## **9.2 Identifying ethical payers in the context of financial characteristics**

As an extension to the previous chapters, it can be argued that, even if a buyer firm has the intent and willingness to act ethically and pay their seller/suppliers quickly, thus achieving a low net payment days figure (NPD), it might not have the ability to do so (Smith, 1987; Walker, 1991; Ng et al., 1999; Nilsen, 2002; Choi and Kim, 2005; Yang, 2011), especially during economic hard times, which will result in a high NPD. We may then need to consider factors beyond the speed of payment, i.e. NPD, as the sole indicator of ethical payment practices and want to take the buyer's ability to pay into account. In classical economic terms, a low NPD represent a sufficient, but not necessary condition for ethical payment practices.

If this is indeed the case, then from conceptual perspective payer firms and their payment practices can be segmented along two dimensions: willingness and ability.

It was Hersey and Blanchard (1969a, b) who first proposed and deployed the willingness-ability framework in the area of leadership. The Hersey-Blanchard model on how to lead based on the ability-willingness dichotomy of subordinates is shown in table 9.1 below.

**Table 9.1 The Hersey-Blanchard leadership model**

Willingness \ Ability	Low	High
	Low	High
Low	Tell (give instructions)	Sell (explain decisions)
High	Participate (guide)	Delegate (turn over decisions)

If it is possible to apply the Hersey-Blanchard willingness-ability framework to payment practices, we might be able to derive useful insights that will enhance our understanding of payment behaviour.

In order to apply the Hersey-Blanchard willingness-ability framework to the area of ethical payment practices by firms, the two dimensions of willingness and ability in the model need to be conceptualised in the context of payment behaviour. Along the willingness dimension, it may be reasonable to consider “willingness of the buyer firm to pay” as a proxy for willingness. In this regard, actual payment days may be a reasonable proxy, as intent generally tends to generate results. Meanwhile, along the ability dimension, it is possible to equate ability with ability to pay from a financial perspective, i.e. as some measure of financial ability. If this is the case, then the four quadrants in the Hersey-Blanchard model can be segmented as conceptualised in table 9.2.

**Table 9.2 Combining willingness (to pay) in the form of NPD with (financial) ability**

Financial ability Willingness to pay	Low	High
Low	Q1: Firms with weak financial ability and low willingness to pay suppliers promptly	Q2: Firms that do not pay suppliers even when they have the financial ability to do so
High	Q3: Firms with weak financial ability that pay their suppliers promptly	Q4: Firms that have the financial ability and pay their suppliers promptly

The quadrants in the above table display the relationships between willingness to pay and financial ability, which can produce an insightful classification of companies.

Quadrant 1 (Q1) are firms that have a low willingness to pay and financial metrics indicating they also have low financial ability. With these weak financial metrics, the firms in this quadrant appear to be in financial distress and thus have a limited financial ability to pay their suppliers promptly. Delayed payment may be excusable behaviour from a purely financial perspective. From a straight ethical perspective, however, what is owed to the supplier is the supplier's property and should be returned to them in a prompt manner. As argued by Solomon (1993), this type of action by a firm can be equated to stealing from their suppliers, and they may thus be labelled **delinquent risks**.

In quadrant 2 (Q2) are firms that have the financial ability to pay their suppliers, but do so late. Whether this is because the firm, despite its strong financial ability, pays their supplier late in a blatantly unethical manner or whether its financial ability is the result of it acting conservatively in paying its suppliers promptly is not of importance in this study, as, either

way, the firm is exploiting its suppliers. These firms are consequently labelled **dragged exploiters**, as they are using their suppliers' funds beyond the agreed terms, measured by DSO as discussed earlier, to help finance their own operations. As companies that hoard cash and drag out paying their seller/suppliers until the agreed credit terms and beyond, dragged exploiters should be considered unethical.

Quadrant 3 (Q3) consists of firms that are weak in terms of their financial ability, but still perform driven by their willingness to pay their suppliers promptly. These firms are labelled **willing payers**. We note, however, that it is also possible to rationalise the prompt payment despite the low financial ability as the result of the buyer firm being a company with little market power, where it can be argued that these firms may be “forced” to pay their suppliers even when they are experiencing financial stress because of their inferior strategic position, i.e. they are financially weak, but are still forced to borrow even more in order to pay their suppliers. This may be addressed by examining factors such as relative company size that fall outside the current two-dimensional framework. Most important of all, regardless of the firm's other attributes, a firm in Q3 with a high willingness to pay but a low financial ability to “deliver” indicates a willing payer from a supplier's perspective.

Finally, quadrant 4 (Q4) contains firms that possess the financial ability to pay, thus have a high ability, and also pay their suppliers on time, which again shows they are driven by their willingness to pay. We can label these Q4 firms as **Speedy goodies**, as they not only have the financial ability to support payment, but actually also pay their suppliers in a speedy manner.

From a rational perspective, firms in both quadrants 3 and 4 represent payers that have the willingness to pay their suppliers on time/early whether they have the ability or not. Whether

they are speedy goodies or willing payers, these firms may be considered ethical payers, as they will pay by or ahead of the agreed terms, i.e.  $DPO \leq DSO$ . They can also be considered as role models for ethical payers, and their practices should be examined and learned from by others.

In contrast, firms in quadrants 1 and 2 represent payers that have a low willingness to pay their suppliers promptly regardless of whether they have the financial ability or not and whether they are labelled dragged exploiters or delinquent risks. Because they delay payment of what rightfully belong to the suppliers, these firms can be considered unethical payers.

