View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Erasmus University Digital Repository

TAO JIANG

Capital Structure Determinants and Governance Structure Variety in Franchising

Capital Structure Determinants and Governance Structure Variety in Franchising

Capital Structure Determinants and Governance Structure Variety in Franchising

Determinanten van Vermogensstructuur
en
Variëteit van Beheersstructuur
in Franchise-Organisaties

Thesis

to obtain the degree of Doctor from the
Erasmus University Rotterdam
by command of the
rector magnificus
Prof.dr. S.W.J. Lamberts
and in accordance with the decision of the Doctorate Board.

The public defence shall be held on
Friday 20 February 2009 at 11:00 o'clock

by
Tao Jiang
born in Tianjin, P.R. China

Promotors:
prof. dr. George Hendrikse
prof. dr. Abe de Jong

Other members:
prof. dr. Barbara Krug
prof. dr. Peter Roosenboom
dr. Josef Windsperger

Erasmus Research Institute of Management – ERIM
Rotterdam School of Management (RSM)
Erasmus School of Economics (ESE)
Erasmus University Rotterdam
Internet: http://www.erim.eur.nl

ERIM Electronic Series Portal: http://hdl.handle.net/1765/1

ERIM PhD Series in Research in Management, 158
Reference number ERIM: EPS-2009-158-ORG
ISBN 978-90-5892-199-4
© 2009, Tao Jiang

Design: B&T Ontwerp en advies www.b-en-t.nl
Print: Haveka www.haveka.nl

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the author.

To my parents and Ying

Abstract

Franchising is popular in business as well as in academic research. Some basic questions regarding franchising remain open. This thesis investigates two questions: the determinants of capital structure in franchising and its subsequent impact on the franchise financing decisions; and the efficient governance structure choice in franchising.

The strategic use of franchisee capital structure may affect the franchisor's financing decision, which will ultimately affect the firm value and the franchising propensity. We posit that firms franchise in order to benefit from the reduced franchisees' operational risks by limiting the debt level, such that the franchisor can bear more debt and gain tax-deduction benefits. Specific hypotheses are based on various theories like resource-based view, agency theory, signaling theory and classical capital structure theories. Based on a dataset of 97 listed franchise chains based in North America between 2001 and 2006, we find that as the franchisor requires franchisees to put more equity in the initial investment, the franchisor does bear a higher debt level and gains tax benefits. We also find this effect to be stronger when more units are franchised. Moreover, we extended our study to a Dutch dataset to backup our proposition. Based on 122 franchise chains operating in The Netherlands, we find empirical evidence supporting our prediction that the franchisee's leverage is positively linked with franchisor's maturity. This suggests that as the franchisor imposes a higher level of franchisee's leverage in order to screen capable franchisees, the franchisor also increases their maturity to reduce bankruptcy risks.

For the purpose of explaining governance structure variety in franchising, we explore the impact of governance structure on the incentives to invest in specific assets for the franchisor as well as the distributors. Wholly-owned, wholly-franchised, and mixed (dual distribution) franchise systems are considered. Circumstances are identified when a dual distribution governance structure uniquely allocates efficient ownership over assets. An incomplete contracting model based on property rights theory is developed to examine the efficient governance structure choice in franchising. We find that whether dual distribution benefits are realized in a franchise or a cooperative franchise depends on

whether most value is added upstream or downstream. A disadvantage of a dual distribution system is the deterioration of the investment incentives of the party having no authority, i.e. either the company-owned outlet manager in a traditional franchise or the franchisor in a cooperative franchise. A wholly-franchised system may therefore be efficient even when unique dual distribution benefits are present. A necessary condition for the efficiency of a dual distribution governance structure is a positive systemic effect, not the value of the brand name or location (or other) differences between outlets.

Acknowledgement

First and foremost, I would like to thank George Hendrikse and Abe de Jong for their patience and guidance as promoters. George Hendrikse provided comprehensive and insightful guidance, assistance, and support during the entire process of my doctoral study and the writing of this dissertation. Without his assistance, my academic achievement would not have been possible. Similarly, Abe de Jong's thoughtful and inspiring advices, statistical insights and valuable suggestions, made my doctoral program more rewarding.

I am also indebted to my dissertation committee members, Barbara Krug, Peter Roosenboom and Josef Windsperger. Thanks for their perceptive and helpful feedbacks on this work. My thanks also go to Patrick Verwijmeren, who collaborated with me on Chapter 2. His valuable expertise and comments helped to improve my dissertation greatly.

I also would like to thank the Department of Organization and Personnel Management at Rotterdam School of Management, the Erasmus Research Institute of Management (ERIM) and Erasmus University Rotterdam for their financial support, administrative aid and, most importantly, a great opportunity to conduct my PhD research. And my sincere gratitude also goes out to my fellow colleagues and all the friends during my doctoral program. Thanks for the help, support and happiness brought by all of you!

Finally, and most importantly, my deepest gratitude goes to my parents. Without their guidance, efforts, encouragement and care, I would not have today's achievement. Last, but not least, I want to thank Ying for her love and support accompanying me through this process.

CONTENTS

List of Figures

List of Tables

1 INTRODUCTION

1.1 Introduction to Franchising

The word "franchise" is derived from ancient French, meaning to hold a particular privilege or right. Most sources trace the origins of franchising back to Europe in the 1800s when German beer makers granted local taverns and pubs the rights to sell their beer and the license to use their names[1]. Franchising entails a contractual arrangement between two parties: franchisor and franchisee. Combs et al. (2004, P907) characterize a franchise in the following terms: '… one firm (the franchisor) sells the right to market goods or services under its brand name and using its business practices to a second firm (the franchisee)'.[2, 3]

In general, franchising can be classified into two major forms: product/trade name franchising and business format franchising. Product/trade name franchising is a close cooperation between a supplier (franchisor) and a dealer (franchisee) through which the dealer distributes the products of the supplier under one brand name. The franchisee is licensed to re-sell the franchisor's branded products and is not obliged to operate the local business following a specific set of rules or formats. Typical examples of such kind of franchising are soft drink bottlers (like Coca-Cola) and petrol stations. Business format franchising is the most popular form of franchising nowadays and is more extensively studied by researchers. U.S. Small Business Administration (MP-26, P2) defines business format franchising as an "ongoing relationship between the two parties, where a full range of services, including site selection, training, product supply, marketing plans, and

[1] http://franchises.about.com/od/franchisebasics/a/history.htm (20 Sep 2008 06:40:43 GMT)

[2] Blair and Lafontaine (2005, P3) defines that "a franchise agreement is understood as a contractual arrangement between two legally independent firms…", therefore "in case of bankruptcy, the franchisor is liable for the company units, while claims against the franchise unit stay with the franchisee." (Ehrmann and Spranger, 2007, P34).

[3] According to the new U.S. account standard FIN 46R issued by Financial Accounting Standards Board (FASB), "an investment that gives the franchisor or a related party over 50 percent of the franchisee's total capitalization will bring the franchise under the consolidation rules." This means

financing are provided and the franchisee sells goods or services supplied by a franchisor or that meet the franchisor's quality standards". Business format franchising is most common in industries such as retailing stores, business services and restaurants.

Franchising is nowadays a very popular form of business in the United States. According to the International Franchising Association (IFA), about 909,253 establishments (counting both company-owned and franchised units) were being operated in franchising businesses in 2005. And these establishments amounted to 3.3 percent of all business establishments in the United States. The overall economic output of franchising establishments was $880.9 trillion in 2005, which accounted for 4.4 percent of the total U.S economic output. These franchised businesses employed more than 11 million people, over 8.1 percent of all U.S. private sector employment. These employment figures represent nearly $278.6 billion in payroll (or approximately 5.3% of the private sector payroll in the U.S.)

Business format franchising emerged in The Netherlands after World War II; some of the earliest franchising systems in the Netherlands are Bruna (since 1949), FEBO (since 1960) and HEMA (since 1958). Nowadays, franchising has consolidated its position in the past decades in the Netherlands and it represents a major section of the distribution structure in the Dutch economy. The number of franchisors has grown from about 200 in 1985 to approximately 670 in 2007. The number of franchisees has also grown considerably in the last twenty years: in 1985 it was about 7,000, and this number had grown to 27,609 in 2005. Moreover, franchising has largely helped the Dutch economy by creating thousands of new jobs and billions of Euros in revenue. In 2007, the number of people working in the franchising industry was 237,112, and the revenue generated by all the franchises in the Netherlands had increased from about 2 billion Euros in 1985 to approximately 24 billion Euros in 2007.[4]

Following its popularity in industry, franchising has attracted a significant amount of academic attention. A great amount of research has been conducted within multiple

---

that most franchised businesses are unlikely to fall within the scope, and the franchisees' financial statement are unlikely to be consolidated into the franchisors' financial statement.

[4] From De Nederlandse Franchise Vereniging (NFV), www.nfv.org

disciplines in the past decades, including law, economics, marketing, and management (Elango, 1997). However, some key questions in franchising have not reached consensus yet.

1.2 Statement of the Problem and Research Questions

A key question for many firms is whether or not to franchise. If the answer is positive, then the next question is: which franchising form to take and which form is efficient? Fully franchised, company ownership or a dual distribution (co-existence of company-owned and franchised)? While considerable research has been conducted to answer the above questions, this study will revisit them.

As for the propensity to franchise, most studies have been grounded on the resource scarcity argument and on agency theory. The resource scarcity argument suggests that firms use franchising to relieve financial and managerial constraints in order to enhance growth. Agency theory argues that franchising is used to improve the alignment between firm and outlet-level incentives. Oxenfeldt and Kelly (1969) suggested that firms choose franchising to expand rapidly, because franchising allows access to scarce resources such as financial and managerial resources. It is usually difficult for immature and small firms to raise capital for expansion through traditional financial markets, and it is also difficult to accumulate managerial expertise and local market knowledge (Katz and Owen, 1992). Nevertheless, rapid growth may be vital to scale economy in order to compete effectively against more mature firms (Caves and Murphy, 1976; Combs and Castrogiovanni, 1994). Thus, firms seek to access the capital and managerial resources that franchisees provide when they build and manage outlets, even though returns might be higher among firm-owned outlets (Oxenfeldt and Kelly, 1969). In short, the resource scarcity model proposed that firms turn to franchising as they intend to expand rapidly in order to achieve economies of scale when internal resources cannot fulfill the growth rate. However, this view was questioned by several researchers (e.g. Rubin, 1978 and Norton, 1995). They have argued that the capital scarcity explanation for franchising is fallacious because franchisees, who place a substantial investment in a limited number of outlets, will demand a risk premium to compensate them for their undiversified investment. Therefore,

franchisee capital is not less expensive than capital from passive sources such as lenders and stockholders. Consequently, financial capital acquisition from franchisees cannot simply motivate organizations to choose franchising. Other researchers (Minkler and Park, 1994; Lafontaine, 1992; Martin and Justis, 1993; Combs and Ketchen, 1999a) have argued that certain incentives and private knowledge can lead franchisees to be a cost -competitive source of capital. This debate has been fuelled by mixed empirical findings, either supporting the capital scarcity argument (e.g. Combs and Kitchen 1999a; Norton, 1995) or not (e.g. Martin and Justis, 1993; Minkler and Park, 1994).

In general, previous studies have merely regarded franchisee capital as a whole and have not looked into the specific components (debt versus equity ratio) of it. A stylized fact in the franchising industry is that the franchisor usually requires franchisees' personal equity in the initial total investment and therefore limits the ability of the franchisee's debt financing. Fraja and Piga (2004) explicitly illustrate this phenomenon by arguing that in a vertical relationship debt financing can increase a downstream party's bankruptcy risks and therefore reduces an upstream party's expected profit. Consequently, the upstream party has to impose a limit on the downstream party's use of debt financing. We propose that the strategic use of the franchisee's debt ratio can affect the franchisor's financing decision, which will ultimately affect the franchising system's firm value. And this financing decision may also subtly affect the franchisor's franchising propensity, as the franchisor sees an increased firm value through retaining a certain ratio of franchised outlets.

Research Question 1

Does the strategic use of the franchisee's capital structure affect the franchisor's financing decision?

Governance concerns the organization of transactions, whereas a governance structure consists of a collection of rules structuring the transactions between the various stakeholders. Franchising is an example of a governance structure; it is a vertical

relationship between parties in two stages of a production chain. A governance structure entails how ownership is allocated over assets, and accordingly it has an impact on the parties' incentive to invest.[5] An efficient governance structure provides all parties with incentives to invest in such a way that the entire franchise system generates the highest value.

