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SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes

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ABSTRACT

The PhD thesis aims to promote a better understanding of the SMEs internationalisation process. The thesis consists of a systematic literature review and two empirical studies. I argue that resource elements, growth strategy, and other mechanisms constitute important determinants of the SME internationalisation process and subsequent firm performance. This thesis therefore, advances the literature on SME internationalisation, firm resource dependence as antecedents, and the performance outcomes in context of the globalisation process. Designed empirical models, such as controlled matching process and difference-in-differences estimation, have been employed to provide robust empirical evidence in this thesis.

The systematic review of the literature on SME internationalisation and performance relationship provides a comprehensive examination of the research in this stream and, more importantly, identifies the inadequate theoretical arguments and empirical evidences that need to be addressed to advance the understanding of the field. This review develops a roadmap of future research areas for the exploration of the mechanisms that influence the SME internationalisation process and subsequent firm performance.

The first empirical paper draws on the resource-based view, resource dependence theory, and international entrepreneurship literatures to investigate the relationship between SME resource position and internationalisation process. Empirical results suggest a linear positive relationship between high-discretionary slack and SME internationalisation, a U-shaped curvilinear relationship between low-discretionary slack and likelihood of FDI, as well as an inverse U-shaped relationship between knowledge intensity and internationalisation of SMEs.

The second empirical paper looks at the effects of internationalisation on the firm’s subsequent performance. I argue that SMEs internationalisation is an entrepreneurial strategy that shapes these
Regression results suggest that in the short term, FDI activities have a negative impact on firm profitability. In the long run, however, local resource exploitation leads to a superior performance of international SMEs compared with their domestic counterparts.
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DECLARATION OF ORIGINALITY

I Qi Cao declare that this thesis is my own original work, except where indicated by referencing, and I have provided the sources of all text quoted, tables, figures, data etc. that are not my own work. This thesis is submitted to Imperial College London in partial fulfilment of the requirements for the degree of Doctor of Philosophy.
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Chapter 1: Introduction, structure and content of the PhD thesis

SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes

1 Introduction to the PhD thesis: background

Since the early 1980s there has been an unprecedented wave of internationalisation of small and medium-sized enterprises (SMEs). As access to more sophisticated communication and transportation infrastructures has become cheaper, the obstacles to initiating and maintaining cross-border business operations have been reduced, making internationalisation a feasible option for SMEs (Lu & Beamish, 2001, 2004; Rialp et al., 2005; Glaum & Oesterle, 2007). At the same time, more and more SMEs are being pressured by market globalisation to expand their operations in a number of geographic locations (Oviatt & McDougall, 1994; Lu & Beamish, 2001; Autio et al., 2000). Thanks to the fast growth of early age internationalisers, increasing number of studies have been conducted on the subject of SME internationalisation, its antecedents, and consequences (Castellani & Pieri, 2013; Keupp & Gassmann, 2009; Hitt et al., 2002; McDougall & Oviatt, 2000, 2003; Jones & Coviellow, 2005; Coviellow & Jones, 2004). However, the question of whether the level of resource dependence influences SME market entry activities and whether there is a systematic positive (or negative) relationship between internationalisation and SME performance remains unresolved (Westhead et al., 2004; Dimitratos et al., 2004).

Many theoretical streams in the literature consider the effect of resources (internal and external) on firm performance (Westhead et al., 2001; Wiseman & Bromiley, 1996; Hitt et al., 2006). Wernerfelt’s (1984) original resource-based theory formulation focuses on how firms leverage their resources to generate superior returns; Barney’s (1991) resource-based view (RBV) focuses on access to unique resources to maintain sustainable advantage to achieve greater returns. Both these theories
consider firm-specific resources as those resources owned or controlled by the focal firm. A complementary view is provided by resource-dependence theory, which considers the effect of the power dependencies created by resources external to the firm, on firm performance, and the firm’s ability to access and mobilise these resources (Stinchcombe, 1965; Pfeffer & Salanzick, 1978). Pfeffer & Salanzick (1978: 2) note that ‘the key to organisational survival is the ability to acquire and maintain resources. Organisations must transact with other elements in their environment to acquire needed resources... organisations are dependent for survival and success on their environments’. In this thesis, I consider the effect of internal and external resources on the ability of SMEs to expand their operations beyond national borders, and on resulting performance outcomes.

Addressing the uniqueness of SMEs internationalisation from established firms’ market entry strategy, Oviatt and McDougall (1994) provide the first systematic consideration of the factors that enable relatively new entrepreneurial firms to pursue growth in foreign markets. In their view, early and proactive internationalisation is enabled by the dynamic process of combining highly mobile and firm-controlled knowledge-based resources with static and less mobile fixed assets abroad. Thus, to an extent, their theory combines elements of the RBV with aspects of resource-dependence theory. Autio (2005) argues that the most critical contribution in Oviatt and McDougall’s new ventures approach is that it extends the research on international business and economics theories to resource-focused strategic management and international entrepreneurship research field.

Not surprisingly, the increasingly visible trend towards SMEs internationalisation has attracted the attention of business practitioners and researchers. However, although SME internationalisation is an important and increasing empirical phenomenon, research and theory development do not keep pace (Dimitratos et al., 2010; Laufs & Schwens, 2014). Although existing theories emphasise the importance of firm resources for internationalisation, little is known about how a given firm’s resource availability regulates its international expansion (George, 2005; Lu & Beamish, 2006). It is my objective in this thesis therefore to examine the link between SME resource availability and the
process of internationalisation. Meanwhile, absence of a consistent theoretical framework of SMEs internationalisation activities as a growth strategy has led to confusion over the effect of market expansion on SMEs business growth (Wright et al., 2007). Inconclusive empirical evidence contributes to the inconsistent arguments over the SME internationalisation and performance relationship. I aim to build a framework of SME internationalisation and firm growth relationship with a comprehensive perspective of resource-dependence theory, organisational capability theory, and international entrepreneurial approach.

At the beginning of my PhD study, the PhD programme design has emphasised the importance of a systematic literature review that systematically scan and review all relevant topics and theoretical frameworks that related to my topic, SME internationalisation. I selected 27 papers in my literature review. There are three types of SMEs: international new ventures (INVs), born-globals, well-established small firms. Each type of sample draw on different literature, international entrepreneurship (IE) literature focuses on INVs, and born-globals, international business (IB) literature focuses on established small firms, and strategy management theory been employed in both occasions. SME internationalisation study then, fits in the intersection of IB, IE, and strategic management literatures. It is challenging to integrate all these theoretical frameworks since they investigate different type of SMEs.

Instead of trying to integrate different theories and frameworks, I tried to find the common theoretical background of these 27 papers. Then I could identify and group all these different mechanisms to three groups: organisational capabilities, resource endowments, strategic legitimacy.

The challenges are to choose the proper theoretical framework which explains the phenomenon. My solution is that I employ those established frameworks that have been employed to explain specific research topic previously. For example, I want to find theoretical framework that explains the relationship between high-discretionary slack and firm performance. Since George 2005 has
employed resource constrain theory, and Lin et al. 2009 has employed organisational behaviour theory, I will look into both established frameworks and report the effect in my paper.

The thesis starts with a systematic review of the literature on SME internationalisation and performance studies. Although a number of studies have tested the relationship between SME internationalisation and firm performance, both empirically and theoretically, research has so far proved inconclusive (Westhead et al., 2004). I argue that defining a universal law for this relationship has little practical meaning. For example, a ‘positive’, ‘negative’, or non-linear relationship does not mean necessarily that individual firm will follow ‘positive’, ‘negative’, or non-linear performance trajectories. This firm-level performance heterogeneity is primarily due to differences in company resource dependence and experience. I argue that resource elements, strategic dispositions, and firm growth strategy constitute important determinants of the SME internationalisation process and subsequent firm performance. Some proxies of these mechanisms have been proposed in the literature. Examples include R&D intensity (Teece et al., 1997; Autio et al., 2000; Bausch & Krist, 2007; Muscio, 2007; Teece, 2007; Hsu & Pereira, 2008; Shimizutani & Todo, 2008; Frenz & Gillies, 2009), prior knowledge stock (Zahra et al., 2000; Gray, 2006; Muscio, 2007, Teece, 2007; Hsu & Pereira, 2008; Bingham, 2009), and product diversification (Geringer et al., 1989; Teece et al., 1997; Zahra et al., 2000; Capar & Kotabe, 2003; Bausch & Krist, 2007; Gaur & Kumar, 2009). The theoretical gap lies in the fact that the effects of the firm’s resource base, growth strategy, and strategic position on SME internationalisation and consequent firm performance have not been sufficiently explored.

This thesis contributes not only to the theoretical framework but also to the empirical research of the motivations and implications of SME internationalisation. Firstly, I draw on the RBV, resource-dependence theory, and international entrepreneurship literature to explore how the quality and accumulation of the firm’s internal resources enable the SME to pursue an internationalisation strategy by combining these resources with complementary assets abroad. As Pfeffer and Salancik
(1978) argue, the central argument of resource dependence theory is that the survival and growth of businesses rely on their ability to access and mobilise external resources. I build and test a set of models arguing that the SME’s ability to do this is conditioned by the knowledge-intensity and fungibility of its internal resources (Autio, 2005; Autio et al., 2011; Sapienza et al., 2006). Because entrepreneurial companies are resource constrained and may have had limited opportunities to accumulate resources prior to their internationalisation (Knight & Cavusgil, 2004), the survival and growth of SME during and after internationalisation rests on their ability to mobilise existing resources and avoid excessive dependence on external resources in this attempt (Casciaro & Piskorski, 2005). Secondly, I investigate the effect of foreign investment activity on SMEs. The process of internationalisation allows SMEs survive and thrive through deployment of unique resources and the building of local capabilities (Oviatt & McDougall, 1994). Lu and Beamish (2001) argue that small company internationalisation is an entrepreneurial strategy that shapes these companies’ future business development. However, the impact of this strategic move on SME performance has not been explored. The arguments are based on Beamish and daCosta’s (1984) statement that, unlike domestic-only firms whose performance depends on efficient resource factor deployment, market entry activities are dominant influences on company performance for multinational firms. Next section presents the detailed theoretical and empirical research questions of this thesis.

2 SME internationalisation: research gap and research questions

This thesis tries to address the overall research gap of the absence of both conceptual and empirical evidences of SME growth model in internationalisation process:

- Unstructured and incoherent theoretical lenses employed in SME internationalisation studies need to be identified and catalogued in a systematic approach.
- There is disarray between presented factors influencing SME internationalisation and
performance relationship and the theoretical arguments backing these variables.

- Absence of empirical evidence of that fungible resource could improve SME internationalisation outcomes.
- Inconclusive and biased test results on direct impact of SME internationalisation on firm performance.

Each Chapters of this thesis has its specific research questions and focuses.

The systematic literature review and empirical studies aim to provide answers to the following research questions.

In the systematic literature review, I focus on the following three research problems:

- What are the theoretical arguments of past literatures on the relationship between SME internationalisation, resource dependence, and business growth strategy?
- How different mechanisms transfer the impact of internationalisation to firm performance?
- How are different kinds of SME internationalisation, market entry models, and firm growth rate demonstrated and measured in past literatures?

The first empirical study focuses on the effects of resources on SME internationalisation activities.

The research questions for this study are:

- What is the unique role resource position plays in the process of SME internationalisation?
- How and to what degree resource slack and knowledge intensity influence SME internationalisation activities?
- Whether and how do high- and low-discretionary slack influence SME internationalisation activities?
The second empirical study investigates SME internationalisation and its impacts on firm business performance. The following two research questions are addressed:

- How does internationalisation change SME resource position and behaviour which in turn influence following business performance?

- What are the short and long term effects of foreign investment activities on SME business growth?

3 Methods and research design

In this part, I will briefly introduce the research design and methodology of the two empirical studies in this thesis. Details of datasets and detailed empirical methods and measures are presented in each relevant paper.

The PhD thesis consists of a systematic literature review and two empirical papers. The original design of the PhD paper contains three empirical papers and the third paper is concerning the moderating effects of different type of SME (service or manufacturing firm), different FDI acquisition (host country activities), and other’s impact on the SME internationalisation and performance relationship. After the theoretical proposal, I realise the conflicting reality that if I employ DID estimation which offers great advantage over endogeneity correction, then I have to sacrifice the time invariant moderating effects and firm specific moderating effects. If I choose to do two papers with general least squares tests, I face the fact that both of them have self-selection bias. Since finding an IV is difficult (see section 3.1 of Chapter 3), in order to address the common problem of endogeneity, I could only employ DID estimation. At the same time, since the observation drops to 288 for long term effects (see section 3.1 of Chapter 4) because of the intervals needed by DID estimation, it is also unrealistic to test moderating effects with DID estimation. The possible solution is a multiple time period DID analysis as I proposed in Chapter 4, but the method is still under
development and requires a much longer observation period than what I have. Under this circumstance, I choose to have two empirical papers and a systematic literature review that provides an overall insight and distinct framework on SME internationalisation and consequences.

The two empirical papers and the literature review include separate research questions and individual focuses, together they form a coherent set of studies on the effects of resources, strategic disposition, and growth strategy on the internationalisation and performance relationship of SMEs.

My two empirical studies employ a unique longitudinal database built by combining the Financial Times (FT) fDI Markets surveillance data for all FDI activity during the period from 2003 to 2009, with the Amadeus-Analyse Major Databases from the European Sources of Bureau Van Dijk. The FT fDI Markets database provides records of inward and outward cross-border greenfield and brownfield investment activities for all sectors and countries worldwide, based on daily updates of company financial reports, company information releases, and third party news releases (Castellani and Pieri, 2013). The Amadeus database provides information on the standard accounting reports of companies, general contact details, location, ownership and shareholder structure information. My data collecting work was from October 2010 to April 2011. I use 2009 as the latest year for that FT fDI Market database reported 2009 FDI data on late 2010 and trace back to year 2003. That is the largest interval we could possibly obtain from the FT fDI market database.

Challenge of choosing this time period is that dataset is truncated. As I address in limitation of this paper, I have a left-truncated dataset that only reflects the activities of the samples during a short period of observation. Most of the companies in the dataset have been established well before I started observing their internationalisation activities and I am only able to observe them over a seven years period. Klein & Moeschberger (2003: 32) suggest that when there are limited methods of improving the sample collection process, one could rely on introducing a 'covariate' to control for truncation in the empirical models. In the regression, I controlled for age, this should in part account
for this problem. Also, in performance paper, we have at least two years of buffering time to reduce any lasting effect of unobserved internationalisation activities.

The final sample includes 1206 SMEs from the 27 EU countries which covers a wide range of 38 major industrial sectors. Firstly, I obtain 3102 companies greenfield and brownfield event-based FDI information, e.g. origin country, destination country, FDI volume, job creation, during an observation window of 7 years (2003-2009). Secondly, I focus on 1053 EU companies based in 27 EU countries. Thirdly, I filter out large established companies with more than 500 employees or which generate more than € 10 million annual net profit on average over the observation period (Lu & Beamish, 2001; Wolff & Pett, 2000). Fourthly, I retrieve financial and accounting reports of 731 EU based SMEs from Amadeus database. Fifthly, 483 out of 731 SMEs operate during the observation window and have complete financial and accounting data available. Finally, I match each sample company with two control companies. As my sample of SMEs have committed to at least one foreign investment in the period of observation I cannot investigate the factors underlying this investment decision as I lack a set of companies who have not undertaken such activities. One way of addressing this problem of self-selection is to include a control sample of firms which have not engaged in greenfield and brownfield FDI. I build this control sample by extracting from the Amadeus dataset two control firms for each internationally active firm. In particular control firms had similar size (number of employees and net income with an error range of 10%), operated in the same industry (NACE Rev. 2, 4-digits) and were based in the same home country as those firms investing abroad. I could not identify a sample of control firms for 81 internationally active firms and this resulted in a final sample of 1,206 companies of which 804 are control companies. Two further steps were taken to ensure that the control companies had no greenfield or brownfield capital investment in foreign countries during the observation period. Firstly, I scrutinized the FT-FDI Market surveillance database, company websites and news releases for any outstanding reports of foreign investment activities. Secondly, I conducted telephone interviews with 161 randomly selected control companies (20% of the total population) to ensure no foreign investment has occurred. The final dataset is suitable for
my empirical testing in that it is comprehensive of financial data and there is no survey related bias. Ideally I should have data from the day firm born, but that is hard to get. The companies in the database have been exploited in other recent studies as well (Castellani et al., 2013; Castellani & Pieri, 2013). It is also used by UNCTAD in their annual reports and the FT Press Group.

Considerable attention has been paid to overcome the common problems of sample selection bias and endogeneity problem in the two empirical studies. Reeb et al. (2012: 211-212) in the 2012 Editorial of Journal of International Business Studies point out that an ideal empirical test of causality is a random experiment that allows the researcher to randomly allocate treatment to companies from pool of samples without previously receiving such treatments. The impact of such treatment could be observed by comparing the difference between treated samples, and untreated/controlled samples. In reality however, as Reeb et al. (2012: 212) state, researchers are ‘seldom afforded the luxury of a randomized controlled experiment’. There are two major obstacles for international business researchers to carry out a random experiment: first, the treatments in most cases are not randomly assigned to samples; second, the opportunity of randomly allocate treatment to actual firms or individuals in business studies are scarce. To address this current empirical concern, I employ a series of deliberately designed data processing and regression techniques in my empirical analyses.

The first empirical investigation focuses on the relationship between SME resource dependence level and FDI activities. I employ slack and knowledge intensity as proxies for resource dependence and argue that it is the firm’s ability to mobilise resources that drives its expansion. Following Bourgeois (1981), Sharfman et al. (1988), and George (2005), I define high-discretionary slack as unabsorbed slack resources providing a high level of latitude for managers’ discretion to deploy them in business operations and proactive activities. The most explicit measure of slack with high liquidity levels is the annual cash and equivalent reserve levels of the company (Singh, 1991; Wiseman & Bromiley, 1996; Tan & Peng, 2003; George, 2005; Lin et al., 2009). Low-discretionary
slack refers to absorbed slack resources with limited liquidity, which provides business managers with less discretionary latitude in utilising or deploying them in business operations or activities (Bourgeois, 1981; Sharfman et al., 1988; George, 2005). The debt to equity ratio reflects the firm’s debt level, and its multiplicative identity indicates company’s ability to obtain credit in the future. Therefore I use reciprocal of debt to equity ratio as my proxy for low-discretionary slack. Knowledge intensity refers to the company’s dependence on knowledge-based resources to gain competitive advantage. I employ the ratio of intangible assets to tangible assets as the measure of knowledge intensity (Hall, 1993; Vassolo et al., 2004). I control for a number of firm specific effects: company size, firm age, business performance, business diversification, sectors, year, and home country.

The binary nature of the dependent variable advocates the use of a logit model. In particular I tested out hypotheses using a random effect logit model which exploits the panel dimension of the dataset having rejected the consistency of the fixed effect model as suggested by the results of the Hausman specification test (1978) ($\chi^2=3.322$, p-value=0.176). All explanatory variables are lagged one year to avoid spurious significance levels with respect to the dependent variable. To assess the improvement of fitness of the model I run log-likelihood ratio tests.

In the second empirical paper, I propose the liability of foreignness has an overwhelming negative impact on firm profitability in short run. While local market resource and opportunities could facilitate long term business performance in the long run. To test the hypotheses, I employ a Difference-in-Differences (DID) method which deals with the problem of sample selection bias and endogeneity by combining between-estimation with fixed-effect analysis (Card and Krueger, 1994).

The DID estimator combine both fixed-effect estimation and control group effect by measuring the difference of treatment effects between sample group and control group (Heckman, 1979; Heckman & Urzua, 2010; Greene, 2008, ch. 17; Wooldridge, 2003, ch. 19):

$$\alpha_{DID} = (y_{i,t+n}^{inv} - y_{i,t}^{inv}) - (y_{j,t+n}^{C} - y_{j,t}^{C})$$
In this study, I assume that short term effects span from year \( t+1 \) to \( t+2 \) when treatment happens at year \( t \). Long term effect occurs after year \( t+2 \). I employ the companies that invest in foreign markets in year 2005, 2006, and 2007 to probe the short and long term impact of FDI on performance. This research design allows us to improve accuracy in hypotheses testing and provide credible empirical evidence of my theoretical arguments (Shaver, 2011; Zhou et al., 2007; Wooldridge, 2010; Halaby, 2004).

4 Content and structure of the thesis

There are five chapters in this thesis. Following the introduction, there are 4 further chapters of which chapter 2 is a systematic literature review, chapter 3 and chapter 4 are empirical studies, and chapter 5 presents final conclusions and limitations.

In Chapter 2, a systematic review of the literature on SME internationalisation and performance relationship provides a comprehensive examination of the research in this stream and, more importantly, identifies the inadequate theoretical arguments and empirical evidences that need to be addressed to advance the understanding of the field. This review proposes that the SME internationalisation process and its following impact on firm performance could hardly be explained by a simple and explicit proposition, but rather a series of dynamic processes involving different mechanisms, theoretical frameworks, and research perspectives (Autio et al., 2010; Zahra et al., 2006). To achieve the goal of unveiling this complex process of SME internationalisation, the systematic literature review includes the following elements: first, it concludes and assesses past researches and theories; second, reviews the current boundary and progress of the research topic; and thirdly, identifies research gaps and empirical evidences needed to promote a better understanding of the field. This review develops a summary table of past literatures and a roadmap...
of future directions to investigate the mechanisms that influence the SME internationalisation process and subsequent firm performance.

Chapter 3 is the first empirical paper which explores the impact of the resource position of 1206 SMEs from 27 different EU countries on the internationalisation process. This study explores the differential effect of slack resources in terms of their discretionarity – or the degree to which the firm enjoys discretion in their deployment, on SMEs’ internationalisation activities. My argument builds on the original Penrose (1959) model: that it is only the discretionary (i.e., highly fungible) resource slack that opens up feasible opportunities for productive expansion. Resource dependence theory is widely accepted as an efficient approach to exploring the SME internationalisation process and one I believe is critical to examine the influence of excess resources and resource fungibility on SME internationalisation (Oviatt & McDougall, 1994; Teece et al., 1997; Autio, 2005). Although I draw inspiration from the RBV, I do not propose to test it empirically in this study. Rather than focusing on the traditional RBV qualities of value, rarity, inimitability, and non-substitutability, I emphasise resource qualities identified by contemporary international entrepreneurship researchers as pertinent influences on firm internationalisation, i.e. knowledge-intensity, fungibility, and mobility.

I combine these insights with insights drawn from resource-dependence theory, the relevance of which has been demonstrated in entrepreneurship research, but not been widely applied to the study of international entrepreneurship. The empirical results suggest a linear positive relationship between high-discretionary slack and SME internationalisation, a U-shaped curvilinear relationship between low-discretionary slack and likelihood of FDI, as well as an inverse U-shaped relationship between knowledge intensity and internationalisation of SMEs.

Chapter 4 is the second empirical paper which looks at the effects of internationalisation on the firm’s subsequent performance. This study investigates SME’s short and long term business growth after international investment activities. The systematic review in chapter 2 exposes the fact that although many factors that influence the SME internationalisation and performance relationship
have been identified, there is few exploration on SME foreign market entry activity’s direct impact on firm growth (Lu and Beamish, 2001; Westhead et al., 2004). According to McDougall and Oviatt (2000), firm growth strategy could critically influence firm performance. Internationalisation activities are entrepreneurial actions that have distinct impact on various perspectives of business development. Following Dimitratos et al.’s (2004: 31) statement that entrepreneurial companies’ exploration of ‘low-cost inputs, risk diversification or acquisition of (local) assets’ could be ‘accomplished in the long-run rather than in a short-term and opportunistic time frame’, I propose a ‘U-shaped’ relationship between SME internationalisation and subsequent firm business growth. In short term, the liability of foreignness has an overwhelming negative impact on firm profitability. While in the long run, local market resource and opportunities could facilitate long term business performance. To unveil the causality between SME internationalisation and future business growth, I adopt the DID-estimation that allows us to address the unobserved endogenous problem and the simultaneity endogeneity effects (Halaby, 2004).

The last chapter is the overall conclusion and limitations. I summarize major findings of the preceding chapters as well as the managerial implications of the empirical results. Limitations in this PhD thesis are reported with future research directions that would advance SME internationalisation theory and empirical studies.
Chapter 2: SME Internationalisation and its Impact on Performance:

A Systematic Literature Review

*SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes*
1 Introduction

This article reviews the literature on internationalisation and its impact on the performance of small and medium sized-enterprises. I address key findings and limitations in this stream of research. The article unites the literature on how to measure this impact with the literature on when and how the impact happens, and advances an important research agenda for future internationalisation and performance studies.

Numerous studies have been done on the internationalisation and firm performance relationship (Intl-perf relationship) in MNEs and SMEs. The question of whether there is a systematic positive (or negative) relationship between multinationalisation and performance remains unsolved (Keupp & Gassmann, 2009; Hitt et al., 2002; McDougall & Oviatt, 2000, 2003; Lu & Beamish, 2001, 2004; Jones & Coviellow, 2005; Contractor, 2007; Hitt et al., 1997; Thomas & Eden, 2004; Sullivan, 1994; Li, 2007; Halkos & Tzeremes, 2009; Daily et al., 2000; Mtigwe, 2006; Hisrich et al. 1996; Verbeke et al., 2009; Rialp et al., 2005; Glaum & Oesterle, 2007). Most of the literature argues that although empirical results are widely divergent in some cases, the overall benefits could outweigh the disadvantages of firm internationalisation activities. Some writers, for example Hennart (2007), argue that there is no general relationship between multinationalisation and firm performance. As a simple linear positive (or negative) relationship could hardly be proved by empirical evidence, a few researchers have argued that the Intl-perf relationship is not a simple explicit linkage between the two but a complicated process formed by different mechanisms and organisational capabilities (Autio et al., 2010; Zahra et al., 2006). In this article, I follow this organisational capabilities approach to exploring the SME Intl-perf relationship.
2 Research question and significance

Among a few significant areas of study, I argue that the following four aspects of SME internationalisation make research in this area critical. First, abundant literature has focused on the relationship between the degree of international (DOI) and financial performance of MNEs (Sullivan 1994), but much less has explored the relationship between the internationalisation and firm performance of SMEs. Second, existing literature on the performance and internationalisation of SMEs (Autio et al., 2000; Zahra et al., 2000; Lu & Beamish, 2001; Qian, 2002; Westhead et al., 2004; Pangarkar, 2008) tries to find empirical evidence for a positive relationship between SME multinationalisation and financial performance. However, the mechanism of whether and how internationalisation impacts firm performance is still unclear (Lu & Beamish, 2001). The variables of the impact and the measurements of the variables are inconsistent among different articles (Pangarkar, 2008). The selection of factors and correlation between variables are not discussed deliberately (Frishammar & Andersson, 2009). Third, the existing literature employs degree of internationalisation as the dependent variable. The measurement of DOI is the percentage of foreign sales in total annual turnover. Both DOI and the measurement employed are static measures of business internationalisation. Considering how multinationalisation impacts firm performance (especially in the short term), this measure is not representative enough. The dynamic relationship between cross-border business activity and SME performance is not explored qualitatively or quantitatively. Last but not least, the literature on entrepreneurship has focused on explaining and legitimating international new venture (INV) multinationalisation. The theoretical methods, however, are derived from international business literature and strategic management theories. Resource based theory (RBV) (Barney, 1991) and knowledge based analysis (KBV) (Grant, 1996) are the most commonly employed methods. RBV and KBV, however, are based on research on large companies. As SMEs are not “smaller versions of MNEs” (Shuman & Seeger, 1986), a theoretical framework has not
been established for the impact of multinationalisation on the performance of resource-constrained, routine absent small and medium-sized businesses.

The main focus of this study is whether and how different mechanisms transfer the changes of multinationalisation to firm performance. According to Autio and Acs (2010), Zahara et al. (2006), SME Intl-perf relationship is a complicated process of different organisational capabilities effects. I therefore, develop a mechanism model to probe the antecedents and outcomes of SME internationalisation.
3 Internationalisation and performance relationship in SMEs: Model Building

The past decade has witnessed a growing interest in research on the internationalisation of small and medium sized enterprises (SMEs). After two decades of development in international SME literature, both business practitioners and researchers in the field of international business and entrepreneurship are starting to consider whether and how multinationalisation impacts the performance of small and medium sized firms. Lu and Beamish (2001) state that the research goal is to “examine the effects of an international aspect of an entrepreneurial strategy”. In this context, internationalisation is a strategic choice (the independent variable) and the focus will be on the consequences of such entrepreneurial activity. Although many research works have explored the SME Intl-perf relationship from different perspectives, the result remains inconclusive (Wright et al., 2007). I therefore, build a seven mechanisms model based on review of factors employed in past literature and organisational capabilities theory (Autio et al., 2010; Zahra et al., 2006). I conclude factors influencing SME internationalisation and performance relationship, these variables could be independent or mediating factors. The purpose of this research is to offer a new perspective towards SME Intl-perf relationship study.

Dozens of factors that influence SME performance and the multinationalisation process have been employed in theoretical and empirical studies. A large percentage of the literature on the intl-perf relationship focuses on the moderating effects of a single variable, e.g. organisational learning, or of a couple of correlated variables, e.g. organisational learning, prior knowledge stock, and company absorptive capacity (McDougall & Oviatt, 2000; Teece et al., 1997; Autio et al., 2000; Zahra, et al., 2000; Sapienza et al., 2006; Jantunen et al., 2005; Rasheed, 2005; Gray, 2006; Avlonities & Salavou, 2007; Frishammar & Andersson, 2009). These studies have a few inherent disadvantages: the causal links between dependent and independent variables are controversial; correlation between variables
can lead to biased empirical results; and the boundary of the control group is unclear. A fundamental reason for the problems mentioned above is that these factors influence firm performance with a combined action effect rather than a single aspect impact. The correlation of a large number of factors, acting at the same time on the intl-perf relationship, leads to empirical results which are too narrowly focused and do not hold when different data are employed. By recognizing the fact that moderating effects on the INTL-PERF relationship are a result of coactions between several factors, I suggest a model which includes the most significant factors and places them in parallel positions, allowing us to study the effects of this synergism. In doing so I may able to eliminate the bias caused by leaving out critical factors and selecting ill-defined control groups. A more comprehensive and reliable approach, I propose, is to bundle the factors into a few property groups. To do this I need to carry out a synthesized review of significant performance factors in the intl-perf relationship of SMEs. Following Li (2007) and Autio et al.’s (2011) proposal, I systematically scanned and reviewed a list of relevant literatures. I searched the ISI web of knowledge and Spiral Digital Repository Business Article (SDRBA) dataset for the keywords ‘SME, internationalisation, (firm) performance, factors/moderating effect, organisational resource, organisational capability’ separately, paired, and combined. I scanned 189 papers which have been published between 1989 and 2013. I selected this time period following Oviatt and McDougall’s (1994: 47) comment that ‘since 1989 reports based on case studies of international new ventures have begun to appear from scholars of entrepreneurship’. I’ve read the abstract of all 189 papers and handpick the 27 papers that are most relevant to my research questions and contexts. These 27 articles cover a wide variety of leading journals and books in the field. To make sure I’ve selected the most prominent works, I cross-referenced all the papers and conducted similar search on ‘google scholar’ to ensure that I’ve included papers with the highest citation record. I present a synthesized review of the factors employed in these papers below (Table 1).