### **9.3 Exploring the financial characteristics of the four types of ethical and unethical firms**

With a payment behaviour matrix built on willingness-ability dimensions, plus the four types of payers we have identified, further analysis can be conducted on the trade creditors.

#### **9.3.1 Willingness characteristics of buying firms**

As willingness and intent are constructs that cannot be observed or measured directly, it is logical to argue that, when we operationalise the willingness to pay dimension, we can reasonably conjecture that firms with a high willingness to pay their suppliers on time will have a low net payment days (NPD) number, as they promptly settle supplier payments, while firms with a low willingness to pay their suppliers will report a high NPD number, as they drag out and delay their payments. In this case, the proxy for willingness and intent can only be the action taken, i.e. payment days, DPO, and how it compares to the standard terms, or DSO in this study. Willingness to pay is thus measured by net payment days in this study.



A high willingness to pay would result in a low NPD and a low willingness to pay in a high NPD.

### **9.3.2 Financial ability characteristics of buying firms**

In order to pair willingness to pay with ability to pay, the latter also needs to be conceptualised and defined.

In finance, a firm's ability to pay from one period to another is typically measured by its ability to generate cash flow. The net cash flow concept is widely reported in the cash flow statements, which is a core element in financial reports (Hornngren et al., 1999). In these statements, net cash flow is measured as cash flow from operations less cash flow required for investing and plus cash flow from financing, i.e.

$$\text{Net cash flow} = \text{cash flow from operations} - \text{cash flow from investing} + \text{cash flow from financing}$$

In financial research, a frequent proxy for the cash flow number is the quantity net income plus depreciation (Abdulla et al., 2017, 2020), i.e.

$$\text{Cash flow} = \text{net income} + \text{depreciation}.$$

In this equation, net income is the income generated by the business, which can reasonably be used as a proxy for ability to pay. In addition, depreciation is added back, as it is a non-cash expense, which means that the amount is retained within the company and so the sum can be used to support payments. It consequently appears reasonable to use cash flow as a proxy for the ability to pay.

## 9.4 The four types of firm payers and related statistical findings

From the perspective described above, speedy goodies will be firms with a high cash flow who are in a position to pay their suppliers on time. Willing payers are the firms that have a low cash flow, meaning they lack the cash to pay their suppliers promptly, but will do their best to pay on time even though they may be forced to pay late on occasion due to special economic circumstances. Given their intent and effort to pay on time and despite possibly being side tracked by a deteriorating business situation, willing payers can, as argued above, be considered ethical.

Firms with weak ability, i.e. a low cash flow and low willingness, based on their high NPD, are labelled delinquent risks. Whether these firms intend to pay late irrespective of their liquidity or because of a lack of liquidity is a potential subject for further analysis.

Regardless, these firms may be classified as unethical payers.

Dragged exploiters are buying firms with a strong ability to pay and high cash flow that nevertheless still pay their suppliers late; they thus have high NPDs.

The four types of payers and their liquidity profiles are shown in the table below.

**Table 9.3 Cash flow and net payment days**

		Cash flow	
		Low	High
NPD	High	Delinquent risks	Dragged exploiters
	Low	Willing payers	Speedy goodies

To classify the observations based on willingness, NPD and ability, which are cash flow characteristics, we define high and low observations. In this study, we simply identify an observation as “high” if its observed value is above the mean and “low” if it is below the mean. It is important to note that a firm with a low willingness to pay will have a high NPD, as their payment days will be high, while a firm with a high willingness to pay will drive down their payment days and thus have a low NPD. As such, firms in quadrant 1 with high NPD and low cash flow are delinquent risks, firms in quadrant 2 with high NPD and high cash flow are dragged exploiters, while firms in quadrant 3 with low NPD and low cash flow are willing payers and, finally, firms in quadrant 4 with low NPD and high cash flow are speedy goodies.

With the 930 panel data observations, the observation for each type of these practices is classified into the four categories above and reported in table 9.4

**Table 9.4 Liquidity and net payment days based on 930 panel data observations**

		<b>Cash flow</b>	
		Low	High
<b>NPD</b>	High	Delinquent risks 228	Dragged exploiters 423
	Low	Willing payers 152	Speedy goodies 127

As can be seen from the results, the table shows the 930 observations classified into willing payers (152), speedy goodies (127), delinquent risks (228) and dragged exploiters (423).

Among the total samples, there appears to be a bias towards dragged exploiters and delinquent risks, with these two types combining to produce a total of 651 incidences where the buyer engages in practices that result in payments that are slower than average. At the

same time, there were only 127 incidences where firms have both the ability and the willingness to pay and 152 incidences where firms do not have the ability to pay, but still manage to achieve a low NPD. These two types combine for a total of 279, which is almost the half of the number of incidences as dragged exploiters (423).

To gain further insight into these numbers, table 9.5 reports these incidences in percentages.

**Table 9.5 Liquidity and net payment days based on 930 panel data observations in percent**

		<b>Liquidity ability</b>	
		Low	High
<b>NPD</b>	High	Delinquent risks 24.5%	Dragged exploiters 45.5%
	Low	Willing payers 16.3%	Speedy goodies 13.7%

Looking at the results in terms of percentages, it appears that the firms are not evenly distributed, with the percentage of willing payers (16.3%), and the percentage of delinquent risks (24.5%). What is notable is the relatively high percentage of dragged exploiters at 45.5%. The smallest percentage of the firms are classified as speedy goodies (13.7%).