The Resource scarcity argument and agency theory attempt to explain why company-owned and franchised outlets are simultaneously operated under one system. As for the organization of distribution networks, a firm can have a large variety of options to sell products and services. The extreme examples are a fully company-owned distribution system on one hand or a distribution network through purely external/independent sellers on the other hand. Franchising, being as a mixture of the two extremes, takes a position in between these. In contrast to the extreme forms of distribution systems outlined above, franchising is usually characterized as a hybrid form of distribution, namely a plural form or a dual distribution. The three dominant franchising forms are: wholly franchised enterprises (where all outlets are owned by independent franchisees), dual distribution franchising (involving the coexistence of both franchisor-owned distributors and independent franchisees), and entirely company-owned enterprises (where all outlets are owned by the franchisor). Well-known examples of the first type are Baskin-Robbins USA Co. and Allegra Print and Imaging, while McDonalds, 7-Eleven Inc., and Jackson Hewitt Tax Service are examples of the second type. Dual distribution franchising is the most widespread of these governance structures, while the third type, i.e. when the franchisor owns all outlets, is rare. Besides the above three major forms, the business world adopts also other governance structures. An example is the credit card company VISA, where the franchisees own the brand and the business format regarding electronic payments. Other examples of cooperative franchises are Best Western hotels, ACE Hardware, True Value hardware, and Straw Hut Pizza. In these enterprises, either all the outlets together own the brand and the business format, or some outlets own the brand and the business format.

[5] Brickley et al. (1991), Gallini and Lutz (1992), Mathewson and Winter (1994), Lutz (1995) and Dutta et al. (1995) emphasize already the importance of ownership in determining the incentives to invest in different governance structures from a transaction cost economics perspective.

Many researchers have attempted to explain the mixture of company-owned and franchised outlets from various perspectives. For example, some authors (e.g. Gallini and Lutz 1992; Scott 1995; Oxenfeldt and Kelly 1969; Caves and Murphy 1976; Norton 1988) argue that the dual ownership structure is a transitory phenomenon. They predict that in the long run, one organizational structure, either wholly owned or wholly franchised, will prevail and dominate. Others (Bradach and Eccles 1989; Bradach 1997; Dant, Kaufmann and Paswan 1992; Dant and Kaufmann 2003; Harrigan 1984) claim that the mixture of franchised and company-owned outlets will remain stable. However, no specific attention has ever been paid to the relationship between the specific investments of franchisors and franchisees in a franchise system and to the efficient governance structures. In order to examine the trade-offs involved in the determination of the most efficient governance structure, the following question needs to be answered:

Research Question 2

Which governance structures in franchising are most efficient under which circumstances?

1.3 Overview of the Literature

This section offers a brief overview of the major theories used in franchising research. The purpose of this section is to give readers a better understanding of the knowledge accumulated in the franchising literature. This section covers complete and incomplete contracting theories, among other theories. Complete contracting theory distinguishes hidden action and hidden characteristics models, where the hidden characteristics models can be further delineated into signaling and screening models. Under the assumption of asymmetric information, complete contracting theory posits that the fully rational principal can design a complete contract, considering all the possible observable and verifiable contingencies. Asymmetric information and conflicts of interest between the principal and the agent are the most important ingredients of complete contracting theory. By contrast, Incomplete contracting theory distinguishes between

observable outcomes being verifiable, and observable outcomes not being verifiable (this distinction is not made in complete contracting theory.) A contract is written with regard to outcomes which are observable and verifiable, while the authority to decide in unforeseen circumstances is allocated when outcomes are only observable. Transaction cost economics and property rights theory are concerned with the allocation of authority.

The distinguished theoretical frameworks in this section will include: (1) the resource scarcity/resource acquisition view, (2) agency theory, (3) signaling theory, (4) transaction cost theory, (5) property rights theory, (6) organizational learning theory, and (7) risk sharing theory.

1.3.1 The Resource scarcity/resource acquisition view

In brief, the resource scarcity view posits that firms use franchising as a means to reach economies of scale and rapid expansion through overcoming a lack of three scarce resources: financial capital, managerial skills, and local market knowledge. Once such economies have been achieved and firms grow in size, they will franchise less, open more company-owned outlets and repurchase their most profitable franchised outlets Oxenfeldt and Kelly (1969). They propose that a mature chain will be ultimately dominated by company-owned outlets.

The resource scarcity argument mainly aims to explain two issues. Firstly, the resource scarcity view offers a motivation for firms to choose franchising: overcoming resource restrictions to accomplish economies of scale. In contrast to a company ownership, a franchisee is entitled to operate an outlet as an independent legal entity. Franchisees provide capital to the franchisor in the form of franchise fees, royalties, and through bearing the costs of constructing new outlets (Lafontaine and Kaufmann, 1994). Franchisees provide not only capital to franchisors, but also supply managerial skills and local knowledge to fuel growth (Minkler, 1992; Norton, 1988; Shane, 1998). The rationale for overcoming managerial constraints on franchising is built on Penrose's (1959) observation that a firm's growth is constrained by the speed at which it can expand its managerial capacity (Shane, 1996). Franchising can help firms to overcome the shortage of managerial expertise through a self-selection mechanism whereby only capable managers

are qualified (Shane, 1996). Franchising also helps a firm to resolve the lack of local knowledge. A franchisor may not necessarily be familiar with the local markets when expanding geographically, and franchising can help to leverage franchisees' local market knowledge (Minkler, 1992).

Secondly, the resource scarcity view explains the lifecycle and ownership redirection in franchising. Firms usually maintain a higher proportion of franchised units in their early lifecycle and progressively increase the proportion of company-owned outlets when the system matures. Consequently, ownership is redirected in terms of reducing the number of new franchised outlets, opening more company-owned outlets, and purchasing back more profitable franchised stores (Oxenfeldt and Kelly, 1969).

Subsequent empirical studies have tested resource scarcity propositions on franchise patterns through measuring age, chain size, and growth rate, and have obtained mixed results. For instance, Alon (2001) found that franchising propensity and age are not significantly related; but also found that firm size has a positive impact on franchising propensity, which is opposite to the resource scarcity reasoning. In a study of 439 franchisors, Castrogiovanni et al. (2006) found that restaurant franchising firms continually increase their proportion of franchised outlets, even sixty years after the initial franchise; on the other hand, they also found that larger franchise chains have a lower propensity to franchise. Shane (1998a) found an inverse U-shaped curvilinear relationship between chain size and the percentage of franchised outlets, which corroborates the predictions of the resource scarcity's argument. Lafontaine (1992a) found evidence supporting resource scarcity's proposition relating to growth rate. She found a positive relationship between growth rate and proportion of franchising, positing that franchising can help firms to grow faster. Michael (2000b) found that growth rate is negatively related to the percentage of franchising, which suggests that firms intend to reduce franchising when they reach a high growth rate. Combs and Ketchen (2003) did not find a significant linear relationship in their meta-analysis.

In addition to the above studies, the most controversial variable - capital scarcity - has received special attention and criticism. Some researchers argue that franchisee capital

is not less expensive than the capital from passive investors such as lenders and stockholders (Norton, 1995; Rubin, 1978). Rubin (1978) argued that franchisees faced more undiversified investment risks when investing a significant portion of their personal wealth in one or a few outlets. As a result, it is more likely that the franchisee will demand a risk premium on their capital above what passive investors might expect. On the other hand, some authors have offered counter-arguments supporting the capital scarcity view. Lafontaine (1992) posited that franchisees had more incentives to exert an effort compared with employees, as they possessed ownership. This incentive difference could be identified by investors, and therefore would demand a higher rate of return. Moreover, franchisees may be able to offer cheaper capital than passive investors because they possess more private information regarding managerial capabilities, while passive investors face more information asymmetries (Combs and Ketchen, 1999b; Martin and Justis, 1993).

The empirical studies on the capital scarcity argument have also generated mixed results. Martin and Justis (1993) found that an immature firm's propensity to franchise was positively linked with the increase of interest rates, which suggests that firms turn to franchising when it is difficult to raise capital from the financial market. In contrast, Minkler and Park (1994) found that the rise of real interest rates led to an increase in the proportion of company-owned outlets. Through a survey of franchisors, Dant (1995) posited that capital scarcity might affect firms' initial decision to franchise. In a study consisting of 91 restaurants, Combs and Ketchen (1999a) found that capital-constrained restaurant chains were more likely to expand with franchising. However, Combs and Ketchen (2003), in their meta-analysis, found no results regarding the relationship between capital scarcities and franchising propensity.

As for resource scarcity's predictions relating to ownership redirection, Hunt (1973) found that firms in the fast food industry tend to run more outlets under company ownership. Caves and Murphy (1976) observed a similar trend of company ownership in maturing industries. Opposite to Oxenfeldt and Kelly's (1969) prediction that a firm will revert back to full company ownership as it matures, some empirical studies have found that firms actually maintain a certain proportion of franchised outlets versus company-owned units as they mature. After examining over 1,000 franchising chains in the period

between 1980 and 1997, Lafontaine and Shaw (2005) found that even after eight years' franchise firms still tend to maintain a stable percentage of company-owned outlets. Castrogiovanni et al. (2006) also found similar results in a longitudinal study of 439 restaurants. A survey by Lafontaine and Kaufmann (1994) revealed that firms usually set up a desired target of ownership structure and adjust their propensity toward that goal. In general, no evidential support was found regarding the trend that franchisors revert toward full company ownership as they mature.

1.3.2 Agency theory

According to agency theory, a principle-agent relationship is defined as one party (the principal) authorizing the other (the agent) to perform certain tasks on their behalf (Fama and Jensen, 1983; Jensen and Meckling, 1976). Agency theory assumes that the principal and the agent are self-interested, possess different risk preferences, and that information is asymmetric between the two parties (Eisenhardt, 1989). Since the agent and the principal are self-interested and possess divergent motivations, the principal must expend resources (the so-called agency costs) to ensure that the agent acts in the principal's best interest (Eisenhardt, 1989; Jensen and Meckling, 1976).

In a franchising contract, a company-owned outlet manager (employee manager) is usually compensated with a fixed salary. This usually induces high monitoring costs due to the two principal-agent problems: moral hazard and adverse selection. Moral hazard refers to the tendency that agents behave in their own interest with ex-post hidden actions, which are against that of the principal. Adverse selection refers to the fact that the agents hide some ex-ante characteristics such as their true abilities, and the principal is not able to verify these (Eisenhardt, 1989; Hendrikse, 2003). As a result, the firm will have to introduce more monitoring devices to protect the firm's best interests. In contrast, a franchisee purchases the right to operate an outlet by paying franchise fees and royalties, therefore the franchisee possesses full ownership of the unit and is compensated by the residual claims. Since the franchisees put their own capital at risk, they are usually more motivated to run effective operations (Shane, 1996). Therefore, franchising largely reduces monitoring costs.

Agency theory predicts that, as monitoring costs increase, the franchisor is more likely to expand by means of franchising. However, the increased use of franchising may lead to more perceived opportunism risks. On the one hand, the franchisee confronts the risk that the franchisor shirks the responsibility of promoting the chain's brand name (Klein and Saft, 1985). On the other hand, the franchisor faces the possibility that the franchisee will overemphasize reducing costs, thereby damaging the brand's reputation (Brickley and Dark, 1987). Accordingly, as the franchisor perceives a significant opportunism risk, he will reduce the use of franchising; if the franchisee perceives a significant opportunism risk, it will be more difficult to recruit new franchisees.

Agency theory has been widely tested in the field of franchising, and has received extensive empirical support. Brickley and Dark (1987) proposed that company ownership is less efficient compared with franchising, as it is more difficult to monitor the behavior of store managers and the environment is more uncertain. Using a sample of 36 firms in 9 industries, they found that outlets closer to (regional) headquarters are more likely to be company-owned and remote outlets are more likely to be franchised. Lafontaine (1992a) found that franchisors are more likely to franchise as outlets are more geographically dispersed and as the franchisee's input becomes increasingly more important. Combs and Ketchen (1999) concluded that outlet asset specificity and geographic dispersion have a positive impact on expansion through franchising, while specific knowledge has a negative influence. Using 91 publicly-traded restaurant chains between 1992 and 1995, they found firms with the above characteristics use franchising notably more than other firms. Thompson (1992) and Combs and Castrogiovanni (1994) found that outlet size is positively related to franchising, because larger outlet size reduces monitoring costs as scale economies enable the monitoring of larger outlets to be marginally more cost effective (Lafontaine, 1992a). Michael (2000a) found that the percentage of franchised outlets is negatively related to the firm's quality rating, positing that the franchisee's opportunistic behaviors reduce operation quality. Combs and Ketchen (1999b) proposed a negative link between franchisor's inputs and tendency to franchise. They found through a survey that the more specific knowledge firms have, the less likely they will expand through franchising. Lafontaine and Shaw (2005) also found that firms tend to operate more company-owned outlets as they possess greater brand name value.

1.3.3 Signaling theory

Signaling theory explains organizational choice in franchising by focusing on the externalities of market imperfections and information asymmetries (Dant and Kaufmann, 2003). As entrepreneurs possess insider information and specific knowledge, it is impossible to fully communicate this to potential investors (Alveraz and Busenitz, 2001; Williamson, 1991). Therefore, the entrepreneurs can signal the current and future firm value of their ventures to outside investors by making direct personal investments in their enterprises (Leland and Pyle, 1977).

In franchising relations, there always exist large investments in specific assets. Before making any investment decisions, potential franchisees need to know some privately-held information such as market demand or profitability, or seek for assurance from the franchisor regarding future performance. Franchising usually involves transfer of brand names and operational knowledge, both of which are intangible assets with high information asymmetries, therefore signaling turns out to be an important tool of conveying credible information (Lafontaine, 1993). Gallini and Lutz (1992) posited that the franchisors can signal to potential franchisees their quality via two means: directly operating a proportion of company-owned outlets and/or a high royalty rate. The logic is that high-quality franchisors can differentiate themselves from low-quality franchisors through involving a higher percentage of company ownership or retaining a high royalty rate and a low franchise fee so that the low-quality franchisors would find it unprofitable to imitate them (Lafontaine, 1993). Signaling theory predicts that newly established franchise systems, with no established reputation, will increase the use of company ownership to attract potential franchisees and will open fewer company-owned outlets as they age and their brand images improve (Gallini and Lutz, 1992).