Since there is no conclusion from past literatures as to which factors significantly influence SME
internationalisation and performance process, it is necessary to explore all the factors which appear in the literature. I have catalogued all 18 factors studied in past papers and classify them into seven mechanism schemes. These mechanisms have different inherent properties. In general there are three major types of mechanism, namely organisational capabilities, resource endowments, and strategic orientations. Regarding organisational capabilities, following the organisational capability approach of Autio et al. (2010), Zahra et al. (2006), and Zahra and George (2002), I argue that a company’s ability to achieve growth and better performance depends on its substantive capabilities and change capabilities. In a nutshell, change capabilities include factors that improve a company’s ability to achieve success when change happens, while substantive capabilities help a company improve the capability of its routines and daily production. The second major category is resource endowments, which includes organisational endowment, environmental endowment, and resource optimization. This approach focuses on a firm’s inherent properties and resource-based advantages (Penrose, 1959; Rumelt, 1984; Barney, 1991). MNE intl-perf relationship studies based on international business literature largely rely on resource endowment analysis (Hughes et al., 1975; Duning, 1985; Shaked, 1986; Grant et al. 1988; Kim et al. 1989; 1993; Sullivan, 1994; Contractor, 2007; Li, 2007). The third major category is strategic legitimacy. Intl-perf relationship studies based on strategic management and international entrepreneurship research pay more attention to individual and organisational strategic orientations and their impact on firm performance (Myer et al., 2000; Van de Ven, 2002; Dimitratos et al., 2004; Firshammar & Andersson, 2009). On an individual level, demographic characteristics of the management team focuses on a manager’s personal experience in multinationalisation and the managerial team’s diversity of knowledge. Many studies have proved that an entrepreneurial team’s experience and knowledge stock have significant impact on the intl-perf relationship (Jantunen et al., 2005; Avlonities & Salavou, 2007; Brock & Yaffe, 2008). On an organisational level, company strategic orientation includes a firm’s strategy preference towards multinationalisation, company risk tolerance level, market entry model, and willingness to bring change to the business. Strategic legitimacy also concerns the credibility change after
multinationalisation activities. These factors are traditionally highlighted in the intl-perf relationship study of MNEs, and are worth digging into in the study of SMEs as well.
Table 1 Synthesized Review of Performance Factors in INTL-PERF Relationship research of SMEs

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<th>SME internationalisation and performance literatures (Major focus, MNEs or SMEs)</th>
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## SME internationalisation and performance literatures (Major focus, MNEs or SMEs)

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<tr>
<td>Substantive capabilities</td>
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<td>Organisation al Endowment</td>
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<td>Environmental Endowment</td>
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<td>Resource Access and Optimization</td>
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<tr>
<td>Demographic</td>
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30
There are a few other findings worth addressing when I systematically review the past SME internationalisation and performance literature (Table 2). First, large amount of the literature focuses on the substantive capabilities of SMEs, while change capabilities receive relatively little attention. This finding echoes Autio et al.’s (2010) paper on the shifting of research focus from substantive capabilities to change capabilities in the SME intl-perf relationship field. Factors like dynamic capability and absorptive capacity have been introduced in the past four or five years and a surge of research in this topic has been witnessed. Overall, research on firm change capabilities still lags behind that on substantive capability. Second, a strong focus on resource endowments and strategic orientations indicates the strong tie between SME intl-perf study and the international business, resource-based view, strategic management literature, as well as international entrepreneurship literature. The theoretical analysis will address this finding and draw its background from these research areas. Third, individual level entrepreneurial-related literature has received much less attention than organisation level strategy topics. Similarly to change capability literature, the individual-based view has appeared in recent years and quickly become the new focus in the field. Entrepreneur’s demographic characteristics and its impact on SME intl-perf relationship should be explored in the future. Fourth, R&D intensity and knowledge stock have received the most attention
in the study of the SME intl-perf relationship. This indicates the critical role R&D and knowledge play in the field. Although there is a wide spectrum of opinions on the intl-perf relationship in SMEs, a positive relationship between SME knowledge stock and firm performance has received much empirical grounding and little doubt (Autio et al., 2000; Zahra, et al., 2000; Gray, 2006; Bausch & Krist, 2007; Muscio, 2007; Teece, 2007; Zhou et al., 2007; Hsu and Pereira, 2008; Frenz & Gillies, 2009). On the other hand, the impact of fungible assets and intangibleresources, fungible resource that available for SMEs at low costs, on SME intl-perf relationship has received little attention. I therefore argue that resource fungibility and its impact on firm internationalisation should be explored in the future. Fifth, although dynamic capability is defined as a firm’s ability to achieve success during changes, there is little research on SME strategic preparation for changes (Teece, 1986, 2007; Zahra & George, 2002). Managerial personal and organisational perspectives on change have not been sufficiently explored. This finding suggests a significant research direction, namely legitimacy studies of the SME intl-perf relationship. I reflect these findings in the theoretical analysis and hypothesis development.

Table 2 Seven mechanisms and corresponding factors (paper probed in this factor)

<table>
<thead>
<tr>
<th>Change capabilities (14)</th>
<th>Dynamic capability (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substantive capabilities (23)</td>
<td>R&amp;D intensity (8)</td>
</tr>
<tr>
<td>Organisational endowment (8)</td>
<td>Firm age (4)</td>
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<td>Environmental endowment (9)</td>
<td>Location, network, and cultural distance (6)</td>
</tr>
<tr>
<td>Resource access and optimization (8)</td>
<td>Resource position (5)</td>
</tr>
<tr>
<td>Demographic characteristics (9)</td>
<td>Manager’s business/ intl. experience (5)</td>
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<tr>
<th>Substantive capabilities (23)</th>
<th>Organisational learning (6)</th>
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<tr>
<td>Absorptive capacity (5)</td>
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<tr>
<td>R&amp;D intensity (8)</td>
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<td>Prior knowledge stock (8)</td>
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<tr>
<td>Product/Market diversity (7)</td>
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<td>Firm age (4)</td>
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<tr>
<td>Firm size (4)</td>
<td></td>
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<tr>
<td>Location, network, and cultural distance (6)</td>
<td></td>
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<td>Industry dynamics (3)</td>
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<td>Resource position (5)</td>
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<td>Resource fungibility (3)</td>
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<td>Manager’s business/ intl. experience (5)</td>
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</table>
Based on the above review, we propose a research model for the SME intl-perf relationship which uses a series of mechanisms to deliver the changes brought by multinationalisation to performance. These mechanisms include change capabilities, substantive capabilities, organisational endowment, environmental endowment, resource optimization, demographic characteristics of the management team, and strategic legitimacy. Within each mechanism a few factors act together when change impacts firm performance. Change capabilities cover a few factors which help businesses improve performance in the dynamic process of change. Dynamic capability, organisational learning, and absorptive capacity are the three most prevalent factors in this domain. Substantive capabilities include R&D intensity, prior knowledge stock, product diversity, and the routines and patterns of a firm. These factors decide the daily performance level of the business. Organisational endowment mainly focuses on firm properties like firm age, firm size, and so on. Environmental endowment includes external factors like economy of scale, cultural distance, social network, and industry dynamics. Resource access and optimization focuses on factors relating to resource-based perspective, including resource position and resource fungibility of the firm. The eight factors in the category of resource endowment could be seen as properties of a firm which describe the firm’s development stage and define its resource position in the marketplace. Demographic characteristics of the management team focuses on the individual level capability of the management group of a firm which includes the manager’s business experience and managerial team diversity. Strategic legitimacy offers a credibility perspective on the firm’s ability to deal with changes. The firm’s strategy making, risk tolerance level, market entry model and willingness to bring change to the organisation are all factors which measure this credibility.
Figure 1 was composed based on Table 2, where I conclude the 7 mechanisms and 18 factors that influence SME internationalisation process and outcomes. It is proposed on the believe that SME internationalisation brings changes to company (Teece, et al., 1997; Teece, 2007), and these changes influence different aspects of the organisation, e.g. financial assets, operation process, knowledge stock and so on. The key to achieve success in market expansion process then, is how to cope with these changes. Left column of Figure 1 indicates the possible changes in different aspects within the company. Middle column indicates the different mechanisms and factors that moderate the influence, and the right column indicates our following propositions.

Figure 1 A model of moderating mechanisms approach towards SME INTL-PERF relationship research
In this article I do not evenly distribute my focus on all seven mechanisms but give priority to less explored but highly significant mechanisms. Emphasis may be placed on resource fungibility, demographic characteristics of the management team, and performance outcomes. I try to reify these mechanisms and review how they act as factor bundles in the SME intl-perf relationship. At the same time, I review all seven mechanisms and develop the hypotheses based on the literature.

4. Theoretical analysis and Hypothesis Developing

4.1 SME internationalisation and performance: theoretical background

In this part, I review the literatures on SME multinationalisation activities and its impact on firm performance. Although at its beginning SME internationalisation activity existed alongside international trade, until the last couple of years of the 1980s it was ignored because of the relatively small scale of SME going global compared with established multinational enterprises (MNEs). Large percentage of the literature on internationalisation and firm performance in international business focuses on MNEs. According to Li’s (2007) review of the literature on multinationalisation and performance, only 3 out of 43 papers on the subject use SMEs as empirical study observations (Zahra et al., 2000; Lu & Beamish, 2001; Qian, 2002).

I begin my research by exploring the framework focuses on the dynamic relationship between SME internationalisation and firm performance (Figure 2). Study of the internationalisation process of SMEs started with Oviatt and McDougall’s international new venture (INV) paper in 1994. Before this paper, internationalisation process (IP) was considered a phenomenon dominated by large companies which exploit new business opportunities and resources across national borders (Johanson & Vahlne, 1977). The outcome of IP, e.g. the growth model of MNEs in foreign market, is
described as Uppsala model: scale economy and early market entry provides additional margin to
global large firms. IP literature was derived from the study of international business and originally
developed in empirical studies of large corporations whose aggressive cross-border business
activities have flourished since World War II (Oviatt & McDougall, 1994). If an established company’s
internationalisation is a strategic have-to (considering both resources and market position), the
multinationalisation of SMEs is more like a strategic option, or is more in the nature of an
opportunistic incentive. Business managers face the question: is a larger stage really fit for small role
players? In my discussion, firm size is limited to small and medium-sized companies. Number of
employees (Atkins & Lowe, 1997) and annual turnover (Abouzeedan & Busler, 2004) are two
variables that have often been used to distinguish SMEs from MNEs.

Figure 2 Dynamic relationships between SME internationalisation and firm performance

The mechanisms behind firm growth (questions like what hinders SMEs growing to MNEs, and the
relationship between firm size and firm performance) are important. Also, only a few IE studies focus
on the legitimate of multinationalisation activities of SMEs (Keupp & Gassmann, 2009; Avlonities &
Salavou, 2007; Sapienza et al., 2006; and Zahra et al., 2000). In my discussion, I will focus on both the
incentives of internationalisation and the consequences of internationalisation in SMEs. I aim to
establish the mechanism impact SME performance in market entry process, and explore the
variables representing the impact. Although I argue that the factors I identified influence the process
of SME internationalisation, on both incentive and consequence end of SME internationalisation
process, I lay particular emphasis on the consequence end in this particular literature review. I therefore, stress that later part of this literature review will focus on the consequences end of SME internationalisation process, i.e. the performance end of the process. Our propositions therefore, also focus on the performance outcomes of SME internationalisation. In doing so, we need to look at the international entrepreneurship context, international business studies, strategic management literature, and SME performance research, in that this research on the impact of internationalisation on SME performance is located at the intersection of the four research fields (Figure 3). Each of these four quadrants overlaps with the others, but I will not focus on these areas.

**Figure 3 Fundamental theoretical areas composing SME INTL-PERF relationship study**

Although SME internationalisation and firm growth study draws on IB, IE, strategic management, and firm performance literature, it is important to differentiate the theoretical areas appearing in Figure 3. Coviello et al. (2011) state that it is undeniable IE, as a research domain, is firmly rooted in the IB literature of young and small firms that operate beyond national boundary in early stage of operation. Since Oviatt & McDougall (1994)’s argument of the difference of international growth model between MNE and SME, IE focuses on specific type of firms’, e.g. INVs and born-global, internationalisation. As IE push forward to distinguish its research domain from IB, IB focuses more on established company’s market entry study. Johanson and Vahlne (2009) conclude that the
Uppsala PIT has evolved much in the past decades. PIT growth model has changed from a scale economy driven, organizational perspective theory to a capability building driven, multi-units perspective research. At the same time, strategic management literature explores the impact of organizational planning on firm performance in the process of strategic activities. Since I did not distinguish different types of SMEs in this study, I rely on firm level theoretical frameworks that have already been employed previously in SME internationalisation studies. Indeed, there are differences in internationalisation of INVs, BGs, and well established international SMEs. As Autio et al. (2000) point out the age of initial internationalisation could shift the growth strategy, international identity, learning process and many aspects of the firms. That aside, start-ups and INVs are all SMEs in an early stage of establishment. The term INVs was introduced by Oviatt and McDougall (1994). The term has been widely used but I’ve been very careful with this term in this paper. I study SME internationalization, not INVs internationalization. In my sample, there are INVs, and well established SMEs. Coviello et al. (2011) suggest that the usage of INVs should be limited to ‘new’ firms, e.g. young firms at early stage of their life cycle. In this PhD thesis, I do observe companies with young age, but since we have a wide variance of firm age from 1 to 170, see Table 4 in Chapter 4, I believe it is proper to use the term SME internationalization. Concerning the difference between INVs international performance relationship and established SMEs international performance relationship, I propose that INVs too follow a U shape internationalization-performance relationship. However, INVs could recover from short term shock more quickly for less established managerial and knowledge inertia. I did not test this issue in this paper. On the other hand, INVs internationalization is largely draw on IE literature, while SME internationalization as I propose, draw on IE, IB, SM. More importantly, instead of comparing established SMEs with INVs or BGs, I compare sample companies with control companies. The control group contains established SMEs, INVs, and BGs, I did not group my sample in type.

The upper-left quadrant in the theoretical matrix is SMEs in the international business context. In
traditional IB literature, SMEs are not the main object of study. Sullivan (1994) reviewed the literature on DOI performance research from 1970 to 1990. No empirical study employs SMEs as a research sample. On the contrary, companies described as “the largest U.S. MNCs” (Hughes et al., 1975; Siddharthan & Lall, 1982; Geringer et al., 1989), “the largest MNCs in the world” (Buckley et al., 1977; Rugman et al., 1985; Shaked, 1986), and “Fortune 500” (Vernon, 1971; and Collins, 1990) constitute the whole empirical sample in studies of firm internationalisation. The observation of large companies’ trajectories of foreign market entry revealed that mature companies take a few steps to realize the great potential of both downstream market places and upstream resources from foreign countries. This was concluded as process international theory (PIT), which is based on the assumption that incremental changes are made through a path-dependent progress of business patterns (Johanson & Vahlne, 1977; Welch & Luostarinen, 1988). According to PIT, only at certain development levels do companies start to go to the global stage (Johanson & Vahlne, 1990; Autio, 2005). PIT legitimated the internationalisation process of large companies by assuming that companies pursue long term profitability and keep away from business activities with high uncertainty (Johanson & Vahlne, 1977). The first assumption excluded research on the immediate impact of internationalisation activities on organisation structure and performance (in the following years, cross-border merger and the impact of acquisition on organisational structure have been abundantly explored in organisational structure studies). The second assumption regards internationalisation as a highly risky activity which companies with limited resources should avoid. Considering SMEs which face resource constraints, uncertain market environments and limited business routines, internationalisation should be avoided. This diverges widely from the reality of SME multinationalisation, therefore a new focus was established by the last decade of 20th century which began with the observation of the international activities of SMEs and new ventures (Oviatt & McDougall, 2005).

Oviatt and McDougall’s 1994 paper is considered the inception of the study of new venture
internationalisation (Autio, 2005). The authors argue that the developments in international business environment, since the late 1980s have increased the exposure of SMEs to international activities. The improvements include easier cross national communication and transportation technology, increased homogeneity of market characters in different countries, more entrepreneurs with multinational operating experience, and flourishing cross-border financial resources (Oviatt & McDougall, 1994). PIT cannot explain the emerging phenomenon of SMEs going global. The exiguous resource availability of SMEs also challenged the traditional RBV theory of resource possession and allocation. International new ventures (INVs) leverage their unique knowledge in different countries to control, instead of possess, more resources (Gilbert, McDougall, & Audretsch, 2008; Autio et al., 2000). Despite the lack of empirical evidence, Oviatt and McDougall (1994) built a theoretical framework describing how multinationalisation adds value to a company’s sustainable competitive advantage. The model is built on a stage-gate chart which distinguishes INVs with sustainable competitive advantage from other business organisations (Appendix 1). A successful INV (surviving and achieving sustainable growth) which leverages its internationalisation activities to contribute to competitiveness needs four elements: cross-border business player; hybrid or flexible resource possession; host country knowledge; and unique resource position. Oviatt and McDougall’s model is the fundamental theoretical base of our research on internationalisation and SME performance. The four elements each represent a significant research branch on the subject. The first element, “international”, has been discussed from multi-levels including strategic choice (Avlonities & Salavou, 2007; Frishammar & Andersson, 2009), incentive study (Jantunen, Puualainene, Saarenketo, & Kylaheiko, 2005; Coviello et al., 2011), impact study (Pangarkar, 2008; Qian, 2002), demographic and industrial analysis (George, Wiklund, & Zahra, 2005; Fernhaber, McDougall, & Oviatt, 2007; Zhou, Wu, & Luo, 2007), and policy approach (Wright, Westhead, & Ucbasaran, 2007). The second element focuses on resource possession and organisational power structure (Gilbert, McDougall, & Audretsch, 2008). The third element focuses on a knowledge based view and learning process which has provoked new knowledge-based study of the growth of INVs (Autio, Sapienza, and Almeida,
2000; Zahra, Ireland, & Hitt, 2000). The final element focuses on a sustainable growth model. As presented by Sapienza et al. (2006), sustainable growth needs “dynamic capabilities” which not only call for employing and leveraging host country resources, but also aim to develop the company’s own growth strategy.

The consequence of research on international entrepreneurship is significant; a new research field, e.g. international entrepreneuship, has been established and is considered a critical distinguish field of international business study (Autio, 2005). The definition of IE has been continuously evolving through the past two decades, from the early focus on the international activities of new ventures (McDougall et al., 1994) to the recent concern on entrepreneurial internationalisation (Autio, 2010; Keupp & Gassmann, 2009). The trend reflects the shift in research focus from company size and age to an emphasis on entrepreneurial activities. McDougall and Oviatt argue that IE study is an intersection of both IB study and entrepreneurship research. The relationship between IE study and international business literature has been discussed intensively (Oviatt & McDougall, 1994, 1996, 2005; Ovaitte, McDougall & Shrader, 2000). Lu and Beamish (2001) argue that IE study is bonded with SME internationalisation literature in that the “internationalisation of an established yet small firm” is an emerging significant stream of IE research beside the original focus on start-ups and INVs. Indeed, start-ups and INVs are also SMEs in an early stage of establishment. For example, as discussed above, the incentive of a new venture’s internationalisation has been explored from demographical, resource-based, and strategic aspects. Gilbert, McDougall, and Audretsch (2008) summarize that entrepreneur characteristics, resources, geographic location, strategy, industry context, as well as organisational structure and systems are critical factors that shape the success or failure of SME internationalisation. Our research on SME internationalisation and performance distinguishes itself from IE study in that our research object is not limited to startups and new ventures but firms of relatively small scale at any stage of establishment. However, we will not try to explain the mechanism behind firm growth.
Strategy Management literature is important in our research in that multinationalisation of SMEs is, in its nature, strategic decision made by entrepreneurs or management teams of the firm. Unlike MNEs facing limited home market place and resource availability, SMEs have more flexibility in the choice of whether or not to go global. Similarly to international business study, strategic management literature used to focus on MNEs rather than SMEs (Barringer & Bluedorn, 1999). Myer et al. (2000) argue that strategic management mainly focuses on profitability at present and sustainable growth in the future. I believe that for SMEs, going global is more a future-opportunity exploring experience than a profitability consideration in the short term. Johnson and Van de Ven (2002) argue that although entrepreneurs are looking for new opportunities and expecting high internationalisation activity, the real impact of this activity on business is still unclear. Strategic decision making as to whether or not go multinationalize is therefore, difficult and risky. Frishammar and Andersson (2009) argue that although strategic orientation (SO) is important in the small firm internationalisation process, market orientation (MO) and opportunism may play a more important role in reality. An opportunistic multinationalisation might have a different impact on firm performance compared with a deliberately designed strategic movement of globalisation. Lu and Beamish (2001)’s empirical data of Japanese SMEs observes result that compare with export (opportunistic internationalisation), deliberately considered FDI has significant “saucer curve” relationship with firm performance.

The final quadrant of our theoretical matrix is SME performance research. Performance is considered a dependent variable in our context. We are going to probe into the literature on SME performance, in that inconsistent measurement of performance is considered a major hamper in internationalisation impact research (Pangarkar, 2008). Westhead et al. (2004: 507) state that existing research on SME performance employ ‘variety of performance indicators... makes comparison across studies difficult’. There are quite a few different measurements for performance,
Abouzeedan and Busler (2004) argue that two main streams of performance measures have been employed, namely financial measurements and non-financial (qualitative) measurements. Financial measurements are widely utilized in credit rating and consultancy sectors. Professional financial models are developed based on a combination of financial variables which have been recognized as a group of company survival indicators (Keasey & Watson, 1991; Peel & Peel, 1987; Argenti, 1976; Chen & Shimerda, 1981). However, a large number of studies of firm performance have chosen a single variable as a measure of firm performance in order to simplify the situation (Serrasqueiro & Nunes, 2008; Mueller, 1986; Goddard et al., 2005; Jensen & Meckling, 1976; Myers & Rajan, 1995; Goddard et al., 2005). Single financial measurement has an inherent disadvantage when employed to represent firm performance. For SMEs, financial ratios are inclined to be a static figure rather than an effective measure of performance. Some widely utilized single indicators (total turnover and firm liquidity level for example) have been abundantly quoted in empirical research of MNEs internationalisation and show no statistically significant relationship with firm performance in many cases. Another reason why financial ratios are widely utilized in company performance literature is that these data are easily accessible when the research targets are publicly traded companies. Most SMEs, however, have discontinuous financial planning and less accessible financial reports (Abouzeedan & Busler, 2004; Lu & Beamish, 2001).

Another prevalent method is employing a broader financial measurement, firm size for example, which could be flexibly explained by different elements. Total annual sales (turnover), employee number and total assets are typical contributors referring to firm size (Serrasqueiro & Nunes, 2008). Recent research on company performance increasingly emphasizes dynamic measuring. Orser, Hogarth-Scott, and Riding (2000), for example, argue that firm growth is the most significant measure of SME performance. They used multiple variables (including gross revenue, revenue
growth rate, number of employees, and employment growth rate) as a profile of firm growth and empirically tested the correlation between different variables and firm performance. They found that firm growth has a non-linear relationship with performance level, and non-financial variables including age of firm and managerial planning showed a significant influence on firm performance. In this article, we focus on the dynamic business operation and regard performance in a multi-dimensional way. We review the dependent and independent variables employed in previous literature on SME internationalisation and its impact on performance.

### Table 3 Typology of SME Performance Measurements

<table>
<thead>
<tr>
<th>Performance Models</th>
<th>Empirical Study</th>
<th>Models</th>
<th>Performance measurement employed</th>
<th>Basic Assumption</th>
<th>Conclusion or Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Variation Approach (including single or multi-financial and nonfinancial variables)</td>
<td>Goddard et al. 2005, Jensen and Meckling 1976</td>
<td>Performance and debt level</td>
<td>Company debt ratio</td>
<td>Company debt has a negative impact on firm performance</td>
<td>High debt level may not contribute to diminish company performance</td>
</tr>
<tr>
<td></td>
<td>Geringer et al. 1989</td>
<td>Diversification and performance</td>
<td>Profit to sales; Profit to assets</td>
<td>Inverted U curve</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td>Myers and Rajan 1995, Goddard et al. 2005</td>
<td>Performance and liquidity level</td>
<td>Company liquidity ratio</td>
<td>High liquidity level hinder performance; high liquidity benefit performance.</td>
<td>No statistically significant relationship between liquidity of SMEs and performance (Serrasqueiro and Nunes 2008)</td>
</tr>
<tr>
<td></td>
<td>McDougall &amp; Oviatt, 1996</td>
<td>Strategic change and performance</td>
<td>ROI; Market share</td>
<td>Higher internationalisation leads to higher ROI and market share</td>
<td>Significant in market share but non-significant in ROI</td>
</tr>
<tr>
<td></td>
<td>Autio et al., 2000</td>
<td>Age of entry, knowledge and imitability’s impact on international sales</td>
<td>International sales growth</td>
<td>Earlier intl., greater knowledge intensity, and less imitable technology lead to sales growth</td>
<td>Earlier intl., greater knowledge intensity, and more imitable technology lead to sales growth.</td>
</tr>
<tr>
<td></td>
<td>Orser et al., 2000</td>
<td>Firm size and performance</td>
<td>Changes in gross revenue</td>
<td>Small firm growth is non-linear to firm size</td>
<td>Growth rate is higher when firm’s younger; presence of business plan improve growth</td>
</tr>
<tr>
<td></td>
<td>Zahra et al., 2000</td>
<td>Technological learning and performance</td>
<td>Sales growth; ROE</td>
<td>Learning capability is positively related to firm performance</td>
<td>Technology learning improve firm performance</td>
</tr>
<tr>
<td></td>
<td>Capar &amp; Kotabe, 2003</td>
<td>Diversity and performance in service</td>
<td>ROS</td>
<td>A non-linear relationship between</td>
<td>A U-curve relationship between the dependent and independent</td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Performance Variables</td>
<td>International Variables</td>
<td>Notes</td>
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<tr>
<td>Ruigrok &amp; Wagner</td>
<td>Organisational learning and performance</td>
<td>ROA; Operating costs to total sales</td>
<td>A non-linear relationship between the two variables</td>
<td>A standard-U form of INTL-PERF with organisational learning play an moderating role</td>
<td></td>
</tr>
<tr>
<td>Westhead et al.</td>
<td>Exporting propensity and firm performance</td>
<td>Weighted group of performance proxies: sales revenue growth, ROE, gross profits, net profits.</td>
<td>A positive relationship between intensity of internationalisation and firm performance</td>
<td>A positive yet not significant result suggests that industrial diversification, demographic characteristics, and other factors may influence the internationalisation-performance relationship.</td>
<td></td>
</tr>
<tr>
<td>Jantunen et al.</td>
<td>Dynamic capability and performance</td>
<td>FSTS; number of host countries (note 3)</td>
<td>Dynamic capability has effect on firm’s ability of entering new market</td>
<td>A positive relationship between dynamic capability and firm performance</td>
<td></td>
</tr>
<tr>
<td>Rasheed</td>
<td>Market entry strategy and performance</td>
<td>Average growth of international revenue in recent 3 years</td>
<td>Home and host market difference lead to different entry strategy</td>
<td>SMEs choose equity based entry model when host market risk is high</td>
<td></td>
</tr>
<tr>
<td>Avlonities &amp; Salavou</td>
<td>Demographic characteristics and performance</td>
<td>Seven point Likert-type scale</td>
<td>EO could improve firm performance</td>
<td>Positive relationship between EO and innovation performance</td>
<td></td>
</tr>
<tr>
<td>O’Regan et al.</td>
<td>Strategic planning and performance</td>
<td>Customer satisfaction, market share, innovation</td>
<td>Degree of strategic planning positively related to firm performance</td>
<td>Degree of awareness of external environment and strategic planning positively related to firm performance</td>
<td></td>
</tr>
<tr>
<td>Zhou et al.</td>
<td>Social network’s moderating role on SME INTL-PERF relationship</td>
<td>Export growth; profitability growth; total sales growth</td>
<td>Social networks could improve firm performance in multinationalisation context</td>
<td>Survey data supports the hypothesis</td>
<td></td>
</tr>
<tr>
<td>Brock &amp; Yaffe</td>
<td>International diversity and firm performance</td>
<td>Profits per equity partner (PEP); growth rate of PEP; gross revenue growth</td>
<td>Firm’s implementation of change improve performance in host market</td>
<td>Implementation of managerial practice when entering new market improves performance</td>
<td></td>
</tr>
<tr>
<td>Hsu and Pereira</td>
<td>Organisational learning’s effect on INTL-PERF relationship</td>
<td>ROS; ROI; ROE</td>
<td>Organisational learning improve firm performance in multinational context</td>
<td>INTL-PERF relationship is moderated by organisational learning</td>
<td></td>
</tr>
<tr>
<td>Serrasqueiro &amp; Nunes</td>
<td>Performance and firm size</td>
<td>Business scale (Note 0)</td>
<td>Positive relationship between size and performance</td>
<td>No consistent evidence proving a positive relationship</td>
<td></td>
</tr>
<tr>
<td>Serrasqueiro</td>
<td>Firm size and Ratio between Performance</td>
<td>Performance is Positive and statistical</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ROA = Return on Assets; INTL-PERF = Internationalisation Performance; ROS = Return on Sales; ROE = Return on Equity; SME = Small and Medium Enterprises; EO = Entrepreneurial Orientation; FSTS = Foreign Subsidiary Terminal States; PEP = Profits per Equity Partner; Note 0 = Business scale is not specified; Note 3 = Number of host countries.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Methodology</th>
<th>Variables</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp; Nunes, 2008</td>
<td>Performance and asset structure</td>
<td>Company structure (Ratio between fixed assets and total assets)</td>
<td>A negative relationship between SMEs’ tangible assets and performance.</td>
</tr>
<tr>
<td>Serrasqueiro &amp; Nunes, 2008</td>
<td>Performance and asset structure</td>
<td>A significant statistically negative relationship between SMEs tangible assets and performance.</td>
<td></td>
</tr>
<tr>
<td>Gaur &amp; Kumar, 2009</td>
<td>International diversity and performance</td>
<td>ROS; ROA</td>
<td>DOI and performance are positively related, business group affiliation reduce the positive INTL-PERF relationship.</td>
</tr>
<tr>
<td>Frishammar &amp; Andersson, 2009</td>
<td>Strategic orientations and firm performance</td>
<td>FSTS; Scale survey</td>
<td>EO could greatly contribute to new market entry performance.</td>
</tr>
<tr>
<td>Jovanovic, 1982</td>
<td>Learning model theories</td>
<td>Managerial Learning ability</td>
<td>Firms update its managerial ability base on previous performance.</td>
</tr>
<tr>
<td>McPherson, 1995</td>
<td>The hazard modeling theories</td>
<td>Financial ratios</td>
<td>Hazard models can be in discrete/continuous time, and parametric /non-parametric approaches. n/a (note 2).</td>
</tr>
<tr>
<td>Altman, 1983</td>
<td>Z-Scores</td>
<td>Five financial measures</td>
<td>Discriminant analysis classifies a company into two groups: failed/ non-failed. Effective for large and very large companies.</td>
</tr>
<tr>
<td>Altman, 1983</td>
<td>ZETA-Scores</td>
<td>Five financial measures and information value</td>
<td>Could effectively predict financial failure and future loan loss. Effective for large and very large companies.</td>
</tr>
<tr>
<td>Jain and Nag, 1997</td>
<td>Neural networks (NN)</td>
<td>Large number of elementary interconnected processing units</td>
<td>Able to learn relationship between different measures. Effective for large and very large companies.</td>
</tr>
<tr>
<td>Abouzeedan and Busler, 2004</td>
<td>The survival value index (SIV) model</td>
<td>Financial ratios and qualitative variables</td>
<td>Provide comprehensive approach of performance analyzing. Effective for SMEs.</td>
</tr>
</tbody>
</table>

Note 0: Serrasqueiro and Nunes (2008) define business scale (size) as S1 = Logarithm of total assets; S2 = Logarithm of sales (annual turnover); and S3 = Logarithm of number of employees. Performance = β (Size i) (i = 1, 2, 3)

Note 1: Gibrat’s Law is stating that firm growth is independent of its initial size and ‘the variance of growth rates shows no heteroskedasticity with size’ (Abouzeedan and Busler 2004, Caves et al., 1980)

Note 2: According to Abouzeedan and Busler 2004 and Caves et al., 1980, proportional hazard model is recently introduced in the firm performance analysis. The outcomes are not sufficiently proved yet.

Note 3: FSTS = foreign sales/total sales
4.2 Synthetic summary of SME internationalisation and performance relationship literatures

With all the four quadrants of literature mentioned above, we now focus on a few papers concerning the internationalisation and performance of small and medium sized enterprises. McDougall and Oviatt (1995) point out that the impact of multinationalisation on firm performance is one of the most significant concerns in the field. As already discussed, this topic is critical for both business managers who need to take strategic decisions as to whether or not to go global, and for researchers who trying to unveil the real effects of internationalisation on firm survival and growth. Existing literature on this issue has tried to explore whether and how value could be added to firm performance while businesses operate beyond national borders (Lu & Beamish, 2001; Pangarkar 2008). Empirical research has focused on finding evidence of a positive relationship between internationalisation and performance (Autio et al., 2000; Zahra et al., 2000; Lu & Beamish, 2001; Qian, 2002; Westhead et al., 2004; Pangarkar, 2008). Existing paper has employed different approaches to examine the relationship between internationalisation and SME performance. I am going to review the literature in four main parts: variables, hypothesis, methodology and results, as well as discussion and future research.

First we look at variables employed in existing papers. As one of the main source lead to inconsistent empirical results in SMEs’ performance and internationalisation study (Pankargar, 2008), variable and measurement selection is one of the most important issue to be addressed in this literature review. We have discussed dependent variables and measurement of performance context. Now we will focus on independent variables and control variables employed in past literature that influence SME internationalisation and performance relationship. Internationalisation, as a business expansion strategy, has long been employed as independent variable in IB literature. The degree of internationalisation (DOI) is a prevalent way indicating the multinationalness of a firm. In MNEs
study, DOI has been employed for decades, Li (2007) concludes that there are mainly four measurements of DOI, respectively (Li, 2007 pp. 123)

1) Operational performance (e.g. the ratio of foreign to total sales);
2) Operational structure (e.g. the ratio of foreign to total assets);
3) Attitudinal attributes (e.g. top management’s international orientation);
4) Stock ownership (e.g. the percentage of common equity owned by foreign companies)

However, as Li (2007) finds out, most existing literatures employ operational performance as measurement of DOI. The ratio of foreign to total sales (FSTS) is prevalent DOI measurement in that sales data are more accessible and explicit compare with other financial figures. There are other methods of indicating internationalisation level of firms. Lu and Beamish employ two explicit indicators, export and FDI. Export measures e.g. the ratio of export sales to total turnover of the company, are similar to DOI measures. FDI however, has different attribute compare with DOI measurements. FDI is a entrepreneurial activity which is more deliberate considered business operation rather than an opportunism action. Lu and Beamish (2001) argue that the reason FDI is not widely employed as DOI lies in the difficulties of obtaining SMEs’ FDI data.