Further breaking down the full sample numbers along the line of non-Oxfam companies versus Oxfam companies produces the numbers in table 9.6 A and B

**Table 9.6 (panel A) Cash flow and net payment days for non-Oxfam companies**

		<b>Liquidity ability</b>	
		Low	High
<b>NPD</b>	High	Delinquent risks 195 24.6%	Dragged exploiters 318 40.2%

	Willing payers	Speedy goodies
	152	127
Low	19.2%	16.0%

**Table 9.6 (panel B) Liquidity and net payment days for Oxfam companies**

		Liquidity ability	
		Low	High
NPD	High	Delinquent risks	Dragged exploiters
		33	105
		23.9%	76.1%
	Low	Willing payers	Speedy goodies
		0	0
		0.0%	0.0%

As can be seen from table 9.6, panel A, the distribution of observations that are classified into the four categories is relatively even for the non-Oxfam companies. About 19.2% of the companies in this group can be classified as willing payers, 24.6% are considered to be delinquent risks, 40.2% are classified as dragged exploiters and 16.0% as speedy goodies. From a behavioural perspective, it is not surprising that the number of speedy goodies is the lowest of all the types: in the context financial management, paying suppliers late equates to efficient management of financial resources (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020). It is also interesting to note that, for this group, the proportion of companies classified as dragged exploiters is highest at 40.2%, representing an incidence of about 2 in 5 for this sample.

Panel B shows that the reported observations are found for Oxfam companies primarily in the dragged exploiters category (76.1%) with 105 incidences. Moreover, there is no firm (0.0%) in the Oxfam companies group that belongs to the speedy goodies category nor there are no firms (0%) in the willing payers category. These results appear rather extreme, and further analysis is called for.

While the results obtained above are based on categorising incidences in the form of the practice conducted by a buyer firm in a given year, it was possible for the classification of their practices to change during the period of study, not as the result of any policy choice, but simply as the result of an incident, e.g. a firm with a deliberate policy to be a willing payer might enter into a temporary period of economic stress forcing it to pay its suppliers later than average and leading it to be classified as a delinquent risk in a particular year.

As such, a change in classification in any given year should not be of concern. The key is whether a firm pursues “one consistent policy” in its payment practice towards its suppliers and behaves and acts in a deliberate manner over time.

A more accurate approach to classifying firms would be based on actions and whether firms show a consistency that reflects their commitment to a deliberate policy or behaviour. Here, only firms that have been classified in the same category for six years should be truly considered to belong to that category, e.g. only a firm classified as a willing payer in all six years can be counted as a willing payer, while a firm classified as willing payer only in some years and as a speedy goody in other years should not receive a classification. Table 9.7 below reports companies with “one consistent strategy” in each of the categories.

**Table 9.7 Cash flow and net payment days based on companies with consistent practices during the sample period for the full sample**

		<b>Cash flow</b>	
		Low	High
<b>NPD</b>	<b>High</b>	Delinquent risks 6 18.8%	Dragged exploiters 19 59.4%
		Willing payers 3 9.4%	Speedy goodies 4 12.5%
	<b>Low</b>		

Based on the “one consistent policy” analysis, the results yielded 32 companies that displayed consistent payment practice policies. As can be seen from the table 9.7, there are four companies in the sample that are “one consistent strategy” speedy goodies, i.e. these companies have consistently strong financial ability, as measured by cash flow, and have consistently paid their suppliers early/on time during the sample period. On the other side of the spectrum, there are 19 companies that are “one consistent policy” dragged exploiters who have consistently enjoyed a strong financial position but who also have consistently paid their suppliers late during the sample period. The evidence pointing to a lack of willingness, or ethical intent, to pay their suppliers is apparent. According to the statistics, there are also three companies that are willing payers who are in a financially challenging position, but who are still committed to paying their suppliers on time/early. Finally, there are six delinquent risk companies who have consistently been in a weak position and have paid their suppliers late.

A more in-depth analysis of the findings could focus on who the “one consistent strategy” companies are from an Oxfam versus non-Oxfam perspective.

**Table 9.8 Cash flow-net payment days classification by Oxfam and non-Oxfam companies**

<b>NPD</b>	<b>Low</b>		<b>High</b>	
<b>Liquidity ability</b>	<b>Low</b>	<b>High</b>	<b>Low</b>	<b>High</b>
<b>Classification</b>	Willing payers	Speedy goodies	Delinquent risks	Dragged exploiters
<b>Oxfam</b>	0 0.0%	0 0.0%	1 100.0%	0 0.0%
<b>non-Oxfam</b>	3 9.7%	4 12.9%	5 16.1%	19 61.3%
<b>Total</b>	<b>3</b> <b>9.4%</b>	<b>4</b> <b>12.5%</b>	<b>6</b> <b>18.7%</b>	<b>19</b> <b>59.4%</b>

The evidence in Table 9.8 sheds an interesting light on payment practices by Oxfam and non-Oxfam companies in terms of whether they are consistent. While the non-Oxfam companies, and indeed the whole population, have firms represented in all four categories, the Oxfam sample contains only delinquent risks and no representation in the dragged exploiters, willing payers or speedy goodies categories. In addition, there is only one company in the Oxfam sample that practices a consistent policy according to our definition.

Based on these results, it is reasonable to argue that a definition of six years of consistent practice is too stringent, as firms may have a policy, but experience variations from their target for a year or two. The following analysis therefore examines payment practices based on “one consistent policy”, but allowing firms to deviate from the policy for one year. So, if a company falls into a classification for at least five out of the six years, it is deemed to have a consistent policy based on the majority of its classification. For example, if a company is classified as a speedy goody in five out of the six years, it is taken to be a company that has a policy targeted at being a speedy goody. This more “lenient” approach may better reflect reality as firms do temporarily deviate from their goal and policy as a result of a whole host of environmental factors such as economic circumstances. Table 9.9 displays the results based on this reasoning.