Previous empirical research has offered mixed support for the signaling theory. Dant and Kaufmann (2003) found that franchisors tended to retain fewer franchised outlets as they aged. In an empirical analysis based on a sample of 125 franchising chains, Lafontaine (1993) also found no evidence regarding signaling theory's propositions. She found that firms with brand names do not use a proportion of company ownership, royalty rate, or franchise fee to signal their qualities to prospective franchisees. In contrast, based

on a study of over 1000 firms from 47 industries, Scott (1995) found that firm age is positively related to the percentage of franchised outlets, suggesting that firms franchise more as they signal better quality. This result provides some empirical evidence for signaling theory. Moreover, in a recent study done by Shane, Shanker and Aravindakshan (2006), their empirical results are found consistent with the propositions of signaling theory. Based on sample of 1,292 business format franchise systems from 152 industries that were established in the United States between 1979 and 1996, they found empirical evidence supporting their proposition that young franchise firms use strategic actions to attract potential franchisees to boost their growth. More specifically, they found that franchisors keep low up-front franchise fees in their starting phase and lower royalty rates as the systems grow larger. They also found that franchise systems are comparatively larger if they use low initial franchisee investment and help financing franchisees, which offers support of signaling theory.

1.3.4 Transaction costs theory

Transaction costs economics (TCE) was originated by Coase (1937) and Williamson (1975, 1985). Robins (1987, P69) defined these as follows: "Transaction costs are those costs associated with an economic exchange that vary independent of the competitive market price of the goods and services exchanged. They include all search and information costs, as well as the costs of monitoring and enforcing contractual performance." TCE mainly rests on two assumptions relating to human behavior - bounded rationality and opportunism - and on three environmental attributes associated with transactions: uncertainty, frequency and asset specificity. The basic idea of TCE is that markets and hierarchies are alternative governance mechanisms, and the most efficient governance structure is the one minimizing transaction and production costs. TCE proposes that a hierarchical structure is more likely to be adopted when transactions are faced with more uncertainties, more frequent recurrence and higher investments in specific assets; while a market structure is more likely to be adopted when transactions are straightforward, non-repetitive and require less specific investments (Williamson, 1991).

When applying TCE to franchising, the varying proportions of franchised and company-owned outlets in different franchising systems reflect the most efficient

proportion for each system. Since each system is faced with different transaction and production costs, the goal of minimizing transaction costs is achieved through adjusting the proportion of company-owned and franchised units (Dant et al., 1996; Klein, 1980; Williamson, 1979, 1981, 1983). The cost differences measured by asset specificity, frequency and uncertainty explain the different ownership structures of individual units. Of all the types of specific assets, brand name capital is the most relevant for franchising. As a franchisor engages in the activities - e.g. marketing and advertising campaigns - to increase the value of brand-name capital, the costs of franchising also increase as franchisees engage in opportunistic behavior. Therefore, company ownership is predicted to be positively related to the value of brand-name capital (Minkler and Park, 1994).

There have been various empirical studies in the area of franchising grounded in TCE to explain a firm's propensity to franchise vs. own. For instance, Brickley and Dark (1987) found that franchising is less prevalent for companies with high initial total investments, because the initial investment entails a positive relationship with level of investment in firm-specific assets. Using data on publicly-owned franchising firms, Minkler and Park (1994) found that increases in the value of the trademark are positively related to the proportion of company-owned outlets. Fladmoe-Lindquist and Jacque (1995) explained the propensity to franchise with a theoretical framework based on TCE. They found that the propensity to franchise internationally is negatively related to the firm's brand name asset specificity, and is significantly impacted by the host country's contextual uncertainty. Based on a sample of 179 franchises in the U.S., Dant (1996) posited that transaction and production costs are influential in explaining ownership structure choices in franchising. They found that the amount of specific investment required to open an outlet has a negative impact on the use of franchising.

Furthermore, Manolis et al. (1995) explained the relationship between ownership redirection and franchisee quality control violations from the perspective of TCE. It was found that repeated purchase has a negative influence on franchisees' incentives to shirk on quality control. Therefore, in industries where repeat purchasing is low, franchising becomes more costly than company ownership, because company managers are comparatively less opportunistic in this case. Dutta et al. (1995) discussed the dual

distribution phenomenon in franchising using TCE. They argued that the dual distribution provides enhanced credibility of the termination safeguard, and therefore the vulnerability and the likelihood of independent distributors' opportunistic behaviors are minimized. They also argued that dual distribution offers performance benchmarks, and thus independent distributors' performances can be better assessed. Based on 199 questionnaires, they found preliminary support for the propositions. Michael (2000a) presented tapered integration (owning some units while franchising others) hypotheses regarding the dual distribution in franchising. He suggested that engaging in activities like tapered integration and buyer selection can improve a franchisor's bargaining power and reduce conflict and litigation in a franchise system. Using data from 99 restaurant chains, it was found that tapered integration, selection of inexperienced franchisees, and long training programs have a positive influence on the franchisor's bargaining power and the franchisee's compliance with franchisor standards.

1.3.5 Property rights theory

Property rights theory rests on the incomplete contracting rationale that it is impossible to compose enforceable comprehensive contracts because of the unforeseeable contingencies or the high expenses of specifying details (Hart and Moore, 1999). The Contract's incompleteness increases the contracting parties' concern over potential contractual hazards (e.g. ex post opportunism), which is especially problematic if ex ante relationship-specific investments are high. Relationship-specific investments may result in a severe hold-up problem, where the non-investing contract party appropriates quasi-rents. Ultimately, this will bring problems associated with under investment. A possible solution proposed by property rights theory is to allocate residual control rights[6] to be concentrated at one contracting party (i.e. vertical integration). Since the allocation of residual control

[6] A standard way of delineating a governance structure is to distinguish income and decision rights (Hansmann 1996). Income rights address the question 'How are benefits and costs allocated?' i.e. they specify the rights to receive the benefits, and obligations to pay the costs, that are associated with the use of an asset. For example, a franchise has to choose the level of the royalty rate and the franchise fee. Decision rights in the form of authority and responsibility address the question 'Who has authority or control?', i.e. they concern all rights and rules regarding the deployment and use of assets.

rights largely affects the bargaining power of each contracting party, it eventually influences contracting parties' ex ante investment incentives (Grossman and Hart, 1986).

Property rights theory argues that more assets along with more control rights should be assigned to the party in a transaction whose asset-specific investment is relatively more important for generating surplus (Hart and Moore, 1990). Moreover, it has also been proposed that ownership structure is mostly affected by the degree of intangibility of the assets (Hart and Moore 1990; Brynjolfsson 1994; Maness 1996). When applied to franchising, it is proposed that the allocation of residual rights depends on the importance of intangible system-specific and local market assets (Windsperger 2002, 2004; Windsperger and Dant, 2006). In a franchise system, there are system-specific assets, like the brand name, and decisions have to be taken regarding the network's production, marketing, and service in order to improve its brand name value and maintain system-wide standardization; there are also local-specific assets, like knowledge about the local market, and decisions have to be taken regarding local operations. The property rights view of asset ownership in franchising proposes that the percentage of company-owned outlets is expected to be higher when the franchisor's intangible assets are more important than the franchisee's intangible assets for generating residual income, because more property rights should be transferred to the franchisor. Therefore, company ownership has a positive relationship with the intangible system-specific assets and a negative relationship with the intangible local market assets (Windsperger 2002, 2004; Windsperger and Dant, 2006).

Based on a survey study of 83 Austrian franchise systems, Windsperger (2002) empirically tested the proposition that the ownership structure relies on the distribution of intangible assets between the franchisor and the franchisee. It was found that local market knowledge advantage is negatively related with royalty, indicating that the franchisee's local market knowledge advantage results in allocating more residual income to the franchisee. In addition, annual training days were found to be positively related with the royalty rate, indicating that higher investment in intangible system-specific know-how leads to more residual income being assigned to the franchisor. Windsperger and Dant (2006) offered a property rights framework to investigate the ownership redirection phenomenon in franchising. They argued that the contractibility of the franchisor's

system-specific know-how and the contractibility of the franchisee's local market knowledge are the main determinants of the structure and dynamics of ownership patterns in franchising chains. It was proposed that company ownership increases as the contractibility of the franchisee's local market assets increases during the contract period, which results in ownership redirections. Empirical results were found that the influence of the franchisor's system-specific assets on the percentage of company ownership rises during the life cycle.

1.3.6 Organizational learning theory

Organizational learning theory investigates how knowledge is gained and transferred. In franchising, research has been focused on the factors affecting inter-firm and intra-firm knowledge transfer and the possible outcomes (Darr et al., 1995; Sorenson and Sørensen 2001). Darr et al. (1995) found that knowledge transfer in franchising is not fostered by single unit franchisee, but actually deteriorates over time. In contrast, multi-unit franchisees possess more advantages of knowledge transfer and retention.

Sorenson and Sørensen (2001) explained knowledge transfer in franchising from the perspective of the exploration and exploitation paradox. Franchisees have more incentives relating to "exploration" and company managers are more inclined to "exploitation". In the context of franchising, 'exploration' refers to the capabilities of innovation and local market knowledge learning, while 'exploitation' refers to the capabilities of controlling quality and executing administrative exercises. The mix of company-owned units and franchised units can affect the balance between centralization and standardization through organizational learning, thereby enhancing the franchise chain's efficiency and performance.

Sørensen (2001) suggested that franchisors might use franchisees as a source of exploring new ideas in local markets so that innovations could be transferred throughout the system. This result offers a possible explanation as to why both company-owned and franchised outlets might be located in a close area.

1.3.7 The Risk sharing view

The risk sharing view suggests that organizations choose to franchise due to the need for sharing risks (Lafontaine and Bhattacharyya, 1995). According to the risk sharing view, franchising permits franchisors to retain profitable outlets with more predictable sales under control and to leave relatively risky locations to franchisees (Combs and Castrogiovanni, 1994).

Empirical studies have found that outlets with relatively lower revenues are frequently franchised and located in distant areas (Brickley and Dark, 1987; Martin, 1988). For example, based on data from the Franchise Annual and the Source Book of Franchise Opportunities, Martin (1988) found that profitable and less risky units are more likely to be run by the franchisor, while less profitable and more risky units are often franchised.

This study will answer the first research question mainly based on the resource-based view, agency theory, signaling theory and transaction cost theory. The hypotheses will be developed according to the above theories. And we will base our study on property rights theory to answer the second research question. A model will be set up according to the framework of the property rights theory's framework.

1.4 The Contribution of this Research

First of all, this study offers a new understanding relating to the determinants of franchisee's and franchisor's capital structure and their impact on the franchisor's financing decision. It is found that the franchisor imposes a limit over franchisee's debt level so as to raise more debt and seize tax benefits. We find that the franchisor's leverage is negatively related to the franchisee's leverage. And this effect is strengthened by the percentage of franchised outlets versus company-owned outlets. Furthermore, we find that the franchisor's maturity is positively related to the franchisee's leverage. This indicates that when the franchisor requires the franchisee to bear higher/lower leverage, the franchisor will also raise more/less long-term debt in order to signal their credible commitment. This study also puts forward an explorative investigation of how outlet-specific factors, such as franchise fee, royalty, outlet size, affect the franchisor's decision

on the franchisee's debt/equity structure. Classical capital structure theories are also tested in a franchising setting. Additionally, this study adds more empirical understanding regarding franchising in The Netherlands.

Moreover, this study addresses the issue of the mixture of company-owned and franchised outlets in franchising from a governance perspective, and develops an incomplete contracting model of the efficient governance structure of a franchise system. We compare wholly-franchised systems, wholly-owned systems, and mixed/dual distribution systems,[7] and circumstances are identified when dual distribution is the unique governance structure that induces investment by the various parties exactly when it is efficient to do so. A key distinction between our theory and preceding work regarding franchising is that we account explicitly for all possible governance structures. This is valuable because the existing literature provides explanations as to why wholly-owned or wholly-franchised structures exist, but not a mixed system (e.g. Lutz 1995). Additionally, an incomplete contracting perspective on franchising is advanced, while the marketing literature on franchising and channels has mainly used complete contracting (principal-agent) models (e.g. Lal 1990). Finally, many analyses of franchise systems consider the incentives to invest for either the franchisor or the distributors. Our model provides a unified treatment of the incentive to invest for the franchisor as well as the distributors.