Another significant aspect is the control variables in the empirical study of SME internationalisation and performance literature. Studies employ single or multiple financial measurements to measure performance also argue that non-financial factors have significant influence on firm performance (Serrasqueiro & Nunes, 2008; Abouzeedan & Busler, 2004; Orser & Hogarth-Scott et al., 2000). Three outstanding non-financial factors receive intensive attention: age of the firm, managerial planning, and industry complexity (George, 2005; Sapienza & Autio et al., 2006; Abouzeedan & Busler, 2004). Firm age is important since business could accumulate operational patterns and routines through day-to-day business activities. Also, firms at the early stage of establishment facing more resource
constrain and development uncertainty. Sapienza and Autio et al. (2006) argue that companies are more vulnerable at the initial stage of business activity. Lack of management experience and resources may easily lead to business failure. Older companies, which have accumulated assets and managerial patterns, can leverage more intangible resources to sustain themselves under uncertain conditions. Abouzeedan and Busler (2004) argue that managerial planning capability may also have been developed through many years of business operating. Empirical evidence also suggests that companies with more business experience and comprehensive development planning have better performance compared with others. Resource distribution theory emphasizes that experienced managerial teams with clear future plans can allocate their resources more properly. George (2005) argues that a competitive environment (industry complexity) also plays a critical role in the performance of firms. If the environment is highly competitive and complex, firms in the market are likely to practice a more constrained strategy which will lead to much more moderate performance. Risk-averse companies may have lower growth rates but have a greater chance of survival (Table 4).

**Table 4 Synthetic reviews of SME intl-perf literatures on variables and factors**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Key factors (control variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autio et al. (2000) International sales performance (change in international sales as a percentage of total sales)</td>
<td>Age of entry (time, in years, between a firm’s founding and its first international sales); Knowledge intensity (Seven-point scales of executive’s ratings of three statements about the extent to which knowledge intensity characterized their firms); Imitability (Seven-point scale on four items: the time it takes outsiders to learn the technology, ease of copying the technology, causal ambiguity, one-way analysis of variance- ANOVA)</td>
<td>Legal protection; Growth orientation (a five-point scale); Firm age</td>
</tr>
<tr>
<td>Zahra et al. (2000) Profitability (ROE) and sales growth</td>
<td>International diversity (the market diversity, technology diversity, cultural diversity, geographic diversity, foreign market segments); Mode of international market entry (data on firms’ international export agreements, licensing agreements, joint ventures, acquisitions, and start-ups, or Greenfield investments)</td>
<td>Company size; Major industry type; Venture ownership; International experience; Firm prior performance</td>
</tr>
<tr>
<td>Lu and Beamish (2001) Firm performance [ROA, ROS]</td>
<td>Exporting activities [% of export revenue in total turnover]; Foreign Investment Activities [1. The number of FDIs, 2. R&amp;D as percent of sales; advertising as percent of sales; size of the SME (log of total]</td>
<td></td>
</tr>
</tbody>
</table>
in which the parent firm had a 10 percent or greater equity share; 2. The number of countries in which the firm had FDIs; 3. The number of Japanese-Japanese equity joint ventures; 4. The number of Japanese-Local joint ventures; 5. The number of employees; 6. Product diversification of the SME (a Herfindahl measure); 7. Dollar-yen exchange rates

<table>
<thead>
<tr>
<th>Firm financial performance (ROS)</th>
<th>Product diversification</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ROS]</td>
<td>$D = \sum s_i \ln \left( \frac{1}{s_i} \right)$</td>
</tr>
<tr>
<td>Multinationality</td>
<td>[Foreign sales / Total sales]</td>
</tr>
</tbody>
</table>

| Firm size; Firm age; Research and development expenditures; Advertising intensity; Debt level; Industrial environment. |

| Propensity and the intensity of internationalisation: Binary yes/no statement of firm exporting status; foreign sales to total sales ratio |

| Industry; company age; company size; cluster distance; environmental turbulence |

<table>
<thead>
<tr>
<th>Internationalisation: DOI 1 and DOI 2</th>
<th>Firm Size [Sales level]; Host country attractiveness [5 point Likert scale survey question]; Capabilities [5 point Likert scale survey question]</th>
</tr>
</thead>
</table>

Hypothesis developments in papers are based on different theoretical arguments and focuses. Past literatures on SMEs internationalisation aim to find a linear positive relationship between market expansion activities and firm performance (Zahra et al. 2000; Qian 2002). As more longitudinal data and panel data added into empirical tests, later research hypotheses non-linear relationship between multinationalisation and firm performance (Table 5).

---

1 [Different importance attach to each of the following measures: ROS, Growth of sales, Foreign profits as a % of total profits, Growth of profits, Return on assets, Experience or knowledge gained as a result of entering foreign markets]

2 [DOI$_1$ = \( \frac{\text{proportion of foreign sales}}{\text{(POS in SE Asia)}^2 + (\text{POS in rest Asia})^2 + \text{et al}} \)]

DOI$_2$ = \( (1 \times \% \text{ of sales from SE Asia}) + (2 \times \% \text{ of sales from the rest of Asia}) + (3 \times \% \text{ of sales from the rest of the world}) \);
### Table 5 Synthetic reviews of SME INTL-PERF literatures on hypotheses

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>H1. The age of a high-technology firm at international entry is negatively related to its subsequent growth in international sales.</td>
<td></td>
<td>H5a. International expansion (as measured by international diversity and modes of market entry) is positively related to new venture profitability.</td>
<td>H1. An SME’s performance is positively related to its level of exporting activities.</td>
<td>H1. Performance bears positive relationships to product diversification when a firm expands into lines of business that are related to its original products, and negative relationships when a firm diversifies beyond its original industries.</td>
<td>H4. Exporting firms/and those with a higher intensity of internationalisation will report superior business performance.</td>
<td>H0. A non-linear relationship exists between firm performance and internationalisation (Note 1)</td>
</tr>
<tr>
<td>H2. The knowledge intensity of a high-technology firm is positively related to its growth in international sales.</td>
<td></td>
<td>H5b. International expansion (as measured by international diversity and modes of market entry) is positively related to new venture sales growth.</td>
<td>H2. The relationship between the level of FDI and an SME’s performance is nonlinear, with the slope negative at low levels of FDI but positive at higher levels of FDI.</td>
<td>H2. Performance should positively vary, to a certain extent, with degrees of multinationality.</td>
<td></td>
<td>H1. Higher levels of DOI will lead to better SME performance.</td>
</tr>
<tr>
<td>H3. The imitability of a high-technology firm’s technology is negatively related to the firm’s growth in international sales.</td>
<td></td>
<td>H3a. An SME’s performance is positively related to its level of alliances with local partners formed in the process of internationalisation.</td>
<td>H3b. An SME’s performance is negatively related to its level of alliances with only home country partners formed in the process of internationalisation.</td>
<td>H3. The curvilinear (inverted U-shaped) relationship between multinationality and/or product diversification, and profit performance becomes weaker at high levels of these two dimensions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The sample been employed in past literatures including interview data (Autio 2000), single year data (Pangarkar 2008), cross-section data (Westhead et al., 2004; Zahra et al. 2000), longitudinal data (Lu and Beamish 2001), and panel data (Qian 2002). Cross-section data have comparable settings which could avoid industry context and unveil unbiased results. Longitudinal data is particularly useful when come to measure the impact in medium and long time span. And panel data offers a complete view of the relationship between multinationalisation and performance. According to different data set, the analytical method will differ as well. Multiple linear regression (MLR) and Ordinary least
squares (OLS) are prevalent approaches respectively in linear relationship hypothesis test and non-linear test. Controversial result has been found in different papers, Lu and Beamish (2001) argue that preliminary results may offer conflicting empirical evidence at the stage. Pangarkar (2008) argues that curvilinear relationship between multinationalisation and performance become more popular although the consistency of research result is still low. Within curvilinear relationship predicts, there are different hypothesis as well, Lu and Beamish argue that a “sideway S” relationship may exist, while Pangarkar (2008), Ruigrok et al. (2013) argue a U-shaped curve relationship. More empirical evidence is needed in following research on the topic (Table 6).

Table 6 Synthetic reviews of SME INTL-PERF literatures on methodology, sampling, and results

<table>
<thead>
<tr>
<th>Analytical method</th>
<th>Sampling</th>
<th>Empirical Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autio et al. (2000)</td>
<td>Multiple linear regression</td>
<td>134 Finish firms’ interview results, 77 usable samples</td>
</tr>
<tr>
<td>Zahra et al. (2000)</td>
<td>Multiple linear regression</td>
<td>321 companies cross-section survey samples in year 1993</td>
</tr>
<tr>
<td>Lu and Beamish (2001)</td>
<td>Ordinary least squares (OLS) generate results and tested by TSCSREG procedure in SAS (note 4)</td>
<td>12 year longitudinal sample of 164 Japanese SMEs (employee ≤ 500)</td>
</tr>
</tbody>
</table>
Qian (2002) Ordinary least squares\(^3\) 71 US manufacturing based SMEs (Employee ≤ 500 ) during 1989-1993 (5 years) R1. Product diversification and multinationality were associated positively with profitability; R2. Positive relationship between multinationality and ROS, and a negative relationship between multinationality squared and ROS. R3. R&D expenditure is positively related to ROS, while debt level has negative effect on ROS; firm size, age, and adv intensity have expected sign but not significant.

Westhead et al. (2004) Multivariate regression with weighted variables 377 UK independent limited liability unquoted companies R4. There is no significant positive effect between firm exporting intensity and firm performance.

Pangarkar (2008) Multiple linear regression Single year study of 94 privately held SMEs in Singapore in year 2004 R1. Higher DOI will lead to improved firm performance. R2. Capabilities variable has significant coefficients which means capabilities have a considerable impact on firm performance. R3. Highly internationalized firms seem to be in a much better position to leverage the opportunities provided by attractive international markets R4. DOI\(_1\) is a stronger predictor of performance than DOI\(_2\).

Several important research gaps and future directions have been addressed in existing literatures. Lu and Beamish (2001) argue that SMEs’ internationalisation is a necessary path to achieve company growth. Some literatures suggest that more comprehensive variables and measures should be employed in future research (Zahra et al. 2000, Pangarkar 2008). Future research could employ longitudinal data with diverse home country companies as samples (Beamish and Lu 2001). Except for DOI, other aspects of global strategy could be explored (Pangarkar 2008) (Table 7). Westhead et al. (2004) also emphasize on the importance of an unbiased approach to empirically test the causality between SME internationalisation and firm performance. The common self-selection problems should be tackled by not only a longitudinal dataset but also a random selection process or with control groups.

\(^3\) ROS = a + B (PD) + c (PD\(^2\)) + d (MN) + e (MN\(^2\)) + f (PD × MN) + g (PD \times MN\(^2\)) + h (PD\(^2\) × MN) + i (PD\(^2\) \times MN\(^2\))
**Table 7 Synthetic reviews of SME INTL-PERF literatures on future research directions**

<table>
<thead>
<tr>
<th>Future Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autio et al. (2000)</strong></td>
</tr>
</tbody>
</table>
| 1. Although firm growth is important, other variables such as survival, profitability, and innovation are also worth exploring.  
2. The timing of internationalisation is another interesting issue.  
3. It would be useful to examine the dynamics of opportunity seeking and the roles of individuals in this process. Especially, longitudinal examination will be more important.  
4. Case study follow individual firms from inception through maturity also could be fruitful. |
| **Zahra et al. (2000)** |
| 1. Additional performance measures should be employed to find the linkage between international expansion and performance.  
2. To find the linkage between performance and different types of internationalisation diversity is important.  
3. Segment different ventures’ international process could be important. |
| **Lu and Beamish (2001)** |
| 1. Studies with comparative samples of firms from other countries should be used to test and extend the generalizability of this research.  
2. The investigation of internationalisation and performance relationship in private and smaller-sized firms may complement the picture of the area. |
| **Qian (2002)** |
| 1. No definitive conclusions can be drawn from past research on the relationship between foreign operations and profitability. Inconsistent results are not surprising as findings appeared to be highly susceptible to choices concerning profitability measures, time period, control variables, and method of analysis.  
2. Empirical test of a quadratic relationship between multinationality and profitability is insufficient (Note 3).  
3. Environment may have a big effect towards certain period of time, performance in this period may greatly depending on the environment stability level. Therefore, a longitudinal research could be useful. |
| **Westhead et al. (2004)** |
| 1. Panel data should be employed in future research on firm exporting intensity and performance relationship.  
2. Moderating effects are critical when probing the internationalisation-performance relationship.  
3. Qualitative studies with ‘participant-observer technique’ should be conducted over a long period of time to unveil the true relationship between firm internationalisation and performance. |
| **Pangarkar (2008)** |
| 1. Prior literature is hampered by two interrelated issues: problematic measures for key variables and inconsistent results.  
2. Examine the performance of individual internationalisation initiatives and correlate it with the characteristics of the market.  
3. Longitudinal effects in the internationalisation process are more useful than cross-sectional studies.  
4. Except DOI, other aspects of global strategy could be explored (coordination, for example). |

Within the scope of international business literatures, studies on MNEs’ DOI-performance gave a loose conclusion that internationalisation has a positive effect on firm performance (Pangarkar, 2008). However SMEs may experience a more complicated situation while going global. A typical
anticipation of the relationship between SME multinationalisation and firm performance is a U curve which indicates a deteriorate performance at the beginning of internationalisation due to the shock of foreignness and resource constrain. In the long term however, a pick-up could happen when the benefit of new opportunity overcome the negative impact (Orser et al., 2000; Shrades et al., 2000).

Lu and Beamish (2001) argue that their empirical result of a “saucer-shaped” FDI and SME performance relationship may have completed a “sideways S” curve relationship between multinationalisation and firm performance. However, as the authors point out, for SMEs, empirical studies have provided contradictory results as to whether there is a positive or negative relationship between multinationalisation and performance. The ‘3-stage theory’ is the latest and the most plausible model of SME intl-perf relationship (Lu & Beamish, 2001, 2004; Contractor, 2007). This ‘sigmoid model’ is built on empirical evidence from the study of MNE internationalisation (Figure 4). However, this conclusions have been controversial both before and after it was introduced (Bausch & Kristin, 2007). In fact, each stage of the ‘3-stage’ model has received contradictory empirical results.

In this thesis, I will look at the mechanisms behind sigmoid curve, a priority will be given to stage 1 in which a U-shaped curve indicates a negative to positive shift in firm performance as internationalisation activities emerge.

Figure 4 Sigmoid (3- stage) model of SME INTL-PERF relationship

Resource: Contractor (2007), pp. 455
4.3 Theoretical analysis of intl-perf mechanisms and hypothesis developing

In this part, we will focus on the mechanisms I proposed in previous chapter. Each mechanism includes a few factors and I will develop my propositions based on the theoretical analysis of these factors’ effect on SME intl-perf relationship. Special attention will be paid to mechanisms that are less explored in past literatures. Resource fungibility, demographic characteristics of the management team, and internationalisation’s direct impact on SME performance will be highlighted in this study.

4.3.1 Change capabilities and intl-perf relationship in SMEs

As argued earlier, internationalisation is a process of bringing change to a company. How well SMEs adapt to the changing internal structure and external environment during internationalisation process could determine whether or not the companies survive the initial impact of foreignness. Autio et al. (2010) argue that there are two sets of organisational capabilities, one helps firms develop routines and patterns during day-to-day business practice and stable external environment, while the other helps companies redeploy their fungible resources and develop new capabilities when facing volatile environment. The first set of organisational capabilities, as Autio et al. define, are ‘substantive capabilities’, while the second set of organisational capabilities are defined as ‘change capabilities’. According to this definition, we trace to its source of mechanisms and factors that improve company’s ability of adopting itself to new environment and achieving competitive advantage in changing market place. Three significant theoretical perspectives, dynamic capability, organisational learning, and absorptive capacity will be addressed in our analysis.

Teece et al. (1997) propose that a company’s ability to employ both internal and external resources to adapt to a rapidly changing environment may be considered its dynamic capability. The
internationalisation process is a challenge for SMEs in that it brings change to a company’s business operation, communication, and organizational structure. Compared with RBV, company dynamic capability focuses more on the fact of change and the firm’s ability to deal with changes. In the context of SME internationalisation, RBV focuses on access to new resources and marketplaces in the host country. For new market entrants, capturing host country resources, which may become a non-substitutable component of its resource bundle, provides great advantages. However, before recognizing and assimilating the new resources, it is most important to survive the impact of internationalisation. After all, only those companies which can adapt to the new environment quickly and smoothly will have the chance to recognize new resources.

In stage 1 of the sigmoid model at the minimum point t the slope of the performance shifts from negative to positive (Figure 5). Lu and Beamish (2001) propose that this inflexion is due to new knowledge and new market opportunities of the host country outweighing the ‘cost of freshness’. Assimilating new knowledge and recognizing new market opportunities are considered the upward force at phase b of stage 1. Cohen and Levithal (1990) argue that a company’s ability to assimilate new knowledge and explore value in a new market may be considered its absorptive capacity (Cohen & Levinthal, 1989, 1990; Zahra & George, 2002). Absorptive capacity helps firms to learn quickly from new environments. I argue that absorptive capacity enhances a firm’s learning capability and improves its performance. In other words, internationalisation induces the cost of freshness but also increases a firm’s exposure to new knowledge and business opportunities. A firm’s absorptive capacity allows it to recognize and utilize new knowledge and opportunities, which improves its performance (Glaum and Oesterle, 2007). In the following sections, I will discuss all three of the theoretical aspects, e.g. dynamic capability, organizational learning, and absorptive capacity respectively.
Dynamic capability

Dynamic capability enables companies to adapt the new environments and opportunities in a changing environment (Teece, Pisano, & Shuen, 1997). The internationalisation of SMEs impacts firm performance by introducing changes and new opportunities. As discussed above, these changes influence both the internal and external structure of the firm. Compared with established multinational companies, SMEs face severe resource and knowledge-stock constraints. However, this does not mean SMEs are at inferior position in internationalisation process compare with MNEs. From the dynamic capability perspective, abundant knowledge or technology stock and access to scarce resources are not enough to secure a competitive advantage. It is the ability to respond swiftly to market and technology changes which enables a firm to achieve succeed. To quickly respond to market changes a firm needs to understand its own market position and learn to adapt to market needs. At the same time, a timely reaction to technology change means the company has the ability to recognize technology opportunities.

First, I look at dynamic capability in dealing with market changes. In the internationalisation context, market change is largely due to entry to new markets when SMEs go global. Much of the literature in
learning capability and knowledge transfer has pointed out the inertness of replicating the successful practice of doing business from the home market to the host country (Kogut & Zander, 1992; Teece, 1986; Cohen & Levinthal, 1990). Here I focus on how to overcome this inertness during geographic expansion. Before replicating the original practice to a new market, a firm needs to understand its patterns of doing business. Routines and patterns developed by the company are highly path-dependent and not easy to codify and replicate (Kogut & Zander, 1992). The major obstacle lies in the difficulty of codifying successful practice and transferring tacit knowledge. Since successful practice and tacit knowledge are the results of learning-by-doing (Malerba & Orsenigo, 1993), I argue that the replication of practice could be improved by the experience of the actual practice of replication. SMEs learn from their experience of going global and accumulate the routines and patterns of replicating and transferring business practice and knowledge. This learning-by-doing actually enhances their dynamic capability in moving into a new market.

**Proposition 1(a) SMEs with previous experience of entering new markets have obtained relevant capability for geographic expansion, which facilitates performance in the host market.**

Second, I turn to the capability of dealing with technology changes and consequent challenges. Many SMEs in high-tech industry face fierce changes in the technological environment. Teece et al. (1997) state that the dynamic capability approach distinguishes itself from the attenuating competitive forces paradigm, the strategic conflict model, and RBV, by proposing ‘an expanded paradigm’ of how high-tech companies achieve success in a fast-changing industry environment. The real challenge for companies in a fast-changing technology environment, as Teece (2007) argue, lies in how to recognize external technology opportunities and internal competence, which provide inimitable technology advantages. In the context of multinationalisation, entry to a new marketplace means exposure to new knowledge and resources and an increased potential to explore new technology opportunities, which in turn improves the firm’s ability to deal with changing technology
environment. Recent empirical results also suggest that greater breadth of innovation objectives and knowledge sources is associated with greater innovation success at the firm level (Leiponen & Byma, 2009). Also, entering a new market provides the strategic possibility of 1) access to higher technology in the host market, or 2) introducing higher technology to the host market. Therefore I propose that

*Proposition 1(b) Internationalisation, as a business expansion strategy, increases high-tech SME’s exposure to new knowledge and technological opportunities, which leads to better performance in the long run.*

Coff (1999) argues that a firm is not a unitary role but is constituted by many stakeholders with different interests; therefore, a firm can be seen as a nexus of contracts. Since a firm consists of individuals, small working groups, teams, and departments, which all have different interests, focuses, and knowledge-stocks, the exploitation of knowledge stock within the firm is difficult. Similarly, the transfer of technology within the firm also faces obstacles (Teece, 1986). Szulanski (1996) describes these impediments within a firm as ‘internal stickiness’, which originates from the causal ambiguity of knowledge itself, lack of perceived reliability of sources, lack of absorptive capacity of the recipient, and the arduous relationship within the organisational context. In the multinationalisation context, in most cases SMEs expand their operating branches as well as employee numbers when entering a new market. The expansion leads to a more complicated organisational structure and greater distances between individuals and working units. I argue that it is difficult for SMEs to exploit existing knowledge stock when an organisation expands over national borders. Related empirical evidence can be found regarding the third stage of the sigmoid model of the IP relationship, in which the negative effects of internationalisation on performance come from the cost of managing a complex multinational organisation (Contractor, 2007). This leads to the following proposition:
Proposition 1(c) Internationalisation of SMEs increases the complexity of organisational structure which hinders the exploitation of knowledge within the firm and eventually offset the benefits of cross border market expansion.

Absorptive capacity and learning effects in SMEs

Absorptive capacity has been widely accepted as a significant mechanism that offers a distinctive perspective alongside the resource-based view (RBV) (Barney, 1991), knowledge based analysis (KBV) (Kogut & Zander, 1992; Grant, 1996), technology and industry change (Dosi, 1982; Malerba & Orsenigo, 1993, 1996; Audretsch, 1997), and the dynamic capability perspective (Teece, Pisano, & Shuen, 1997; Teece, 2007; Cohen & Levinthal, 1990) on firm internationalisation and performance studies. Cohen and Levinthal (1990: 447) define absorptive capability (AC) as a firm’s ability to ‘recognize and assimilate external information and apply it to commercial ends’. There are three fundamental aspects to this approach, respectively 1) identify the new external knowledge; 2) assimilate the information and knowledge from the new environment; and 3) apply the external knowledge to enhance the firm’s own competitiveness. These three aspects are progressively related to each other. The first step concerns identifying new technology and recognizing opportunities, which is a fundamental requirement for companies exploring new technological opportunities. For SMEs, internationalisation increases exposure to new information and technology resources, which has the positive effect for companies of accumulating diverse knowledge and information. However, recognizing crucial new technology among the many flourishing new methods requires a better understanding of market needs and technological developments. The second step of assimilating external knowledge focuses on the learning process whereby a firm recodes new knowledge into a common language which can be understood, communicated, and replicated within the boundary of the organisation. In the third step the knowledge is applied to firm practice, which emphasizes the organisational ability to exploit inner knowledge stock and apply ideas to production. Cohen and Levinthal (1990) proposed that organisational absorptive capacity is a function of prior
knowledge stock. Similarly, Kogut and Zander (1992) argue that organisational learning capability cannot be separated from what the firm already knows, i.e. the knowledge stock of the company. Their rationale lies in the view that what the company did in the past shapes what they can do in the future. Although in many cases the knowledge stock may not be particularly useful for future development, a rich knowledge stock and operational experience are considered solid ground for better organizational learning capability in the future. Persistent investment in in-house R&D is therefore the major means of improving a company’s absorptive capacity. To avoid the possibility of being ‘locked-out’, when the company is locked out of the thread of technology development, it is vital for companies to keep their knowledge and technology stock up to date (Cohen & Levinthal, 1989, 1990).

Zander and George (2002) argue that absorptive capacity can be viewed as the dynamic capability for organisational learning in a changing environment. In other words, absorptive capacity measures a company’s ability to learn in the process of change. This perspective offers a new approach to formulate the concept of absorptive capacity. Zander and George suggest that there are two ‘subsets’ of absorptive capacity, namely ‘potential capacity’ and ‘realized capacity’. Potential capacity is an organisation’s ability to identify and assimilate knowledge, while realized capacity is an organisation’s ability to recombine and apply knowledge to improve practice (Zander & George, 2002). Realized capacity focuses on whether a firm could develop routines and patterns to exploit its own knowledge stock. Absorptive capacity is a self-enhancing practice which improves by doing (Figure 6). The three elements, absorptive capacity, learning capability, and prior knowledge stock, form a complementary circle and together define a firm’s absorptive capacity. Therefore, I believe that SMEs with better prior knowledge stock and experience of pattern and routines will have more chance to improve performance.

Proposition 1(d) SMEs with abundant prior knowledge stock explore host market knowledge and
information more efficiently, which leads to superior performance.

Figure 6 Self-enhancing relationship between absorptive capacity, learning capability, and knowledge stock

The above analysis focuses on general conditions of knowledge transfer between external environments and SMEs. A further look at the detailed learning and external knowledge assimilating process may offer a more comprehensive and practical perspective on how absorptive capacity improves SME performance. I propose a model built on Cohen and Levinthal’s (1990) model of absorptive capacity and R&D (see appendix 1). Instead of analyzing R&D and knowledge stock separately, I argue that knowledge stock acts as an information and knowledge centre in the learning process.

Oviatt and McDougall (1994) argue that to achieve sustainable growth SMEs have to rely on local (host country) knowledge assimilation and capability development. Exploration of local knowledge and acquisition of host country R&D capabilities therefore, is vital to 1) survive in foreign market and 2) achieve profitability in long term. Past literature of learning process in host countries focuses on host country knowledge exploitation and assimilation (Autio et al., 2000; Bruneel et al., 2010). The effect of foreign capability acquisition (greenfield and brownfield investment) has been neglected.
Host country R&D capabilities could be deployed to facilitate market adaptation, product localization, as well incremental and radical innovations. The adoption of local intangible resources and knowledge based capacity therefore, could improve overall firm performance (Figure 7). In terms of Figure 7’s generalizability, I argue that smaller firms have small organisation, less power levels, more homogenous in many aspects in internationalisation process. MNEs however, have different departments, lots of subsidiaries, and complicated power structure. As a single small company, learning effects, knowledge assimilation, international experience provide more visible impacts compare with MNEs. Although learning effects happen in both SMEs and MNEs, I argue it is more visible in SMEs. Also, SMEs more rely on host country resources and knowledge to achieve success.

Proposition 1 (e) SMEs rely on host market knowledge exploration to achieve sustainable growth.
Figure 7 A roadmap of where and how organisational learning happens
Company absorptive capacity is a multi-dimensional concept which applies to different organisational levels including individuals, units, and firms. Maleba and Orsenigo (1993) propose three levels of ‘cumulativeness’, namely individual level, organisational level, and firm level. The concept of cumulativeness is similar to Cohen and Levinthal’s (1990) knowledge stock or prior knowledge. Maleba and Orsenigo argue that on an individual level, cumulativeness is more cognitively oriented and focuses on specific techniques. Organisational level focuses on communication between organisations within a firm, for example between in-house R&D and strategy making groups. Firm level mainly focuses on a firm’s knowledge stock and its relationship to the learning process. A few studies of knowledge stock and organisational capabilities have point out that personal level, unit level, or firm level absorptive capacity do not follow a simple linear sum rule (Nelson & Winter, 1982; Cohen & Levinthal, 1990). An organisation develops unique knowledge based on individuals’ expertise. Compared with MNEs, the prior knowledge stock of SMEs relies more on the past experience of management personnel or the entrepreneur (Gray, 2006). Cohen and Levinthal (1990) argue that personnel who act as information explorers and interpreters between the external environment and the organisation may be considered ‘gatekeepers’ who significantly influence the organisation’s ability to assimilate new knowledge. I therefore argue that the presence of gatekeepers within SME management teams has a critical impact on a company’s absorptive capacity. SMEs should diversify their management teams, which in turn provides a greater possibility of efficiently transferring external information to the internal organisation.

**Proposition 1 (f) Presence of personnel who have expertise in external knowledge and are familiar with the common language employed within the organisation, improves the organisation’s performance.**

Kogut and Zander state that it is easier to observe a firm’s knowledge stock than its learning capacity
I believe a knowledge stock-based model will more easily allow future empirical research to collect testable data. SMEs focusing on home markets (blue lines in Figure 7) rely on home market knowledge and in-house R&D to build knowledge stock. Multinationalisation creates two new resources of information, host country technical knowledge and host country market knowledge (red lines in Figure 7). Absorptive capacity acts as a learning mechanism for home and host country information and knowledge stock at the first stage. Then absorptive capacity exports the knowledge (recoded in the common language of the organisation) to organisational technology stock and develops both practice and production patterns and routines. The first ability, to explore external new technology, enables SMEs to recognize and understand new technology when encountering technology opportunities. The second ability, to exploit internal technology stock, enables SMEs to assimilate new knowledge and imitate technological developments. Some literature argues that internal exploitation can split into communication, recombination, aspiration, and other elements (Zander & George, 2002; Muscio, 2007). The knowledge itself could also be catalogued in different ways. Kogut and Zander (1992) argue that knowledge can be divided into information and know-how. The extravasations that happen in knowledge stock between different levels are due to the generation of new know-how. Urban and Hippel (1988) defines know-how as ‘the accumulated practical skill or expertise that allows one to do something smoothly and efficiently’. Kogut and Zander (1992) argue that know-how is highly path-dependent and needs to be learned. Therefore, the absorptive capacity of an organisation cannot be analyzed separately from the organisational learning process. If we follow the knowledge flow in Figure 7, the learning process takes place in two different streams. Host country market information and technical knowledge have different impacts on an organisation’s knowledge-stock. Existing products can be exported to a host country without causing upward technology feedback. Unless the host country market requires localized products, export can have little impact on a firm’s knowledge stock. Host country knowledge, however, has an impact on the company’s knowledge stock through the company’s absorptive capacity. Alternatively, localized products could be manufactured without making
technology contributions to the firm’s knowledge stock, which would probably mean that a break in the link between added R&D ability and existing knowledge stock.

*Proposition 1(g) Compared with exporting, FDI induces a higher level of new market and knowledge exposure, which is more likely to trigger the learning process and improve an organisation’s knowledge stock.*

4.3.2 Substantive capabilities and intl-perf relationship in SMEs

As we discussed in part three of this chapter, company’s substantive capabilities enable daily business operation run smoothly and efficiently (Autio et al., 2010; Zahra et al., 2006; Winter, 2003). Autio et al. (2010) argues that substantive capabilities improve routine business practice by “minimize variance and maximize operational efficiency”. The difference between substantive capabilities and change capabilities’ Impacts on firm performance then, lies in that change capabilities introduce new capabilities, products/ markets diversification, and variances to the company (Autio et al., 2010). Firm’s substantive capabilities are widely discussed and considered vital factors in MNE internationalisation studies. A specific focus is on firm’s incremental innovation capabilities R&D intensity, firm prior knowledge stock, and product/market diversity are the most significant components in substantive capabilities catalogue.

Firm R&D intensity has been considered as a critical indicator of firm innovative capability and major measurement of firm’s intangible knowledge level (Teece et al., 1997; Autio et al., 2000; Bausch & Krist, 2007; Muscio, 2007; Hsu & Pereira, 2008; Shimizutani & todo, 2008; Frenz & Gillies, 2009). Teece et al. (1997) states R&D intensity has been employed in resource-based analysis as a threshold preventing outsiders entering the market. R&D activities at the same time, is considered the major resource of incremental and radical technology improvements from a product life circle perspective.
R&D intensity is firmly connected with company prior knowledge stock. Higher R&D intensity builds up in-house technology stock and enables company to identify and assimilate external knowledge. Abundant firm knowledge stock at the same time could provide solid ground for in-house R&D activities. A positive mutual relationship between R&D intensity and prior knowledge stock has been widely accepted (Autio, 2000; Muscio, 2007; Teece, 2007; Hsu & Pereira, 2008; Frenz & Gillies, 2009).

Proposition 2 (a) R&D intensity, indicating firm technological capabilities and intangible knowledge level, is positively related to SME performance in domestic environment

Product and market diversity are two substantive capabilities received intensively attention in MNE intl-perf relationship research. Diversification of product is a well explored area in marketing literatures. In this paper we will focus on market diversity and its effect on SME performance. Early ‘degree of internationalisation’ (DOI) literatures employ foreign sales to total sales ratio (FSTS) or foreign assets to total assets ratio (FATA) as common measurements of firm multinationalisation level, the international diversification performance (IDP) literature however argues that DOI is not sufficient enough. The major argument is that firms operat in a few foreign markets with diverse culture and market environment could gain more business opportunities compare with firms operate in specific foreign markets (Geringer et al., 1989; Hsu & Pereira, 2008). The research focus lies in whether entering more foreign market could improve firm performance. The empirical result, similar to intl-perf relationship research, is inconclusive. Gaur & Kumar (2009) reviews that there are diverged empirical results in IDP literatures, including: linear positive, linear negative, U shape, inverted U shape, and non-related market diversification and performance relationship (Gaur & Kumar, 2009; Hitt et al., 2006). From a dynamic capability perspective, we believe that learning and assimilating of new market knowledge leads to complicated organizational structure and higher managerial costs. Enter new business environment is always risky for SMEs, at least in short term new market entry will negatively influence firm performance. Host markets with diverse cultural,
political, and market backgrounds are challenging environment for SMEs. It is advisable then to enter market clusters with similarity and geographical proximity.