**Table 9.9 Cash flow-net payment days classification by Oxfam and non-Oxfam companies and full sample**

<b>NPD</b>	<b>Low</b>		<b>High</b>	
<b>Liquidity ability</b>	<b>Low</b>	<b>High</b>	<b>Low</b>	<b>High</b>
<b>Classification</b>	Willing payers	Speedy goodies	Delinquent risks	Dragged exploiters
<b>Oxfam</b>	0 0.0%	0 0.0%	1 5.0%	19 95.0%



<b>non-Oxfam</b>	7 13.0%	6 11.1%	8 14.8%	33 61.1%
<b>Total</b>	<b>7</b> <b>9.5%</b>	<b>6</b> <b>8.1%</b>	<b>9</b> <b>12.1%</b>	<b>52</b> <b>70.3%</b>

Based on the relaxed criteria for “one consistent policy”, more firms are included in each of the categories. Under this approach, there are now 74 companies that can be categorised into the four types of payers. There are similar number of willing payers (7) and delinquent risks (6), while dragged exploiters consists of just over 70% of all categorised companies (52/74) and just over 12% of the companies are classified as delinquent risks in the full sample.

Also from a non-Oxfam versus Oxfam perspective, more companies are classified as having a consistent policy based on the relaxed categorisation criteria. For the non-Oxfam companies, the distribution is largely similar to before, as indicated by the percentage of the different types of companies falling into each of the categories. However, while there is only one Oxfam firm, a delinquent risk, deemed to be pursuing a “one consistent policy” when only firms with six consistent years in the same classification are considered, 19 more Oxfam firms are classified as having “one consistent policy” when firms with at least five years of the same classification are considered. One of the most interesting observations here is that all these firms fall into the dragged Exploiter category, with only the one delinquent risk remaining in the same category as before.

In sum, while non-Oxfam firms are distributed relatively evenly over the three categories, and around 60% as dragged exploiters, Oxfam firms are classified overwhelmingly (95%) in the dragged exploiter category.

To gain further insight into behaviour and categorisation, table 9.10 below provides the results of chi-square goodness of fit tests on consistent behaviour over payment categories by Oxfam and non-Oxfam companies. The chi-square goodness of fit test is a statistical tool used to determine whether a variable is likely to come from a specified distribution or otherwise (Bryman and Bell, 2016). In our case, we can apply the test to evaluate whether the companies from the Oxfam sample behaves the same way, from a consistent policy perspective, as the general population.

The chi-square goodness of fit test is generally in the form

$$\chi^2 = \sum \frac{(\text{observed}_i - \text{expected}_i)^2}{\text{expected}_i}, i = 1, 2, \dots \dots \dots n \text{ states (or categories)}$$

The underlying null hypothesis of the test is the frequency of observed occurrence,  $f(i)$ , which approximates the expected probably of occurrence of state  $i$ ,  $p(i)$ .

$H_0: f(i) = p(i)$ , with the alternative hypothesis as

$H_A: f(i) \neq p(i)$ ,

If the obtained  $\chi^2$  statistic is large, then the observed and expected value is rejected by the evidence that they cannot be from the same population, i.e. in our case the companies do not behave the same way.

**Table 9.10  $\chi^2$  goodness of fit test of consistent behaviour over payment categories by Oxfam and non-Oxfam companies with expected value as evenly distributed**

Classification	Willing payers	Speedy goodies	Delinquent risks	Dragged exploiters	$\chi^2$ (Statistics)
<b>Total</b>	<b>7</b>	<b>6</b>	<b>9</b>	<b>52</b>	
<b>Oxfam</b>	0	0	1	19	41.1 ***
<b>non-Oxfam</b>	7	6	8	33	7.1 *

\* 10% significance level

\*\* 5% significance level

\*\*\* 1% significance level

The results in table 9.10 suggest that while we cannot reject the idea that the non-Oxfam companies ( $p = 0.070$ ) fall evenly among the different categories at the 10% significance level, the null hypothesis that the Oxfam companies ( $p = 0.000$ ) fall evenly among the different categories is rejected.

In fact, as mentioned above, the fact that all 20 observations in the Oxfam company group are classified as non-willing performers, with 19 of them displaying the ability to pay and none of them classified in the other categories (speedy goodies and willing payers), is striking, especially as it is generally expected that the Oxfam companies, with ESG policies in place, will fulfil their obligation no matter what their financial ability to pay is. Even the single Oxfam company classified as a delinquent risk with a limited financial ability, could, if it behaved ethically, utilise their business status and borrow the funds needed to pay their suppliers promptly. When compared with the non-Oxfam company group, which has representation in all four categories, this may signal that the decisions by the Oxfam company group on payment practices towards suppliers are purely financial and do not involve any other considerations. A high NPD in these cases may be interpreted as a deliberate act to pay their suppliers with a delay. This conjecture and finding are not surprising. Sorell and Hendry (1994) point out that “suppliers are not always included in the list of a firm’s stakeholders, but they deserve to be” (p. 138), and the fact that trade suppliers are overlooked as a stakeholder is repeated in Blowfield and Murray (2011). Our findings suggest that, from a

policy perspective, it is important not just to focus on suppliers' practices in terms of the social dimensions of ESG, e.g. labour rights (Blowfield and Murray, 2011), but also to point out the need to address the interests of suppliers by ESG proponents, especially when suppliers tend to be smaller in relation to their customers (Sorell and Hendry, 1994; Wilson, 2014).