1.5 Organization of the Dissertation

This chapter contains an introduction to the research subject, introduces the problems, and outlines the possible contributions to the franchising literature that this study hopes to make. A brief review of the franchising literature is also included in this chapter. Chapter 2 develops a model and hypotheses illustrating the strategic use of the franchisee's capital structure and its impact on the financing decision. The interactive relation between franchisor and franchisee's capital structure is empirically tested based on

[7] Multiple channels of distribution have been studied before, like the coexistence of employees and subcontractors to perform trucking services (Baker and Hubbard 2004), the coexistence of spot and contract markets in many agricultural markets (Hendrikse 2007), and the marketing literature on dual channels (Balasubramanian 1998, Chiang et al. 2003, Liu and Zhang 2006, Purohit 1997, Zettelmeyer 2000).

North American franchising data. Chapter 3 further tests the hypothesis regarding capital acquisition with a special focus on the franchisor's maturity, based on Dutch franchising data. Chapter 4 establishes an incomplete contracting model to demonstrate the efficient governance structure choice in a franchising system. The relationship between the specific investments in a franchise system and its efficient governance structure is investigated. Chapter 5 summarizes the main findings from the research and presents the main conclusions of the thesis.

2 STRATEGIC DEBT IN VERTICAL RELATIONS: THE EVIDENCE FROM FRANCHISING

2.1 Introduction

Franchising is a popular organizational form and many studies have been conducted on it from the perspectives of, for example, marketing, strategy, and economics. The fundamental question of why organizations choose to franchise has been the subject of considerable theoretical and empirical investigation. However, little consensus has been reached (Shane, 1998). In general, the reasons for franchising are grounded in either the resource scarcity argument or agency theory. The resource scarcity argument suggests that firms use franchising to relieve financial and managerial constraints in order to enhance growth. Agency theory argues that franchising is used to improve the alignment between firm and outlet-level incentives. In this paper we aim to investigate a specific argument based on resource scarcity theory.

Oxenfeldt and Kelly (1969)'s classic paper raises the argument that firms franchise to access scarce resources. In particular, financial constraints would induce franchising, because the partial financing by franchisees limits the financing needs of franchisors. However, this view has been refuted by Rubin (1978) and Norton (1995). These authors suggest that franchisee capital is not less expensive than capital from passive sources such as lenders and stockholders, and therefore financial capital acquirement from franchisees simply cannot motivate organizations to choose franchising. In this study, we propose that the strategic use of franchisee debt level may affect the franchisor's financing decision, which will ultimately affect firm value. And this financing decision may also subtly affect the franchisor's franchising propensity, as the franchisor sees an increased firm value through retaining a certain ratio of franchised outlets.

A common practice in the franchising industry is that franchisors impose a lower boundary on the franchisees' personal capital required in the initial total investment. For example, McDonald's requires a minimum of one hundred thousand dollars of equity investment, which is about twenty percent of the initial total investment; Subway Restaurants requires franchisees to fund about forty three percent of the total initial investment with their personal capital. Clearly, the equity required by franchisors is an important variable in the contract offered to franchisees. Because of the vertical relation between the franchisor and the franchisee, the opportunity arises for the franchisor to benefit from this. Fraja and Piga (2004) model such a relation and argue that the upstream party imposes a limit on the downstream party's debt level in order to avoid bankruptcy risk and to secure profits. Following their reasoning, we suggest that organizations choose to franchise in order to benefit from the opportunity to let franchisees have a buffer against operational risks, such that the franchisor can bear more debt and enhance their value by taking tax deduction benefits in interest payments. Based on the model of Fraja and Piga (2004), we predict that lower leveraged franchisees induce more leverage for franchisors. In addition, we predict that this effect is stronger when more outlets are franchised.

We empirically test our propositions with data from Bond's Franchise Guide and COMPUSTAT. We construct a model in which we estimate the maximum debt level that is allowed for franchisees. We find that the maximum debt level depends on the size of the outlets, the age of the franchise firm, arrangements between the franchisor and franchisee (such as cooperative advertising), and on the type of industry the firm is in. We then compare the actual maximum debt level in Bond's Franchise Guide with the estimated maximum debt level, and use this deviation as an explanatory variable in the leverage regression for the franchisor. We find evidence supporting our primary prediction that the franchisor's capital structure is interrelated with the franchisee's capital structure decision. More specifically, we find that the franchisor's leverage is negatively related to the deviation of the franchisee's leverage. That is, as the franchisor sets a higher requirement for the franchisee's equity component than expected (lower maximum leverage), the franchisor is able to raise more debt and seize tax benefits. This confirms our proposition that the strategic use of the franchisee's capital structure affects the franchisor's decision of financing. Furthermore, we also find that this effect is more significant in the group with

more franchised units. These results corroborate the argument that in vertical relations debt requirements can be used strategically, in our case by the franchisors.

The structure of this chapter is as follows. Section 2.2 discusses the existing literature, and hypotheses are then developed. Section 2.3 describes our data set and the definitions of variables. Section 2.4 provides summary statistics and the regression analyses. Section 2.5 concludes.

2.2 Literature Review and Hypotheses

Resource scarcity and agency theory are the two major theories explaining why organizations franchise. From the point of view of resource scarcity, franchising is used by franchisors to access scarce resources, particularly financial and managerial ones, in order to relieve constraints on growth (Oxenfeldt and Kelly, 1969). Agency theory suggests that franchising can reduce agency costs by improving firm-level and outlet-level incentives. Much of the debate over Oxenfeldt and Kelly's resource scarcity explanation has centered on capital provided by franchisees to franchisors. However, several researchers have questioned whether franchisee capital is less expensive than the capital from passive investors such as stockholders and debtholders (Norton, 1995; Rubin, 1978). Rubin (1978) argues that the capital scarcity argument for franchising cannot be relevant because franchisees will face greater undiversified investment risks as they place substantial personal wealth in a limited number of outlets, and therefore they will demand a risk premium to compensate this risk. Passive investors do not have this problem, thus having lower financing costs.

The arguments in this study are in line with Rubin in that franchisee capital might be more expensive. However, the arguments differ since franchisee capital is relevant in our study, as the strategic use of the franchisee's leverage may affect the franchisor's financing decision, which may subtly influence the franchising decision. In the remainder of this section, we will first investigate the relation between the franchisee's and the franchisor's capital structure and then illustrate how the franchisee's maximum debt is related to the reasons for the franchisor to choose a franchising structure. Following this,

we will describe which factors determine a franchisee's optimal capital structure. Finally, the franchisor's capital structure will be discussed based on generally accepted capital structure theories.

2.2.1 The strategic link between franchisor's and franchisee's leverage

A stylized fact in franchising is that franchisors usually require their franchisees to put up a specific amount of personal wealth in the total initial investment, and in turn leave the franchisees limited space for debt financing. This phenomenon was explained by Williamson (1989) from the perspective of one-sided moral hazard, where equity financing is used as a device against quality cheating by franchisees. He argues that the franchisee can damage the brand image by not maintaining the agreed quality level when quality is non-contractable. Therefore franchisors will require the franchisee to finance a specific investment through their personal resources. The franchisor can punish the franchisee when they cheat by early termination of the contract. If the franchisee is allowed to borrow too much debt, this cost of termination goes to the debt lender instead of to the franchisee. Fraja and Piga (2004) explicitly illustrate this phenomenon by arguing that debt financing can increase a downstream party's bankruptcy risks and therefore reduce the upstream party's expected value. Consequently, the upstream party has to impose a limit on the downstream party's use of debt financing.

The above-mentioned studies merely focus on how and why a franchisee's leverage should be limited to a lower boundary, whereas the studies do not account for the phenomenon that a franchisor's leverage can also be influenced by the limitations imposed on the franchisee's debt level. We here suggest that the franchisor's capital structure can be interactively related to the franchisee's capital structure. According to the arguments of Fraja and Piga (2004) and Williamson (1989), the franchisee's debt ratio should be restricted, such that franchisors can reduce their business risk. When the franchisee's maximum leverage is set below economically optimal levels from the perspective of the franchisee, the franchisor may raise their own leverage in order to take tax deduction benefits. Thus, we predict that the more the franchisee's maximum leverage is below the optimal level, the higher the franchisor's leverage will be. We here use the deviation from

the expected maximum leverage, i.e. the difference between maximum franchisee leverage and the estimated franchisee optimal leverage, to capture this effect.[8]

Hypothesis 1: The franchisor's leverage is negatively related to the deviation between the franchisee's maximum leverage and the optimal level of the franchisee's maximum leverage.

Furthermore, we expect that the relation in Hypothesis 1 is more pronounced in a franchise chain with relatively more franchisees, vis-à-vis wholly-owned units. The reason is that a franchisor in a chain with more franchisees benefits more from the reduction in financial distress by forcing franchisees to have below-optimal debt levels, compared with chains with fewer franchised units,.

Hypothesis 2: The percentage of franchised outlets versus wholly-owned outlets strengthens the negative relation between the franchisor's leverage and the deviation from optimal leverage of franchisees.

2.2.2 The Determinants of Franchisee Capital Structure

In order to construct a model for the optimal leverage level of a franchisee, we describe several factors which determine leverage in the absence of a vertical relation with the franchisor.

Outlet Size

According to Brickley and Dark (1987), franchisees face the risks of an undiversified investment, because a large part of their personal wealth and future income are tied to the franchise outlet. For larger outlets, the initial investment required to open it will be accordingly larger, which implies more investment risks for risk-averse franchisees. In order to mitigate this risk, the franchisor would oblige the franchisee to

[8] The franchisee's optimal debt level is the predicted value based the franchisee's regression model. "Deviation" equals observed franchisee's max. debt level minus the predicted debt level.

reduce the use of debt financing to minimize the total risks. Moreover, the effect is very relevant in franchising, which is also considered to involve a large proportion of relation-specific assets or firm-specific assets due to its high brand name capital generating high asset specificity (Brickley and Dark, 1987; Klein, 1995; Minkler and Park, 1994). According to transaction cost theory, projects with high asset specificity should not be financed by debt due to their low redeployability (Williamson, 1988). Therefore, a higher initial investment or a larger outlet size will lead to lower optimal franchisee leverage.

On the other hand, larger outlet size may lead to more debt financing. According to traditional capital structure theory, larger firms are less likely to face financial distress. Since a franchise outlet can be viewed as a firm as well, a larger outlet size may entail a lower failure rate. Therefore, a higher initial investment or a larger outlet size will lead to lower optimal franchisee leverage.

Franchise Experience

The number of years a franchisor is active in the franchise business reflects their experience. The franchisor has accumulated a great deal of operating knowledge, capabilities and reinforced brand name value, and therefore faces fewer problems of resource scarcity. Therefore, franchisors with more franchising experience are less likely to fail compared with young franchisors, which gives business security to the franchisees in the chain. Thus we expect that franchisees in a more experienced franchise network will have comparatively higher optimal leverage.

Franchise Fee and Yearly Fee

Franchisors charge a one-time lump sum franchise fee and an ongoing yearly fee, which are the main sources of revenues for the franchisors. The yearly fee gives franchisors the incentive to devote themselves to actions that may improve the franchisees' sales, because the franchisor's revenues are tied to the franchisee's performance (Sen, 1993). High royalty rates make franchisor's performance more highly tied to franchisee's performance, which may decrease the possibility of chain failure and reduces franchisees' operating risks. Therefore, we expect that franchisees belonging to a franchise chain with a high royalty rate may be allowed to have a higher leverage. The franchise fee is a payment

to the franchisor for compensating for their firm-specific knowledge transferred to the franchisee. A higher franchisor's brand name capital may lead to higher franchise fees due to the higher rents generated by their firm-specific knowhow. A franchisor may recover their specific investment through the initial franchise fee; therefore the franchise fee is proposed to be positively related to the level of franchisor-specific investment (Lafontaine, 1992, Dnes, 1992 and Bercovitz, 1999). As the franchisor's specific investments increase, franchise fees increase, and accordingly the franchisee's firm-specific investment increases. Since high asset specificity deters debt financing (Williamson, 1988), we thus expect a negative relation between franchise fee and a franchisee's optimal leverage.

Cooperative advertising

In franchising practice, franchisors can compensate or pay for a fraction of its franchisee's local advertising and promotion expenses, which is called cooperative advertising. Dant and Berger (1996) claim that some franchisors are not very interested in cooperative advertising since local advertising is most likely to benefit the local franchisees. Therefore, we suggest that in a franchise chain where cooperative advertising is allowed, the franchisor may face the risk of losing standardization and control over the local franchisees. In order to counterbalance such risk, franchisors may require franchisees to put up more personal wealth (equity), reducing the incentives for franchisees to cheat or shirk. Thus franchise chains allowing cooperative advertising are expected to have a higher equity ratio and a lower leverage.

The IFA

The International Franchise Association (IFA) was established to build and maintain a favorable economic and regulatory climate for franchising. IFA members need abide by the IFA's code of ethics. Being a member of IFA may entail better performance, credibility and reliability; therefore the franchise network may face fewer business risks compared with non-IFA members. A franchisee's optimal leverage is expected to be higher if the franchisor is a member of the IFA.

Financial assistance and lease assistance

Furthermore, it is common practice that franchisors offer financial and lease assistance to franchisees. Although we have no strong predictions regarding these variables, we do include them as control variables.

2.2.3 The Determinants of Franchisor Capital Structure

Factors affecting the franchisor's leverage are discussed in this section. The franchisor's leverage is discussed in terms of the standard capital structure considerations in the franchising setting.