*Proposition 2 (b) Market diversification requires sufficient time for SME adapt to new environment, a negative impact will be induced by market diversification on firm performance in short term.*

**4.3.3 Organisational Endowment and intl-perf relationship in SMEs**

Organisational endowment is simply composed by two company properties, firm age and size. Although it is explicitly defined, these two factors have been widely addressed in most intl-perf relationship studies. The first element, firm age is an important indicator of a company’s business experience and existing knowledge stock. At the same time, business experience and knowledge stock is the essential part for business routines and patterns’ development (Orser et al., 2000; Autio et al., 2000; Sapienza et al., 2006). According to process internationalisation theory, these patterns and routines are critical during the process of multinationalisation (Johanson & Vahlne, 1977; 1990; Welch & Luostarinen, 1988). PIT perspective therefore, regards firm age and size as important prior conditions of firm internationalisation. Resource-based view support PIT by assuming that firms with more experience and larger size have superior resource position compare with SMEs.

Following Oviatt and McDougall (1994)’s argument, Sapienza et al. (2006) state that PIT and RBV ignored the fact that although facing severe resource and experience constrains, INVs have become a significant part of multinational business role player. Sapienza et al. conclude that earlier internationalisation is not only possible but also provide significant advantage for companies in that the ‘imprint effect’ of dynamic capabilities will be more efficient as firm multinationalize at earlier stage of its development (Zahra & George, 2002; Zahra et al., 2003; Sapienza et al., 2006). Based on dynamic capability study, Autio et al. (2010) develop a more comprehensive organisational
capabilities approach which provides a solid grounding for INVs multinationalisation activities. Autio et al. (2010) state that well established companies accumulate abundant substantive capabilities through years of operation. However, the change capabilities which could only develop in new environment and knowledge exposure are more critical than substantive capabilities. The routines and existing patterns developed in home country could even hinder the firm’s adaption to new environment. Therefore, although SMEs face less developed substantive capabilities and change capabilities, less routines and patterns could offer an advantage of quickly adaption to the new environment. IE literature argues that age does matter in new firms (10-15 years old). Age has less impact on well established companies. In this section, I emphasise that firm age and size facilitate substantive capabilities, i.e. firm’s daily operations. I am fully aware that firm size does not indicate abundant fungible resources and firm age does not indicate experience in market expansion process.

Firm gain their experience of internationalisation from cross-border activities, I’m not proposing that firm age facilitate better host country performance. I propose that firm age facilitate company daily operations, which as Sapienza et al. (2006) point out, may hinder future international profitability. We therefore, propose that firm age has a positive relationship with company substantive capabilities. Change capabilities at the same time are not depending on firm age or firm size but organisational experience of change.

*Proposition 3 SMEs gain substantive capabilities through daily operation, firm age and size therefore, has a positive relationship with domestic and substantive knowledge stock.*

### 4.3.4 Network, industry dynamics, and international activities of SMEs

The above organisational endowment mechanism focuses on firm’s internal characteristics while environmental endowment focuses on companies’ external environment characteristics. Apart from location choice and cultural distance which have been intensively studied in international business
literatures, there are two major factors in this section attracting our attention, network perspectives and industry dynamics.

Dana (2001) points out that SMEs have established networks on all aspects of business activities. On individual level, entrepreneurs and business managers rely on an interpersonal network to achieve scale economy. Ethnic groups, industrial associations, and other forms of groups provide business owners a platform to exchange information and knowledge and achieve growth together. On firm level, SMEs not only participate in small business network but also become alliance with large companies, acting as supplier, outsourcer, or buyer. Wright et al. (2007: 1021) conclude that from a resource based perspective, networking provides SMEs the opportunity of utilizing ‘external tangible and intangible assets’ that complement limited internal fungible resources. This is critical for SMEs in the process of market entry. Dimitratos et al. (2012: 711) state that network perspective in internationalisation context focuses on ‘the extent to which the firm obtains resources from the external environment though alliance creation and social embeddedness in order to use in its activities in markets abroad’. Networking therefore, is an approach of knowledge and opportunity exploration in foreign market place. Since international SMEs rely on host country knowledge and opportunities to overcome the effects of foreignness, network plays critical role that determine the outcome of SME market entry activities.

There are two types of international networks, as Zhou et al. (2007) point out, namely social networks and business alliances. Social network is defined as a relationship to different stakeholders within the market (1). Typically, these stakeholders include buyers, suppliers, competitors, policy makers, research institutes, and so on. Interestingly, the role of these stakeholders may change as different business activities take place. For example, a host market competitor could become a business partner as a merger, acquisition, or partnership is formed (Gaur & Kumar, 2009). In the context of SMEs globalisation, social network emphasizes on managerial individual or entrepreneur’s
networking capability. Zhou et al. (2007) argue that social network plays critical role in SME internationalisation process for its efficiency of establishing reliable platform of knowledge and information exchange mechanism in unfamiliar environment. ‘Personal ties and connection that are built upon goodwill and trust’, as Zhou et al. (2007: 674) state, ‘is vital for internationalizing SMEs to identify global market opportunities and to extend connections with foreign intermediaries’.

Social network plays a critical role in that the new network building in host country need to be expanded fast enough and well connected to the home network. These networks are actually structures allow firms to collect and transmit information. As we found in figure 7, organisational learning is built on effective information flows from outside of the company to the inside of organisation (Kogut & Zander, 1992; Zahra, 2005). The identifying of new market opportunities at the same time also relies on efficient and comprehensive social networks. We’ve discussed the importance of external knowledge and learning process in SMEs multinationalisation process. Social network is the tangible infrastructure which enables the information reach the organisation.

Proposition 4 (a) Social networking facilitates SME performance in internationalisation process.

On the firm level, networking between organisations enables the SMEs to act as part of a symbiotic group of firms, cooperating with each other in the markets (Dana, 2001). Similar to social networks, business networks, e.g. business alliances, local partner companies, and joint ventures, provide a platform for SMEs to explore external resources and opportunities. Business alliances not only share resources, but also share the risks and shocks of foreignness in internationalisation process. SMEs could form different business networks with various kinds of companies. Wright et al. (2007:1022) argue that SMEs could be ‘pulled into foreign market by large network partners’ and ‘borrow size and resources’ from the companies. Large firms in a business network could facilitate smaller firms’ market entering activities. At the meantime, smaller firms have to synchronize their progress with
the large network partner to survive the new environment. Alliances with host country firms could also reduce the risks associated with market entry activities and allocate resources more efficiently between local and market exploring firms (Laufs and Schwens, 2014). Although SME internationalisation strategies are diverse, networks facilitate market entry process by providing resources and opportunities.

Proposition 4 (b) Business alliances facilitate SME performance in internationalisation process.

Industry dynamics is another element in environmental endowment section. Environmental factors like company industrial position’s impact on SME intl-perf relationship has been mentioned in many literatures. Zahra and George (2002), for example, argue that environmental elements, i.e. industries firms engaged in, could have great impact on firm intl-perf relationship. Similarly, Shrader et al. (2000), O’Regan et al (2007), and Rasheed (2005) regard industrial conditions as important factors and control these factors in their empirical analyses. Fernhaber et al. (2007) propose that firms engaged in fast growing industry, knowledge intensive industry, highly integrated industry, and highly venture capital reliance industry have more likelihood of going global. They point out the linkage between industry endowment of firms and internationalisation, as well as the performance after going global is yet to be explored. Firms engaged in different industrial environment may have great diverge in prior development route before going global. High-tech new ventures for example, may have a high expectation of globalization at early stage of establishment and enhance their change capabilities deliberately.

Proposition 4 (c) SMEs engaged in fast growing, knowledge intensive, highly integrated, and highly venture capital reliance industry have high expectation of globalisation, therefore, they will focus more on change capabilities building prior to multinationalisation which enable these companies to achieve better performance compare with other companies in different industry.
Resource position derives from the resource-based perspective of firm competitive advantage (Barney, 1995; 2001; Grant, 1991). It has been long established and well developed in international business literatures. The basic assumption is that access to specific non-imitable resources enables firms to outperform competitors (Barney, 2001). Hsu and Pereira (2008) propose a positively related model between company resource position and int'l-perf relationship by dividing the process into two stages. First, according to resource-based view abundant resource offers product advantage (tangible resource) and knowledge enable firm to expand over country boarder (intangible resource). Second, three aspects of organisational learning were introduced: social learning, technological learning, and market learning which are positively related to firm performance in host markets. Frenz and Gillies (2009) argue that knowledge could be seen as intangible resource, the prior knowledge stock of a company then, could also explained by resource-based view. A basic assumption is that resource possession has a positive relation with firm performance. Sapienza et al. (2006) define resource fungibility as resource’s attribute of whether could be used in wide range of business functions or focused on certain business operations. Sapienza et al. propose that higher resource fungibility level could reduce the cost of utilizing resources which in turn reduces the risks of failure during SMEs’ multinationalisation process. Following Penrose’s (1959) resource dependence theory, George (2005) argue that it is fungible resources, instead of resource stock as past RBV literature suggest, that facilitate company strategic activities. Internationalisation of SMEs, as Lin et al. (2009) point out, rely on SME fungible assets to overcome initial adversity of foreignness and survive in host markets. Since SMEs experience severe resource constraint compare to its established competitors, deploying the fungible resources efficiently and effectively is the key to a successful market entry activity. I therefore, propose that it is fungible resources that enable and encourage SMEs to enter foreign market and achieve successful results.
Proposition 5 (a) Fungible resources enable SMEs to enter foreign markets and facilitate the internationalisation process.

Proposition 5 (b) Deploying fungible resources efficiently and effectively could positively influence the outcome of SME market entry activities.

4.3.6 Demographic characteristics of the management team and SME internationalisation-performance relationship

Management team demographic characteristics, e.g. manager’s demographical background, management team experience, managerial diversity, and so on, are important factors influence SME internationalisation and performance relationship. Oviatt and McDougall (2005) state that international entrepreneurship (IE) is a behavior-based study focuses on proactive actions managers conduct to add new value to company in the context of multinational market entry (Oviatt & McDougall, 1995, 2005). The definition and boundary of IE study have since, been evolving from individual level to group, company, organisational, and industrial level. The major concern, as Shane and Venkataraman (2000) argue, is on how to find business opportunities and personnel’s role in this value-adding adventure. Two factors are critical in this opportunity identifying process, manager’s business experience and managerial team diversity. The first factor, entrepreneur experience is significant in intl-perf relationship in that entrepreneur’s personal international experience influence the decision making of time of entry, partnership forming, information collecting, learning capabilities, and many other aspect of multinationalisation process (Jantunene et al., 2005; Sapienza et al., 2006; Bingham, 2009; Frishammare & Andersson, 2009). For SMEs, the significance of entrepreneur’s role in multinationalisation is more vital compare with established companies. MNEs have complicated decision making process which ensures business action follows the right route and
look at the most efficient methods. SMEs often have less sophisticated bureaucratic decision making process, which means the strategy making more rely on individual managers or a few people in the managerial team, the outcome therefore, highly dependent to manager’s personal business experience. The presence of individual who has in-depth understanding of the external business environment and internal organisation will be vital for SMEs going global. Daily et al. argue that managers with international experience or host country knowledge are favorable when changes happen. The search for proper candidates take place first internally then externally (Daily et al. 2000). SMEs with experienced entrepreneurs and diverse background managerial team member are more likely to achieve efficient and proper decision making during multinationalisation.

Proposition 6 Individual business experience and managerial team diversity have a positive impact on firm performance in the context of multinationalisation.

4.3.7 Strategic legitimacy and intl-perf relationship in SMEs

We’ve looked at individual level of strategic making and demographic characteristics’ influence on intl-perf relationship. Now another focus will be on the organisational level, what kind of facts impact the intl-perf relationship. As we discussed in section 3 of this chapter, strategic legitimacy offers a credibility perspective on the firm’s ability to deal with changes. In other words, we look at organisation’s attributes on multinationalisation legitimacy. Firm’s strategy making, risk tolerance level, market entry model and willingness to bring change to the organisation are all factors which measure this credibility. Firm strategy emphasis whether or not the changes has been considered into firm development. SME internationalisation is a strategic decision and business expansion that needs overall consideration. However in some cases, for example on the initial stage of exporting, the company may have limited strategic orientation on the cross national boundary activities. The exporting will stay on as a sales or marketing activity without shifting the whole organizational
Companies with prior expectation of going global are more likely to put globalisation and consequent impact on organisation into firm developing strategy consideration. With prior planning and strategy making, it is more likely the firm could adapt itself more quickly and nicely to new business models and new market place.

**Proposition 7 (a) Firms with strategic consideration of internationalisation could more quickly adapt itself to new market and outperform competitors.**

The second factor is risk tolerance level of company. Risk tolerance level measures organisation’s capability of dealing with risks come along with internationalisation. There are two kinds of risks in the context of multinationalisation. First, the host country risk, which includes information asymmetry, market unfamiliarity, culture distance, and many other concerns conclude as ‘freshness cost’. Second, the organisational risk, which includes discontinuity of financial support, distance of management, increasing complexity of organisation, and other concerns sourced from within the organisation. Shrader et al. (2000) argue that since the risks are multilevel, the management of risks also needs a combination of actions. Financially, balancing the cash flow between home, host organisations is critical. Insurance is another choice when facing great uncertainty of overseas properties and liabilities. Strategically, prior observation, imitation, and flexibility are important for companies operating in a unfamiliar environment (McDougall et al., 1994). Rasheed (2005) combines two factors, risk tolerance and market entry model together and proposes that different host market risk level calls for corresponding entry strategy. When the host market risk level is high, non-equity entry may bring down the cost. Frishammar and Andersson (2009) echoes Rasheed’s proposition and argue that risk taking in host market has a positive relation with firm’s commitment level.

**Proposition 7 (b) SMEs with low commitment levels in host country bear lower host market and**
The last but not least factor is strategic change. Strategic change focuses on firm’s change adaptive capability on strategic level. The different of strategic change and the first factor firm strategy differs in that firm strategy concern the question whether or not firm put change into its strategic consideration and develop corresponding routines and patterns. While strategic change focuses on firm’s capability of dealing with change on a strategic level. McDougall & Oviatt (1996) argue that internationalisation brings environmental and organisational changes to company, these changes should be echoed in firm strategy level otherwise the management efficiency will be in doubt. Environmental contingency theory also support the view that firm strategy must adapt to external environment to achieve managerial harmony (Porter, 1980; McDougall & Oviatt, 1996). More importantly, strategic change is easier and more effective during the early stage of company development (McDougall & Oviatt, 1996; Teece et al., 1997). Although McDougall and Oviatt empirically tested the relationship between younger and older firm’s strategic change difference, a theoretically framework only established when Autio et al. (2010) argue that young firms have less well developed substantive and change capabilities, which enable the firm to develop a better change capability when entering foreign markets.

Proposition 7 (c) Firms involve in early strategic change achieve higher management efficiency which in turn leads to better host market performance.

5. Conclusion

Although increasing number of studies explores the SME internationalisation, its antecedents, process, and consequences, a systematic review of the current status of research is absent. The literature review summarizes the past literatures on SME internationalisation, its rationality,
motivation, and following consequences. Special attention has been paid to the review of prominent theoretical frameworks and empirical evidences of SME internationalisation’s impact on firm performance. Build on the review of relevant literatures, I define the frontier of current research by identifying and grouping the most prevalent models and factors with seven theoretical mechanisms that draw on different research perspectives. The 27 papers we analyzed in this literature review provide us a comprehensive list of factors/mechanisms that influence SME internationalisation process, firm growth strategy, and business performance in globalisation context. The significant difference of internationalisation process of SMEs and MNEs has been emphasized. This study concludes 7 salient mechanisms and 18 factors that intensively employed in past literatures of SME internationalisation studies. Developed from organisational capability theories, change capabilities and substantive capabilities are most intensively employed theoretical framework in SME internationalisation analysis. Substantive capabilities, e.g. firm R&D intensity, knowledge stock, and business diversity, have been investigated in 23 papers. Change capabilities, e.g. firm dynamic capability, learning capability, and absorptive capacity, have been studied in 14 papers. Strategic management and entrepreneurial demographic characteristics, at the same time are most empirically studied theories. There are 9 quantitative papers test business manager’s personal experience and/or managerial team diversity’s impact on SME internationalisation process. 4 papers probe market entry model’s role in SME internationalisation process empirically. Surprisingly, resource based perspective, although has been widely investigated in MNE internationalisation literature, has received relatively low coverage in SME new market entry studies. 8 papers explore resource position’s impact on SME internationalisation process. In a nutshell, the literature review develops a systematic summary of literatures and a framework of how changes produced by internationalisation activities transfer by different mechanisms to firm performance.

Aside from the major findings we mentioned above, the literature review also draws a roadmap of where and how organisational learning happens in domestic and international environments, which
bolsters better understanding of the organizational capability’s role in SME internationalisation process. Our findings provide possible future research directions. For example, although there are many papers probe organisational capability theoretically, empirical evidence is not sufficient. Resource base views and resource dependence theory’s effects in SME internationalisation process need to be addressed.

In terms of empirical testing, I propose the following three directions that need to be addressed base on the systematic literature review.

Firstly, resource dependent perspective has been articulated theoretically in SME internationalisation literatures. The empirical test results of its facilitating effects on SME market expansion activities however, are inconclusive and limited. Resource accessibility and mobility as prerequisites of resource deployment in internationalisation has been neglected. It is important therefore, to identify the re-deployable resources and focus on fungible assets when testing resource effects on SME internationalisation initiatives. At the same time, the managerial discretionary measures of accessible resources need to be employed in empirical studies to further distinguish the fungibility levels of organizational slacks.

Secondly, KBV and firm dynamic capability theories argue that SMEs rely on the redeployment of knowledge based resources to overcome shock of foreignness. Oviatt and McDougall (1994) argue that knowledge is the most outstanding fungible asset that could be explored, accumulated, and transferred at low costs. Empirical evidence of such facilitating effects however, is missing. The difference between knowledge intensive assets and organizational slacks should be emphasized. The role of knowledge intensity, as a re-deployable fungible asset, in SME internationalisation should be empirical examined.
Thirdly, As Wright et al. (2007) conclude, performance effects of SME internationalisation literatures are prone to methodological problems. This is partly due to the nature of the empirical data available of testing the SME internationalisation effects. Since a randomly assigned market entry scenario is hardly achievable, all past literature rely on archived data to test the hypotheses. Self-selection bias, which is due to the non-randomly selected treatment, and endogeneity, which is due to the difficulty of identifying periodical and endogenous variables, are common problems present in past empirical studies. Castellani and Pieri (2013) point out that a properly designed empirical test of internationalisation’s impact on firm growth that correct for selection biases is much needed.
Appendix

‘Necessary and Sufficient Elements for Sustainable international New Ventures’, Oviatt and McDougall, 1994 pp. 34
Chapter 3: SME Organisational Slack, Knowledge Intensity, and Foreign Investment Activity

SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes
Abstract

Organisational slack and knowledge intensity are two forms of potentially available resources that companies can exploit in strategic moves. This study explores the differential effect of slack resources in terms of their discretionarity – or the degree to which the firm enjoys discretion in their deployment, on small and medium sized enterprises (SMEs) internationalisation activities. Our argument builds on the original Penrose (1959) model: that it is only the discretionary (i.e., highly fungible) resource slack that opens up feasible opportunities for productive expansion. We tested hypotheses by exploiting a unique longitudinal database of 1,206 companies from 27 EU countries, covering a seven year period (2003-2009). The results suggest a linear positive relationship between high-discretionary slack and SME internationalisation, a U-shaped curvilinear relationship between low-discretionary slack and likelihood of FDI, as well as an inverse U-shaped relationship between knowledge intensity and internationalisation of SMEs.
1 Introduction

Since 1980s, increasing numbers of small and medium sized enterprises (SMEs) have pursued growth in international markets (Gupta, 1989; Oviatt & McDougall, 1994; Lu & Beamish, 2001; and Sapienza et al., 2006). The theoretical approaches to explain this phenomenon have evoked, e.g., structural changes in the global economy (e.g., dismantling of trade barriers) (Oviatt and McDougall, 1994), intrinsic learning advantages attributable to organizational newness (Autio et al., 2000; Sapienza et al., 2006), and the firm’s dynamic capabilities (Knight and Cavusgil, 2004; Weerawardena et al., 2007). However, the quality of the firm’s resources – notably the presence of excess resources or resource slack – has received surprisingly little attention in this process. This is surprising, given that, for example, the internationalisation process theory explicitly evoked Penrose’s (1959) theory of the growth of the firm – and therefore, resource slack – as a central inspiration (Johanson and Vahlne, 1977, 1990). It is our objective in this paper to explore the effects of high- and low-discretionary resource slack on SME internationalisation, using foreign direct investment (FDI) as our proxy.

Since the early work by Oviatt & McDougall, numerous studies in the literature on international entrepreneurship, strategic management, and internationalisation have explored the internationalisation of entrepreneurial firms. The literature identifies two major elements, company resources and capabilities, as critical facilitators of SME internationalisation (Keupp & Gassmann, 2009; Oviatt & McDougall, 2005; Autio, 2005; Carr et al., 2010). It is believed that it is the knowledge-intensity of the firm’s resources that makes early and proactive internationalisation possible, due to the high mobility of knowledge-intensive resources. However, while there have been a number of studies to explore this explanation, there have been fewer studies to explain the ‘Penrosian’ explanation – that the accumulation of firm-specific resource slack opens up opportunities for productive expansion abroad (George, 2005; Sapienza et al., 2006; Autio, 2010). Thus far, there have been no studies to explore the differential effect of slack resources in
terms of their discretionarity – or the degree to which the firm enjoys discretion in their deployment. This was an important, although also implied aspect of the original Penrose (1959) model: that it is only the *discretionary* (i.e., highly fungible) resource slack that opens up feasible opportunities for productive expansion (Shrader et al., 2000; George, 2005; Hitt et al., 2006; Sapienza et al., 2006). Many empirical studies use the firm’s resource inventory as a measure of the assets available to support strategic moves (e.g. Teece et al., 1997; Orser et al., 2000; Lu & Beamish, 2001). However, only uncommitted or fungible resources can be employed to facilitate new business activities. Companies with large resource endowments do not necessarily possess abundant available resources to facilitate strategic moves. Sapienza et al. (2006), for example, point out that ample resource possession, in many cases, does not lead to superior firm performance after a strategic move (e.g. internationalisation) (Sapienza, 2006; Gilbert, McDougall, & Audretsch, 2008; George, 2005).

Organisational slack and knowledge-intensity are two forms of potentially available resources that companies can exploit in strategic moves. Available organisational resources are those resources that are either not committed to a particular business function or that can be utilised in alternative business functions or locations (Hitt et al., 2006; George, 2005; Sapienza et al., 2006; Lin et al., 2009). Lin et al. (2009) argue that uncommitted or slack resources, are potentially available for business managers to deploy in business activities (Lin et al., 2009: 398). Slack resources, according to George (2005: 661) refer to “potentially utilisable resources that can be diverted or redeployed for the achievement of organisational goals”. Another form of resource that may be available for companies to exploit to support a new strategic move is fungible resources. Resource fungibility is defined by Sapienza et al. (2006: 924) as “the extent to which resources may be deployed for alternative uses at a low cost”. Oviatt and McDougall (1994) argue that knowledge-based resources that are mobile and fungible are the dominant form of exchangeable and replaceable resources existing in international SMEs. Following Oviatt and McDougall (1994), Autio et al. (2000: 913) argue that distinct from the firm’s fixed assets, knowledge intensity, defined as “the extent to which a firm
depends on the knowledge inherent in its activities and outputs as a source of competitive advantage”, describes the level of available fungible resources for alternative business deployment.

The gap in research on the relationship between potentially available firm resources and SME internationalisation needs to be addressed (Bourgeois, 1981; Anand & Delios, 2002; Vassolo et al., 2004; George, 2005; Sapienza et al., 2006). Our research addresses two aspects of this gap: 1) whether organisational slack influences SME internationalisation activities; and 2) whether knowledge intensity impacts on the proactivity in internationalisation of SME.

There is an abundant literature on companies’ resource endowments and SME internationalisation, but little is known about the relationship between the ability of firms to access and mobilise resources, and SME internationalisation. We explore this research gap empirically by exploiting a unique longitudinal database of 1,206 companies from 27 EU countries, covering a seven year period. Most of the existing empirical studies providing evidence on the relationship between resource dependence and SME internationalisation, are based on homogeneous home country data (e.g. Lu & Beamish, 2001; Qian, 2002; George, 2005; Lin et al., 2009), or single observation period cross-sectional data (e.g. Zahra et al., 2000; Pangarkar, 2008). Our seven year, longitudinal, EU country SME dataset provides a unique analytical sample and enables empirical results that are unaffected by any systematic bias caused by country or industry homogeneity. This comprehensive dataset provides us with the latitude to include environmental and industrial control variables to avoid bias caused by external sample factors. Sample selection bias is different from self-selection bias where the prior means that the sample employed are not a random representation of a population. The later means that observations are self-selected into specific treatment. Sample selection occurs for that we have a sample of companies that all commit FDI in the past seven years. Ideally, we should have a sample that contains both international SMEs and domestic ones. We are also able to avoid the well known problem of sample-selection through the introduction of control groups into the dataset.
This study seeks two distinctive contributions. Firstly, to the best of our knowledge, this is the first paper that explores explicitly the relationship between organisational slack and SME internationalisation activities. Secondly, this is the first paper to distinguish between high- and low-discretionary resource slack in this context.

2. Theory development and hypotheses

2.1 Slack and knowledge intensity

The concept of slack comes from managerial research on the unused resources existing in business organisations (Cyert & March, 1963; Cohen & March, 1972; Litschert & Bonham, 1978; Bourgeois, 1981). In their book A Behavioral Theory of the Firm, Cyert and March (1963) point out that conventional economics theory assumes that there are no excess resources within companies, since ideally all the existing resources are deployed to fulfil demand. However the ideal condition does not exist in reality. Cyert and March argue that “uncommitted resources” are the “disparity between resources supplied and needed within a company’s boundary” (Cyert & March, 1963: 36). Resource slack exists when the supply of resources to the company exceeds demand of these resources for business operations. Cyert and March’s findings inspired further research on this topic which demonstrated the existence of slack in various forms (Child, 1972; Galbraith, 1973; Dimick & Murray, 1978; Litschert & Bonham, 1978).

Building on Cyert and March’s argument, Bourgeois (1981: 30) offers a more organized definition of organisational slack: “organisational slack is that cushion of actual or potential resources which allows an organisation to adapt successfully to internal pressures for adjustment or to external pressures for changes in policy, as well as to initiate changes in strategy with respect to the external environment”. This definition includes the three elements that distinguish slack from other forms of
organisational resources. First, slack is a “buffer” between deployed resources and the resources existing within the boundary of the organisation (March, 1978). Second, slack is not a by-product, but is an important instrument which managers accumulate to support strategic firm moves. Third, slack plays a crucial role in protecting companies from internal and external changes. Studies that employ different research approaches show that different types of slack have different effects on organisational development (Bourgeois, 1981; Nohria & Gulati, 1996; George, 2005; Lin et al., 2009). There are many types of slack including financial, human capital, and production (Child, 1972; Galbraith, 1973; Dimick & Murray, 1978; Litschert & Bonham, 1978). Following Bourgeois (1981) and Sharfman et al. (1988), George (2005) concludes that slack can be classified by measuring the level of managerial discretion. Sapienza et al. (2006: 925) also refer to the managerial discretionary measure of slack and argue that “managerial discretion is, in part, an outcome of the fungibility of the underlying resource endowments”. In other words resource fungibility plays a critical role in managerial discretion, although the two are different. Slack resources that are more fungible are more adaptable to different business functions and locations. Therefore, following George (2005), slack that is easier for managers to deploy or which affords greater latitude to managers can be described as high-discretionary slack. Unabsorbed slack (resources with a high liquidity level) such as cash and its equivalent, is high-discretionary slack. On the other hand, slack which is less flexible and less easily utilised by managers in alternative ways, or which allows limited latitude to managers, is low-discretionary slack. Absorbed slack (resources of lower liquidity level or which generate extra costs when employed) such as debts and excess payments, is an example of low-discretionary slack. High and low-discretionary slack can exist simultaneously within an organisation; therefore, it is necessary to distinguish their different effects on the internationalisation process.

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4 Resource fungibility is an endowment that cannot be changed at the will of the manager. Managerial discretion, on the other hand, defined as “the latitude of options top managers have in making strategic choices” is a result of the influence exerted by a combination of elements including resource endowments (availability, fungibility, ownership, etc.), organizational structure (shareholder and top management team hierarchy), and management team diversification (team size and entrepreneurial attitudes) (Sapienza et al., 2006; Finkelstein & Boyd, 1998)
In the context of SME internationalisation, companies rely on the redeployment of knowledge-based resources to maximise the facilitating effect of fungible resources on cross-border market entry. Oviatt and McDougall (1994: 56) argue that “to overcome the disadvantage of foreignness, MNEs relied on the advantages of scale. SMEs must usually rely on other resources. Private knowledge is the most obvious alternative”. In line with the knowledge-based framework of new venture theory, Autio et al. (2000: 911) point out that “entrepreneurial knowledge and vision are seen as the keys to aggressive international opportunity seeking”. Knowledge-based resources can help SMEs achieve competitive advantage in multinational markets as a result of their mobility and extensive reproducibility endowments. Although the knowledge creation process can be time consuming and expensive, knowledge intensive assets can be reproduced and transferred at high speed and relatively low cost (Vassolo et al., 2004; Sapienza et al., 2006; Alvarez & Busenitz, 2001).

Without knowledge intensive assets, SMEs would find it hard to survive in the international market (Barkema & Vermeulen, 1998). Because of the heterogeneity of business organisations, the knowledge-based resources of different companies differ widely. For SMEs entering foreign markets, knowledge intensity facilitates proactive business operations. Compared with other forms of company resources, knowledge intensive assets are more fungible and easier for managers to deploy in new business functions or locations. Leveraging knowledge-based fungible resources provides international SMEs with knowledge advantages that compensate for the costs of foreignness and help them to outperform their indigenous competitors. Following Autio et al.’s (2000) definition, knowledge intensity measures the firm’s dependency on knowledge-based resources to achieve competitive advantage in a changing environment. Although there is a substantial literature on the influence of knowledge-based resources on firm performance after foreign market entry, little is known about how knowledge intensity influences the likelihood of a company making foreign investments (Zahra, et al., 2000; Gray, 2006; Muscio, 2007; Zhou et al., 2007; Hsu & Pereira, 2008). The relationship between knowledge intensity and SME internationalisation has not been empirically tested in any study.
2.2 Slack, knowledge intensity, and SME internationalisation

Internationalisation of SME has been studied by researchers from several areas including international business (IB), strategic management research, and international entrepreneurship (IE) (Oviatt & McDougall, 1994; Zahra et al., 2000; Lu & Beamish, 2001; Westhead et al., 2001; Qian, 2002; Autio, 2010). Each of these research streams discusses SME internationalisation from different angles. The IB literature includes numerous studies on internationalisation stimuli, process, and impacts. However, most of this work investigates large, established MNEs rather than SMEs (Dunning, 1981, 1988; Geringer et al., 1989). Systematic review of the firm internationalisation literature in IB suggests that large publicly listed firms were the main targets of research from the 1950s to the late 1990s (Sullivan, 1994; Wagner & Ruigrok, 2004; Li, 2007). The fundamental framework exploited in most of this research is the stage development theory or process international theory (PIT), which suggests that firm internationalisation proceeds through certain stages with accumulated resources deployed in each stage (Johanson & Vahlen, 1977, 1990; Welch & Luostarinen, 1988). Autio (2005) describes the PIT as an “incremental, self-reinforcing, and path-dependent pattern” of company internationalisation. The stage model assumes that multinationalisation requires an abundant reserve of resources as well as mature business models developed within the firm boundary (Anderson, 1992, Anderson and Tushman, 2010). However, this assumption was overturned in the 1980s by the emerging phenomenon of international new ventures and internationalisation of SMEs. Management reviews include an increasing number of case studies of small start-ups going global (Gupta, 1989; Jolly et al., 1992). However, this field of research was not well defined theoretically until Oviatt and McDougall’s (1994) paper entitled ‘Toward a Theory of International New Ventures’.