## **9.5 Conclusion**

Evidence in the earlier chapters of this study suggests that firms classified as Oxfam companies, who actively participated in an ESG survey, report higher net payment days (NPDs) in respect of suppliers in comparison with non-Oxfam companies, i.e. they pay their suppliers more slowly. This appears to run counter to the argument that ethical firms will pay their suppliers on time or early rather than hoard cash and drag out their payments to their seller/suppliers, which results in a potentially unethical act (Solomon, 1993).

This chapter further explores payment practices in the context of the ability to pay (Smith, 1987; Walker, 1991; Ng et al., 1999; Nilsen, 2002; Choi and Kim, 2005; Yang, 2011). More specifically, it examines the liquidity position of firms from the perspective of a cash and cash equivalents balance (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020).

To gain an insight into the behaviour of payment practices from the perspective of NPD, the willingness-ability framework of Hersey and Blanchard (1969a, b) is used to classify firms into categories along the two dimensions. Using NPD as a proxy for a firm's willingness to pay and cash position as a proxy for its ability to pay, four categories of payer firms are

identified: willing payers, speedy goodies, delinquent risks and dragged exploiters. The results of this analysis suggest that the majority of the firms in the Oxfam group, all with high NPD, are identified not as lacking an ability to pay, but rather as committing a deliberate act to hoard cash and drag out payments. Furthermore, the fact that none of the Oxfam firms are classified in other categories suggests that they all had an overlook on the willingness dimension. This conjecture appears to be supported by Sorell and Hendry (1994).

## **Chapter 10 – Conclusion**

This study examines the payment practices of corporate buyers in Hong Kong with regard to suppliers from a CSR perspective. This CSR perspective is different from that of traditional finance theories. In the context of traditional finance and shareholder value maximisation, decision makers are advised to use supplier funds to reduce the need for financing from financial institutions and financial markets (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020), but the act of delaying payments due to suppliers means that the funding requirement has simply switched from the corporate buying firms to the supplier firms. Extending payments that are due beyond the agreed payment terms is an act that is unethical in nature, because suppliers are regarded as a stakeholder in the traditional CSR framework (Solomon, 1993). In addition, supplier firms are typically smaller and face higher credit risks in a financing context (San Jose and Cowton, 2008; Cowton and San Jose, 2016), so the practice of delaying payments also means higher costs in the supplier chain and inefficiency in the economy, which impacts society (Bowen, 1953, Carroll, 1979, Ng et al., 1999, Wilson, 2014). It is therefore important to examine corporate buyer payment practices from a CSR perspective. No study to date has explored the payment practices of Hong Kong companies with regard to their suppliers from a CSR perspective. This research has not only examined these payment practices in Hong Kong, but also provided evidence relating to “ethical” or “unethical” perspectives on how suppliers are treated when it comes to payment. Based on the findings in this research on companies in Hong Kong, a financial centre in Asia and a gateway to China, the evidence suggests that CSR-conscientious companies, which are typically larger and more established companies, in Hong Kong actually pay their suppliers late. This is consistent with the view advanced in traditional finance theories that corporate buyers should leverage the use of suppliers’ funds.

From a CSR perspective, however, this means a failure to address the interests of suppliers as stakeholders.

According to the principles of traditional corporate finance, decisions are supposed to be driven by the motive to maximise profit for owners, i.e. the shareholders (Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020). Recent years have seen corporate objectives focus increasingly on sustainability, or ESG (McWilliams, 2001; Perrow, 2002; Blowfield and Murray, 2011) and, in a related context, on the interests of more diverse groups of stakeholders, including consumers (Mohr et al., 2001), employees (Bhattacharya et al., 2008) and others (Shleifer and Vishny, 1997; John and Senbet, 1998; Kolb, 2010; Boatright, 2014). As Sorell and Hendry (1994) point out, a key, but commonly overlooked, group of these various stakeholders is the *suppliers*. Given that suppliers not only provide inputs of raw materials and parts for the buying firms, but also trade credit financing that represents a significant part of the funding of non-farm, non-financial businesses in the US (Elliehausen and Wolken, 1993; Murfin and Njoroge, 2015), the UK (Kohler et al., 2000), Australia (Fitzpatrick and Lien, 2013), and G7 countries (Cunat and Garcia-Appendini, 2012) and that no research has previously been conducted on supplier payment practices by corporate buying firms from a CSR perspective in Hong Kong, this study sets out to obtain findings that may yield insights into the behaviour of companies, ethical or otherwise, towards their supplier counterparts. These insights could be particularly important for economic policy, but it is also possible that the findings will have implications for the financial profession, which may for example lead to improved disclosure requirements, especially regarding payment practices.

To conduct empirical research on this issue, this study has looked specifically at companies in Hong Kong, as the payment practices of Asian companies has not been examined in the literature. Furthermore, companies in Hong Kong are of particular interest, as the city is a major business hub in Asia that not only serves as a gateway to China, which is expected to become the largest economy by GDP in the near future, but also a former British colony, the influence of which led local companies with an ethnic Chinese background to adopt global business practices at an early stage. These characteristics, derived from the nature of Hong Kong as a place where east meets west, is likely to offer insights into how companies from China will behave as they themselves integrate into the global economy.