Firm Size

Small firms are observed to have less debt than large firms. This is due to several reasons. The main reason is that small firms may face severe problems of asymmetric information. Agency costs tend to be higher as bonding and monitoring are more difficult. The reduced ability to signal also increases the costs associated with solving the problem of larger asymmetric information for small firms. Furthermore, small firms tend to be less diversified than large firms and thus increase the chances of financial distress. Large firms also have relatively lower direct costs of bankruptcy (McConnell and Pettit, 1984). Consequently, small firms can access less capital, or they are offered capital at considerably higher costs compared to large firms, which discourages the use of debt financing. Therefore, firm size is expected to be positively related to a franchisor's leverage.

Tangibility

The tangibility of assets is an important factor affecting debt financing. Several theories suggest a positive correlation between the assets' tangibility and leverage. More tangible assets may lead to more debts because tangible assets can be used to collateralize the debt, which thereby reduces bankruptcy costs. Furthermore, agency and asymmetric information theories also support the above relation. Tangible assets can be used to lessen agency costs stemming from the monitoring cost incurred by debtholder and underinvestment problems due to information asymmetries (Jensen and Mekling, 1976).

By raising the debt secured by tangible assets, such costs can be reduced. Therefore, it is expected that firms which possess fixed assets with a higher collateral value will have a higher level of leverage in their capital structure.

Market-to-book ratio

Agency theory examines the interest conflicts, on the one hand, between shareholders and debtholders, and on the other hand, between shareholders and managers. According to agency theory, the relation between growth and leverage is negative because of moral hazard problems. This is due to the fact that equityholders can come into conflict with debtholders since they aim to invest in projects that benefit themselves at the expense of these debtholders. Debtholders in turn will react with the use of covenants and monitoring devices. This is especially the case in growing firms since they have more flexibility in the choice of future investments (Titman and Wessels, 1988). Myers (1977) argues that the firm's investment in assets with high growth opportunities is less likely to be financed with debt due to the severe problems of underinvestment, which indicates a negative relation between leverage and growth opportunity. The market-to-book ratio (MTB) is often taken as an indicator of future growth (see, for example, Rajan and Zingales (1995)).

Profitability

Myers' (1984) pecking order theory hypothesizes a negative relation between firm profitability and capital structure. Pecking order theory predicts that firms prefer to use internal financing firstly, then debt, and finally equity financing, which is due to the high cost of asymmetric information. Since more profitable firms have a higher amount of retained earnings, it can be expected that internal financing is more common among them compared with less profitable firms. Thus profitability is negatively related with franchisor leverage. However, from a tax and bankruptcy point of view, a positive relation between profitability and debt is expected. It's argued that highly profitable firms should have more debt since they can benefit from the deductibility of interest payments. Hence, profitability is either negatively or positively related to a franchisor's leverage.

Non-debt tax shields

A key element in the capital structure literature is that an interest tax shield lowers the net cost of borrowing compared to equity. Modigliani and Miller (1963) suggest that a firm should be financed by debt in order to benefit from this tax deductibility of interest payments. However, interest payments are not the only source of tax deduction for firms. DeAngelo and Masulis (1980) argue that non-debt tax shields such as investment credits and depreciation are substitutes for debt tax shields. As a consequence, the presence of non-debt tax shields has a negative effect on leverage in firms. Moreover, increasing debt results in an increased possibility of bankruptcy, especially for smaller firms. The increased bankruptcy costs imply that smaller firms should use less debt (McConnell and Pettit, 1984; Pettit and Singer, 1985). Non-debt tax shields have a negative relation with a franchisor's leverage.

Dividend paying

Dividend-paying firms are usually less financially constrained than non-dividend-paying firms. According to the pecking order theory, unconstrained firms are expected to be less dependent on debt. Consequently, dividend paying is negatively related with franchisor leverage (Fama and French, 2002).

Percentage of franchised outlets

Finally, according to the arguments of capital scarcity, firms franchise in order to access scarce resources (financial and managerial ones), in order to expand rapidly (Oxenfeldt and Kelly, 1969). Franchisees are deemed to be a cheap financing resource: they supply capital through the franchise fee and their investment in individual outlets. Combs and Ketchen (1999) argue that franchisee capital can be even cheaper than the capital from financial markets due to the problem of adverse selection, which generates agency costs. If the above argument is true, franchisors with more franchised outlets would maintain a lower level of debt. Thus, the percentage of franchised outlets is negatively related with franchisor leverage.

2.3 Methods

2.3.1 Data

Our study uses two data sources. The first consists of information about the profiles of franchising firms operating in North America. This is obtained from the book "Bond's Franchise Guide 2001-2006", which gives detailed franchisor profiles. The book covers over 1,000 franchise chains operating in North America, providing information on franchise fee, royalty rate, advertising rate, etc. The second data source is COMPUSTAT, which contains the financial accounts of listed franchising firms. Due to the unavailability of financial information of non-listed firms, our study only covers listed franchising firms. We use COMPUSTAT to complement the financial information of the firms in Bond's Franchise Guide. Our dataset initially comprised 97 sample franchise firms over a six-year period (2001 to 2006), amounting to 493 cases. Due to the problems of missing values and outliers (Zscore>3.5), 58 firms were finally left for analysis, with 394 cases.

2.3.2 Variables

We use maximum franchisee's leverage (Max Leverage) as the proxy of franchisee's leverage due to the unavailability of actual franchisee's leverage. Max Leverage is measured as an outlet's total investment minus required franchisee's equity divided by the outlet's total investment.

The variables that determine the franchisee's leverage are defined as follows:

Outlet Size: the natural logarithm of outlet's total investment.
Franchise Age: the number of years the company has been in franchising.
Entry Fee: the amount of the upfront fee that the franchisee must pay to the franchisor to buy the franchise outlet.
Yearly Fee: the percentage of sales (including advertising fee) that franchisees pay to the franchisor.

Control variables like IFA Member, Cooperative Advertising, Financial Assistance and Lease Assistance are measured by dummy variables. Industry is also included as a control variable, and seven categories are defined: non-food retailing, regular restaurant,

take-out restaurant, specialty food, business service, consumer service, and other industries.

The franchisor's capital structure is described by its Leverage, which we define as total debt over the book value of total assets.

The variables that determine franchisor's capital structure are defined as follows:

Firm Size: the natural logarithm of the book value of total assets.

Tangibility: the ratio of fixed assets to total assets.

Market to book ratio: the market to book assets value.

NDTS (non-debt tax shields): the ratio of depreciation to total assets.

Profitability: the ratio of pre-depreciation operating income to total assets.

Dividend Paying: a dummy equaling one when the firm pays a dividend and zero otherwise.

Percentage Franchised: the ratio of franchised outlets to total number of outlets.

Deviation: the difference between the actual franchisee debt level and the optimal leverage, i.e. maximum franchisee leverage minus estimated franchisee target leverage.

2.3.3 Empirical results

Summary statistics

Tables 2-1 and 2-2 provide the summary statistics and correlation matrices of the variables in our study. The average maximum franchisee leverage is 0.61, which means that on average 61% of the initial total investments is allowed to be financed by debt. The franchisors' average experience in franchising is 26 years. A franchisee needs to pay a franchisor on average $26,837 in order to be granted authorization to hold the franchise. The franchisee also needs to pay 7.1% of the annual sales (including advertising fees) to the franchisor. On the other hand, the capital structures of the franchisors show that on average the assets are financed with 23.6% of debt. The average firm size is $5,900 in term of assets. On average 71.5% of the outlets are franchised.

Table 2-1: Summary Statistics - Franchisee

Panel A: Franchisee characteristics (N= 394)

Variable name	Variable description	Mean	Median	Std. Deviation
Maximum leverage	Initial total investment minus franchisee's equity divided by the initial total investment	0.610	0.664	0.212
Outlet size	Outlet's initial total investment (in 1000s of dollars)	15.775	11.741	12.477
Franchise age	The number of years the company has been in franchising	25.609	21.000	16.529
Entry fee	The amount of the upfront fee that the franchisee must pay to the franchisor to buy the franchise outlet	26.837	25.000	11.008
Yearly fee	Ongoing percentage of sales (including advertising fees) that franchisees pay to the franchisor	0.071	0.075	0.036
IFA member	Dummy if IFA member	0.518	1.000	0.500
Cooperative advertising	Dummy if cooperative advertising is allowed	0.706	1.000	0.456
Financial assistance	Dummy if financial assistance present	0.401	0.000	0.491
Lease assistance	Dummy if lease assistance present	0.589	1.000	0.493

Panel B: Franchisee Correlation Matrix (N= 394)

		1	2	3	4	5	6	7	8	9
1	Maximum leverage	1								
2	Outlet size	0.248 **	1							
3	Franchise age	0.108 *	0.023	1						
4	Entry fee	0.249 **	0.572 **	-0.074	1					
5	Yearly fee	0.072	0.081	0.131 **	0.310 **	1				
6	IFA member	0.185 **	0.017	0.006	0.004	0.022	1			
7	Cooperative advertising	-0.056	0.106 *	0.265 **	0.207 **	0.293 **	-0.022	1		
8	Financial assistance	-0.249 **	-0.099 *	-0.054	-0.190 **	0.095	0.043	0.165 **	1	
9	Lease assistance	0.136 **	-0.045	-0.180 **	0.055	0.011	0.019	0.230 **	0.273 **	1

** Correlation is significant at the 0.01 level 2-tailed.

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

Table 2-2: Summary Statistics - Franchisor

Panel A: Franchisor characteristics (N = 290)

Variable name	Variable description	Mean	Median	Std. Deviation
Market leverage	Total debt over the market value of total assets	0.236	0.161	0.239
Firm size	Book value of total assets (in millions of dollars)	5,899	400	26,342
Tangibility	Ratio of fixed assets to total assets	0.369	0.326	0.264
MTB	Market value to book value	2.119	1.692	1.424
Profitability	Pre-depreciation operating income to total assets	0.175	0.165	0.137
Dividend paying	Dummy if dividend paid	0.348	0.000	0.477
NDTS	Ratio of depreciation to total assets	0.064	0.053	0.063
Percentage franchised	Ratio franchised outlets to total number of outlets	0.715	0.801	0.271

Panel B: Franchisor Correlation Matrix (N= 290)

		1	2	3	4	5	6	7	8
1	Market leverage	1							
2	Firm size	-0.075	1						
3	Tangibility	0.271 **	-0.138 *	1					
4	MTB	-0.255 **	-0.078	-0.043	1				
5	Profitability	-0.155 **	-0.105	0.300 **	0.590 **	1			
6	Dividend paying	-0.216 **	0.007	-0.173 **	0.121 *	0.147 *	1		
7	NDTS	0.153 **	-0.149 *	0.491 **	-0.069	0.460 **	-0.049	1	
8	Percentage franchised	-0.288 **	0.160 **	-0.513 **	0.079	-0.106	0.095	-0.241 **	1

** Correlation is significant at the 0.01 level 2-tailed.

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

Determinants of the franchisee's maximum debt ratio

The first aim is to investigate the role of outlet's characteristics in determining the franchisee's leverage by estimating the following pooled ordinary least squares regression:

$$Max\ Leverage = \beta_0 + \beta_1 Outlet\ Size + \beta_2 Franchsie\ Age + \beta_3 Entry\ Fee + \beta_4 Yearly\ Fee + \beta_5 IFA\ Member + \beta_6 Cooperative\ Advertising + \beta_7 Financial\ Assistance + \beta_8 Lease\ Assistance + \varepsilon$$

Table 2-3 contains the hypotheses and regression results. In model (1) we run a regression of outlet-specific factors on the franchisee's leverage. A firm's Industry has a strong effect on the franchisee's leverage level. Among the six industries included, four industries show significant influence. Specialty Food (t = 6.432), Non-Food Retailing (t = 2.177) and Regular Restaurant (t = 1.935) have a positive impact on franchisee leverage, whereas Business Service (t = -3.340) has a negative effect. An obvious reason for this is that the first three industries need a large amount of investment in fixed assets, while a purely service industry requires less. Fixed assets can be used as collaterals, resulting in lower agency costs and bankruptcy costs, leading in turn to higher debt ratios. Furthermore, Outlet Size shows a strong and positive effect (t = 2.963) on the franchisee's leverage. Thus, our result supports the conventional argument that debt increases with firm size due to the fact that larger firms face lower financing transaction costs, less financial distress and lower bankruptcy costs; while the argument that larger franchising outlets may have lower debt due to the increased investment in specific assets is not supported by our data. Furthermore, we also find a statistically significant result for the variable Franchise Age, which has a strong and positive effect (t = 3.320). This means that the franchise chain's experience does offer franchisees more security or more access to the financial markets, and accordingly leads franchisees to a higher leverage. Entry Fee and Yearly Fee do not show any significant impact on franchisee's leverage. We conclude that franchise fee and yearly fee do not influence a franchisee's capital structure.