Oviatt and McDougall (1994) argue that the conventional stage model does not explain the new phenomenon of SMEs internationalisation. The authors note that communication technology
development and the increasing number of entrepreneurs with global knowledge in the 1980s, prepared the ground for the internationalisation of new ventures and small companies, to flourish. They identify a few stimuli that promote the internationalisation activities of start-ups and SMEs. The external marketplace and access to host country resources are two important motivations for companies to extend their operations beyond national boundaries. Although these are also incentives for MNE internationalisation, Oviatt and McDougall argue that international business theory employs transaction cost theory and scale economies to explain the benefits of established large companies going global. However, for new ventures and SMEs, the conventional scale economy based model does not apply. A new perspective on the merits of internationalisation should be based on resource dependence theory and focus on how company resources are leveraged and transformed to achieve competitive advantage. A stage-gate model was proposed by Oviatt and McDougall in their 1994 paper, to explain how international new ventures (INV) achieve competitive advantage based on unique resources. Although this complements the stage theory of multinationalisation, Oviatt and McDougall offer a theoretical framework for the phenomenon, based on numerous cases of SMEs proactively adopting an internationalisation strategy (Johanson & Vahlne, 1977; Welch & Loustarinen, 1988). Oviatt and McDougall’s INV study challenges the stage process model by referring to the new phenomenon of SME internationalisation. Studies of INV and SME internationalisation, therefore, go beyond the boundaries of the IB literature and draw on the resource-focused strategic management and IE literatures.

Resource based theories were also employed to examine the relationship between slack and various aspects of company activities, and some studies of firm internationalisation look at slack from the RBV (Calof & Beamish, 1995; Reid, 1983). Bourgeois (1981) highlights three strategic activities facilitated by slack: innovation (Cyert & March, 1963; Hambrick & Snow, 1977); satisficing (Simon, 1957; March & Simon, 1958); and politics (Cyert & March, 1963; Astley & Sachdeva, 1984). Studies on the impact of slack on organisational activities include studies of slack and innovation (Nohria & Gulati, 1996), slack resources and firm performance (Kamin & Ronen, 1978; Tan & Peng, 2003;
George, 2005), and slack and risk tolerance (Wiseman & Bromiley, 1996). The relationship between slack and firm internationalisation has received rather sparse attention. Nohria and Gulatis (1996) provide a qualitative study of the relationship between firms’ strategic activities and slack. Quantitative work includes Lin et al.’s (2009) paper testing slack and the exporting activity of large Taiwanese MNE. Lin et al. (2009) recognise that their work has two major limitations. First, their empirical study uses a sample of large publicly listed Taiwanese companies. They acknowledge however that SMEs have different resource endowments compared to the firms in their sample. Resource constraints, especially deficiency in financial resources, usually constitute a major difference between SMEs and large established companies (Busenitz & Barney, 1997; George, 2005). Insufficient resources will influence the strategic orientation, management decision making process, and business expansion activities of SMEs. Second, Lin et al. (2009) do not take account of external factors; for instance, industrial environment, home market size, and resource accessibility are not included in their model.

George (2005) concludes that there are two received models explaining the influence of slack on business activities in SMEs. Organisational behaviour theory, which derives from Cyert and March’s argument about the buffering and facilitating effects of slack in business practices, maintains that abundant slack provides latitude for managers to be more proactive. Slack also has a positive impact on the firm’s ability to cope with change and risk and, therefore, that internationalisation and innovation will be more likely (Wiseman & Bromiley, 1996). Resource constraint theory, on the other hand, suggests that limited resource accessibility is more effective at stimulating proactive firm activities (Baker & Nelson, 2005; George, 2005). Lower levels of slack, therefore, are a critical stimulus for managers to explore external resources and opportunities. At the same time resource constraints reduce overoptimism in management team estimates of the company’s resource position, which protects against the costs of high risk business activities and premature strategic moves. Lower slack level, therefore, leads to more proactive internationalisation behaviours.
2.2.1 SME FDI and high-discretionary slack

High-discretionary slack refers to slack resources with high levels of liquidity and fungibility. High-discretionary slack provides support for managers’ business operations and confidence in their company’s functioning. Abundance of high-discretionary slack allows managers have more latitude to decide whether and how to deploy these resources. Organisational behaviour theory suggests that higher level of high-discretionary slack, as the primary indicator of company resource endowment, eases the resource constraints faced by SME, and reduces the risks of unbalanced resource commitments in foreign markets. This will render the management team more agile in the exploitation and exploration of resources, and strategic expansion activities (Baker & Nelson, 2005). Lin et al. (2009) also argue that presence of high-discretionary slack will trigger advantage seeking activities such as innovation, investment, and experimentation to consume the excess slack. Based on the above analysis, we can say there is a positive relationship between high-discretionary slack and SME internationalisation activity (Lin et al., 2009; Tan & Peng, 2003).

Although high-discretionary slack facilitates SME strategic movements, resource constraint theory argues that SMEs are undercapitalized. Facilitating effects of high-discretionary slack on firm internationalisation are more salient in SMEs for the scarce resources managers could deploy (Wernerfelt, 1995; Rumelt, 1984). However, high-discretionary slack can accumulate over time. Lin et al. (2009) argue that a manager will be overoptimistic in his or her estimations and display a risk-averse attitude when high-discretionary slack accumulates (Jensen & Meckling, 1976; Bourgeois, 1981). Also, if high-discretionary slack is stable and in line with managers’ expectations about cash and equivalent stock, a more lax management style can be adopted, and fewer explorative activities will take place. Accumulation of high-discretionary slack will induce a reluctance to yield management of the firm to a professional with more international business experience and knowledge. This, in turn, reduces the chances that the SME will go global. Empirical studies of SME
internationalisation and growth show also that resource sufficiency, in many cases, leads to poorer company performance (Sapienza et al., 2006; Autio et al., 2000; Mosakowski, 2002).

Therefore, we argue that for SMEs, the possession of high-discretionary resource slack is curvilinearly related to FDI, such that the likelihood of FDI is lowest at high and low ends of high-discretionary resource slack.

Hypothesis 1: In SMEs, high-discretionary slack is inversely curvilinearly (inverse U-shaped) related to the likelihood of FDI.

2.2.2 SME FDI and low-discretionary slack

As discussed earlier, low-discretionary slack functions in a different way to high-discretionary slack. Low-discretionary slack refers to absorbed resources which provide limited latitude for business managers to deploy them elsewhere (Bourgeois & Singh, 1983; Sharfman et al., 1988). Lin et al. (2009) argue that low-discretionary slack can be viewed as the company’s access to loans or credit. In other words, low-discretionary slack is a company’s ‘borrowing power’. A high level of low-discretionary slack (low gearing ratio in our case) indicates greater borrowing power while a low level of low-discretionary slack means the company has used up its credit.

This definition follows Bourgeois and Singh’s (1983) argument that although low-discretionary slack cannot provide instant access to resources for managers, this form of slack resource allows the company to raise liquidity. Managerial discretion over absorbed slack is relatively low in that extra costs accompany the redeployment of the resources. Compared with high-discretionary slack, credit carries the extra financial costs of interest rates on one hand, and a time limit on the other. For SMEs, since financial constraints are among the most important obstacles to investment, access to
credit will provide more latitude to strategic decision making and more opportunities for resource exploration activities (Hsu & Pereira, 2008; Sapienza et al., 2006). Organisational behaviour theory suggests that SMEs with high levels of low-discretionary slack have access to abundant credit, which eases capital constraints and the risk of cash-flow breakdown. This, in turn, leads to more active engagement of SME in resource exploration and market expansion operations. Compared with high-discretionary slack, an abundance of low-discretionary slack does not induce lax management problems in that low-discretionary slack is a potential resource whose value will only be realised when it is employed in business activities. Further, the manager’s latitude to use this resource is limited (Wiseman & Bromiley, 1996). Compared to firms without access to credit and with debt, firms that utilise low-discretionary slack will have a higher likelihood of investment activity. Therefore, we predict an increase in the likelihood of FDI when low-discretionary slack is abundant.

On the contrary, resource constrain theory argues that absence of available resources in SMEs encourages business managers to devote great efforts to resource hunting (Baker & Nelson, 2005). Since debt burden and interest expenditure can be regarded as a sign of low resources, companies plunged in debt will be more prone to internationalisation (Wernerfelt, 1995; Rumelt, 1984). Wiseman and Bromiley (1996) argue that lack of low-discretionary slack in organisations will encourage managers to take on more challenges to improve business performance. This model is described as “hunger-driven” and assumes that high debt level and deteriorating financial performance of the SME stimulates more proactive resource seeking activities. A shortage of low-discretionary slack will lead to an active foreign investment strategy.

Therefore, for SME, the possession of low-discretionary resource slack is curvilinearly related to FDI, such that the likelihood of FDI is highest at high and low levels of low-discretionary resource slack.
Hypothesis 2: In SMEs, low-discretionary slack is curvilinearly (U-shaped) related to the likelihood of FDI.

2.2.3 Knowledge intensity and SME internationalisation

In the context of SME internationalisation, knowledge intensive assets reflect potentially available fungible resources in the company (Oviatt & McDougall, 1994, 1995; Autio et al., 2000). Sapienza et al. (2006) argue that knowledge intensity provides business managers with the discretion to deploy knowledge-based resources to other business functions or geographical locations. Autio et al. (2000) argue that possession of knowledge intensive resources has significant impact on a firm’s international expansion activities. This assumption builds on two received theories, resource constrain theory and organisational behaviour theory (Cyert & March, 1963; Wernerfelt, 1995; Rumelt, 1984).

Resource constrain theory argues that company resources available for building new capacity in host countries are scarce, especially for SMEs. High internal and external uncertainty can lead to fatal failure when a company consumes a limited resource stock in an unfamiliar environment. Internationalisation is a high risk move for SMEs in that no routines or patterns for foreign business operations have been accumulated incrementally (Oviatt & McDougall, 1995). New company capacities need to be created in an unfamiliar host country environment. This process of recreating consumes both company resources and time. New business capacity building is always accompanied by a high level of uncertainty. If existing resources are fungible and can be borrowed or redeployed directly for use in foreign countries, the risks of new capacity development will be substantially reduced (Hsu & Pereira, 2008).

SMEs relying on knowledge intensive resources are in a better resource position than companies focusing on tangible assets (Autio et al., 2000). This is due to the high mobility, fungibility, and
reproducibility endowments of knowledge intensive assets. Knowledge intensity improves the adequacy of companies’ resource possession, which eases the need to employ or create new resources for business expansion in foreign countries (Baker & Nelson, 2005; George, 2005). Knowledge intensive assets, such as managerial know-how or technology knowledge, can be replicated and redeployed swiftly within an organisation at relatively low cost. Compared with creating new resources, knowledge intensive assets provide a more efficient and economical approach to international expansion. Knowledge intensity, therefore, facilitates the international expansion strategies of SMEs.

Contrary to the resource constrain theory, organisational behaviour theory suggests that companies with high levels of knowledge intensity build up a self-enhancing learning model which could hinder resource exploitation and exploration in new markets (Cohen & Levinthal, 1990; Kogut & Zander, 1992). Abundance of previous business experiences and market knowledge helps companies build their existing knowledge stock. In turn, knowledge stock promotes experiences oriented learning process which allows the company to transfer existing knowledge more quickly and efficiently (Zahra & George, 2002). In the context of SME internationalisation however, reinforces of existing knowledge stock and learning model make it more difficult to create and absorb new knowledge (Autio et al, 2000). The acquired knowledge stock and learning patterns are not always applicable to new markets. Indeed, Teece et al. (1997) proposed that foreign market entry brings changes to all aspects of companies and new knowledge and capabilities are required to accomplish adaptation. The development of such capabilities could only have been accomplished by taking part in real cross-border activities (Autio et al., 2000; Teece, 2007). Companies without new market knowledge will only accumulate inherent knowledge, which will become increasingly dominant in their knowledge stock and capability building process. A strong experience based advantage will in turn shape the company’s strategic decision making process and make managers believe their advantage exists in existing markets. Avoiding the risks and uncertainties from new market entry will gradually become
the reasonable choice for business managers (Eisenhardt et al., 2000; Autio, 2010). High level of knowledge intensity therefore, could have a negative impact on the possibility of FDI of SMEs.

According to resource constrain theory and organisational behaviour theory, sufficient level of knowledge intensity promotes SME internationalisation, while excessive local knowledge stock hinders SMEs from future FDI activities. Therefore, we can predict a curvilinear relationship between knowledge intensity and the likelihood of internationalisation investments.

**Hypothesis 3**: In SMEs, knowledge intensity is curvilinearly (inverse U-shaped) related to the likelihood of FDI.

### 3. Methodology and measures

#### 3.1 Data sources

I need to test organisational slack’s influence on SME internationalisation, I need a dataset with SME slack data and market expansion records. This was achieved by using a unique longitudinal database built by combining the Financial Times (FT) fDI Markets surveillance data for all FDI activity during the period 2003 to 2009, with the Amadeus-Analyse Major Databases from the European Sources of Bureau Van Dijk. Since my research assumes that cross-border market entry is a strategic decision made by top management teams, FDI clearly provides a more convincing evidence of strategic planning and preparatory assessment.

The FT fDI Markets\(^5\) database provides records of inward and outward cross-border investment activities for all sectors and countries worldwide, based on daily updates to company financial reports, company information releases, and third party news releases. This includes both greenfield

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\(^5\) For more detailed information on the FT fDI Markets Database, see [http://www.fdimarkets.com/](http://www.fdimarkets.com/)

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investments, which building new capabilities or facilities from the ground up, and brownfield investments, which acquire existing capabilities or facilities in foreign markets. FTfDI Markets is an events based dataset and provides for each greenfield and brownfield investment the amount of investment (US$ equivalent), company name, company website address (or email address if a webpage was not available), home country location (city/state), business sector, destination country (city/state), and investment purpose (e.g. R&D, advertising, logistics, storage). The companies in the database cover more than 40 major industry sectors, and include service-based as well as manufacturing companies. The fDI Markets database has been exploited in other studies of MNE FDI and industry or country level FDI (Castellani & Pieri, 2013). It is also used by UNCTAD in their annual reports\(^6\) and the FT Press Group. As this dataset reports only greenfield and brownfield investments, our studies does not take into account other types of cross-border activities, such as export, foreign sales or licencing. However, compared to foreign sales or export revenue, widely used to proxy for DOI (degree of internationalisation), greenfield and brownfield FDI is an active business strategy which rules out the ‘wait and see’ style of foreign investment (Lu & Beamish, 2001). Since our research assumes that cross-border market entry is a strategic decision made by top management teams, FDI clearly provides a more convincing evidence of strategic planning and preparatory assessment. My argument here is that compared with other models of internationalisation, FDI is a more accurate indicator of firms’ market entry strategy from a firm capability building and local resource acquiring perspective (Garc & Lopez, 2007).

From this dataset we extracted foreign investments made by companies based in 27 European (EU) countries to countries within and outside the EU. We selected companies from these home countries as we could not access financial data of SMEs located outside the EU. Nevertheless our sample includes companies from several different home countries and cultural backgrounds and therefore it allows us to carry out a more comprehensive investigation of the factors underlying

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foreign investment decisions. The number of employees and net profit were used to identify SMEs. We filtered out large established companies with more than 500 employees or which generated more than €10 million annual net profit on average over the observation period (Lu & Beamish, 2001; Wolff & Pett, 2000). This resulted in a sample of 731 SMEs, for which we collected financial data from the Amadeus Database which contains information on the standard accounting reports of companies, general contact details, location, ownership and shareholder structure information. Unfortunately we were unable to identify all 731 SMEs in Amadeus, because of bankruptcy or failure to submit financial data, and we were left with 483 companies for which we have complete financial information. Our final sample of SMEs covers a wide range of home countries and industrial sectors including the services sector.

3.2 Variables and measures

Based on the theoretical analysis in Sections 2 and 3, we proposed three hypotheses on the relationship between high-discretionary slack and company foreign investment, low-discretionary slack and company FDI, and knowledge intensity and company FDI.

3.2.1 Dependent variable

Our measure of internalisation is a binary variable equal to 1 if the SME has engaged in at least one FDI in year t and zero otherwise. Although this measure of internationalisation does not take into account the scale of the investment as other proxies for firm internationalisation such as the ratio of foreign sale over total sales, it is appropriate in our context as we test for the presence of a relationship between slack and knowledge intensity on the decision of company to invest abroad.
3.2.2 Independent variables

*High-discretionary slack*

Following Bourgeois (1981), Sharfman et al. (1988), and George (2005), we define high-discretionary slack as unabsorbed slack resources providing a high level of latitude for managers’ discretion to deploy them in business operations and proactive activities. Lin et al. (2009) discuss how various proxies for high-discretionary slack were used in past studies, including cash and equivalents, high liquidity assets, and earnings. Although some studies exploit surveys of company managers, most previous work uses data from financial reports since these are a more objective measurement and are affected by less personal bias (Bourgeois & Singh, 1983; Lin et al., 2009). The most explicit measure of slack with high liquidity levels is the annual cash and equivalent reserve levels of the company (Singh, 1991; Wiseman & Bromiley, 1996; Tan & Peng, 2003; George, 2005; Lin et al., 2009).

*Low-discretionary slack*

Low-discretionary slack refers to absorbed slack resources with limited liquidity, which provides business managers with less discretionary latitude in utilising or deploying them in business operations or activities (Bourgeois, 1981; Sharfman et al., 1988; George, 2005). Lin et al. (2009) argue that low-discretionary slack indicates access to loans and credit. George (2005) notes that for SME, debt capacity is a critical index of a company’s low-discretionary slack level. Lin et al. (2009) echo George’s argument and employ reciprocal of debt/equity ratio as a proxy for low-discretionary slack. The debt to equity ratio reflects the firm’s debt level, and its multiplicative identity indicates company’s ability to obtain credit in the future. Therefore we use reciprocal of debt to equity ratio as our proxy for low-discretionary slack. BvD Amadeus provides access to gearing data, which are
calculated as annual debt as a percentage of equity; in our study reciprocal of gearing is used as a proxy for low-discretionary slack.

**Knowledge intensity**

Knowledge intensity refers to the company’s dependence on knowledge-based resources to gain competitive advantage. Hall (1993) points out that intangible resources include various forms of company assets and competencies not reflected in the business’s financial performance table. Some typical intangible resources are intellectual property, knowledge accumulation, managerial know-how, technology know-how, trademarks, and reputation (Hall, 1993). Since we are looking for a comprehensive proxy for the level of company knowledge intensity, we follow Vassolo et al. (2004)’s argument that intangible assets can indicate the level of knowledge intensity. However, to eliminate the effects of a company’s overall resource holdings, we employ the ratio of intangible assets to tangible assets as our measure of knowledge intensity.

### 3.2.3 Control variables

We control for a number of firm specific effects. Although our dataset includes only SMEs, there are still differences in the size of companies. Company size is measured by the logarithm of the number of employees in each year (Lin et al., 2009). Firm age has been considered an important determinant in both the stage process model and the capability model of company internationalisation (Sapienza et al., 2006). Firm age is equal to the number of years of operation since business establishment. Company’s performance may influence manager’s decision to engage in cross-border business activities. We employ the ratio of annual return on assets (ROA) over seven years’ average ROA as a proxy for firm performance in our study. Rumelt (1974) state that scope of operations influences firm’s business expansion opportunities and strategic priorities. We therefore, take account of the
impact of business diversification in the internationalisation strategy of companies. Consistent with Chatterjee (1990)'s argument that SCI codes offers a comprehensive coverage of company industrial classifications, we employ SCI codes to calculate the business diversification level. Rothaermel and Alexandre (2009: 768) proposed that level of diversification could be measured by ‘counting the number of the different SIC codes at three-digit level’. SIC codes are available from Amadeus-Analyse Major Databases. We control for sector specific effects for that industrial context has be proven to significantly affect companies strategic activities and internationalisation processes (Hagedoom & Schakenraad, 1994). There are 37 industrial sections recorded in fDI market dataset, we include all these section dummies in our regression. Finally we include year and home country dummies to eliminate any fluctuation caused by yearly effects and to account for any home country specific effects.

3.3 Empirical approach

As our sample of SMEs have committed to at least one foreign investment in the period of observation we cannot investigate the factors underlying this investment decision as we lack a set of companies who have not undertaken such activities. One way of addressing this problem of sample-selection is to include a control sample of firms which have not engaged in greenfield or brownfield FDI. We build this control sample by extracting from the Amadeus dataset two control firms for each internationally active firm. In particular control firms had similar size (number of employees and net income with an error range of 10%), operated in the same industry (NACE Rev. 2, 4-digits) and were based in the same home country as those firms investing abroad. We could not identify a sample of control firms for 81 internationally active firms and this resulted in a final sample of 1,206 companies of which 804 are control companies. Figure 1 indicates the data process stages and the final dataset that been employed to test hypotheses.
To ensure that the control companies had not been involved in any foreign investment in the period of observation, we scanned the FT fDI Markets surveillance dataset to check for recorded investment activities and then searched relevant company websites and publicly released reports to check for reports of foreign investment. Finally, we randomly selected 20% (161 companies) of the control companies and telephoned their managers to double-check that there had been no foreign investment during the seven years of our research period. Table 1 lists the descriptive statistics of SMEs with FDI and control SMEs.

The binary nature of our dependent variable advocates the use of a logit model. In particular we tested out hypotheses using a random effect logit model which exploits the panel dimension of our dataset having rejected the consistency of the fixed effect model as suggested by the results of the Hausman specification test (1978) ($\chi^2=3.322$, p-value=0.176). All explanatory variables are lagged one year to avoid spurious significance levels with respect to the dependent variable. To assess the improvement of fitness of our model we run log-likelihood ratio tests.

4. Results

The descriptive statistics of the variables used in our regressions are shown in Table 2 and the pairwise correlations among them are reported in Table 3. It is worth noticing that both high and low discretionary slack has a wide range of variance and that company size ranges between 1 and 446 reflecting our focus on SMEs.

Model 1 (Table 4) is our baseline model and includes only our set of control variables. Consistent with prior studies we find a positive and significant effect of company size, company age and business diversification index. In Model 2, we test the relationship between high-discretionary slack and FDI. We find a positive linear relationship could be observed between cash stock and probability
of SME FDI (0.077, p<.01) however we do not find evidence of a curvilinear relationship between high-discretionary slack and our measure of internationalisation. Thus our Hypothesis 1 is not supported by our data.

In Model 3, we test for the presence of a U-shaped relationship between low-discretionary slack and SME internationalisation by introducing the main and square term of this variable. The main term is negative and strongly significant (-1.129, p<.001) while the square term is positive and also significant (0.028, p<.001). These findings support our Hypothesis 2. In Model 4 we introduce the main effect of knowledge intensity and its square term. Consistent with Hypothesis 3, we find evidence for an inverse U-shaped relationship between knowledge intensity and the likelihood of a firm investing abroad: the main term is significant and positive (0.364, p<.001) and its square term is negative and also significant (-0.005, p<.001).

Model 5 includes all independent variables and control variables. Coefficient estimates for this model confirm what we found when we included our main and square terms in isolation. Hypothesis 1 assumes an inverse U-shaped relationship between lagged high-discretionary slack and FDI likelihood. The result in model 5 however, tells us that the sign of coefficients of high-discretionary slack haven’t changed (0.011 and 0.001 respectively). Lagged high-discretionary slack therefore, has a mild linear positive relationship (0.011, p<.05) with FDI likelihood instead of a curvilinear association that we predicted in Hypothesis 1. In hypothesis 2, we assume the U-shaped relationship between lagged low-discretionary slack and FDI probability. Model 5 present that coefficient of lagged low-discretionary slack has changed from negative to positive (-1.136 and 0.040 respectively), indicating a curvilinearly relationship. Strong significance has been found in both model 3 and model 5 (p<.001) between low-discretionary slack and FDI probability. This result suggests that lagged low-discretionary slack has a U-shaped curvilinear relationship with FDI likelihood. Hypothesis 3 predicts an inverse U-shaped relationship between SME knowledge intensity and FDI probability. Coefficients
of lagged knowledge intensity and its square term has changed sign from positive to negative (0.417 and -0.006 respectively), suggesting an inverse U-shaped curvilinear association. Significant relationship has been observed from model 4 and model 5 between knowledge intensity and FDI likelihood (p<.001). Hypothesis 3 therefore has been accepted.

Log-likelihood values and Wald chi-square values have been reported for all five models. Significance of wald chi-square suggests the overall fitness of variables employed in our model. We employed the likelihood-ratio test to assess the fitness of models with selected independent variables. Significant improvements of model fitness have been found on all four comparisons.

5. Conclusion and discussion

5.1 Slack, knowledge intensity and FDI

This empirical study focuses on the effects of resources on SME internationalisation. Building on organisational behaviour theory and resource constrain theory, we argue that resource slack and knowledge intensity are two important mechanisms that play a critical role in the internationalisation process. Resource slack and knowledge intensity are emerging paradigms in research on entrepreneurial decision making and the strategic actions of SMEs (Bourgeois, 1981; Sharfman et al., 1988; Autio, 2005; George, 2005; Sapienza et al., 2006).

In particular, we looked at three different resource slacks and their relationship with SME internationalisation. Firstly, in hypothesis 1, we predicted a curvilinear inverse U shaped relationship between company high-discretionary slack and internationalisation. Contrary to our expectations, the regression results suggest that only a linear positive relationship exists between high-discretionary slack and the likelihood of engaging in FDI activities. Based on organisational behaviour
theory, we have proposed that abundant cash and equivalent facilitates company’s strategic activities as well as internationalisation. However, ample amount of high-discretionary slack will not trigger manager’s reluctant attitude towards internationalisation as we suggested in hypothesis 1. Instead, increase of high-discretionary slack constantly promotes more FDI activities. Although more research needs to be done before we come to a conclusion, in SMEs high-discretionary slack has a dominant facilitating effect. High level of cash and equivalent helps managers overcome resource constrains and encourages risk taking activities. Contrary to what Lin et al. (2009) proposed, a lax style of management seems not common when SMEs accumulate high-discretionary slack. One reason could be the lack of agency problem. In MNEs, managers are unlikely to be the owners, while lots of owners of SMEs are involved in management themselves. Our hypothesis has been rejected, but whether high-discretionary slack constantly promotes SME internationalisation could be an interesting future research direction.

Secondly, in line with hypothesis 2, regression results support the presence of a U-shaped curvilinear relationship between low-discretionary slack and SME internationalisation. This finding is suggesting that companies at low and high end of low-discretionary slack are more prone to internationalisation while companies in between lag behind. It is an excellent demonstration of the combined action of organisational behaviour theory and resource constrains theory in one model. Behaviour theory upholds the fact that abounding presence of high-discretionary slack, or easy access to credit, gives company resource endowment advantages. Business managers will utilize this advantage and take more active role in internationalisation process. Absence of low-discretionary slack however, leads to deteriorating financial performance and debt burden. When companies struggle to improve their resource position and performance, resource constrain theory begins to take effect. Companies with high debt level will seek for new opportunities more eagerly. At the same time, managers are more dedicated to improve firm performance. Scarce of available resources and high debt level are pervasive problems facing SMEs. Resource constrain theory may in a better position explaining SME
internationalisation activities.

Last but not least, our hypothesis that an inverse U-shaped relationship exists between SME knowledge intensity and FDI likelihood has been accepted. Companies at low and high end of knowledge intensity are less active in pursuing internationalisation compare with companies which lie in between. Resource constrain theory suggests that knowledge and capabilities developed to stock, process, and utilize knowledge are intangible resources could be deployed when company strategic activities take place (Baker & Nelson, 2005; George, 2005). Knowledge stock and experiences could help to forge new capabilities needed in foreign markets. Intangible resources could be deployed in different locations and time at relatively low costs. Knowledge intensity therefore, promotes SME internationalisation. As knowledge and experience accumulate and a learning pattern has been formed to absorb and utilize existing knowledge more efficiently, organisational behaviour theory argues a change of coefficient sign. The facilitating effects have been overturned by inertia of previous experience and operation, knowledge stock and learning process become hindlers of internationalisation process (Zahra and George, 2002). Higher knowledge intensity means more rigid patterns that restrain company’s foreign market entry. Our regression supports this argument and reveals that knowledge intensity could be a double edged sword in relation with SME FDI likelihood.

5.2 Managerial Implications

In the case of established large companies, at a certain stage of development the domestic market will no longer be sufficient to support business growth and it is at this stage that these companies need to follow a strategy of product diversification or internationalisation to achieve sustainable growth. SME managers, however, have the discretion to decide on the pace of their international
expansion (Avlonitis & Salavou, 2007; Lin et al., 2009). Putting aside ‘wait and see’ export tactics, SMEs chasing growth opportunities and resources available in foreign markets need to script their foreign market entry as a strategic move (Lu & Beamish, 2001; Shrader et al., 2000; O’Regan et al., 2007; Autio, 2010). Our study provides valuable practical guidelines for business practitioners. The evidence provided of the relationship between potentially available resources and SME internationalisation, should allow business managers to employ these resources to better effect in the internationalisation process, and provide a better understanding of the degree to which they can utilise these resources to achieve the greatest efficiency while involving the least risk (Autio, 2005). Our study demonstrates that managers can make deliberate efforts to accumulate and explore these resources prior to their entry into cross-border activities, in order to reduce the risks of unbalanced resource commitment.

5.3 Limitations and future research

Deliberately designed models and carefully processed data in this paper produce the results we present. Great efforts have been made to ensure accuracy of our sample selection. A controlled matching process has been employed to overcome the prevail problem of sample selection bias and endogeneity. But despite all these efforts, a few limitations need to be addressed.

Firstly, owing to the scarce of empirical research on SME internationalisation, this paper builds on limited theoretical frameworks. George (2005) and Lin et al. (2009) has been the most heavily cited works. Interestingly, some of our findings are dramatically distinct from their conclusions. Lin et al. (2009) find a curvilinear relationship (U-shape) between high-discretionary slack and firm internationalisation level. They argue that high-discretionary slack, as it accumulates in small amount, will trigger agency problem and encourage business managers to adopt lax management style thus hamper market entry activities. This explanation is viable of large listed technological firms that
chosen as sample firms. In our case, agency problem is much less prominent in SMEs while high-discretionary slack facilitates firm internationalisation regardless of the amount. In MNEs, managers are unlikely to be the owners, while lots of owners of SMEs are involved in management themselves. Increase of high-discretionary slack constantly promotes more FDI activities. Although more research needs to be done before we come to a conclusion, in SMEs high-discretionary slack has a dominant facilitating effect. High level of cash and equivalent helps managers overcome resource constrains and encourages risk taking activities. Also, Lin et al. (2009) propose a linear relationship between low-discretionary slack and foreign sales, e.g. foreign sales will shrink when low-discretionary slack accumulates. Put aside the fact that there is unaddressed endogeneity issue in their argument, different empirical results could be intrigued by the different measure of firm internationalisation. Foreign sales, compare with FDI, could hardly been facilitated by short term obligate. SMEs however, could employ their borrowing powers to realise market entry activities. More empirical research is needed to find a dominant theory in this research topic.

Secondly, as most of the empirical studies with combined data resources, I have a left-truncated dataset that only reflects sample activities in a short period of observation. Amadeus dataset at the same time has the drawback of truncated balance sheets from smaller companies. That aside, Amadeus is a good source for financial data for its comprehensive cover of both public and private firms in Europe. To address this problem, I control company size by include the log value of employee number in our model. Truncated accounts is indeed a problem when I looking for financial data of SMEs and I choose to drop any company that has discontinuous financial reports (either bankrupt or fail to submit to Amadeus). This measure lead to a shrink of our dataset from 731 to 483 SMEs but it reduced the bias caused by within observation truncation. In this study, I assume normal distribution of variables even with the presence of truncation. In future studies, improvement in methodology (maximum likelihood) or data collection methods may improve the test results (Woodroffe, 1985).
Thirdly, we employ foreign direct investment as proxy of SME internationalisation, the other forms of SME cross-border activities, e.g. exports, licencing, and so on, have been overlooked in this study. FDI, both greenfield and brownfield investments, provide a wide range of market entry models including joint ventures and strategic alliances, but it is not covering all aspects of market expansion activities. Different forms of market entry strategy require distinctive resource positions. Since SMEs employ various investment methods, future study would benefit from a more comprehensive proxy of SME internationalisation.