Three CSR rating sources are available to identify possible ethical companies in Hong Kong: the HKQAA, the BSI and Oxfam. The HKQAA sample is organisation-based and includes commercial as well as non-commercial establishments. After excluding non-commercial organisations, only 11 companies remain in the sample, which is therefore too small to support statistical analysis. The BSI sample, in the meantime, only denotes the top 20 companies on the Hang Seng Index (HSI) as companies that practise sustainability. Finally, Oxfam examines companies on the HSI using four categories – corporate governance, environmental impact, social impact and workplace practices – and has identified 50 companies that are designated as socially responsible. Only listed companies are included in the BSI and Oxfam samples. A further refinement to the sample for this study is to exclude financial institutions, service-based firms and real estate development companies, as their operations and payment practices differ significantly from “standard” industrial companies (Van den Bogaerd and Aerts, 2015), especially as far as payment practices are concerned. For example, a bank’s accounts payable are dominated by deposits owed to its customers, rather than by payments due to suppliers. A total of 23 companies are then identified in the Oxfam



selected sample, which contains five of manufacture firms; three in consumer services; six in energy sectors; two in entertainment industry; one in material/resources business; two in technology; two in telecommunication services; and finally, two from transportation/logistic sectors. While this is by definition a small sample, the number of observations can be increased by examining the data over a period of time. Data was therefore collected over a six-year period. Bearing in mind that companies were hit by the Covid-19 pandemic from the start of 2020 and recent data is likely to be distorted, data from the period from 2014 to 2019 was collected. Combining the six years of time series data with the approach of pooling data that is of a two-dimensional nature – cross sectional and inter-temporal – from 23 companies in our case produces the basis for what is known as panel data analysis (Maddala, 2001). An advantage with using panel data is that it contains more information than purely cross-sectional data or purely time series data and, potentially provides more sample variability and larger degrees of freedom, thus improving the efficiency of econometric estimates (Hsiao, 2007). To establish a peer group for comparing the behavioural practices of the Oxfam firms, a non-Oxfam sample of 132 listed firms was created, which produces 792 firm years of data to be examined. Combining this with the 138 firm years of the Oxfam group, this study examined payment practices based on 930 firm years of data.

## **10.1 Summary of research and findings**

This research looks into potential explanations of the payment practices behaviour of companies by following the regression methodology used in Abdulla et al. (2017, 2020), in which this behaviour is regressed to a company's cash position, cash flow, operating current assets (current assets – cash), fixed assets invested, short-term debt, size, profitability in terms of net income and growth potential that are represented by dummy variables. Based on

our empirical evidence, the findings are largely consistent with those of Abdulla et al. (2017, 2020). We then introduce a dummy variable denoting whether the firm is ethically driven, i.e. part of the Oxfam sample, or otherwise. Following the introduction of the ethical dummy variable and after a number of iterations, the results indicate that the payment practices behaviour variable is statistically significantly associated with cash flow, inventory (though not inventory turnover), size, profitability, debt levels and the ethics dummy variable. These results were further analysed using propensity score matching (PSM). This technique is typically preferred to traditional regression analysis when causal effects are examined on the basis of observational data. The results obtained with the PSM method in this study offer further support for the conclusion that Oxfam selected companies on average pay their suppliers with a significantly longer delay than the non-Oxfam selected companies.

With empirical results suggesting that “good” companies have higher net payment days (NPD), which runs counter to the reasoning that ethical companies will take care of their supplier’ interests, this study applied a willingness-ability framework from the leadership literature (Hersey and Blanchard, 1969a, b). Here, the firms in this study are classified along the “ability” dimension as measured by cash position and the “willingness” dimension as measured by NPD. If the NPD is high but the cash position is low, the firm is denoted as a weak firm with limited ability and an unwillingness to pay and allocated to the type we call delinquent risk. If the NPD and the cash position are high, the firm is denoted as a strong firm but with a low willingness to pay. This type of firm is designated as a dragged exploiter. If the NPD is low but the cash position is high, the firm is deemed to be a strong firm financially with the ability to pay and a practice of making payments early or on time, i.e. willingness. We allocate this type of firm to the group we call speedy goodies. Finally, if a company has a low cash position and a weak financial ability, but still achieves a low NPD, it

is demonstrating that, while it is a financially weak firm with limited ability, it is still paying its suppliers on time or early. This type of firm is designated as a willing payer. As a single observation/coincident of payment practice/classification does not necessarily equate to long-term practice, this research classifies a firm into the category they are consistently classified into over the study period. A consistent classification should be a reasonably strong indication that the practice is not one-off or accidental, but a deliberate act or policy implemented by the firm. Based on this approach, consistent practice classifications are found in all four categories for the non-Oxfam group, with nine classified as willing payers, five as speedy goodies, 19 as delinquent risks and nine as dragged exploiters. At the same time, 12 companies from the Oxfam sample are identified as having a deliberate policy, and all of them fall into the delinquent risk category, with none in any of the other categories, indicating that the high NPD obtained in earlier findings for this Oxfam group of (supposedly ethical) companies may be the result of financial ability rather than a deliberate effort to pay suppliers with a delay. This seems to be the case especially in light of the view of Sorell and Hendry (1994), who point out that “suppliers are not always included in the list of a firm’s stakeholders, but they deserve to be” (p. 138), which is also backed up by Blowfield and Murray (2011). who confirm that trade suppliers are overlooked as stakeholders.

Our findings show that firms classified as ethical practitioners (Oxfam selected companies) in Hong Kong have high NPDs, meaning they pay their suppliers more slowly, with a high DPO–DSO result on average when compared with the payment practices of the peer group. Moreover, when the “one consistency policy” approach is applied, the Oxfam companies on average fall into the dragged exploiter category as suggested by the evidence obtained when the data is examined along the lines of the ability-willing framework of the Hersey-Blanchard (1969a, b) model. All this evidence suggests that the late payment practices of these firms are

likely a deliberate act, which is consistent with further evidence showing that these companies have a short-term debt% of 3.33% on average that could be used to facilitate borrowing to pay their suppliers on time. This deliberate act may have originated from the combined results in the finance literature, in which supplier funds are viewed as a source of financing that that can be used to reduce a firm's investments in working capital (e.g. Gitman, 1988; Weston and Copeland, 1992; Block and Hirt, 1994; Ross et al., 2018; Brealey et al., 2020), and the ESG literature, which has focused on suppliers' labour practices in the context of human rights rather than their own particular interests (Carroll, 1979; Blowfield and Murray, 2011). Given the literature, in finance and in ESG, it is not surprising that the practices involving payments to suppliers have ended up as an area that has been less valued and where the economic interests of the suppliers have been overlooked.