Table 2-3: Franchisee Leverage

		Maximum Leverage	
		(1)	(2)
Constant		0.225***	0.156
		(2.700)	(1.896)
Specialty food		0.142***	0.132***
		(6.432)	(4.620)
Retailing (non-food)		0.089**	0.056
		(2.177)	(1.574)
Restaurant (regular)		0.038*	0.041**
		(1.935)	(2.037)
Restaurant (take-out)		0.013	-0.008
		(0.425)	(-0.261)
Service industry (business)		-0.170***	-0.130**
		(-3.340)	(-2.417)
Service industry (consumer)		-0.010	-0.023
		(-0.284)	(-0.564)
Outlet size	+/-	0.073***	0.076***
		(2.963)	(3.484)
Franchise age	+	0.046***	0.064***
		(3.320)	(4.060)
Entry fee	-	0.207	0.120
		(1.487)	(0.895)
Yearly fee	+	-0.129	0.230
		(-0.393)	(0.691)
IFA member			0.074***
			(3.974)
Cooperative advertising			-0.056**
			(-2.199)
Financial assistance			-0.090***
			(-4.153)
Lease assistance			0.084***
			(3.800)
Adjusted R^2		0.239	0.316
Observations		394	394

This table presents the hypotheses and regression results for the determinants of the maximum franchisee debt ratio. The second column contains the expected signs, where '+' implies an expected positive effect and '-' implies an expected negative effect. We employ Newey-West standard errors to control for heterogeneity and autocorrelation. T-statistics are reported in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

In model (2), we include the four dummy variables, IFA Member, Cooperative Advertising, Financial Assistance and Lease Assistance. After adding these four variables, the model is stable, the coefficients and the significance levels of the remaining major variables are very similar to those in model (1) except for non-food retailing. More importantly, the four new control variables added have very significant results. Firstly, IFA Member has a positive impact (t = 3.947) on franchisee's leverage. This confirms that IFA members do face less risk and offer better performance, and that franchisees in the network can raise more debt. In line with our expectations, franchisors will ask franchisees to put more equity in the investment in order to counterbalance the moral hazard risk due to allowing cooperative advertising: the variable Cooperative Advertising also has a significantly negative influence (t = -2.199) on the franchisee's debt level. Financial Assistance has a significant result (t = -4.153). Finally, Lease Assistance also significantly and positively (t = 3.800) affects the franchisee's debt level.

In order to test the hypotheses on the interaction between franchisor's and franchisee's capital structure, we need to predict the optimal franchisee's leverage. We separately predicted the franchisee's optimal leverage based on models (1) and (2), and did a pair sample t-test. We found no statistically significant difference between the two predicted leverages and decided to continue with model (2) for further analysis.

Determinants of the franchisor's capital structure

In this section we perform regression analyses of chain-specific factors on franchisor's capital structure, based on standard capital structure theories. To estimate the franchisor's leverage, we use the following regression model:

$$Franchisor\ Leverage = \beta_0 + \beta_1 FirmSize + \beta_2 Tangibility + \beta_3\ Future\ Growth + \beta_4 Profiability + \beta_5 Non\text{-}debt\ tax\ shields + \beta_6 Dividend + \beta_7 Percentage\ Franchised + \beta_8 Deviation + \varepsilon$$

Table 2-4: Regression results for Franchisor Leverage

		Market leverage			
		(1)	(2)	(3)	(4)
Constant		0.222***	0.180***	0.311***	0.311***
		(4.506)	(3.476)	(3.883)	(3.911)
Firm size	+	0.001	0.011**	0.011*	0.012*
		(0.187)	(1.988)	(1.904)	(1.862)
Tangibility	+	0.286***	0.225***	0.146**	0.142*
		(4.010)	(2.782)	(1.973)	(1.812)
MTB	-	-0.022	-0.013	-0.012	-0.012
		(-1.641)	(-0.752)	(-0.704)	(-0.750)
Profitability	-	-0.277	-0.353	-0.350	-0.346
		(-1.450)	(-1.429)	(-1.466)	(-1.467)
Deviation	-	-0.218***	-0.196***	-0.173**	
		(-2.972)	(-2.696)	(-2.163)	
Dividend paying			-0.087***	-0.087***	-0.084***
			(-3.302)	(-3.405)	(-3.478)
NDTS	-		0.384	0.399	0.408
			(0.839)	(0.856)	(0.871)
Percentage franchised	-			-0.146**	-0.148**
				(-2.251)	(-2.310)
Deviation*Chainlow	+				-0.129
					(-0.950)
Deviation*Chainhigh	-				-0.233**
					(-2.575)
Adjusted R^2		0.155	0.175	0.192	0.191
Observations		290	290	290	290

This table presents the hypotheses and regression results for the determinants of franchisor's leverage. The number of observations is lower than in the franchisee regression since in some cases multiple franchisee chains belong to one franchisor. For a franchisor with multiple franchisees in a given year, we take the average deviation. Chainhigh: If Percentage franchised > median then chainhigh is 1, else zero. Chainlow: If Percentage franchised < median then chainlow is 1, else zero. The second column contains the expected signs, where '+' implies an expected positive effect and '-' implies an expected negative effect. We employ Newey-West standard errors to control for heterogeneity and autocorrelation. T-statistics are reported in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% level, respectively.

Table 2-4 contains the hypotheses and regression results regarding franchisor's leverage. In model (1) we firstly test the franchisor's leverage based on classical capital structure theories following Rajan and Zingales (1995) and add the variable deviation. First of all, we find that the variable Deviation has a very strong and negative (t = -2.972) impact on franchisor's leverage, which is in line with H1, that the franchisor's total debt level is negatively affected by the setting of the franchisee's debt level. This confirms that the franchisor does aim to impose a lower limit on franchisee's debt level so that they can raise more debt and seize tax benefits. Moreover, as we expected, the coefficient of Tangibility is statistically significant (t = 2.658) and consistent with our prediction: tangible assets can be used as collaterals and mitigate the lender's risks of suffering agency costs and bankruptcy costs, which leads to more debt. Finally, Firm Size, MTB and Profitability do not have any significant influence on franchisor's leverage.

In model (2), we add two more variables: Dividend Paying and NDTS. Dividend Paying shows a strongly significant and negative effect (t = -3.302) on franchisor leverage, which implies that dividend paying firms have higher retained earnings and therefore prefer internal financing to outside financing. NDTS has no impact on franchisor leverage. Moreover, the coefficients of other variables, except Size, in specification (2) remain stable as in specification (1), which proves that our results are robust. Size turns out to have a positively strong impact on franchisor's leverage, which is line with our prediction that firm size is positively related with leverage, since large firms are more diversified and face less financial distress and lower bankruptcy risks.

In model (3), the variable Percentage Franchised is added to test the capital scarcity view. A strong and negative correlation (t = -2.251) is found for Percentage Franchised. This corroborates our prediction that franchisors with more franchised outlets would keep a lower level of debt because franchisee capital can be even cheaper than the capital from financial markets. Model (4) is an extension of model (3), with the interaction terms of Deviation and Chainlow / Chainhigh. These terms are included in order to test the different effects of Deviation in high/low numbers of franchised units. The reason for these terms is that compared with chains with less franchised units, the franchisor in a chain with more franchisees faces even less financial distress by requesting the franchisee

to bear a low debt level. Consequently, the franchisor can raise comparatively more debts. The results in model (4) confirmed our prediction. The interaction term Deviation*Chainhigh is found to have a negatively significant (t = -2.575) impact on franchisor's leverage, whereas Deviation*Chainlow has no influence. This result confirms our H2, that the percentage of franchised outlets versus wholly-owned outlets strengthens the negative relation between franchisee's leverage and franchisor's leverage.

2.4 Conclusions

In this study, we investigate the determinants of franchisee's and franchisor's capital structures and propose that the strategic use of franchisee's capital structure affects the franchisor's decision of financing and its potential influence on the propensity to franchise. The primary goal of this study is to examine whether franchisors impose a limit on the franchisee's debt level in order to take tax benefits, and consequently how this affects the franchisor's financing decision. Secondly, the study also investigates what factors affect the franchisee's and the franchisor's capital structures. The results of this study provide empirical support for Fraja and Piga (2004)'s model, that in a vertical relationship the upstream party strategically uses the downstream party's debt level to reduce operating risk and raise profits.

We find evidence supporting our primary prediction that the franchisor's capital structure is interrelated with the franchisee's capital structure. We find that the franchisor's leverage is negatively related to the deviation between the franchisee's actual leverage and optimal leverage. This confirms our prediction that as the franchisor sets a higher level of franchisee's equity requirement, the franchisor does intend to raise more debt and seize tax benefits. This may also provide a subtle motive for franchisors to franchise. Furthermore, we also find that this effect is more significant in the group with more franchised units.

Moreover, our results supply a preliminary understanding of the determinants of franchisee's capital structure. We find that the outlet-specific factors like outlet size and franchise age significantly affect the franchisee's debt ratio. Larger outlets and longer franchise experience can lead to a higher debt level. Furthermore, we find that the industry

plays a very important role in affecting franchisee's capital structure. Industries like Specialty Food, Non-Food Retailing and Regular Restaurant require less equity financing, whereas the Business Service industry requires more.

As for the franchisor's leverage, our study corroborates the predictions of standard capital structure theories. We find that the impact of firm-specific factors like size, tangibility, dividend paying and percentage of franchised outlets are significant and consistent with the predictions of conventional capital structure theories, like tax and bankruptcy theory, static trade-off theory, pecking order theory, etc. Moreover, the study adds a new but subtle way of studying the franchising propensity in addition to the previous propositions based on agency theory and the resource based view. Different from the resource scarcity argument, we do not propose that acquiring franchisee capital is a major motive for franchisors to franchise. Our results suggest that the strategic manoeuver of franchisee's capital structure and obtaining tax benefits could be used by franchisors to increase firm value, which may subtly affect their franchising propensity.

Despite the contribution of this study, there exist a few limitations to it, which may suggest some potential topics for future studies. Firstly, the firms examined in the sample are all publicly traded companies. These companies are usually large and well developed. The strategic use of franchisee's debt for tax benefits may have a different impact on small firms compared to large public firms. Future studies should be conducted to see if this proposition holds for small firms. Secondly, the influence of long-term versus short-term debt was not considered. In the future, maturity structure should be incorporated into the model as well. Thirdly, the study uses the pooled regression method due to the limited sample size. A panel data study would contribute to a deeper understanding, but this requires a larger sample size.

3 THE DETERMINANTS OF LEVERAGE AND MATURITY IN FRANCHISING: EVIDENCE IN THE NETHERLANDS

3.1 Introduction

Ever since Oxenfeldt and Kelly (1969) proposed that firms franchise in order to access scarce financial and managerial resources, many researchers have questioned their point of view (e.g. Norton, 1995 and Rubin, 1978). Rubin (1978) argued that franchisees faced more undiversified investment risks when investing a significant portion of their personal wealth in one or a few outlets. As a result, it is more likely that the franchisee will demand a risk premium on their capital above what passive investors might expect. However, in Chapter Two we reinvestigated the role of financing in franchising and proposed that franchisee financing might be used strategically to increase firm value, which may have a subtle impact on organizations' propensity to choose a franchising structure. We suggest that organizations choose to franchise in order to benefit from the opportunity to allow franchisees to have a shield against operational risks, such that the franchisor can bear more debt and enhance their value by taking tax-deduction benefits in interest payments. In Chapter Two, we found that the franchisor's leverage was negatively related to the franchisee's maximum leverage allowed by the franchisor. Thus, as the franchisor sets an upper limit on the franchisee's debt ratio, the franchisor can raise more debt and therefore gains tax benefits since interest payments are tax deductible.

In this chapter, we will further investigate the propositions raised in Chapter Two for three purposes. Firstly, we will base our study on Dutch franchising firms in order to check the robustness and the generalizability of the propositions. Secondly, we will look further into the composition of franchisor's leverage – long-term debt vs. short-term debt. Thirdly, our study will also shed light on the capital structure literature focusing on SMEs.

This is due to the fact that the franchising firms in our sample are mainly small and medium-sized enterprises.

We construct our sample through two resources: De Nationale Franchise and Formulegids 2005 and Review and Analysis of Companies in Holland (REACH). 122 Dutch franchising firms are included in our sample. We find in our results that outlet-specific factors like outlet size, hard type franchising and non-food retailing industry can significantly affect the franchisee's optimal leverage ratio. And the firm-specific factors like tangibility, past growth and liquidity have a significant impact on the franchisor's leverage, which corroborates the predictions of conventional capital structure theories. As for the franchisor's maturity, we find that it is positively influenced by future growth opportunity and non-debt tax shields. And our empirical evidence supports the major prediction that a franchisor's maturity is affected by the franchisee's leverage. It is found that franchisor's maturity is positively related to the deviation between franchisee's actual leverage and the optimal leverage.

The structure of this chapter is as follows. Section 3.2 discusses the existing literature and hypotheses are developed. Section 3.3 describes our data set and the definitions of the variables. Section 3.4 provides summary statistics and the regression analyses. Section 3.5 concludes.

3.2 Literature Review and Hypotheses

This section studies the determinants of franchisee's and franchisor's capital structure and their possible relationships. The hypotheses are established regarding the limit of the franchisee's debt level and its impact on the franchisor's leverage and maturity structure choice. The determinants of the franchisor's leverage and maturity are discussed based on standard capital structure considerations under a franchising setting. Moreover, since our sample merely covers small and medium franchising firms in the Netherlands, some hypotheses are adjusted according to the characteristics of SMEs.