Fourthly, an obvious alternative method will be the moderating effects of control variables on slack and internationalisation relationship. SME R&D, geographical distance of FDI, purpose of FDI, and industry sections are all promising factors that interact with slack and FDI. Although in most cases it is difficult to gain access to these data, this could be a promising topic in future studies.
Figures:

Figure 1: Data process stage model

![Diagram showing data processing stages]

Tables:

Table 1: Descriptive statistics of SMEs with FDI and control SMEs (N=7236)

<table>
<thead>
<tr>
<th></th>
<th>Firms with FDI</th>
<th>Control Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of observations</td>
<td>402</td>
<td>804</td>
</tr>
<tr>
<td>Service-based companies</td>
<td>196</td>
<td>392</td>
</tr>
<tr>
<td>Manufacturing firms</td>
<td>206</td>
<td>412</td>
</tr>
<tr>
<td>Home Country</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>FDI Destination Country</td>
<td>57</td>
<td>0</td>
</tr>
<tr>
<td>Industrial diversification (mean)</td>
<td>3.201</td>
<td>3.228</td>
</tr>
<tr>
<td>Firm Age (mean)</td>
<td>19.227</td>
<td>18.043</td>
</tr>
</tbody>
</table>
### Table 2: Descriptive statistics (N=7236)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Internationalisation</td>
<td>0.074</td>
<td>0.261</td>
<td>0</td>
<td>1</td>
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<tr>
<td>High-discretionary Slack</td>
<td>0.804</td>
<td>12.200</td>
<td>0</td>
<td>550</td>
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<tr>
<td>Low-discretionary Slack</td>
<td>0.949</td>
<td>1.757</td>
<td>0</td>
<td>23.401</td>
</tr>
<tr>
<td>Knowledge Intensity</td>
<td>0.520</td>
<td>7.774</td>
<td>0</td>
<td>400</td>
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<tr>
<td>Company Size</td>
<td>111.444</td>
<td>149.653</td>
<td>1</td>
<td>446</td>
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<tr>
<td>Firm Age</td>
<td>18.553</td>
<td>18.213</td>
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<td>170</td>
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<tr>
<td>Company Performance</td>
<td>0.454</td>
<td>45.970</td>
<td>0</td>
<td>175.621</td>
</tr>
<tr>
<td>Business Diversification</td>
<td>1.191</td>
<td>0.480</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

### Table 3: Pairwise Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm Internationalisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. High-discretionary Slack</td>
<td>0.034*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Low-discretionary Slack</td>
<td>0.038*</td>
<td>0.024</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Knowledge Intensity</td>
<td>0.027*</td>
<td>0.180</td>
<td>0.030</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Size</td>
<td>0.056*</td>
<td>0.067*</td>
<td>0.016</td>
<td>0.033*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Age</td>
<td>0.029*</td>
<td>0.020</td>
<td>-0.044</td>
<td>-0.006</td>
<td>0.157*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Performance</td>
<td>-0.017</td>
<td>-0.005</td>
<td>-0.030</td>
<td>-0.005</td>
<td>-0.010</td>
<td>-0.028*</td>
<td></td>
</tr>
<tr>
<td>8. Business Diversification</td>
<td>0.077*</td>
<td>0.015</td>
<td>0.009</td>
<td>0.016</td>
<td>0.107*</td>
<td>0.024*</td>
<td>0.011*</td>
</tr>
</tbody>
</table>

Observations = 7236; 2. Correlation significance level at 0.05, significant variables marked with *.
### Table 4: Random Effect Logit Regression Results (N=7236)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>0.002 (0.001)**</td>
<td>0.002 (0.000)**</td>
<td>0.002 (0.001)**</td>
<td>0.001 (0.001)**</td>
<td>0.001 (0.001)**</td>
</tr>
<tr>
<td>Age</td>
<td>0.007 (0.004)‡</td>
<td>0.006 (0.004)</td>
<td>0.018 (0.006)**</td>
<td>0.006 (0.005)‡</td>
<td>0.024 (0.006)*</td>
</tr>
<tr>
<td>Performance</td>
<td>-0.010 (0.014)</td>
<td>-0.007 (0.012)</td>
<td>-0.005 (0.009)</td>
<td>-0.006 (0.012)</td>
<td>-0.004 (0.008)</td>
</tr>
<tr>
<td>Business Diversification</td>
<td>0.012 (0.011)**</td>
<td>0.011 (0.010)**</td>
<td>0.007 (0.009)**</td>
<td>0.010 (0.011)**</td>
<td>0.004 (0.009)**</td>
</tr>
<tr>
<td>Lag High-discretionary Slack</td>
<td>0.077 (0.041)**</td>
<td></td>
<td></td>
<td></td>
<td>0.010 (0.034)‡</td>
</tr>
<tr>
<td>Lag High-discretionary Slack Square</td>
<td>0.001 (0.01)*</td>
<td></td>
<td></td>
<td></td>
<td>0.001 (0.000)</td>
</tr>
<tr>
<td>Lag Low-discretionary Slack</td>
<td></td>
<td>-1.129 (0.100)**</td>
<td></td>
<td>-1.136 (0.127)**</td>
<td></td>
</tr>
<tr>
<td>Lag Low-discretionary Slack Square</td>
<td>0.028 (0.006)**</td>
<td></td>
<td></td>
<td></td>
<td>0.040 (0.007)**</td>
</tr>
<tr>
<td>Lag Knowledge Intensity</td>
<td></td>
<td></td>
<td></td>
<td>0.364 (0.066)**</td>
<td>0.417 (0.092)**</td>
</tr>
<tr>
<td>Lag Knowledge Intensity Square</td>
<td></td>
<td></td>
<td>-0.005 (0.001)**</td>
<td></td>
<td>-0.006 (0.001)**</td>
</tr>
<tr>
<td>Number of companies</td>
<td>1206</td>
<td>1206</td>
<td>1206</td>
<td>1206</td>
<td>1206</td>
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<tr>
<td>Log-likelihood</td>
<td>-1309.318</td>
<td>-1283.521</td>
<td>-1151.071</td>
<td>-1231.492</td>
<td>-1108.457</td>
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<tr>
<td>Wald Chi-square</td>
<td>297.340***</td>
<td>289.700***</td>
<td>270.230***</td>
<td>265.400***</td>
<td>219.650***</td>
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<tr>
<td>Likelihood-ratio Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi2 (2)</td>
<td>51.812***</td>
<td>316.638***</td>
<td>157.841***</td>
<td>401.770***</td>
<td></td>
</tr>
<tr>
<td>P-Value</td>
<td>2.806e-12</td>
<td>8.748e-70</td>
<td>2.656e-35</td>
<td>5.818e-84</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors are reported in parentheses; Year, industry and home country dummies included in all models; ‡ significant at 10% (p<.10), * significant at 5% (p<.05), ** significant at 1% (p<.01), *** significant at 0.1% (p<.001); the likelihood-ratio test assess the improves of fit of models 2, 3, 4, and 5 to model 1.
Chapter 4: Internationalisation of SMEs:

Internationalisation’s Impact on Short and Long Term SME Performance

SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes
Abstract

This study investigates the effect of foreign investment activity, on small and medium sized enterprises (SMEs). The process of internationalisation allows SMEs survive and thrive through deployment of unique resources and the building of local capabilities. We argue that small company internationalisation is an entrepreneurial strategy that shapes these companies’ future business development. However, the impact of this strategic move on SME performance has not been explored. The arguments in this paper are based on international entrepreneurship and organisational capability’s interpretation of SME internationalisation. We propose that unlike MNEs, SMEs foreign market entry activities are performance-driven entrepreneurial actions rely on local knowledge and resource exploitation to achieve success in host markets. The hypotheses are tested exploiting 1,206 EU SMEs over 7 years of continuous observation. Our test results suggest that SMEs’ internationalisation activities have a ‘U-shaped’ effect on firm growth. In short term, fungible resource drain and liability of foreignness in home and host market respectively have a negative impact on firm profitability. In the long run however, local resource exploitation, novel knowledge, innovative ideas, and unique opportunities bolster a superior financial gain of international SMEs compare with their domestic counterfactuals. Our study contributes to the inconsistent empirical test results of SME internationalisation and performance relationship with highlight of a difference-in-differences estimation.
1 Introduction

For many decades, the international business literature was dominated by studies of large multinational enterprises (MNEs) that comply with Johanson and Vahlne’s (1977) stage internationalisation model. The motivation and benefits of internationalisation according to the stage model are respectively limited domestic markets and scale economies. Since the mid to late 1980s the internationalisation of SMEs has become particularly prominent and has been attracting the attention of researchers. SMEs have received more attention from the entrepreneurship and strategic literatures (Oviatt & McDougall, 1994; Lu & Beamish, 2001), where the motivations and facilitators of SME internationalisation have been studied (Knight & Cavusgil, 2004; Autio, 2005; Weerawardena et al., 2007; Keupp & Gassmann, 2009; Carr et al., 2010; Beugelsdijk & Mudambi, 2013; Casillas & Menendez, 2014). Few studies look at what happens after SME internationalisation, and those that exist have produced often conflicting results (Frishammar & Andersson, 2009).

Established company’s international diversity strategy and its consequences on firm performance has been well explored in international business literature (Li, 2007). With many years of market expanding experiences, MNEs establish a complicated decision making process that confines business exploration, including geographical expansion, to existing operational patterns and routines (Ruigrok et al., 2013). Johanson and Vahlne (1977) observe that MNEs enter foreign markets through a series of distinct steps; occasional international sales are followed by more intensive exporting practice. As foreign sales become increasingly important, local branches or manufacturing facilities are considered in host countries. Formation of joint ventures and entry into greenfield investments become likely in destination countries to which exports have increased. This process international theory (PIT) shapes the business models and practices of MNEs in foreign markets (Johanson & Vahlne, 1977; Welch & Luostarinen, 1988). Resources, business experience, knowledge, and skills are transferred from the home to the host country. The results, as Johanson and Vahlne (1990)
explain, are a strong centre-peripheral power structure, home country resource dependency, and conflicts between established business patterns and local practices. Numerous international business studies explore in depth the causes, effects, and solutions to such issues (Dunning, 1981; Sullivan & Bauersschmidt, 1990; McDougall, et al., 1994; Contractor, 2007; Tan & Peng, 2003; Boeh and Beamish, 2012). However, the reasons why MNEs enter foreign markets hardly explain why resource-constrained SMEs choose to pursue profit by expanding internationally (Autio, 2005; Wright et al., 2007; Johanson & Vahlne, 2009).

Oviatt and McDougall (1994: 49) argue that unlike MNEs that search for scale economy globally, adoption of a ‘proactive international strategy’ is due to the need for SMEs to find new value added rather than a desire to deploy existing assets in foreign markets. This value-exploring approach distinguishes SME market entry activities from the internationalisation process as understood by the PIT. First, SME internationalisation is a performance-driven action in pursuit of value-adding opportunities rather than scale economy. Second, compared with MNEs, there are few routines or patterns to follow when SMEs enter new markets. Third, SMEs adopt a more speculative approach in the market expansion process which in turn, means higher risks. Lastly, resource constrained SMEs rely on local resources rather than home country supply to survive and thrive in local markets. The uniqueness of SME internationalisation has attracted the interest of researchers of international business and international entrepreneurship (IE) studies (Wright et al., 2007). Following Oviatt & McDougall’s work, many papers have investigated how different elements, e.g. resources and capabilities, have influence the market entry activities of SMEs and how one or a group of variables influence SME performance in the context of internationalisation (McDougall & Oviatt, 1996; Teece et al., 1997; Zahra, et al., 2000; Sapienza et al., 2006; Frishammar & Andersson, 2009). However, the ‘value adding’ effect of internationalisation for SMEs, which is the central argument of Oviatt & McDougall’s (1994) paper, has been neglected (Qian, 2002; Westhead et al., 2001; 2004; Pangarkar, 2008; Lu et al., 2010). This is somewhat surprising since Oviatt and McDougall’s (1994) theoretical
framework of SME internationalisation argues that the value adding effect is both the motivation and the target of SME internationalisation.

Lu and Beamish (2001: 567) probe this value-adding process and argue that international diversification of SMEs is an entrepreneurial action that aims to ‘pursue new opportunities and achieve higher returns’ by ‘leveraging resources in different markets’. Their definition highlights the performance-driven model and entrepreneurial decision making process of SME market diversification activity. Wright et al. (2007: 1015) later on conclude that ‘entrepreneurship related aspects of internationalisation have been developed as a counter point to the received wisdom of traditional internationalisation theories’. This entrepreneurial approach suggests that business manager plays a critical role in the SME internationalisation process for that their personal experience and individual characteristics can have a major impact on both tactical and strategic level activities (Westhead et al., 2001; 2004). Based on this belief, Lu and Beamish (2001:568) further point out that ‘exploring whether and how value is created in the internationalisation of SMEs’ provides a better understanding of the increasingly conspicuous phenomenon of SME internationalisation. It also has significant managerial implications that assist SME business managers develop their new market entry strategies. The gap in research on the relationship between SME cross border investment and firm performance needs to be addressed (Wright et al., 2007; Hsu & Pereira, 2008; Carr, et al., 2010; Dau, 2013). Our research addresses this gap by investigating whether and to what extent SME internationalisation activities influence short and long term SME performance. This relationship, however, can be difficult to explore. Firstly, this empirical analysis needs to address the common problem of endogeneity and sample selection bias. Secondly, the impact of internationalisation is prolonged and this requires longitudinal data. As past literature points out, such dataset are scarce and it is difficult to obtain data on SME internationalisation (Hitt et al., 2006; Li, 2007).
In our study, we explore this relationship by assessing SME FDI activities’ impact on short and long term firm performance. Dunning (1988: 46) points out that multinational companies employ FDI to “acquire foreign value-adding activities” in the host country. Value-adding activities can create both tangible and intangible assets. Investment from the home country is aimed at different value-adding capabilities, e.g. manufacturing capabilities, infrastructure, R&D capacity, and so on. Although the role of FDI in the internationalisation process has been studied in depth in both the MNE and SME multinationalisation literatures, few draw attention to the FDI’s impact on SME performance (Hsu & Pereira, 2008; Keupp & Gassmann, 2009). Following Zahra et al.’s (2000) argument that internationalisation has a lasting effect which influence firm growth in both the short and long term, we believe that both short and long term impacts should be assessed (Zahra, et al., 2000; Autio, 2005).

We address these aspects through an empirical study that exploits a unique longitudinal dataset of 1,206 EU SMEs observed during the seven years period 2003-2009. To test the significance of our hypotheses, we employ a Difference-in-Differences (DID) method which is made possible by matching 402 companies with foreign investment activities, to 804 control companies with similar industrial and financial characteristics but no FDI (Reeb et al., 2012; Wooldridge, 2003). Our unique dataset provides the following advantages compared with past empirical studies: first, using companies from 27 EU countries covering more than 40 different industry sectors, eliminates systematic bias caused by country and industry homogeneity; second, our seven-year longitudinal data allows us to estimate the long and short term relationships between FDI and SME performance. This longitudinal dataset allows us to perform DID estimations which compared with within-group and between-group estimations, improve accuracy in hypotheses testing and, more importantly, avoid the well-known problems of endogeneity and self-selection bias (Shaver, 2011; Zhou et al., 2007; Wooldridge, 2010; Halaby, 2004)
Our study seeks to make three original contributions. First, we review, conclude, and construct the mechanisms of market expansion activities and SME performance relationship based on firm capability literature, resource-based perspective, behaviour-based theories, and entrepreneurial theories. Second, we employ a longitudinal dataset to investigate the prolonged effects of SME internationalisation on firm performance. Third, the introduction of matching technique and DID estimation correct for the common problems of self-selection bias and endogeneity. Lastly, this is the first paper to assess the relationship between the FDI activities and the short and long term performance of SME’s.

2. Theory development and hypotheses

2.1 SME internationalisation

The phenomenon of SMEs expanding by entering foreign markets was largely neglected until the 1980s when advancements in technology and increasingly liberalised international trade environments facilitated a surge of SME internationalisations. Researchers soon noticed the increasing numbers of born-global firms, early internationalised start-ups, and multinational new ventures. Although business internationalisation has been intensely studied for several decades, large MNEs and companies with abundant resources and business experience had always been centre stage in the international business literature. Limited domestic margins and strategic moves to diverse investment have become the established reasons for why large companies expand across national borders (Johanson & Vahlne, 1990). The gap between the PIT model and SME internationalisation remained unaddressed until Oviatt and McDougall (1994) proposed a new framework to explain international new ventures’ transactions, governance, local advantages and resource position.
Based on Caves et al. (1980), Barney’s (1991), and Dunning’s (1988) work on firms’ internationally sustainable growth, Oviatt and McDougall (1994) argue that SME internationalisation is made possible by three factors: simpler governance structure in a more liberal and efficient international trade community; great mobility of private knowledge; and firm capability to maintain a unique knowledge advantage in foreign markets.

Oviatt and McDougall (1994; 1996) propose that instead of redeploying slack resources and building scale economies in foreign market, practices common in MNEs’ market entry, SMEs rely on private knowledge and host country resources to create local capabilities. Thus, SME internationalisation is a strategic action to explore and acquire local resources and opportunities to pursue short and long term profits. This outcome-driven model of SME internationalisation has unique features, e.g. performance-oriented planning, entrepreneurial approaches, and resource constrained activities, which distinguish itself from MNE internationalisation model. As increasing number of studies probe these unique features, SME internationalisation has become a new strand of research in international business studies, strategic management research and, perhaps most importantly, international entrepreneurship studies (Autio, 2005; Wright et al., 2007).

Many aspects of SME internationalisation have been studied by researchers in different fields. These studies could be categorized according to firm objectives, e.g. international entrepreneurial firms, international new ventures (INVs), ‘born-global’ SMEs, early stage internationalisation, and so on. A better way to group work on SME internationalisation is to return to Oviatt and McDougall’s (1994) model of the ‘elements’ required for an international SME to achieve sustainable competitive advantage in foreign markets. Each of these four elements has spurred a large body of work since the 1990s. The first ‘element’ is SMEs with ‘international’ transactions, which has been examined from different perspectives including strategic choice (Avlonities & Salavou, 2007; Frishammar & Andersson, 2009), incentive study (Jantunen, et al., 2005; Jones & Coviello, 2005), impact study (Pangarkar, 2008; Qian, 2002), demographic and industrial analysis (George, et al., 2005;
The previous literature refers to entrepreneurial risk taking, and the profit-pursuing nature of SME internationalisation. However, there is a gap related to how foreign market entry activities impact on short and long term SME performance. Entrepreneurial choices, as Oviatt & McDougall (1994) suggest, play a critical role in SME survival and growth in foreign markets. Very few studies focus on the entrepreneurial decision and its influence on the performance of international SMEs. We discuss this important relationship in succeeding sections.
Interest in SME internationalisation has grown since the 1990s, less attention has been paid to the implications for performance (Autio et al., 2000; Zahra et al., 2000; Lu & Beamish, 2001; Qian, 2002; Westhead et al., 2004; Gluam, 2007; Pangarkar, 2008). As already mentioned, SME’s market entry activities have become a focus for researchers from different backgrounds, and SME performance has also attracted research attention from various domains (McDougall & Oviatt, 1996; Orser et al., 2000; Capar & Kotabe, 2003; Zhou et al., 2007; Serrasqueiro & Nunes, 2008; Gaur & Kumar, 2009). The firm’s resource position, organisational endowment, managerial team characteristics and the industry environment are frequently used variables that influence SME performance.

Wright et al. (2007) conclude that past empirical studies on SME internationalisation and firm performance does not provide consistent results. Although there are a few papers claim a positive relationship between SME internationalisation and following business growth (Zahra et al., 2000; Qian, 2002), there are other studies find no significant association between the two variables (Westhead et al., 2001; 2004). A noticeable alternative, proposed by Lu & Beamish (2001), Wright et al. (2007) and Pangarkar (2008), is that the relationship between SME internationalisation and firm performance is complex, contextual specific, and non-linear. Pangarkar (2008) suggests a U-shaped relationship between MNE market expansion and firm performance. In the initial stages of internationalisation, the impact of foreignness, cost of resource redeployment, and time needed to build local capability have a negative impact on firm performance. In the long term, international diversification will improve firm performance by increasing market size and economies of production scale, diversifying investment portfolio, and gaining extra margins in less competitive environments (Geringer et al., 1989; Teece et al., 1997; Orser et al., 2000; Capar & Kotabe, 2003; Bausch & Krist, 2007; Brock & Yaffe, 2008; Hsu & Pereira, 2008; Frenz & Gillies, 2009).

Compare with MNEs, SMEs face distinct challenges in the internationalisation process. On the one hand, resource constraints are more severe compared with MNEs. Lack of both tangible and intangible assets leaves SMEs with limited supplies of resources from the home country and an
insufficient knowledge stock to develop patterns of and routes to geographical expansion. On the other hand, business managers have higher levels of discretion in the market entry decision making process. Managers’ experience, knowledge, and capabilities for market expansion play a significant role in the survival and success of business operations in new markets. The risks associated with the choice of destination country, market entry timing, local partners, acquired value-adding activities, learning strategy, and many other aspect of the internationalisation process, also increases (Jantunene et al., 2005; Bingham, 2009). Therefore, the outcomes of SME market expansion are more fluctuating and unpredictable. Although re-deployable resources enable SMEs to develop MNE-style market expansion patterns, there is no consensus in the literature on the validity of these routines. In many cases, the market entry strategy is not applicable to different environments and the process of deploying these strategy patterns to new markets can be time and resource consuming (Hsu & Pereira, 2008). Different theoretical frameworks have been exploring the subject of SME internationalisation from distinctive perspectives.

2.2.1 International expansion and growth strategy of SMEs

SME international expansion has its unique antecedents, consequences and impact on the business world. International entrepreneurship, organisational capability, as well as strategic management literatures all contributes to the development of SME internationalisation theories (Lu & Beamish, 2001; Hsu & Pereira, 2008).

Many investigations of the SME internationalisation process are done by international entrepreneurship (IE) researchers. Based on Zahra and George (2002), Wright et al. (2007:1015) define IE as ‘the process of creatively discovering and exploiting opportunities that lie outside a firms’ domestic market in the pursuit of competitive advantage’. The surge of SME internationalisation related studies is the result of the remarkable increase in the number of INVs and international SMEs.
Autio et al. (2010) point out that since the emergence of this branch of research, its focus has been continuously evolving. An increasing number of studies explore the entrepreneurial aspect of SME internationalisation and its impact on firm growth (Keupp & Gassmann, 2009; Autio, 2010). One of the core research topics in IE field is the established SMEs’ capability to compete with MNEs in an increasingly dynamic business environment (McDougall & Oviatt, 2000). Although a large number of studies discuss the entrepreneurial characteristics of the internationalisation of SMEs, few have assessed the implication of such activities on business performance (Lu & Bemaish, 2001).

Organisational capabilities are the company’s ability to achieve survival, growth and better performance (Autio et al., 2011). There are two kinds of organisational capabilities, substantive capabilities and change capabilities. Substantive capabilities help the company improve its routines and daily production capabilities. Change capabilities improve the company’s ability to achieve success when change happens. The firm’s organisational capabilities, such as R&D intensity, prior knowledge stock and organisational learning, underline the importance of institutional impacts on firm growth. Since Penrose’s (1959) theory of resource driven expansion, companies’ capabilities to leverage home and local resources have been acknowledged to be the reasons for MNE success in the market exploration process (Shrader et al., 2000; Zhou et al., 2007; Gaur & Kumar, 2009). Resource endowments are elements of the firm’s inherent properties or resource-based advantages (Penrose, 1959; Rumelt, 1984; Barney, 1991). Resource endowments are not limited to financial assets; they also include organisational endowments such as firm’s age, size and governance structure. However, foreign market’s resource endowments do not adequately explain the longer sustainability of SMEs’ business activities (Jantunen et al., 2005; Zahra et al., 2006; Frishammar & Andersson, 2009; Autio et al., 2010; Shaver, 2012). As intangible assets, such as social network, knowledge and business understanding became more prevalent compared with financial assets in resource based studies of SME internationalisation, entrepreneurial strategies and the personal role of the manager have emerged as essential factors that influence business performance in changing circumstances.
Entrepreneurial strategies are behaviour-based factors related to the proactive actions of managers which add new value to the company in the context of multinational market entry (Oviatt & McDougall, 2005). Building on Cyert & March’s (1963) theory of knowledge acquisition through business personnel, entrepreneurial strategy studies emphasise the significant relationship between managerial input and firm growth. Shane and Venkatraman (2000) argue that entrepreneurial strategy research identifies how the manager’s role influences the value adding process in SME internationalisation. In contrast to large companies where internationalisation is a stage in market expansion and resource redeployment, foreign market entry of SMEs depends on ‘the entrepreneurial competencies of the management team’ (Sapienza, 2006: 918). Managerial resources include many factors such as manager’s business experience, international knowledge, host country knowledge, managerial team size, managerial team diversity, and so on. On a personal level, manager’s knowledge stock and learning capabilities could influence decision making processes. Choices of internationalisation destination, timing, strategy, and market entry mode are typical problems business managers need to resolve before or during market expansion activities (Bingham, 2009). On a managerial team level, communication efficiency, governing structure, managerial group experience, diversity, and knowledge are critical factors that influence the outcomes of business ventures (Hitt et al., 2006). Hsu and Pereira (2008) argue that managerial resources, e.g. managers’ involvement in internationalisation activities, group learning patterns, and managers’ time spend on market entry related issues, vary on different stages of SME internationalisation process. At the initial stage of internationalisation, SMEs deploy abundant managerial resources to facilitate business exploitation activities. However, intensive managerial investment will not last due to the need of maintaining daily operations in home market. Managerial resources related capabilities therefore, play a critical role in the SME internationalisation process.

2.2.2 FDI and SME market entry modes
The literature on SMEs’ internationalisation reviews a wide variety of market entry methods. A frequently observed trend is increasingly proactive in market entry activity among SMEs. Although many SME internationalisation efforts begin with international sales, entrepreneurs with global knowledge and relevant experience benefit from early stage cross border business activity (Hitt et al., 1997). International sales, including exports of goods and services, provide a cost-efficient way for resource constrained SMEs to enter foreign markets. However, export does not explain how entrepreneurial companies leverage the manager’s international knowledge and experience, and the company’s intangible assets, to survive and succeed in the internationalisation process. Ignoring entrepreneurial factors leads to questions about whether exporting improves SME performance (Brouthers, et al., 2009).

In comparison, FDI has unique advantages. Amount of capital investment, investment destination, and market entry process are at the discretion of the business managers. In contrast to MNEs, it is difficult for SMEs to achieve scale economies in foreign markets. To compete with local companies, international SMEs need to employ their companies’ ‘unique resources’ to achieve growth through market expansion activities (Autio et al., 2000; Garc & Lopez, 2007). These unique resources can be tangible and intangible assets, such as capital stock, efficient decision making process, less complicated organisational structure, unique trade-marks and patents and so on. FDI enables business managers to simultaneously deploy tangible funds and intangible assets to optimize resource management advantages. One of the most important intangible assets is the managerial decision making activities that allows versatility in market expansion methods, such as resource acquisition, business expansion, facility establishment, and so on, in the host country (Castellani & Pieri, 2011). Knowledge-based resources, such as business manager’s global awareness and market expansion experience, also plays critical role in SME internationalisation process. Passive methods, such as exporting, do not challenge the business manager’s multi-market operating skills, but FDI requires much higher involvement of the business manager. At the same time, capital investment allows international SMEs to build distribution channels and accumulate market knowledge first.
hand. Compare with licensing and franchised dealerships, FDI could also avoids agency costs and enhance the investing company’s image in the host country.

However, market expansion via capital investment has some drawbacks. Firstly, resource constrained entrepreneurial companies have lower tolerance for the risks associated with changes to the firm’s financial conditions (DiGregorio et al., 2008). While large companies have designated risk control mechanism to avoid unnecessary exposure, SMEs’ financial speculation can lead to inadequate liquidity short term. Although short term financial shocks are containable at a low level, the associated risks are higher compared to more passive methods such as exporting and licensing. Secondly, due to the tangible nature of capital assets, funds can be committed only to a particular business activity and location. Capital investment is designated to specific business functions, which means once deployed it cannot be utilized for alternative tasks. It is difficult to recover the investment once there has been commitment to FDI (George, 2005). Thirdly, because of the significant role business managers take when deciding investment destination, amount, and activities, risks of managerial failure are high. Inadequate market expansion knowledge and skills of business managers could lead to grave consequences (Keupp $ Gassmann, 2009).

2.2.3 FDI and short and long term SME performance

Dimitratos et al. (2004: 31) point out that entrepreneurial companies’ exploration of ‘low-cost inputs, risk diversification or acquisition of (local) assets’ could be ‘accomplished in the long-run rather than in a short-term and opportunistic time frame’. Zahra et al. (2000) argue that considering international expansion activities, especially proactive business plans, as antecedents, in performance implication studies, show a prolonged effect. The patterns of firm performance volatility as a consequence of market expansion activities develop differently at different stages of the investment (Hitt et al., 1997). Various theories have been proposed in relation to market
expansion and its impact on the firm’s financial performance. In our study, we follow Lu and Beamish’s (2001) which suggest that frameworks such as international entrepreneurship, organisational capability, and strategic management theory can be applied to SEMs, but each is relevant at different stages of the capital investment process.

Organisational capability analysis focuses on SMEs’ resource endowment and capability building perspectives. From a resource-based view, the concern is on how sudden changes in the firm’s resource position during its market expansion process can influence business transactions. In the short term, capital investment will drain the company’s liquidity and cause shocks to resource scarce SMEs (Sapienza et al., 2006). Zott (2003) points out that the commitment of high fungible capital, as the primary resource endowment of companies, to business exploration, drastically increases the company’s chances of financial chain fracture. Since the liability of foreignness is at its peak on initial stage of internationalisation process, resource redeployment will inevitably lead to unbalanced resource commitment. Lu and Beamish (2001) argue that the problem of resource drain could be severe in SMEs for limited fungible assets and weaker profit margin in home market compare with established competitors. In most cases, survival of the newly established investment in host market outweighs the short term financial gain. Market expansion activities therefore, will hinder SMEs’ profitability in short run.

From a capability building perspective, knowledge and learning capabilities are at the heart of international new ventures’ sustainable competitiveness. Proactive activities such as FDI, offer business managers the opportunity to employ knowledge and tactics in the process of building new capabilities in new markets (Zahra et al., 2000). Casillas and Menendez (2014: 87) conclude that firms rely on experiential learning to obtain ‘host market and institutional knowledge’ and improve ‘mode of operation’ during internationalisation process. SMEs with market expansion experiences and change capabilities enjoy great advantage during the internationalisation process. Nevertheless, the procedure of learning, knowledge acquisition, knowledge assimilation, and final local capability
building is time consuming and expensive (Fernhaber et al., 2009). In the short term, SMEs need to leverage fungible resources to accumulate local knowledge and develop new local capabilities to facilitate cross-border business operations and achieve profitability in host markets. Tangible and intangible assets investment in this capability acquisition process will occupy limited financial and managerial resources. The returns on local capability building investment, however, could not be realised in a short span of time.

In relation to intensive capital investment in new markets, the behaviour-based theory suggests that managerial involvement, i.e. attention from managers, knowledge input, and administrative focus, reaches its highest level in the short term (Abouzeedan & Busler, 2004; Teece, 2007). SME managers focus personal and management team efforts at the initial stage of market expansion activities to facilitate adaptation in a new market place. This is common in both MNEs and SMEs as new strategic actions draw great attention from management team. In short periods of time, this concentration of managerial resources effectively improves SME change capabilities. Development of firm dynamic capability, organisational learning capabilities, and absorptive capacity bolster better chance of survival in new business environments. Notwithstanding the substantive capabilities in local markets, which generate profit through daily operations, still need local market experiences to foster (Casillas and Menendez, 2014). Therefore, although managerial investment is high at the initial stage of SME internationalisation, its primary focus is helping SMEs overcoming the shock of foreignness. SME profitability will not benefit much from this short term managerial resource surge.

To sum up, both the resource-based view and the behaviour-based analysis suggest a decrease in SME profitability at the initial stage of internationalisation. We therefore propose:

**Hypothesis 1**: In SMEs, FDI activities are negatively related to short term company performance.
In the long term, the resource-based theory suggests that exploration and exploitation of local resources in host markets offer great potential for financial benefits and business development (Serrasqueiro & Nunes, 2008; Frenz & Gillies, 2009). Unlike MNEs, SMEs could not rely on home country supply to sustain their foreign business operations. International SMEs have to build their local resource exploitation capabilities to achieve sustainable growth. By doing so, the resource drain effect on the home-company will begin to abate gradually. Home and host country resource position could form a mutually complementary relationship. Re-deployable resources can be utilized in both home and host companies while a network of resource sharing could drastically reduce operational costs and improve financial performance (Teece et al., 1997; Teece, 2007). Autio et al. (2010) points out that entrepreneurial resource, especially intangible assets that could be leveraged in different locations with low redeployment costs, are unique resources that promote the sustainable growth of SMEs in international markets. In the long run, as local resource exploitation and resource redeployment become increasingly effective, international SMEs could achieve superior performance compare with domestic competitors.

Sapienza et al. (2006) suggest that entrepreneurial capabilities, e.g. local market adaptation, international experience, and cross border operational skills, accumulate and reinforce progressively with experience in market entry. Internationalisation improves relevant knowledge stock which in turn, enhances company change capability. This self-reinforcing cycle creates profits and sustainable competitiveness for international SMEs. However, SMEs need to invest in host market to form the foundation of knowledge and promote local capability building at the beginning of internationalisation. In the long run, firms could benefit from their initial investment and outperform its domestic competitors. Meanwhile, SME internationalisation could also increase firm’s contact with fresh knowledge and unique market opportunities. Zahra et al (2000: 927) conclude that SMEs internationalisation bolsters organisational capability by enhancing ‘learning and local knowledge base and exposure to different systems of innovation’. Chronic presence of exogenous inspirations
and innovations encourages a more dynamic business practice which could generate premium margin in the long term.

Dedication of managerial resources in the short term improves SMEs’ chances of survival. However, this surge of managerial commitment eventually declines over a long period of time. As business operations extend in various foreign locations, the governance structure becomes increasingly complicated and inefficient (Avlonities & Salavou, 2007; Frishammar & Andersson, 2009). In MNEs, multi-market operational expenditure, communication inefficiency, and governance complication could offset long term scale economy margin (Geringer et al., 1989; Brock & Yaffe, 2008). In SMEs however, adoption of ‘alternative governance structure’ and flat firm power structure could improve administrative efficiency and enhance business performance (Oviatt & McDougall, 1995, 1996; Zahra et al., 2000). Oviatt and McDougall (1994: 55) conclude that SMEs with limited fungible assets and managerial resources, ‘internalise, or own, a smaller percentage’ of primary resources and rely on ‘social control of behaviour through trust and moral obligation’ to bring down the cross-border governance costs. At the same time, more flat organisational power structure and entrepreneurial decision-making process reduce administrative expenses and managerial difficulty in organisation (Gilbert, et al., 2008). In the long term therefore, we argue that international SMEs could outperform their domestic counterparts.