## **10.2 Policy implications**

While firms that are engaged in ESG are believed to be ethical financial actors that will not take advantage of suppliers by paying them late, the findings in this study suggest otherwise. Indeed, this research finds evidence that firms engaged in ESG in Hong Kong are likely to pay their suppliers late. More importantly, Sorell and Hendry (1994) and Wilson (2014) point out that the suppliers that receive payments late tend to be small and medium-sized companies compared to the buying firms. Furthermore, Wilner (2000) indicates that these small supplier firms are unlikely to be in a position to negotiate payment terms with the buyers, while Murfin and Njoroge (2015) find that these firms frequently have to sacrifice their own growth in order to finance their buyers.

The impact of this is of particular significance, as SMEs account for about 90% of businesses and more than 50% of employment worldwide according to the World Bank (<https://www.worldbank.org/en/topic/smefinance>), which also suggests that this makes “SME development a high priority for many governments around the world”. Late payment to suppliers thus not only represents a significant issue for SMEs, but is also important for economies and economic growth. The interests of SMEs should not only warrant the attention of ESG advocates, but also of policymakers.

The results of this study suggest that ESG advocates may need to strategise and reconsider the position and role of suppliers within the ESG framework. Rather than slotting suppliers into the social dimension, the S, of ESG and measuring performance from the perspective of human rights, this study suggests there may be a need to consider suppliers as outsourced employees, whose economic interests in the form of prompt payment deserve more attention.

From the policymakers’ perspective, the findings in this study indicate that it may be necessary for them to take a closer look at payment practices, especially those of large firms in relation to their small and medium-sizes suppliers, to ensure the healthy financial position of these SMEs, which are critical for the economy and economic growth. In fact, the UK government has put together initiatives addressing payment practices between large buyers and small suppliers. The Prompt Payment Code (PPC), a voluntary code of practice for businesses that is administered by the Office of the Small Business Commissioner (SBC), was introduced in 2008 to set standards for the payment practices of organisations towards their suppliers. Voluntary signatories pledge to implement prompt payment practices where no less than 90% of invoices are settled within 60 days. Non-compliance leads to suspension and, ultimately, permanent removal. The Department for Business, Energy and Industrial

Strategy reported in January 2021, however, that “despite almost 3,000 companies signing the Code, poor payment practices are still rife”.

Moreover, the UK government also made it mandatory for large companies to report on their payment practices and performance starting from April 2017 with the introduction of section 3 of the Small Business, Enterprise and Employment Act 2015. Indeed, this section was introduced to protect SMEs from payment practices by large companies, as the government recognised that “late payment is a key issue for business, especially smaller businesses, as it can adversely affect their cash flow and jeopardise their ability to trade. In the worst cases, late payment can lead to insolvency” (p. 1). When the act came into effect, the requirements were applicable to companies with a turnover of GBP 36 million or assets of GBP 18 million or 250 employees. Failure to comply represents “a criminal offence by the business and every director of the company” (p. 8). These initiatives of the UK government suggests that, even prior to the findings of this study regarding late payment by companies in the Oxfam group, which tend to be “large” as defined by the act in terms of turnover, assets and employees hired, there was a need for governments to consider the introduction of an act governing payment practices between generally large buying firms and generally smaller supplier firms.

Furthermore, the findings in this study suggest a potential need for ESG advocates such as the OECD to reconsider ESG practices from a supplier’s perspective. More specifically, the question arises whether supplier ESG performance should be evaluated from a social perspective, e.g. supplier performance in relation to human rights, or rather from a stakeholder’s perspective, where buying firms need also to consider the economic interests of suppliers when forming and implementing payment policies and practices. The latter perspective is currently overlooked (Blowfield and Murray, 2011). This study appears to

provide evidence suggesting that this oversight results in questionable payment practices with the potential to cause harm to suppliers, which, again, are more likely to be small companies, and, in turn, in adverse impacts on the economy and economic growth.

### **10.3 Key limitations of the study**

One key limitation of the study is the small sample size from a cross section perspective. This is especially the case after removing financial institutions, service-oriented companies and real estate developers, as the characteristics of their payment practices to are very different in nature. As a result, only 23 firms are left in the CSR-conscientious group based on the Oxfam methodology. This is to be expected, as ESG is a relatively new issue, especially in Asia, and more specifically Hong Kong, which is still very much an emerging economic force on the global market and very much behind western business practices. The concern with a small sample is the risk of a Type II error skewing the results. This study attempts to mitigate the limitation by utilizing the panel data approach over a six years period.

For the sampler period, this study examines six years of data from 2014 to 2019 (inclusive), study of this nature over a six-year span is, indeed, quite typical (Hsiao, 2007, p. 4; Wu et al., 2016; Sarhan et al., 2019 a, b.). While it may be reasonable to question the results from a generalization perspective, the study stopped at 2019 since the global economy was hit by COVID and firms have been significantly affected since.

With the six years of data, from 2014 to 2019 (inclusive), the study resulted 138 firm years for the CSR-conscientious group and 792 firm years for the comparative group. In total, then, the study examines 930 firm years of data, which makes up for some of the limitation cause by the initial small sample.