3.2.1 Interaction between Franchisor's and Franchisee's Capital Structure

In Chapter Two, we proposed that the franchisor's and franchisee's leverage are interrelated, either positively or negatively. And it was finally found that the franchisor's leverage was negatively related to franchisee's leverage. We concluded that as the franchisor sets an upper limit on the franchisee's debt ratio, the franchisor can raise more debt and therefore gains tax benefits since interest payments are tax deductible. And this relationship was also found to be stronger when the fraction of franchised outlets relative to the number of wholly owned outlets was larger.

It is hypothesized that the franchisor's and franchisee's leverages are negatively related based on the studies of Fraja and Piga (2004) and Williamson (1989). As for the phenomenon that the franchisor imposes a limitation on the franchisee's debt financing, Williamson (1989) explained this as a device against one-sided moral hazard. He argued that franchisees are more likely to shirk on responsibility or cheat on quality when they are allowed to have a higher level of equity financing, since the punishment is transferred to equity lenders instead of the franchisees. Therefore the franchisor will require the franchisees to finance a specific fraction of the total initial investment with a larger amount of personal wealth. Fraja and Piga (2004) proposed a model explaining that debt can be strategically used to hedge against operating risks. They suggested that in a vertical relationship the upstream party should impose a limit on the downstream party's debt level, because debt financing can increase the downstream party's bankruptcy risks and consequentially reduce the upstream party's expected profits. Based on this model, we propose that in a franchising relationship the franchisor can raise their leverage in order to take tax advantage, as the franchisee's maximum leverage is set below the optimal level. We therefore predict that:

H1a: The deviation between the franchisee's actual leverage and the optimal level is negatively related to the franchisor's leverage.

Norton (1995) proposed that the debt level incurred by franchisees can be used as a screening and bonding device to select qualified franchisee candidates. In addition, Gallini

and Lutz (1992) suggested that a potential franchisees may raise more debt to signal their capability and that the franchisor may also use high debt to signal to franchisees their quality and credible commitment to the brand name capital. The high failure risk induced by debt motivates both parties to align their incentives with each other. When the franchisor requires the franchisee to bear a higher debt level in order to bond them with the outlet's performance, the franchisor will also attempt to maintain a higher leverage to show their commitment. Therefore, we predict that the franchisee's leverage can also be positively related to the franchisor's leverage, i.e. the higher the franchisee's leverage above the optimal level, the higher the franchisor's debt level. We thus predict that:

H1b: The deviation between the franchisee's actual leverage and the optimal level is positively related to the franchisor's leverage.

Another important factor in the capital structure literature is a firm's maturity structure. This is related to how the firm chooses long-term vs. short-term debt. The choice of debt maturity structure is important to firms, because a bad choice of maturity may lead to the inefficient liquidation of a project with positive net present value. This is because short-term debt may cause inefficient liquidation. And thus good firms prefer a combination of short- and long-term debt due to the liquidity risk (Diamond, 1993). Firms can also use it as a signaling device to provide information regarding firm quality, credibility and growth prospects. According to signaling models, under- (over-) valued firms issue short- (long-) term debt to signal their under- (over-) valuation. It has also been suggested that maturity structure can be used to minimize taxation. Leland and Toft (1996) suggested that firms choosing higher leverage also opt for longer maturity. Morris (1992) proposed that firms tend to issue more long-term debt when they are bearing a higher debt level so as to delay their exposure to bankruptcy risk. We suggest that the franchisor will prefer long-term debt over short-term debt to reduce bankruptcy risk. Therefore, as the franchisee is asked to bear less debt, and the franchisor increases his leverage to seize tax benefits, the franchisor will tend to choose longer maturity. Likewise, the franchisor will also prefer longer maturity to signal his quality and commitment when using the franchisee's debt ratio as a screening device. Thus, we predict that:

H2: The deviation between the franchisee's actual leverage and the optimal level is positively related to franchisor's maturity.

3.2.2 Franchisee's Capital Structure

In Chapter Two, we found Outlet Size, measured by total initial investment, has a strong and positive impact on the franchisee's debt level. We predict that outlet size can either positively or negatively affect leverage. We argue that the franchisor will allow the franchisee to have less debt as total investment goes up, because the franchisee may face more undiversified investment risk. Therefore, a higher initial investment or larger outlet size will lead to lower franchisee leverage. On the other hand, we also predict that larger outlet size may lead to more debt financing. According to the traditional capital structure theories, larger firms are less likely to face financial distress and bankruptcy. Consequently, the franchisor may allow the franchisee with more debt financing.

The degree of freedom for the franchisee depends on the business format. Hard franchising entails less freedom and more brand marketing, standardization and support. Soft franchising offers more freedom, but also brings more risks with it: as each franchisee exploits their freedom, the business format is weaker, which leads to a loss of competitive advantage. Since hard franchising implies more security and soft franchising may bring more risks, franchisees under hard franchising are allowed to have more debt than those under soft franchising. Thus, hard franchising is positively related with franchisee leverage and soft franchising is negatively related with franchisee leverage.

It is predicted that entry fee is negatively related to franchisee leverage while yearly fee is positively related with this. The yearly fee gives franchisors the incentive to devote themselves to the actions that may improve franchisees' sales because the franchisor's revenues are tied to the franchisees' performance (Sen, 1993). Therefore, it is believed that franchisees belonging to a franchise chain with a high royalty rate may be allowed more debt financing. On the other hand, the franchise fee is proposed to be positively related to

the level of franchisor specific investment (Lafontaine, 1992; Dnes, 1992 and Bercovitz, 1999). And franchise fees increase with the franchisee's firm-specific investment, which increases the debt financing costs. Therefore, it is predicted that there is a negative relation between franchise fee and franchisee's leverage.

The franchisor's experience in franchising also affects the franchisee's debt level. The number of years a franchisor is active in the franchise business reflects their experience and financial position. The franchisor has acquired outlet-specific knowledge and capabilities, has accumulated great brand name capital, and thereby faces fewer problems of capital scarcity. Therefore, franchisors with more franchising experience are less likely to fail compared with young franchisors, which gives business security to the franchisees in the chain. Thus it is proposed that franchisees in a more experienced franchise network can be allowed to have comparatively higher leverage.

Lastly, top geographical locations usually entail lower failure rates. Thus top location mitigates the risks from debt financing. Franchisees at top locations are expected to be allowed to finance more with debt, which leads to a higher leverage. Therefore, location is positively related to franchisee leverage.

3.2.3 Franchisor's Leverage

Modigliani and Miller (1963) suggest that debt financing should be preferred because firms can benefit from the tax deductibility of interest payments. However, there are other sources of tax deductibles besides debt interest payments. For example, depreciation and investment tax credits are also tax deductibles; they are often defined as non-debt tax shields (NDTS). DeAngelo and Masulis (1980) argue that non-debt tax shields are substitutes for the tax benefits of debt financing and therefore less debt is expected to be used in a firm with larger non-debt tax shields. Moreover, increasing debt results in an increased possibility of bankruptcy, especially for smaller firms. The increased bankruptcy costs imply that small firm should use less debt (McConnell and Pettit, 1984; Pettit and Singer, 1985). As a consequence, there is a negative relation between NDTS and leverage.

Several theories suggest that tangibility is positively related to leverage. In Jensen and Meckling (1976)'s paper regarding agency costs and capital structure, they point out that the agency costs arise as the firm may turn to riskier investments after issuing debt, and wealth is therefore transferred from debt holders to shareholders. Such kind of agency costs can be reduced by raising debt secured by tangible assets. Tangible assets can be used as collateral, which can prevent the lender from suffering such kind of risk. Furthermore, bankruptcy cost theory also supports the above relation. Williamson (1988) and Harris and Raviv (1990) suggest that leverage should increase with liquidation value. Since the value of tangible assets is higher than intangible assets in the cases of bankruptcy, leverage is expected to be positively correlated with tangibility. Therefore, firms possessing more fixed assets with a higher collateral value will have more debt in their capital structure.

According to agency theory, a negative relation between growth and leverage is expected since agency costs for growing firms are expected to be higher, as these firms have more flexibility regarding future investments. Debtholders fear that such firms aim to invest in projects that only benefit shareholders at the expense of debtholders. Deeming their investments at risk in future, debtholders in turn will react with the use of covenants and monitoring devices. This is especially the case in growth firms since they have more flexibility in the choice of future investments (Titman and Wessels, 1988). Debtholders will impose higher costs when lending to growing firms. So, growing firms facing higher costs of debt will use less debt and more equity. We therefore predict that past growth and future growth opportunity are both negatively related to leverage.

Liquidity represents the ability of a firm to cover its short-term liabilities. Pecking order theory predicts that firms with high liquidity will borrow less. In addition, liquid assets can be in favor of shareholders at the expense of debtholders, and the agency costs are accordingly increased (Deesomsak et al., 2004). Thus, a negative relation between liquidity and leverage is expected.

Small firms are observed to have less debt than large firms. This is due to several reasons. The main reason is that small firms may face more asymmetric information

problems. Agency costs tend to be higher as bonding and monitoring are more difficult. A reduced ability to signal also increases the costs associated with solving the problem of larger asymmetric information for small firms. Furthermore, small firms tend to be less diversified than large firms, and this increases the chances of financial distress. Large firms also have relatively lower direct costs of bankruptcy (McConnell and Pettit, 1984). Consequently, small firms can access less capital, or they are offered capital at considerably higher costs than to large firms, which discourages the use of debt financing. Thus, firm size is positively related to franchisor's leverage.

Empirically, there is much controversy about the relation between firm age and level of leverage. Theories on asymmetric information predict that firm age is negatively related with leverage. Aged firms will have more retained earnings than younger firms and will thus prove their credibility by financing new investment with the accumulated earnings rather than borrowing. Petersen and Rajan (1994) confirmed the above proposition by finding that older firms have less debt. Agency theory suggests the opposite. It is suggested that aged firms' information asymmetry is largely reduced and consequentially so are agency costs. Petersen and Rajan (1994) propose that if a firm has a more established relation with financial institutions the availability of finance increases, and this reduces the costs of credit to firms. Thus, we predict that firm age is either negatively or positively related to franchisor's leverage.

According to the arguments from capital scarcity in the franchising literature, firms franchise in order to access scarce resources, mainly financial and managerial resources, in order to expand rapidly. Franchisees are deemed to be a cheap financing resource, as they supply capital through the franchise fee and their investment in individual outlets. Combs and Ketchen (1999) argue that franchisee capital can be even cheaper than capital from financial markets due to the problem of adverse selection, which generates agency costs. If the above argument is true, franchisors with more franchised outlets would maintain a lower level of debt.

3.2.4 Franchisor's Maturity

As mentioned above, maturity structure is also an important factor affecting a firm's value. In this section, we will discuss the factors affecting the franchisor's maturity structure.

It has been a common argument that smaller firms are expected to have higher agency costs than larger firms. Barnea, Haugen and Senbet (1980) suggest that issuing more short-term debt can diminish such kinds of agency costs, which implies that smaller firms with potentially more agency problems are expected to have more short-term debt. Moreover, larger firms are believed to have fewer asymmetric information problems, higher collateralizable assets relative to future investment opportunities, and thus, easier access to long-term debt markets (Titman and Wessels, 1988). Smaller firms face more difficulties of accessing long-term debt markets because they generally possess fewer tangible assets relative to future investment opportunities (Whited, 1992). Moreover, following the same reasoning as for firm size, older firms might have established a good reputation with lower levels of asymmetric information and fewer agency problems, and therefore have better access to the long-term capital markets. Accordingly, firm age is expected to be positively related with franchisor's maturity.

Myers (1977) suggests that the underinvestment problem can possibly be moderated by employing more short-term debt. In addition, Flannery (1986) proposes that firms can signal quality to the market through issuing short-term debt. As a consequence, the high information costs coming with long-term debt can be avoided. This leads to the prediction of a negative relation between long-term debt and future growth opportunities. However, a positive relation between the two variables is predicted by the liquidity risk argument. Diamond (1991) argues that firms with growth options can hedge against risks of inefficient liquidation by issuing long-term debt. Therefore, future growth opportunity is either negatively or positively related to the franchisor's debt maturity.

Theoretically, non-debt tax shields only affect a firm's debt ratio and would not affect its maturity structure. However, in practice, NDTS induce firms to have less interest bearing debt and more equity, but also more non-interest bearing debt. Normally, the non-

interest bearing debts are short term. Therefore, more NDTS lead to less long-term debt and lower maturity. Thus, NDTS is negatively related with maturity.

Following the above-mentioned capital scarcity theory, franchisees are deemed as an inexpensive financing resource: they supply capital through the franchise fee and their investment in individual outlets. Since franchisees are usually granted franchise with long-term contracts, the franchisor and franchisee can maintain a stable and constant relationship. Therefore, franchisee capital could be a good substitute for long-term debt. Franchising chains with more franchised outlets are able to bear less long-term debt. Consequently, the percentage of franchised outlets is negatively related with maturity.