Based on preceding analysis, we conclude that internationalisation improves SME resource position, organisational capabilities, as well as managerial efficiency in long term:

**Hypothesis 2:** In SMEs, FDI activities are positively related to long term company performance.
3. Methodology and measures

3.1 Dataset

We combined two longitudinal datasets, Financial Times (FT) fDI-Market surveillance data and Amadeus-Analyse Major Database, to create a unique dataset of 1,206 EU SMEs, over a period of seven years.

Company market expansion data come from the FT fDI-Markets database which records the inward and outward FDI activities both greenfield and brownfield investments of more than 34 countries collected by scanning company reports and news releases. From these 34 countries, we selected 27 EU nations. FDI activities are very intensive and are recorded in detail in the FDI database; more than 3,000 companies and roughly 56,000 market expansion activities were recorded between 2003 and 2009. Unlike third party market surveillance databases, fDI-Market includes EU SME market expansion activities. The database registers the investment amount, investment source (city/country), investment destination (city/country), and investment acquisitions. The FT fDI market database includes 1,053 EU companies over a continuous seven year period. We follow George’s (2005) definition of SMEs as companies with fewer than 500 employees and annual turnover of up to US$10 million. There are 731 SMEs in our 1,053 company sample that meet these criteria. We retrieved company financial reports from the Amadeus dataset. Because some companies did not submit financial/accounting data to Amadeus during the observation period, our sample is reduced to 483 EU based SMEs. The merging of FT-fDI Markets data with Amadeus provides company investment details, accountancy information, location of business operations, ownership structure, and so on, from 2003 to 2009.

Another advantage of our database is that the variety of industry sectors and home countries allows us to eliminate the possibility of industry and market bias. Service and manufacturing based companies account for more than 40 different industry sectors in our database. Qian (2002) suggests
that previous works on SME internationalisation focused on manufacturing companies’ market expansion activities while ignored service firms. Manufacturing firms often have more prominent exporting activities, which promotes studies using export as a measure of internationalisation. To investigate SME market expansion activities more thoroughly, service based companies, especially those with little exporting activity, should be explored. At the same time, to reduce the distortion caused by national or regional fluctuations, companies based in different home countries are preferred in empirical studies. Lu and Beamish (2001) suggest that home market diversity corrects for regional market variations and their impact in empirical tests. In our study, the sample home markets cover all 27 EU countries. The fact that there is a huge variety in cultural backgrounds, development levels, and business environment among these 27 nations increases our confidence of the robustness of our empirical test (Andersson et al., 2004). Although all companies in our sample are based in the EU, capital investment destinations include more than 70 countries around the world.

Sample selection bias and matching

Because our companies’ market expansion data were collected after firms engaged in internationalisation activity, we need to address the problem of sample selection bias (Heckman, 1979; Wooldridge, 2010; Heckman et al., 1997). Wright et al. (2007: 1022) point out that both cross-sectional and panel dataset fall into a selection bias trap when ‘non-internationalising firms’ are excluded from observation. Self-selection bias occurs when the sample is not randomly selected for treatment. In order to probe the causality between company internationalisation and financial performance, ideally we would need to randomly assign market expansion activities to firms. However, in business research it is difficult to conduct such experiments. The fact that most market expansion studies employ archived data leads to controversies over the legitimacy of empirical results from such studies. Since a randomly assigned treatment experiment is impractical, a few statistical methods have been introduced to reduce sample selection biases.
The literature explores the internationalisation and firm performance relationship using different datasets and methods. Since the 1990s, cross section dataset have gradually been replaced by more informative panel datasets to enable within group regressions. However, similar to cross section data, panel data suffer from sample selection bias. To explore a feasible method to eliminate self-selection bias, we need to address the problems it causes. Since treatment (T) of selected samples is not randomly assigned, those companies with treatment ‘self select’ into T. The reasons for this self-selection process can be diverse and due to: period effects, policy changes, regional or market changes, firm level decision making, firm’s slack reserves, manager’s experiences, etc. Since it is difficult to determine the specific switch variable influencing whether or not to be treated, it is also difficult to identify an instrumental variable which would explain why a firm internationalise and does not have an impact on firm performance. As a result, an instrumental variable approach to address the self-selection bias is hard to implement in this context. However, the issue of sample-selection could be treated as a problem of random-selection that misses the untreated samples. One way of including in our sample companies that do not self-select into internationalisation is by matching the companies in the dataset with domestic companies without foreign operations of similar financial characteristics.

The purpose of matching is to construct a control group that reconstructs a random-selection process together with the original treated samples. Navaretti and Castellani (2003:9) suggest that matching is aimed at constructing a control sample (counterfactual) that shares ‘similar characteristics (with existing sample) but without the treatment’.

We construct our control sample using a two steps procedure. First, we extracted from the BvD Amadeus the sample of companies which appear in the peer analysis performed by this dataset. This peer analysis can be conducted using more than 80 different criteria, we performed this analysis using only the home country, the industry (based on 4 digits NACE code), and company size (employee number and annual net income), and foreign investment activities (control sample has no FDI involvement during the period of observation). Instead of matching each treated sample to a control company, we double the size
of the control sample to reduce systematic errors. Among 483 treated companies, 402 have two matching samples that meet the neighbour criteria. This implies that 81 companies failed the matching process. These companies were not able to be matched in the peer analysis. This reduction is inevitable since some of our SMEs operate in niche markets in specific countries. We test the equality of treated sample and its control company’s equality of means on the second step. If the propensity score of the difference between treated sample and its control samples is significant, i.e. p-value significance is above 1%, we select another two control companies for the treated sample. Eventually, we compose a dataset with treated samples and control samples with statistical similarity. As shown in Table 1 the companies in the treated and control sample are not statistically different in terms of annual gross revenue, firm total assets, cash and cash equivalent, employee number, gearing ratio, industrial diversification (NACE figure), intangible to tangible assets ratio, management team size, and firm age.

[Insert Table 1]

Two further steps were taken to ensure that the control companies had no Greenfield or brownfield capital investment in foreign countries during the observation period. Firstly, we scrutinized the FT-fDI Market surveillance database, company websites and news releases for any outstanding reports of foreign investment activities. Secondly, we conducted telephone interviews with 161 randomly selected control companies (20% of the total population) to ensure no foreign investment has occurred.

*Survival bias in the long term*

Hypothesis 2 proposes that FDI activities are facilitating SMEs’ long term performance. This assumption is testable only when firms survive the whole period of our observation. SMEs that failed to report to Amadeus in the long term (2003-2009) though, are eliminated from the sample. This leads to the possibility of survival bias and we have to address this issue. In theory, more data could
be retrieved from a longer period of observation of sample companies, of those survive in the future and those go bust. Alternatively, the presence of survival bias could be detected by testing the equality of dropped and remaining samples.

As Figure 1 in Chapter 3 indicates, we matched 731 EU based SMEs with Amadeus database. 483 SMEs were selected and there are 248 companies that went bust at a point of the 7 year long observation period. Using existing financial and FDI records of these busted companies, I could test the significance of the difference of propensity score between busted companies and survived ones. When the significance level is above 1%, I need to employ an instrumental variable (IV) that induce the survival of companies in our long term regression model but independent from the growth effects. If there is no significant difference between dropped 248 firms and 483 sample companies, survival bias in the long run is limited and there is no need to introduce an IV. As shown in Table 2, there is no statistically significant difference between dropped SMEs and remaining firms in terms of FDI activities and financial characteristics. In this case there is no need to employ an IV in long term performance estimation model.

[Insert Table 2]

3.2 Variables and measures

Construction of the treated and control group of 1,206 SMEs allows a more accurate empirical study of how internationalisation influences short and long term firm performance. Hypotheses 1 and 2 explore the causality between FDI intensity and firm performance in the short and long term respectively. Regarding the measures of ‘short’ and ‘long’ term effects, we follow Zahra et al. (2000: 935) that ‘a two-year time frame captures immediate and lagged effects of internationalisation’. Therefore, short term impacts are defined as effects occurring within two years of the
internationalisation activity, and long term effects are defined as effects occurring two years after the FDI.

3.2.1 Dependent variable

Firm performance indicates the healthiness of the business practice and the potential for future development. Different metrics and proxies have been employed in previous studies to measure business performance, and both quantitative and qualitative measures have been used in business studies (Pangarkar, 2008). Interviews and questionnaires to extract business managers’ opinions about business performance are typical of the qualitative approaches, while financial measures of corporate performance are used widely in empirical studies. However, no consistent metrics have been established. Complicated financial models have been developed to indicate business performance under precise conditions such as time, location and financial strategy (Peel & Peel, 1987; Keasey & Watson, 1991).

Hagel and Davison (2010) argue that although a few sophisticated financial variables have been developed, e.g. internal rate of return (IRR), net present value (NPV), and discounted cash flow (DCF), rate of return (ROR) remains prevalent and robust. There are two different types of ROR metrics, sole variable, and portfolio of a group of variables. Sole variable metrics are explicit and frequently used in previous studies. Typical sole indicators of business performance include firm debt ratio (Goddard et al., 2005), annual sales (Geringer et al., 1989), liquidity ratio (Myers & Raja, 1995), return on assets (McDougall & Oviatt, 1996), international sales growth (Autio et al., 2000), return on sales (Capar & Kotabe, 2003; Gaur & Kumar, 2009), etc. In recent years, several studies have used more than one metric to assess business performance. For example, Hsu and Pereira (2008) employ a combined group of return on sales (ROS), return on investment (ROI), and return on equity (ROE) to proxy for firm performance. The advantage of employing multiple variable measures is that
changes such as new market entry can influence different aspects of firm performance. Single financial ratios may not fully reflect how and to what extent business activities influence corporate performance. A multiple variable metrics dynamically measures the changes in a group of specific values and ratios.

Follow Hsu and Pereira (2008), we employ company annual revenue growth and return on assets (ROA) growth to proxy for firm performance. Change in revenue indicates the change in the firm’s income in the previous year. Compared with other income growth variables, firm revenue is more focus on business performance and reflects annual output and income growth (Orser et al., 2000). On the other hand, firm ROA is a good proxy for it is less prone to fluctuations caused by firms’ operations and seasonal changes. ROA growth is frequently used as a proxy for firm’s profitability efficiency (Navaretti & Castellani, 2003). It offers a unique perspective on business development that is less likely to be correlated with other financial ratios (Avlonities & Salavou, 2007). By employing both revenue growth and ROA growth as proxy for firm performance, we are able to assess market entry activities’ impact on company growth.

3.2.2 Independent variables

We aim to probe the causality between progressive market expansion activities and their impact on short and long term business growth in our study. To achieve this, we need to find the treatment that distinguishes companies with and without market entry during our observation period.

FDI activities

We employ FDI to proxy for progressive market entry activities. FDI activity is seen as a treatment when testing our two hypotheses. Companies then fall into the treated or control group. As a
treatment, FDI can be described as a binary variable that is equal to 0 when there are no recorded investment activities for company \( i \) in year \( t \), and is equal to 1 if there is one or more recorded capital investment activities in year \( t \).

### 3.2.3 Control variables

We introduce six control variables home country (dummies), firm size, company age, business sectors (dummies), year (dummies), and managerial team size into our regression model to improve the overall fitness and further eliminate correlation effects. Control variables are obtained by combining FT-fDI Market and BvD Amadeus company financial data.

Each of these six control variables has a unique impact on our regression model. Home country could induce a regional effect when we test for the impact of market expansion on firm growth. To eliminate country-related residuals, we create controls for the 27 home countries in our test (Lin et al., 2009). Although our dataset includes only SMEs, they vary greatly in size; some have less than 10 employees and some more than 400. Company size could have a significant impact on firm resource endowment, governance structure, managerial skills, etc. (McDougall & Oviatt, 1996; Zahra et al., 2000). To address this, we introduce annual number of employees as a control variable. Firm age is a variable that influences business knowledge accumulation and business pattern development. Older firms may benefit from local market knowledge and operational skills, but the patterns and routines accumulated along time could result in a slower adaptation to change (Autio et al., 2010). Therefore, we need to control for company age. Industry variation occurs when firms from different industrial clusters have distinctive influences on firm growth in a multinational context. Companies from certain industries, e.g. manufacturing firms, may tend to be more/less keen on market exploration activities or favour certain investment patterns. We employ industry dummy variables as a control to eliminate these specific effects. Year dummy variables are included to correct for the time variance.
in our model. Managerial team size is a proxy for managerial experience and diversity, which have significant impact on the decision making process related to foreign investment (Cohen & Levinthal, 1990; Qian, 2002). Change in the number of firm managers is controlled for to address managerial position impact.

3.3 Methods and model

We aim to estimate market expansion activities’ impact on firm performance in the presence of control factors with longitudinal data covering seven years. Short and long term causality between FDI and performance improvements will be tested using a DID-estimator (Eq. 1) which deals with the problem of sample selection bias and endogeneity (Woolridge, 2010, ch. 11, 19).

Card and Krueger (1994) employed the difference-in-differences method to calculate the impact of minimum wage increase on employment growth. Combines within and between comparisons, DID-estimation indicates that, contrary to conventional economic theory’s prediction, increase in minimum wage will not reduce the employment figures. Halaby (2004: 510) argues that the DID procedure not only addresses the unobserved endogenous problem of non-experiment dataset but also addresses the simultaneity endogeneity caused by matching original data with pseudo control samples. The reason lies in the fact that the DID estimator (Eq. 4) comes from two different estimations. The first step is to find the fixed-effect (within) estimator, which in our case is the effect before and after treatment (effect of FDI). The second step is to calculate the difference between fixed-effects of treated samples and control samples (between estimation). Before we test our dataset, we will explain in details how to combine within and between tests in DID-estimation.

In Equation 2, we assume that company \( i \) (sample firm in our original dataset) has invested in foreign market in year \( t \):
By calculating the difference of average performance improvements before and after FDI, we obtain the fixed-effect estimator of FDI’s influence on firm performance. Although this estimation partly explained the relationship between FDI and firm performance, the presence of endogeneity (e.g. unobserved variable that influence both FDI and firm performance) has made the result far from convincing. By introducing a control group, we can eliminate the effects of these unobserved factors by estimating the difference of the treatment effects on both treated group and control group rather than estimating the effects of treatment itself. We test the control group performance changes during the same period of observation. In Equation 3, Company \(j\) is a matching sample firm of company \(i\):

The DID estimator combine both fixed-effect estimation and control group effect by measuring the difference of treatment effects between sample group and control group (Heckman & Urzua, 2010; Greene, 2008, ch. 17; Wooldridge, 2003, ch. 19):

Following Heckman et al. (1997), and Navaretti and Castellani (2003), we argue that the DID estimator could reflect the true impact of firm strategic changes on business performance. In our model, let

we could calculate short and long term fixed-effect impact by the following equations:
where $\Delta y_{S,i}^T$ is the fixed-effect short term treatment impact on company $i$ performance. Subscript $S$ denotes short-term, superscript $T$ and $C$ denote treated samples and control samples respectively. $i'$ denotes control companies that are matched to company $i$.

Similarly, we could calculate the before and after impact on the matching sample by

[Insert Equation 8, 9]

The short and long term fixed-effect coefficients however, ignore the between-effect of treated samples and the within-effect of control samples. Although time constant unobserved heterogeneity has been eliminated, endogeneity problem remains with panel regression:

[Insert Equation 10, 11]

If we could take between-effect of treated samples and within-effect of control samples into account when we estimate the fixed-effect impact, endogeneity will no longer threat the correctness of regression result since we tackle both sample-level heterogeneity and period shocks. We follow Navaretti and Castellani (2003) and Halaby (2004) to construct the DID estimator by steps.

Step 1: Calculate the mean value of $y$ for each $i$ and $i'$ before and after treatment $T$ (Eq.12-13). This is to prepare for calculating the effect of treatment on both treated group and control group. Since there is no actual treatment for the firms in the control sample, before and after is defined by the year treatment happens to the treated group.

[Insert Equation 12, 13]

Step 2: Compute the effect of treatment to each firm in sample $i$ and $i'$. We estimate the impact of FDI on firm performance by the difference in mean of $y$ before and after the treatment (Eq. 14).

[Insert Equation 14]
Step 3: Average *before-after treatment* effect on the treated and control group respectively. To eliminate unit-level unobserved heterogeneity, we calculate the average difference of performance improvements caused by the treatment (Eq.15-16).

[Insert Equation 15, 16]

Step 4: The differences of the before-after treatment effect. The DID estimator is obtained by calculating the difference between the treated group and control group of step 3’s average difference of performance in treated and control sample groups (Eq. 17). This final step gets rid of periodic effects that may lead to time-related endogeneity (Hansen, 2007; Wooldridge, 2010).

[Insert Equation 17]

In our case, we assume that short term effects span from year $t+1$ to $t+2$ when treatment happens at year $t$. Long term effect occurs after year $t+2$. Therefore, we could calculate short and long term DID estimators by equation 18 and 19 respectively.

[Insert Equation 18, 19]

Our dataset has an observation span of 7 years starting from 2003 to 2009. Of all 402 companies that have market expansion activities during this period of observation, there are two types of companies: those that only have only one FDI in a single year through our seven year observation and those with multiple investment activities in different years. We report the number of both groups of companies in Table 3. In 2007, for example, there are 159 companies been recorded with FDI activities in the fDI Market dataset, but 89 companies have only a FDI activity in this year, while 70 companies have FDI in 2007 and in at least another year. Although we have records of all FDI activities, companies with single year FDI activities will be tested in our model. This is because multiple investments in different years will induce overlapping of impacts on firm performance. It is difficult to determine the short and long term effects of FDI when multiple investments happened in
a short period of time. As shown in Table 3, we test the companies with only single year FDI activities (first line). The control company size will vary according to treated sample size in each year.

[Insert Table 3]

The DID-estimation requires at least two \( \Delta y_i \) to calculate the average value of performance improvement. Pre and post treatment period should consist of at least two years (e.g. t-2 or t+2). With our dataset, to satisfy the requirements of the DID-estimation, treatment should occur in 2005, 2006, and 2007. For companies with FDI in 2005, \( pre-FDI \Delta \bar{y}_i \) could be calculated by averaging performance improvements of two intervals: year 03-04 and 04-05. The \( post-FDI \Delta \bar{y}_i \) could be fetched by calculating the mean value of performance improvements of four intervals: year 05-06, 06-07, 07-08, and 08-09. Since FDI activities occur in different years, the number of intervals we employ to compute \( pre \) and \( post \) treatment \( \Delta \bar{y}_i \) is different as well. Figure 1 present the \( pre \) (dashed line) and \( post \) (solid line) treatment intervals of companies investing in different year of observation.

[Insert Figure 1]

4. Market entry activities’ impact on firm performance: DID-estimation Results

We tested our hypotheses by employing a panel dataset of SMEs’ FDI activities from 2003 to 2007. Descriptive statistics and variable correlations are listed in Table 4 and Table 5 respectively. In this study, we follow Navaretti and Castellani’s (2003) method of constructing the DID estimation by steps. Table 6 and Table 7 report short and long term DID-estimators respectively. In both tables, the first three models employ annual revenue growth rate as dependent variable and the last three models employ annual ROA growth rate as dependent variable.

Models 1 and 4 of Table 6 include only the control variables. Dummy control variables, i.e. home country, sectors, and year, are presented by means of coefficient matrix \( e(b)’ \). Firm size, firm age,
and management team size have shown significant impacts on both short term firm revenue growth and ROA growth. Firm size has a significant yet marginal positive influence (0.001, p<.001) on SME short term performance growth. Since the difference of firm size is relatively small in our dataset, the performance advantage of larger SMEs is not conspicuous. Firm age has been proven to facilitate short term firm revenue growth and ROA growth by 1.607% (p<.001) and 1.429% (p<.01) respectively. Firm profitability level increases as business operational experience extends. A significant positive relationship between management team size and short term SME revenue (6.303, p<.001) and ROA (2.730, p<.001) growth is consistent with our prediction that intensive managerial input could improve company capability building and bolster company adaptation of new market environments (Teece, 2007).

In Models 2 and 5 of Table 6, we introduce two treatment control variables that are essential when calculating DID-estimators. The first variable ‘after’ denotes the periodic element that segment the ‘before’ and ‘after’ stages of treatment. The second variable ‘treat’ differentiates samples that received treatment from control companies (Bruderl, 2005). The ‘after’ dummy variable is obtained by defining the year t-1, where year t is when FDI occurs. In the two separate tests (models 2 and 5 in Table 6), these dummy variables improve the overall fitness of the regression design (Δ$R^2 = 0.001$ and 0.006).

Models 3 and 6 in Table 6 include the DID-estimators, control variables, and treatment dummies. Following Navaretti and Catellani’s (2003) approach, we obtain the DID-estimator using two steps: firstly we create a dummy variable by multiplying two dummy variable ‘after’ and ‘treat’; secondly we use this dummy variable in our regression model to calculate the DID-estimator (the proxy term coefficient). Hypothesis 1 predicts a negative relationship between FDI activities and short term revenue and ROA growth. The DID-estimation of Model 3 in Table 6 (-9.924, p<.01) confirmed this Hypothesis as internationalisation diminishes company income in the immediate future. Meanwhile,
the DID-estimator in Model 6 in Table 6 (-1.817, p<.05) confirms that FDI activities will hinder ROA growth rate in the short run.

We predict positive relationship between internationalisation and long term firm revenue and ROA growth in Hypothesis 2. Similarly to preceding discussion of Model 1 and 4 of Table 6, Models 1 and 4 of Table 7 present control variables’ impact on long term SME performance improvements. Significance has been found between firm size, firm age, management team size, and SME long term business growth. In line with short term effect, firm size’s impact on long term business performance is significant yet marginal (0.001, p<.001). Firm age however, has shown entirely contrary influence on long term SME revenue growth (-0.814, p<.001) compare with its short term effects. In the long run, older SME has weaker revenue growth rate. Meanwhile, the positive impact of firm age on long term ROA growth rate (0.469, p<.01) indicate the fact that firm age hinders the SME profitability in the long run but facilitates investment efficiency at the same period of time. Consistent with the short term positive impact on firm growth rate, management team size continue to contribute to the growth of both revenue (9.308, p<.001) and ROA (1.561, p<.001) in the long run. It is noticeable that certain control variables, firm age for example, have different impact on firm performance in both the short term and long term. Meanwhile, variables’ influence on firm growth may vary when choosing different proxy of dependent variable. Company age in long term for example, has a negative impact (-0.814, p<.001) on firm revenue growth but a positive one (0.469, p<.01) on annual ROA changes.

Models 2 and 5 of Table 7 test the treatment control variable’s effect on long term impact model. Both ‘after’ and ‘treat’ variables show significant effects (21.863, p<.05; 12.701, p<.01) on firm long term growth. But we focus on these dummies’ impact on our regression design. Positive figures of \( \Delta R^2 \) (0.015 and 0.003) in Models 2 and 5 of Table 7 indicate an overall fitness improvement.

Hypothesis 2 predicts that in the long run, FDI activities improve both SME profitability and investment efficiency. Models 3 and 6 of Table 7 test our prediction with DID-estimators. In line with
our prediction, both DID-estimators from Model 3 and Model 6 show evidence that FDI activities could increase SMEs’ long term profitability by 6.449% (p<.01) and ROA growth by 7.359% (p<.01) compare with their domestic rivals. Significant F-statistics in all columns suggest a good fit of our regression model. $R^2$ and $\Delta R^2$ are reported to present the gradual improvements of the regression design as new independent variables are introduced in later models.

5. Conclusion and discussion

This study aims to explore the true effect of internationalisation as a source of SME sustainable competitive advantage. Although the significance and dynamics of market entry activities has been emphasised in past literature, study of the impact of such strategic activities on firm growth has so far been inadequate (Lu & Beamish, 2001; Hsu & Pereira, 2008; Carr et al., 2010; Casillas & Menendez, 2014). Build on behaviour and resource-based perspectives we propose that FDI activities have particular influence on short and long term firm performance. We will discuss our findings and conclusion in this section.

5.1 Internationalisation and SME performance: conclusion

We focus on the internationalisation and its consequences: the direct impact of FDI on firm performance.

In Hypothesis 1, we predicted that in the short run, FDI will have a negative impact on both profitability and earning efficiency of SME performance. The argument we advanced was that market expansion activities will drain resources from profit generating activities to new environment adaptation process, which in turn, reduce the profitability of the organisation (Zott, 2003; Sapienza et al., 2006). The DID estimation of short term revenue growth confirms our prediction with strong
significance. The DID-estimator coefficient indicates that company revenue growth rate drops an average 9.924% in the nearest two years after FDI compared with a group of control firms that did not move to foreign markets. The profitability drop shows that unbalanced resource allocation could indeed induce profitability loss. Meanwhile, although the impact is weaker compared with revenue growth change, ROA growth is also hindered by FDI activities in the short run. The test result indicates that ROA growth rate descend 1.817% compared with non-FDI counterfactuals. Change capability building and resource scarcity not only bring down the immediate profitability of SMEs, but also impede firm’s efficiency of gaining from investment.

It is worth mentioning that managerial input, as Abouzeedan and Busler (2004) point out, fails to turn the tide when liability of foreignness and capability building are at their peak. Exhaustion of fungible resources, even though temporarily, could not be compensated by intangible resource investment. It seems that short term profit loss is an essential sacrifice during the internationalisation process. Efforts should be made to minimize the loss and overcome initial shocks as quickly as possible.

Another interesting point is that revenue growth rate more directly captures the negative impact that internationalisation causes to firm performance in the short run. Like many rate of return proxies, ROA understates the severity of this profit loss because of the indirect measures it uses (Pangarkar, 2008). It is therefore, important to employ multiple variables to measure the influence that internationalisation has on firm performance from different perspectives (McDougall & Oviatt, 1996).

The DID estimation results of the relationship between market expansion activities and long term business growth is consistent with our prediction in Hypothesis 2. In the long run, revenue growth of foreign investing SMEs is 6.449% higher than those companies which stayed in home country. Unlike in short term when ROA growth show smaller changes as a result of SME internationalisation, in the long run ROA growth rate display a noticeable increase of 7.359% compared with domestic firms.
Internationalisation therefore, facilitates not only the profitability of SMEs, but also improves company’s overall investment efficiency in the long run. Considering that firm performance was deteriorating in first two years after FDI, SME internationalisation can be instrumental in facilitating firm growth in the long term. Our results are in line with the resource-based theory and the behaviour-based view which state that resource and opportunity diversification promotes SME sustainable competitiveness when local knowledge exploitation and capability building reinforce each other in the long run (Oviatt & McDougall, 1996; Zahra et al., 2000). On the other hand, these results endorse the lagged effects of learning and the capability building process on business growth. Surviving the initial adversity and developing local capabilities swiftly are key elements of a successful SME market expansion plan (Sapienza et al., 2006; Autio et al., 2010).

The results of our study not only provide empirical evidence on the long outstanding question of internationalisation’s impact on SME performance, but also shed light on how consecutive effects act in this dynamic process. Internationalisation activities, the knowledge of market entry, and the capabilities of dealing with changes in the internationalisation process have been proved to be a source that promotes SMEs to survive and thrive in an ever-changing business environment (Sapienze et al., 2006; Wright et al., 2007; Autio, 2010; Casillas & Menendez, 2014). This result demonstrates that, first, local resource exploration could indeed overcome the short term resource drain in SME; and second, firm’s adaptation of new environment will intervene the initial stage systematic shocks caused by market entry activities. But the long term growth comes at a cost. According to the resource based view, the negative impact of FDI on short term firm profits means that SMEs sacrifice immediate profits to foster cross-border operational capabilities. Besides loss in profits, SMEs also need time to adjust themselves to new market operations and assimilate local knowledge (Zahra et al., 2000; Zott, 2003; Dau, 2013).
5.2 Managerial Implications

Market expansion activities of SMEs are strategic actions business owner or manager deploys to pursue higher margins and achieve sustainable growth. Unlike MNEs and established companies, SME managers enjoy more discretion on decision making process of such ventures. Our findings, therefore, could offer a series of useful implications to SME business managers in their strategy making process.

Firstly, internationalisation as a firm strategy and entrepreneurial activity could indeed improve firm growth. Business managers, especially SME managers, should consider internationalisation as a path to achieve sustainable growth (Hall 1993; Teece, 2007). SMEs with weaker resource-position than domestic competitors should take more proactive measures towards market diversification activities. Secondly, SME managers should understand that the underlying logic of a successful internationalisation is not relying on market entry activities per se, but the dynamic learning and capability building process that are associated with the market expansion process (Westhead et al., 2001; Bruneel et al., 2010). Business managers that plan to explore foreign markets should attach importance to organisational capability building in early stages. Without relevant skills and capabilities, firms could get trapped in the initial stage of hardship and end the action in failure. Thirdly, since resource scarcity is the major source of adversity in the short term, resource allocation and distribution should be planned ahead of action (Baker & Nelson, 2005). Fourthly, SME managers should avoid complicated governance structure and adopt alternative resource ownership and flat power structure (Oviatt & McDougall, 1996; Zahra et al., 2000).

5.3 Limitations and future research
Although we have paid considerable attention to overcome the common problems of sample selection and endogeneity in our empirical testing, there are a few limitations that worthy to be mentioned.

Firstly, we assumed that our treated companies did not FDI activities prior to our observation window that could influence their short and long term performance. Since our observation starts from year 2003, we do not have information on market expansion activities before this time period. This might be a concern when major FDI activities take place in 2002 or 2001. The long term effect of such actions may influence performance figures in our dataset. Since we only include firms with single FDI in 2005, 2006, and 2007, this unobserved effect may not be so severe due to the buffering time period of year 2003 and 2004.

Secondly, we have a left-truncated sample. Most of the companies in our sample have been established well before we started observing their internationalisation activities and we are only able to observe them over a seven years period. Klein & Moeschberger (2003: 32) suggest that when there are limited methods of improving sample collection process, one could rely on introducing a ‘covariate’ to control truncation in the tests. In our regression we control for age, this should in part account for this problem. Future studies, however, could improve the data collection process and extend the observation period to the inception of the companies.

Thirdly, the use of the DID-estimation exposes another problem of our dataset, the length of our observation is limited. Since we need at least two continues years as pre-treatment period and at least two years after treatment before long term effect emerges, the sample of companies used in our long-term performance regression models is smaller than that used in our short term performance regressions. As Navaretti and Castellani (2003) argue, unbalanced consecutive intervals should be addressed in future studies with prolonged observation duration after treatment. Another interesting approach to solve this problem lies in the employment of multiple time period DID
analysis (Wooldridge, 2010). Notwithstanding, novel approach still need multiple intervals of after treatment data collection.

Fourthly, we only look at two types of FDI activities, greenfields and brownfields investments. We disregard other types of cross-border activities such as joint-ventures, strategic alliances, or M&A in our study. Although greenfields and brownfields investment is an efficient proxy of SME internationalisation activities and offers great perspective of resource-exploitation effects in market expansion process, other types of internationalisation and their impacts on firm performance should be probed in future studies (Zhang et al., 2010).

Fifthly, Lu and Beamish (2004) propose a 3 stages model of MNE internationalisation and performance relationship. Their theory argues that the facilitating effects of internationalisation will eventually fade away as managerial costs flatten the premium margin from local resources, knowledge, and opportunities. It will be interesting to test this theory in the context of SMEs internationalisation. This however requires an observation window which is longer than the one used in this study.
Equations

Eq. 1

\[ E\{\text{PerformanceChange}_{i,t+n} | \text{FDI}_{i,t}\} = \beta_1 + \beta_2 \text{FDI}_{i,t} + \beta_3 \text{HomeCountry}_i + \beta_4 \text{Employee}_{i,t} + \beta_5 \text{FirmAge}_{i,t} + \beta_6 \text{BusinessSectors}_i + \beta_7 \text{Year}_{i,t} + \beta_8 \text{ManagementTeamSize}_{i,t} + u_i \]

Eq. 2\(^7\)

\[ Y_{i,t+n}^{\text{inv}} - Y_{i,t}^{\text{inv}} = \{E[\text{PerformanceChange}_{i,t+n} | \text{FDI}_{i,t+n}]\} - \{E[\text{PerformanceChange}_{i,t} | \text{FDI}_{i,t}]\} \]

Eq. 3\(^8\)

\[ Y_{j,t+n}^{\text{C}} - Y_{j,t}^{\text{C}} = \{E[\text{PerformanceChange}_{j,t+n} | \text{FDI}_{j,t+n}]\} - \{E[\text{PerformanceChange}_{j,t} | \text{FDI}_{j,t}]\} \]

Eq. 4

\[ \alpha_{DID} = (Y_{i,t+n}^{\text{inv}} - Y_{i,t}^{\text{inv}}) - (Y_{j,t+n}^{\text{C}} - Y_{j,t}^{\text{C}}) \]

Eq. 5

\[ \Delta y = \Delta \text{TotalRevenue} \]

Eq. 6 - 7\(^9\)

---

\(^7\) Company \(i\) has invested in foreign market in year \(t\).