Another limitation of this study is the use of the net payment days (NPD) construct as a proxy for payment behaviour, especially as NPD is derived from  $DPO - DSO$ . There are a few of limitations to this approach. Firstly, NPD is not constructed based on the actual payment terms stated in the contracts, so there might create a bias on the measurement of such net payment days. Secondly, days payment outstanding (DPO) is calculated as  $\text{accounts payable} / \text{cost of goods sold} \times 365 \text{ days}$ , where the accounts payable number is used as a proxy for payments due to suppliers. In most cases, it is likely that the accounts payable figure presented in annual reports include other payables to other parties that are not suppliers, e.g. office supplies payables. As such, the figure may be biased to the upside. While this should not represent a significant issue in the study –the upside bias is likely to be small, as supplier payments generally remain the key driver for the accounts payable figure at the majority of firms – it would nevertheless be useful to be able to single out figure for supplier payments. Whether the segregation of supplier payment figures could be considered from a disclosure perspective is an issue for the accounting standard boards to judge. Last, but not the least, another consideration as far as the disclosure requirement is concerned is the cost of goods sold figure. While it is frequently used with the accounts payable figure to calculate days payable outstanding, the cost of goods sold in many cases includes depreciation, which embeds an upward bias. Again, this should not represent a significant issue for the results of this study, as an upward bias in the cost of goods sold figure will actually reduce DPO, producing a faster payment day and a smaller NPD. To compensate for this bias, the study



attempts to “clean” out depreciation to arrive at a cost of goods sold figure that is closer to the suppliers’ cost. The end results are not very encouraging, possibly because companies do not make decisions based on the “cleaned” cost of goods sold. To obtain a truly accurate picture of the behaviour of companies, a purchases figure would be needed instead of cost of goods sold. Again, in this case, whether the disclosure of purchases is warranted would have to be considered by the accounting standard boards in the various jurisdictions.

While the measurement issues relating to the calculation of DPO have been highlighted, these issues crop up again with the use of the DSO number and its calculation. First, DSO is actually a proxy for payment terms in the calculation of the NPD number. While it can be argued that in an industry upstream payment practice, i.e. payment terms to suppliers, frequently mirror downstream payment practices, as they are implemented along the same supply chain, exceptions may exist. This is especially the case if the industry is characterised by the presence of monopolies or monopsonies that exploit their market power when setting payment terms. However, Cowton and San-Jose (2017) point out that once a company receives cash from its customers, as per accounts payable days, they should pay their seller/supplier. In this case, Account receivable days represent a reasonable proxy for payment terms to suppliers. Clearly, an ideal approach for future studies would involve the ability to match exact payment days to exact payment terms, but this would mean having to go through the calculation of NPD contract by contract and for each of the companies over the period of study. This would be close to impossible to achieve given the many contracts each firm encounters each year and the number of companies involved over the years in this research.

It is interesting to note that, after the UK government made it mandatory for large companies to report payment practices and performance with effect from April 2017 under section 3 of the Small Business, Enterprise and Employment Act 2015, large companies are now required to report the following payment practice statistics:

- 1) the average number of days taken to make payments, measured from the date of receiving an invoice to cash received by the supplier, in the reporting period;
- 2) the percentage of payments made within 30 days;
- 3) the percentage of payments made within 60 days; and
- 4) the percentage of payments made beyond 61 days.

These statistics, while useful, do not really address the measurement issues this study has encountered. It is true that the statistics on the average number of days taken to make payments can reasonably replace the DPO number. The DSO number is here estimated to be between 30 and 60 days. Nevertheless, if local jurisdictions such as Hong Kong can follow this practice implemented by the UK government, understanding and insights could likely be achieved for future studies.

Without any question, this study faces the above limitations, i.e., the measurement of NPD, the small sample size (155 companies and 930 company years), 6-year (2014 – 2019) sample period, and only concentrated on specific metropolitan area, Hong Kong. These might limit the generalizability of this particular research result. However, it is these limitations provides opportunities for further future research in this area. The following section will explore and explain probable future potential research.

#### **10.4 Suggestions for future research**

A natural extension of the current research would be to apply the methodology used here to other countries. As mentioned in the section on the samples, one reason why companies in Hong Kong have been chosen for this research, besides the city's status as an Asian financial centre, is its character as a place where east meets west, which could yield insights into future business practices of China and Chinese firms. As they continue to integrate into the world economy, their practices could be studied in a more direct manner. Future research in this area would not only benefit Hong Kong and China, but also the world, as China is the second largest globally right now and, according to Bloomberg, will overtake the US to become the largest in the early 2030s. The research will therefore have implications for the world's macroeconomy. Another possible extension of the current research would be to apply the methodology to the post-Covid-19 period and update it in line with current business conditions.

In order to possibly reduce the limitation of the adequate measurement of NPD, researcher shall try to explore and study the possibility to encourage the Hong Kong government following the UK government's policy on requiring reporting payment practices and performance for large companies, which include, but not limited to, actual payment terms specified in companies' contracts; exact payment date; actual value of purchase accounts etc.

In sum, it appears that the interests of suppliers as stakeholders have been overlooked in the current CSR approach, and ESG performance measurement framework. Rather than considering suppliers as stakeholders, the current frameworks focus on the monitoring of suppliers in terms of compliance. It would be of interest to research the impact of this approach on suppliers' interests and, potentially, how they might change if the current CSR

framework and ESG performance measures were adapted to take suppliers' interests as stakeholders into more explicit account. This would be especially of interest for suppliers, who tend to be smaller than corporate buyers, as SMEs are key to economic well-being.

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