\(^8\) Company \(j\) is a matching sample firm of company \(i\).
\[ \Delta y^T_{S,i} = TotalRevenue^T_{i,t+1} - TotalRevenue^T_{i,t} \]

\[ \Delta y^T_{L,i} = TotalRevenue^T_{i,t+2} - TotalRevenue^T_{i,t} \]

Eq. 8 - 9

\[ \Delta y^C_{S,i} = TotalRevenue^C_{i',t+1} - TotalRevenue^C_{i',t} \]

\[ \Delta y^C_{L,i} = TotalRevenue^C_{i',t+2} - TotalRevenue^C_{i',t} \]

Eq. 10 - 11\(^9\)

\[ \hat{a}_{S,fe} = E(\Delta y^T_{S,i} - 
\Delta y^C_{S,i'}) = \Delta \bar{y}^T_{S,i} - \Delta \bar{y}^C_{S,i'} \]

\[ \hat{a}_{L,fe} = E(\Delta y^T_{L,i} - \Delta y^C_{L,i'}) = \Delta \bar{y}^T_{L,i} - \Delta \bar{y}^C_{L,i'} \]

Eq. 12 - 13

\[ E\left(y_{i(i'), beforeT}\right) = \frac{\sum_{k=1}^{n} \left(y_{i(i'),t-1} + y_{i(i'),t-2} + \cdots + y_{i(i'),t-n}\right)}{n} \]

\[ E\left(y_{i(i'), afterT}\right) = \frac{\sum_{k=1}^{m} \left(y_{i(i'),t+1} + y_{i(i'),t+2} + \cdots + y_{i(i'),t+m}\right)}{m} \]

Eq. 14

---

\(^9\) \(\Delta y^T_{S,i}\) is the fixed-effect short term treatment impact on company \(i\) performance. Where subscript \(S\) denotes short-term, superscript \(T\) and \(C\) denotes treated samples and control samples. \(i'\) denotes control companies that matched to company \(i\).

\(^{10}\) \(\hat{a}_{S,fe}\) is the fixed-effect coefficient.
\[ \Delta y_{i(i')} = \frac{\sum_{k=1}^{n} \left( y_{i(i')t-1} + y_{i(i')t-2} + \cdots + y_{i(i')t-n} \right)}{n} - \frac{\sum_{k=1}^{m} \left( y_{i(i')t+1} + y_{i(i')t+2} + \cdots + y_{i(i')t+m} \right)}{m} \]

Eq. 15\(^{11}\)

\[ \Delta \bar{y}^T = \frac{\sum_{k=1}^{Q_T} \Delta y_i}{Q_T} = \frac{\sum_{k=1}^{Q_T} \left[ E(y_{i, \text{before}T}) - E(y_{i, \text{after}T}) \right]}{Q_T} \]

Eq. 16\(^{12}\)

\[ \Delta \bar{y}^C = \frac{\sum_{k=1}^{Q_C} \Delta y_{i(i')}}{Q_C} = \frac{\sum_{k=1}^{Q_C} \left[ E(y_{i', \text{before}T}) - E(y_{i', \text{after}T}) \right]}{Q_C} \]

Eq. 17\(^{13}\)

\[ \hat{\alpha}_{DID} = \Delta y_{DID} = \Delta \bar{y}^T - \Delta \bar{y}^C \]

\[ = \frac{\sum_{k=1}^{Q_T} \left[ \frac{\sum_{i=1}^{T} y_{i,t-1} + y_{i,t-2} + \cdots + y_{i,t-n}}{n} - \frac{\sum_{i=1}^{T} y_{i,t+1} + y_{i,t+2} + \cdots + y_{i,t+m}}{m} \right]}{Q_T} \]

\[ - \frac{\sum_{k=1}^{Q_C} \left[ \frac{\sum_{i=1}^{T} y_{i',t-1} + y_{i',t-2} + \cdots + y_{i',t-n}}{n} - \frac{\sum_{i=1}^{T} y_{i',t+1} + y_{i',t+2} + \cdots + y_{i',t+m}}{m} \right]}{Q_C} \]

Eq. 18\(^{14}\)

\(^{11}\) Average performance improvement of treated samples, \(Q_T\) denotes number of treated samples
\(^{12}\) Average performance improvement of control samples, \(Q_C\) denotes number of controlled samples
\(^{13}\) \(\hat{\alpha}_{DID}\) denotes DID estimator
\[ \hat{\alpha}_{S,DID} = \Delta y^T_S - \Delta y^C_S \]

\[
= \frac{\sum_{k=1}^{Q_T} \left[ \frac{\sum_{i=1}^{n} (y_{i,t-1} + y_{i,t-2} + y_{i,t-3})}{n} - \frac{\sum_{i=1}^{m} (y_{i,t+1} + y_{i,t+2})}{m} \right]}{Q_T}
\]

\[
- \frac{\sum_{k=1}^{Q_C} \left[ \frac{\sum_{i=1}^{n} (y'_{i,t-1} + y'_{i,t-2} + y'_{i,t-3})}{n} - \frac{\sum_{i=1}^{m} (y'_{i,t+1} + y'_{i,t+2})}{m} \right]}{Q_C}
\]

Eq. 19\(^{15}\)

\[ \hat{\alpha}_{L,DID} = \Delta y^T_L - \Delta y^C_L \]

\[
= \frac{\sum_{k=1}^{Q_T} \left[ \frac{\sum_{i=1}^{n} (y_{i,t-1} + y_{i,t-2} + y_{i,t-3})}{n} - \frac{\sum_{i=1}^{m} (y_{i,t+3} + y_{i,t+4})}{m} \right]}{Q_T}
\]

\[
- \frac{\sum_{k=1}^{Q_C} \left[ \frac{\sum_{i=1}^{n} (y'_{i,t-1} + y'_{i,t-2} + y'_{i,t-3})}{n} - \frac{\sum_{i=1}^{m} (y'_{i,t+3} + y'_{i,t+4})}{m} \right]}{Q_C}
\]

\(^{14}\) Short term DID coefficient estimate the impact of market expansion on firm performance for a time span of 2 years

\(^{15}\) Long term DID coefficient estimate the impact of market expansion on firm performance for the third or more years after treatment
Figures

Figure 1: FDI occurrences and pre and post treatment intervals
Tables

Table 1: Treated and control sample’s equality test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Treated samples</th>
<th>Control samples</th>
<th>Equality of means (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of observations</td>
<td>402</td>
<td>804</td>
<td></td>
</tr>
<tr>
<td>Gross revenue</td>
<td>2.929</td>
<td>2.110</td>
<td>0.036</td>
</tr>
<tr>
<td>Total assets</td>
<td>6.373</td>
<td>6.305</td>
<td>0.842</td>
</tr>
<tr>
<td>Cash and cash equivalent</td>
<td>0.729</td>
<td>0.649</td>
<td>0.577</td>
</tr>
<tr>
<td>Employee number</td>
<td>159</td>
<td>151</td>
<td>0.174</td>
</tr>
<tr>
<td>Gearing ratio</td>
<td>33.074</td>
<td>34.595</td>
<td>-0.580</td>
</tr>
<tr>
<td>Industrial diversification</td>
<td>3.201</td>
<td>3.228</td>
<td>-0.088</td>
</tr>
<tr>
<td>Intangible/tangible assets</td>
<td>0.336</td>
<td>0.319</td>
<td>0.163</td>
</tr>
<tr>
<td>Management Team Size</td>
<td>7</td>
<td>6</td>
<td>0.014</td>
</tr>
<tr>
<td>Firm Age</td>
<td>19.227</td>
<td>18.043</td>
<td>0.422</td>
</tr>
</tbody>
</table>

Table 2: Survival bias presence test, remaining and dropped firms’ equality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dropped samples</th>
<th>Selected samples</th>
<th>Equality of means (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of observations</td>
<td>248</td>
<td>483</td>
<td></td>
</tr>
<tr>
<td>FDI amount (in 7 years)</td>
<td>0.059</td>
<td>0.051</td>
<td>0.017</td>
</tr>
<tr>
<td>FDI count (in 7 years)</td>
<td>1.560</td>
<td>1.595</td>
<td>0.011</td>
</tr>
<tr>
<td>Gross revenue</td>
<td>2.797</td>
<td>2.932</td>
<td>0.028</td>
</tr>
<tr>
<td>Total assets</td>
<td>6.011</td>
<td>6.377</td>
<td>0.070</td>
</tr>
<tr>
<td>Cash and cash equivalent</td>
<td>0.698</td>
<td>0.731</td>
<td>0.243</td>
</tr>
<tr>
<td>Employee number</td>
<td>156</td>
<td>162</td>
<td>0.014</td>
</tr>
</tbody>
</table>
### Table 3: No. of companies with single and multiple FDI during observation period

<table>
<thead>
<tr>
<th>Year of Investment (t)</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of companies with FDI</strong></td>
<td>16</td>
<td>24</td>
<td>42</td>
<td>54</td>
<td>89</td>
<td>51</td>
<td>30</td>
</tr>
<tr>
<td>(only invest in a single year t)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No. of FDI</strong></td>
<td>38</td>
<td>45</td>
<td>82</td>
<td>103</td>
<td>159</td>
<td>92</td>
<td>56</td>
</tr>
<tr>
<td>(events in year t)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No. of matching companies</strong></td>
<td>32</td>
<td>48</td>
<td>84</td>
<td>108</td>
<td>178</td>
<td>102</td>
<td>60</td>
</tr>
</tbody>
</table>

### Table 4: Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs.</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Internationalisation</td>
<td>306</td>
<td>0.074</td>
<td>0.261</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Employee Number</td>
<td>8442</td>
<td>153.209</td>
<td>141.393</td>
<td>2.000</td>
<td>440.000</td>
</tr>
<tr>
<td>Firm Performance (Revenue)</td>
<td>8442</td>
<td>3.039</td>
<td>0.878</td>
<td>-7.478</td>
<td>7.838</td>
</tr>
<tr>
<td>Management Team Size</td>
<td>8442</td>
<td>6.804</td>
<td>5.302</td>
<td>1.000</td>
<td>27.000</td>
</tr>
<tr>
<td>Firm Age</td>
<td>8442</td>
<td>18.533</td>
<td>18.213</td>
<td>2.000</td>
<td>171.000</td>
</tr>
<tr>
<td>Firm Size</td>
<td>8442</td>
<td>67.000</td>
<td>1.600</td>
<td>8.000</td>
<td>120.000</td>
</tr>
</tbody>
</table>
Table 5: Variable correlations

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intel.</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Employee</td>
<td>0.025</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Performance</td>
<td>-0.053*</td>
<td>0.042</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Managers</td>
<td>-0.034</td>
<td>0.203*</td>
<td>-0.098</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Firm Age</td>
<td>0.029</td>
<td>0.135</td>
<td>-0.115</td>
<td>0.169*</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>6. Firm Size</td>
<td>-0.103</td>
<td>-0.003</td>
<td>-0.031</td>
<td>0.017</td>
<td>0.024</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Note: Correlations significance level at 0.05, significant variables marked with *. 
Table 6: DID Estimate of the Effect of Internationalisation on Short-Term Company Performance: 1206 SMEs over 7 Years

<table>
<thead>
<tr>
<th>Variables</th>
<th>Revenue Growth</th>
<th>ROA Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.001 (0.001)**</td>
<td>0.001 (0.001)**</td>
</tr>
<tr>
<td>Firm Age</td>
<td>1.607 (0.308)**</td>
<td>1.661 (0.311)**</td>
</tr>
<tr>
<td>Management Size</td>
<td>6.303 (1.011)**</td>
<td>6.440 (1.014)**</td>
</tr>
<tr>
<td>Treatment Control (Dummy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After</td>
<td>-6.585 (20.961)†</td>
<td>23.353 (22.428)</td>
</tr>
<tr>
<td>Treat</td>
<td>-19.017 (12.395)*</td>
<td>8.897 (14.495)†</td>
</tr>
<tr>
<td>Internationalisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DID-estimator (aftertreat)</td>
<td>-9.924 (26.905)**</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>53.290 (39.636)†</td>
<td>57.217 (39.708)†</td>
</tr>
<tr>
<td>Time-invariant control variables</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>F-statistic</td>
<td>17.03***</td>
<td>16.80***</td>
</tr>
<tr>
<td>Number of companies</td>
<td>1206</td>
<td>1206</td>
</tr>
<tr>
<td>Observations</td>
<td>8442</td>
<td>7236</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.285</td>
<td>0.286</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>0.001</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Notes: 1. Number of Companies = 1206, Number of FDI = 185; 2. Regression coefficients are reported (standard errors in parentheses); 3. Time-invariant dummy control variables (home country, sectors, year) are included; 4. Significant levels are reported as such: † significant at 10% (p<.10), * significant at 5% (p<.05), ** significant at 1% (p<.01), *** significant at 0.1% (p<.001); 5. $\Delta R^2$ is reported in column 2 and 3 respectively.
Table 7: DID Estimate of the Effect of Internationalisation on Long-Term Company Performance: 1206 SMEs over 7 Years

<table>
<thead>
<tr>
<th>Variables</th>
<th>Revenue Growth</th>
<th></th>
<th></th>
<th>ROA Growth</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 4</td>
<td>Model 5</td>
<td>Model 6</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.001 (0.001)***</td>
<td>0.002 (0.001)***</td>
<td>0.002 (0.001)***</td>
<td>0.001 (0.001)***</td>
<td>0.001 (0.001)***</td>
<td>0.001 (0.001)***</td>
</tr>
<tr>
<td>Firm Age</td>
<td>-0.814 (0.203)***</td>
<td>-0.743 (0.203)***</td>
<td>-0.744 (0.203)***</td>
<td>0.469 (0.122)**</td>
<td>0.464 (0.120)**</td>
<td>0.471 (0.179)**</td>
</tr>
<tr>
<td>Management Size</td>
<td>9.308 (0.677)***</td>
<td>9.651 (0.681)***</td>
<td>9.652 (0.681)***</td>
<td>1.562 (0.223)***</td>
<td>1.561 (0.221)***</td>
<td>1.561 (0.221)***</td>
</tr>
<tr>
<td>Treatment Control (Dummy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treat</td>
<td>-24.156 (6.906)***</td>
<td>-27.968(10.607)**</td>
<td></td>
<td>5.677 (1.150)***</td>
<td>5.679 (1.124)**</td>
<td></td>
</tr>
<tr>
<td>Internationalisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DID-estimator (aftertreat)</td>
<td>6.449 (10.607)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>18.233 (34.765)†</td>
<td>23.322 (34.622)†</td>
<td>24.262 (34.691)*</td>
<td>15.746 (7.171)*</td>
<td>15.729 (7.625)*</td>
<td>15.703 (7.080)*</td>
</tr>
<tr>
<td>Time-invariant control variables</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>F-statistic</td>
<td>30.71***</td>
<td>30.65***</td>
<td>30.05 ***</td>
<td>45.20***</td>
<td>45.17**</td>
<td>45.21***</td>
</tr>
<tr>
<td>Number of companies</td>
<td>1206</td>
<td>1206</td>
<td>288</td>
<td>1206</td>
<td>1206</td>
<td>288</td>
</tr>
<tr>
<td>Observations</td>
<td>8442</td>
<td>7236</td>
<td>414</td>
<td>8442</td>
<td>7236</td>
<td>414</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.563</td>
<td>0.578</td>
<td>0.583</td>
<td>0.443</td>
<td>0.446</td>
<td>0.451</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>0.015</td>
<td>0.02</td>
<td>0.02</td>
<td>0.003</td>
<td>0.003</td>
<td>0.008</td>
</tr>
</tbody>
</table>

Notes: 1. Number of Companies = 1206, Number of FDI = 96; 2. Regression coefficients are reported (standard errors in parentheses); 3. Time-invariant dummy control variables (home country, sectors, year) are included; 4. Significant levels are reported as such: † significant at 10% (p<.10), * significant at 5% (p<.05), ** significant at 1% (p<.01), *** significant at 0.1% (p<.001); 5. $\Delta R^2$ is reported in column 2, 3, 5 and 6 respectively.
Chapter 5: SME internationalisation and performance: conclusion

SME Internationalisation: Studies of Resource as Antecedents and Performance Outcomes

The general research focus of this thesis is the internationalisation process of SMEs, its antecedents, and performance outcomes. In this PhD thesis, I investigated and advanced the theoretical and empirical context of SME internationalisation, its antecedents, consequences, and mechanisms influence this process. A systematic literature review extended the insights into the complex theoretical arguments and empirical methods employed in the research on SME internationalisation, its facilitators, and its performance implications. The quantitative study of this thesis on the relationship between SME resource dependence and internationalisation activities promotes a better understanding of resource based perspective of SME internationalisation process. The quantitative results not only shed light on the inconsistent empirical test results of the SME internationalisation and performance relationship, but also contribute to the advance of relevant literatures.

Conceptually, this thesis provides an overall insight and credible evidence on SME internationalisation, its rationality, motivation, and above all, consequences. Majority of the existing literature on SME internationalisation focus on what sort of firms become international. Few studies examine the consequences of the market entry strategy. The lack of empirical evidence is overshadowed by the incoherent theoretical lenses employed to explain SME internationalisation process. I articulate a framework on SME internationalisation-performance relationship that based on 1) identifying common theoretical lenses from different research fields (IB, IE, SM); 2) integrating factors to unveil combined effects (employ factors that directly influence this process). My
propositions are unique from 1) IB Process International Theory; and 2) IE INVs early stage internationalisation framework.

Empirically, I examine the significant role resource slack and knowledge intensity play in the SME internationalisation process. This is the first paper that explores explicitly the relationship between high- and low-discretionary resource slack and SME internationalisation activities. The significant test results highlight the distinctive impact of high- and low- discretionary resources on SME internationalisation. The study on SME internationalisation and performance investigates the lagged effects of SME internationalisation on firm performance. Internationalisation research, of MNEs or SMEs, has spontaneous sample selection problem. Employment of DID test provide result that is free from the common problem of sample selection bias and self-selection bias.

In this section, I will summarise major findings of the preceding chapters. Both theoretical and empirical results and their managerial implications will be discussed. Limitations of this PhD thesis and future research directions will be outlined in this part as well.
1 Major finding

This thesis aims to contribute to both theoretical and empirical research of SME internationalisation, its facilitators, and its impact on subsequent business performance. Salient findings and major contributions of the studies are listed below.

The literature review summarizes the past literatures on SME internationalisation, its rationality, motivation, and consequences. Special attention has been paid to the review of prominent theoretical frameworks and empirical evidences of SME internationalisation’s impact on firm performance. Building on the review of relevant literatures, I define the frontier of current research by identifying and grouping the most prevalent models and factors with seven theoretical mechanisms that draw on different research perspectives. Developed from organisational capability theories, both change capabilities and substantive capabilities are the most intensively employed theoretical frameworks in the SME internationalisation analysis. Substantive capabilities, e.g. firm R&D intensity, knowledge stock, and business diversity, have been investigated in 23 papers. Change capabilities, e.g. firm dynamic capability, learning capability, and absorptive capacity, have been studied in 14 papers. Strategic management and entrepreneurial perspectives, at the same time are most empirically studied theories. There are 9 quantitative papers testing the impact of business manager’s personal experience and/or managerial team diversity on the SME internationalisation process. 4 papers test the role of market entry model in the SME internationalisation process. Surprisingly, resource based perspective, although it has been widely investigated in the MNE internationalisation literature, has received relatively low attention in SMEs new market entry studies. 8 papers explore resource position’s impact on the SME internationalisation process. In a nutshell, the literature review develops a systematic summary of literatures and a framework of how changes produced by internationalisation activities shape firm performance.
Aside from the major findings I mentioned above, the literature review also draws a roadmap of where and how organisational learning happens. This generates a better understanding of the organizational capability’s role in SME internationalisation process. My findings provide possible future research directions. For example, although there are many studies probing organisational capability theoretically, empirical evidence is still lacking. Resource base views and resource dependence theory’s effects in the SME internationalisation process need to be addressed.

The first empirical investigation explored explicitly the relationship between organisational slack and SME internationalisation activities. Building on resource dependence theory, I identified the significant role that resource slack and knowledge intensity play in the SME internationalisation process.

In particular, I looked at three different resource slacks and their relationship with SME internationalisation. Firstly, I predicted a curvilinear inverse U shaped relationship between company high-discretionary slack and internationalisation. Contrary to my expectations, regression results suggested that only a linear positive relationship exists between high-discretionary slack and the likelihood of engaging in FDI activities. An increase of high-discretionary slack constantly promotes more FDI activities. High level of cash and equivalent helps managers overcome resource constrains and encourages risk taking activities. Contrary to what Lin et al. (2009) proposed, a lax style of management seems not common when SMEs accumulate high-discretionary slack. One reason could be the lack of agency problem. In MNEs, managers are unlikely to be the owners, while lots of owners of SMEs are involved in management themselves.

Secondly, regression results supported the presence of a U-shaped curvilinear relationship between low-discretionary slack and SME internationalisation. This finding suggest that companies at low and high end of low-discretionary slack are more prone to internationalisation while companies in between lag behind. It is an excellent demonstration of the combined action of organisational behaviour theory and resource constrains theory in one model. Behaviour theory upholds the fact
that abounding presence of high-discretionary slack, or easy access to credit, gives company resource endowment advantages. Business managers will utilize this advantage and take a more active role in the internationalisation process. Absence of low-discretionary slack however, leads to deteriorating financial performance and debt burden. When companies struggle to improve their resource position and performance, resource constrain theory begins to take effect. Companies with high debt level will seek for new opportunities more eagerly. At the same time, managers are more dedicated to improve firm performance. Scarcity of available resources and high debt level are pervasive problems facing SMEs. Resource constrain theory may in a better position explaining SME internationalisation activities.

Last but not least, an inverse U-shaped relationship exists between SME knowledge intensity and FDI likelihood. Companies with low and high knowledge intensity are less active in pursuing internationalisation compare with companies which lie in between. Resource constrain theory suggests that knowledge and capabilities developed to stock, process, and utilize knowledge are intangible resources that could be deployed when company strategic activities take place (Baker & Nelson, 2005; George, 2005). Knowledge stock and experiences could help to forge new capabilities needed in foreign markets. Intangible resources could be deployed in different locations and time at relatively low costs. Knowledge intensity therefore, promotes SME internationalisation. As knowledge and experience accumulate and a learning pattern has been formed to absorb and utilize existing knowledge more efficiently, organisational behaviour theory supports a change of coefficient sign. The facilitating effects have been overturned by inertia of previous experience and operation, knowledge stock and learning process become hinderers of the internationalisation process (Zahra and George, 2002). Higher knowledge intensity means more rigid patterns that restrain company’s foreign market entry. The regression supports this argument and reveals that knowledge intensity could be a double edged sword in relation with the likelihood of SMEs investing abroad.
The study on SME internationalisation and performance employed a longitudinal dataset to investigate the lagged effects of SME internationalisation on firm performance. Consistent with my predictions, in the short term, FDI activities hinder SME profitability and investment efficiency. While in the long run, local resource exploration could indeed overcome the short term resource drain and promote firm business growth.

I predicted that in the short run, FDI will have a negative impact on both profitability and earning efficiency of SME performance. The argument I advanced was that market expansion activities will drain resources from profit generating activities to new environment adaptation process, which in turn, reduce the profitability of the organisation (Zott, 2003; Sapienza et al., 2006). The DID estimation of short term revenue growth confirms my prediction with strong significance. The profitability drop shows that unbalanced resource allocation could indeed induce profitability loss. Meanwhile, although the impact is weaker compared with revenue growth change, ROA growth is also hindered by FDI activities in the short run. Change capability building and resource scarcity not only bring down the immediate profitability of SMEs, but also impede firm’s efficiency of gaining from foreign investment.

It is worth mentioning that managerial input, as Abouzeedan and Busler (2004) point out, fails to turn the tide when liability of foreignness and capability building are at their peak. Exhaustion of fungible resources, even though temporarily, could not be compensated by intangible resource investment. It seems that short term profit loss is an essential sacrifice during the internationalisation process. Efforts should be made to minimize the loss and overcome initial shocks as quickly as possible.

Another interesting point is that revenue growth rate more directly captures the negative impact that internationalisation causes to firm performance in the short run. Like many rate of return proxies, ROA understates the severity of this profit loss because of the indirect measures it uses (Pangarkar, 2008). It is therefore, important to employ multiple variables to measure the influence
that internationalisation has on firm performance from different perspectives (McDougall & Oviatt, 1996).

In the long run, revenue growth of foreign investing SMEs is higher than those companies which stayed in the home country. Unlike in the short term when ROA growth show smaller changes as a result of SME internationalisation, in the long run ROA growth rate displays a noticeable increase compared with domestic firms. Internationalisation therefore, facilitates not only the profitability of SMEs, but also improves company’s overall investment efficiency in the long run. Considering that firm performance was deteriorating in first two years after FDI, SME internationalisation can be instrumental in facilitating firm growth in the long term. The test results are in line with the resource-based theory and the behaviour-based view which state that resource and opportunity diversification promotes SME sustainable competitiveness when local knowledge exploitation and capability building reinforce each other in the long run (Oviatt & McDougall, 1996; Zahra et al., 2000). On the other hand, these results endorse the lagged effects of learning and the capability building process on business growth. Surviving the initial adversity and developing local capabilities swiftly are key elements of a successful SME market expansion plan (Sapienza et al., 2006; Autio et al., 2010).

The results of this study not only provide empirical evidence on the long outstanding question of the internationalisation’s impact on SME performance, but also shed light on how consecutive effects act in this dynamic process. Internationalisation activities, the knowledge of market entry, and the capabilities of dealing with changes in the internationalisation process have been proved to be a source that promotes SMEs to survive and thrive in an ever-changing business environment (Sapienze et al., 2006; Wright et al., 2007; Autio, 2010; Casillas & Menendez, 2014). This result demonstrates that, first, local resource exploration could indeed overcome the short term resource drain in SMEs; and second, firm’s adaptation to a new environment improves the initial systematic shocks caused by market entry activities. But the long term growth comes at a cost. According to the
resource based view, the negative impact of FDI on short term firm profits means that SMEs sacrifice immediate profits to foster cross-border operational capabilities. Besides loss in profits, SMEs also need time to adjust themselves to new market operations and assimilate local knowledge (Zahra et al., 2000; Zott, 2003; Dau, 2013).

2 Managerial Implications

In the case of established large companies, at a certain stage of development the domestic market will no longer be sufficient to support business growth and it is at this stage that these companies need to follow a strategy of product diversification or internationalisation to achieve sustainable growth. SME managers, however, have the discretion to decide on the pace of their international expansion (Avlonitis & Salavou, 2007; Lin et al., 2009). Putting aside ‘wait and see’ export tactics, SMEs chasing growth opportunities and resources available in foreign markets need to plan their foreign market entry as a strategic move (Lu & Beamish, 2001; Shrader, 2001; O’Regan et al., 2007; Autio, 2010). This study provides valuable practical guidelines for business practitioners.

The evidence provided on the relationship between potentially available resources and SME internationalisation, should allow business managers to employ these resources to be more successful in the internationalisation process, and provide a better understanding of the degree to which they can utilise these resources to achieve the greatest efficiency while involving the least risk (Autio, 2005). Firstly, SME managers should realise the significant role high-discretionary slack plays during the market entry process. Abundant cash and cash equivalent assets could help firms overcome initial liability of foreignness and adapt to new environment swiftly. Secondly, low-discretionary slack’s effect on SME internationalisation is more complicated compared with cash assets. The test results suggest that firms with easy access to credit and high debt level are more prone to market entry activities. However, risk of failure in the market entry process is considerably
higher for companies with high debt level. It is therefore, worth mentioning that internationalisation accompanies opportunism or adventurism induces high risks and should be avoided by business managers. Thirdly, learning and knowledge stock have been proved to promote internationalisation as new opportunities and knowledge become available from new markets. Learning patterns and accumulated knowledge on specific market however, could hinder future market entry because of inertia in the learning process. Business managers therefore, should be aware of the rigidity of established learning patterns in SMEs and promote new knowledge assimilation capability in the market entry process.

Our findings on the SME internationalisation and performance relationship could also offer a series of useful implications to SME business managers in their strategy making process. First, internationalisation as a firm strategy and entrepreneurial activity could indeed improve firm growth. Business managers, especially SME managers, should consider internationalisation as a path to achieve sustainable growth (Hall 1993; Teece, 2007). SMEs with weaker resource-position than domestic competitors should take more proactive measures towards market diversification activities. Second, SME managers should understand that the underlying logic of a successful internationalisation is not relying on market entry activities per se, but the dynamic learning and capability building process that are associated with the market expansion process (Westhead et al., 2001; Bruneel et al., 2010). Business managers that plan to explore foreign markets should attach importance to organisational capability building in early stages. Without relevant skills and capabilities, firms could get trapped in the initial stage of hardship and end the action in failure. Third, since resource scarcity is the major source of adversity in the short term, resource allocation and distribution should be planned ahead of action (Baker & Nelson, 2005).
3 Limitations and future research directions

The theoretical framework and empirical methodology in this thesis have been developed through careful consideration. The empirical design, e.g. dataset merging, matching process, and difference-in-differences estimation, are employed to help overcome the common problems of sample selection bias and endogeneity. Considerable efforts have been made to ensure the accuracy of the data collection and the robustness of the empirical tests. Nevertheless, there are a few limitations that are worthy to be mentioned.

First, the breadth of SME internationalisation related theories is vast and the potential mechanisms influencing the internationalisation-performance relationship are extensive, this thesis could only capture a few most prominent and significant perspective that has been widely reviewed or accepted in the literature. The studies and theories employed in this thesis serve the overall purpose of the research design well. Nevertheless, discussion of theoretical framework choice could be everlasting if one considers the complexity of SME internationalisation process and its consequences (Luo & Rui, 2009). Empirical evidence of how SME market expansion activities impact on business growth is still scarce. Wright et al. (2007) has highlighted the lacking of empirical exploration of ‘geographic and industry context, timing issues, firm-specific strategic issues’ in SME internationalisation literature. Future research should be able to explore various mechanisms and factors that influence this process.

Second, instead of surveys and interviews, I rely on financial data in this thesis. Lack of survey data means that research design is restricted to specific topics. Breadth of factors in empirical tests is limited. For example, in Chapter 2, I pointed out that demographic characteristics of the management team and strategic legitimacy, e.g. business management experience, team diversity, attitudes towards risks, and attitude towards new ideas, are significant aspects that influence SME internationalisation process. Surveys and interviews could provide detailed information on such variables (Dimitratos et al., 2004). Future research therefore, could combine both survey data and
firm financial information to extend the width of causality tests. Furthermore, a fair amount of observations have to be dropped for the absence of continuous financial reports in datasets. However, financial data also provides certain benefits. The use of panel data improves the problematic issues of periodical bias. Absence of self-reported data also leads to more credible empirical test results.

Third, as most of the empirical studies with combined data resources, I have a left-truncated dataset that only reflects the activities of the samples during a short period of observation. Most of the companies in the dataset have been established well before I started observing their internationalisation activities and I am only able to observe them over a seven years period. Klein & Moeschberger (2003: 32) suggest that when there are limited methods of improving the sample collection process, one could rely on introducing a ‘covariate’ to control for truncation in the empirical models. In the regression, I controlled for age, this should in part account for this problem. Future studies, however, could improve the data collection process and extend the observation period to include the inception of the companies.

Fourth, I employed a matching approach instead of a propensity matching technique in that I do not have access to the comprehensive micro-level data, e.g. firm level data, for each countries in my sample. Since propensity matching requires access to the overall sample of companies to produce a control group, it is difficult for me to employ this method when there is limited access to the whole dataset. I therefore, tested the equality of treated sample and its control company’s equality of means (pooled t-test) to make sure that the matching generated valid control sample. If the difference between the treated companies and its control sample was significant, i.e. p-value significance is above 1%, I selected another two control companies for the treated firm. Eventually, I composed a dataset with statistically similar treated and control sample.

Fifth, I only looked at two types of FDI activities, greenfields and brownfields investments. I disregarded other types of cross-border activities such as joint-ventures, strategic alliances, or M&A in this study. Compared with other metrics of internationalisation, FDI is a more accurate indicator
of firms’ market entry strategy from a firm capability building and local resource acquiring perspective (Garc & Lopez, 2007). Other types of internationalisation and their impacts on firm performance should be tested in future studies (Zhang et al., 2010).

Sixth, the length of the observation is limited. Since at least two continuous years as pre-treatment period and at least two years after treatment are needed, the sample of companies used in the long-term performance regression models is smaller than that used in the short term performance regressions. As Navaretti and Castellani (2003) argue, unbalanced consecutive intervals should be addressed in future studies with prolonged observation duration after treatment. Another interesting approach to solve this problem lies in the employment of multiple time period DID analysis (Wooldridge, 2010).

Finally, Lu and Beamish (2004) propose a 3 stages model of MNE internationalisation and performance. Their theory argues that the facilitating effects of internationalisation will eventually fade away as managerial costs flatten the premium margin from local resources, knowledge, and opportunities. It will be interesting to test this theory in the context of SMEs internationalisation. This however requires an observation window which is longer than the one used in this study.
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