3.3 Data and Variables

3.3.1 Data

Our study uses two data sources. The first consists of information about profiles of franchising firms operating in the Netherlands. This is obtained from the book "De Nationale Franchise and Formulegids 2005", which gives detailed franchisor profile information regarding 2004. The book covers 650 Dutch franchise chains, providing information on franchise fee, royalty rate, advertising rate, etc. The second data source is REACH, which contains the financial accounts of 1.7 million Dutch organizations. We use REACH to complement the financial information of the above firms, and 438 firms in the book are identified in REACH. Due to the problems of missing values and mismatches, 167 firms were finally left in the common sample. Since we limit our study to the category of SMEs and capital structure, we further remove the firms meeting the following criteria: (1) more than 500 employees[9]; (2) financial firms[10] (such as banks and insurance companies); (3) cooperatives. The number of firms making up our sample amounts to 122 (81 when franchise fee and yearly fee are included).

[9] According to the United States Small Business Administration (SBA), the definition of a small firm is one with fewer than 500 employees.

[10] Firms in the financial industry have a quite different asset mix in comparison to other firms, due to their nature.

3.3.2 Variables

We measure maximum franchisee's leverage (Max Leverage) as an outlet's total investment minus required franchisee's equity over outlet's total investment. And the variables that determine franchisee's leverage are defined as follows. Outlet Size is measured as the natural logarithm of outlet's total investment. Franchise Age is measured as the number of years the company has been in franchising. Entry Fee is measured as the natural logarithm of the amount of the up-front fee that the franchisee must pay to the franchisor to buy the franchise outlet. Yearly Fee is measured as the percentage of sales (including advertising fees) that franchisees pay to the franchisor. Franchising Type is the dummy variable regarding hard or soft franchising. Location is the dummy variable regarding top locations. Industry is included as a control variable, and we define it based on the classification of the NFV (Netherlands Franchise Association). Five categories are defined: food retailing, non-food retailing, service, catering, and other industries.

We measure the franchisor's capital structure by two aspects. Firstly, a firm's capital structure is described in terms of its Leverage, which we define as total debt over the book value of total assets. Secondly, in order to highlight the differences between long-term and short-term debt, we also consider the measure Debt Maturity. We measure debt maturity as the ratio of long-term debt to total debt, which separates the debt maturity decision from the leverage decision (Barclay and Smith, 1995). The variables that determine franchisor's capital structure are defined as follows. Firm Age is measured as the natural logarithm of the number of years since incorporation. Firm Size is measured as the natural logarithm of the book value of total assets. Past Growth is measured as the percentage change of total assets compared to the previous year. Fixed Assets is measured as the ratio of fixed assets to total assets. Future Growth is measured as the ratio of intangible assets to total assets. NDTS (non-debt tax shields) is measured as the ratio of provisions[11] to total assets. Liquidity is measured as the ratio of current assets to current liabilities. Chain Structure is measured as the ratio of franchised outlets to total number of

[11] In The Netherlands, provision for bad debt and pension liability is fully deductible against the corporate income, and therefore can be seen as an important non-debt tax shield.

outlets. Deviation measures the difference between the actual franchisee debt level and the optimal leverage. More specifically, it is defined as

$$Deviation = \frac{Actual\ Leverage - Predicted\ Leverage}{Predicted\ Leverage}$$

3.3.3 Empirical Results

Table 3-1 provides summary statistics and Tables 3-2 and 3-3 separately provide franchisee and franchisor variables' correlation matrices.[12] The average maximum franchisee leverage is 0.679, which means that on average 67.9 percent of the initial total investments is allowed to be financed by debt. And the average total investment for opening an outlet is €188,905. The franchisors' average experience in franchising is 13 years. A franchisee needs to pay a franchisor on average €7,486 in order to be granted with a franchise authorization. The franchisee also needs to pay 3.8% of the annual sales (including advertising fees) to the franchisor. On the other hand, the capital structure of the franchisors shows that on average the assets are financed with 84.9% of debt; and the average firm has 17.4% of its total debt maturing in more than one year. This indicates that the assets of the firms in our sample are largely financed by debt, but mostly by short-term debt instead of long-term. The average firm age is 19 years and the average firm size is €8,248 in term of assets, which indicates that the firms in the sample are generally young and small. And on average 80.4 % of the outlets are franchised.

[12] A problem in our sample is the presence of outlier observations (such as an asset growth of 196 percent in one year). To minimize the influence of these outliers in our analysis, we cap the outliers at three times standard deviation from their means.

Table 3-1: Summary Statistics

Panel A: Franchisee characteristics (N= 122)

Variable name	Variable description	Mean	Median	Std. Deviation
Max Leverage	Maximum franchisee debt ratio, which is defined as outlet total investment minus franchisee's equity over outlet total investment	0.679	0.750	0.214
Outlet Size	Outlet total investment	188905	125000	212465
Franchise Age	The number of years the company has been in franchising	12.83	10.00	8.744
Entry Fee	The amount of the up-front fee that the franchisee must pay to the franchisor to buy the franchise outlet (106 observations)	7485	5000	7226
Yearly Fee	Ongoing percentage of sales (including advertising fees) that franchisees pay to the franchisor (86 observations)	0.038	0.030	0.031
Hard	Dummy variable for hard franchising	0.525	1.000	0.501
Soft	Dummy variable for soft franchising	0.475	0.000	0.501
Location	Dummy variable for top locations	0.730	1.000	0.446
RT-Food	Industry dummy of retail food	0.148	0.000	0.356
RT-Nfood	Industry dummy of retail non-food	0.500	0.500	0.502
Service	Industry dummy of Service	0.156	0.000	0.364
Catering	Industry dummy of Catering	0.131	0.000	0.339
Other	Industry dummy of Other industries	0.066	0.000	0.249

Note: The full sample contains 122 observations except that EntryFee and YearlyFee respectively contain 106 and 86 observations.

Panel B: Franchisor characteristics (N = 122)

Variable name	Variable description	Mean	Median	Std. Deviation
Leverage	Total debt over the book value of total assets	0.849	0.704	0.651
Maturity	Ratio of long-term debt to total debt	0.174	0.051	0.242
Age	The number of years since incorporation	19.12	14.50	18.951
Firm Size	Book value of total assets	8248	1794	16746
Past Growth	Percentage increase of total assets	0.573	0.048	2.247
Fixed Assets	Ratio of fixed assets to total assets	0.303	0.253	0.245
Future Growth	Ratio of intangible assets to total assets	0.039	0.000	0.071
NDTS	Ratio of provisions to total assets	0.040	0.000	0.088
Liquidity	Ratio current assets to current liabilities	1.707	1.241	2.359
Chain Structure	Ratio franchised outlets to total number of outlets	0.804	0.947	0.285

Table 3-2: Franchisee Correlation Matrix (N= 122)

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Max Leverage	1												
2	Outlet Size	0.015	1											
3	Franchise Age	0.001	-0.015	1										
4	Entry Fee	-0.117	0.395**	-0.246*	1									
5	Yearly Fee	-0.115	-0.115	-0.049	0.304**	1								
6	Hard	0.127	-0.005	-0.009	0.17	0.138	1							
7	Soft	-0.137	-0.113	0.096	-0.181	-0.102	-0.653**	1						
8	Location	0.047	-0.087	-0.101	0.035	-0.012	0.270**	-0.157	1					
9	RT-Food	-0.027	-0.195*	0.008	-0.167	-0.02	-0.02	0.051	0.045	1				
10	RT-Nfood	0.222*	-0.049	0.027	-0.246*	-0.064	-0.131	0.073	0.055	-0.416**	1			
11	Service	-0.214*	-0.044	0.034	0.240*	0.224*	0.001	-0.065	-0.095	-0.179*	-0.429**	1		
12	Catering	-0.01	0.275**	-0.054	0.217*	-0.085	0.224*	-0.133	0.073	-0.162	-0.389**	-0.167	1	
13	Other	-0.082	0.066	-0.044	0.133	-0.036	-0.013	0.057	-0.137	-0.11	-0.265**	-0.114	-0.103	1

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 3-3: Franchisor Correlation Matrix (N= 122)

		1	2	3	4	5	6	7	8	9	10
1	Leverage	1									
2	Maturity	0.334**	1								
3	Age	-0.142	0.165	1							
4	Size	-0.183*	-0.095	0.250**	1						
5	Past Growth	-0.122	0.006	-0.144	-0.11	1					
6	Fixed Assets	0.193*	0.410**	-0.063	0.013	0.131	1				
7	Future Growth	0.04	0.132	-0.207*	0.007	-0.073	0.166	1			
8	NDTS	-0.073	0.252**	0.300**	0.013	-0.086	0.094	-0.092	1		
9	Liquidity	-0.306**	0.144	0.202*	0.262**	-0.043	-0.158	-0.05	0.321**	1	
10	Chain Structure	-0.067	-0.063	0.062	-0.105	0.071	-0.246**	-0.037	0.043	0.135	1

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Determinants of the Franchisee's Maximum Debt Ratio

We firstly aim to investigate the role of the outlet's characteristics in determining the franchisee's leverage by estimating the following ordinary least squares (OLS) regression:

$$Max\ Leverage = \beta_0 + \beta_1 Outlet\ Size + \beta_2 Franchsie\ Age + \beta_3 Type + \beta_4 Location + \beta_5 Entry\ Fee + \beta_6 Yearly\ Fee + \beta_7 Industry + \varepsilon$$

Table 3-4 contains the hypotheses and regression results. In model (1) we run a regression of outlet characteristics on franchisee's leverage. Outlet Size shows a strong (P=0.001) and positive effect on the franchisee's leverage, which is in line with the prediction of a positive relation. Thus, our result supports the conventional arguments that debt increases with firm size due to the fact that larger firms face lower financing transaction costs, less financial distress and lower bankruptcy costs; whereas the argument that larger franchising outlets may have lower debt due to the increased investment in specific assets is not supported by our data. A positive and strong (P=0.007) correlation is found between Hard Type franchising and franchisee's leverage. This finding corroborates our hypothesis that outlets under hard franchising face less risk and more security, and therefore may have more debt. Franchise Fee and Yearly Fee do not show any significant impact on franchisee's leverage. We thus conclude that franchise fee and yearly fee do not influence the franchisee's financing decision. Furthermore, we do not find any statistically significant result for the variable Franchise Age. This means that the franchise chain's experience does not give franchisees more security or more access to the financial markets, and accordingly does not lead franchisees to a higher leverage. And Location does not affect franchisee's leverage either. Top location does not lead to more debt. Finally, as a control variable, Non-food retailing industry shows a positive and significant (P=0.07) effect on franchisee's leverage. A possible explanation is that firms in the non-food retailing industry have a higher degree of tangible assets and lower asset specificity compared with other industries, therefore lenders will lend them more debt.

Table 3-4: Regression results for Maximum Franchisee Leverage

Dependent variable: Max Leverage			
	H	**(1)**	**(2)**
(Constant)		-0.522 (0.104)	-0.285 (0.248)
Outlet Size	+/-	0.084 (0.001)***	0.073 (0.000)***
Franchise Age	+	0.032 (0.315)	0.006 (0.791)
Hard	+	0.131 (0.007)***	0.065 (0.091)*
Location	+	0.026 (0.633)	-0.001 (0.977)
RT-Food		0.133 (0.111)	0.094 (0.196)
RT-Nfood		0.128 (0.070)*	0.109 (0.065)*
Service		-0.066 (0.441)	-0.022 (0.756)
Other		-0.004 (0.974)	0.011 (0.901)
Entry Fee	-	0.001 (0.938)	
Yearly Fee	+	-0.751 (0.311)	
Adjusted R^2		.244	.146
Observations		81	122

Note: This table presents the hypotheses and regression results for the determinants of the maximum franchisee debt ratio. All variables are defined in Table 1. The column denoted 'H' contains the hypotheses, where '+' implies a positive effect and '-' implies a negative effect. The regressions are Ordinary Least Squares regressions and we report the coefficients and the *p*-values (in parentheses). '***', '**' and '*' denote significance at the 1%, 5% and 10% level, respectively.

In model (2), we exclude franchisee fee and yearly fee. This is for two purposes: one is to test the model's robustness, and the other is to improve the sample size. After removing the two variables, the model is stable, the coefficients and the significance level

of the remaining variables are quite similar to those in model (1). Furthermore, after removing these two variables, the sample size is notably increased from 81 to 122. In order to test the hypotheses on the interaction between franchisor's and franchisee's capital structure, we need to predict the optimal franchisee's leverage. We separately predicted the franchisee's optimal leverage based on models (1) and (2), and did a pair sample t-test. We found no statistically significant difference between the two predicted leverages. We therefore decided to continue with model (2) for further analysis because of the larger sample.

Our results for franchisee's leverage show that outlet size, hard type franchising and non-food retailing industry may lead to a higher debt level, while other factors have no effect on franchisee's leverage. Our results give a preliminary understanding of how franchisee's capital structure is affected by the outlet's characteristics.

Determinants of the Franchisor's Capital Structure

In this section we perform regression analyses of chain/firm characteristics on franchisor's capital structure based on standard capital structure theories. We will firstly discuss the results of the franchisor's leverage and then franchisor's maturity. To estimate franchisor's leverage, we use the following regression model:

$$\begin{aligned} \textit{Franchisor Leverage} = {} & \beta_0 + \beta 1 \textit{Firm Age} + \beta_2 \textit{Firm Size} + \beta_3 \textit{Past Growth} + \\ & \beta_4 \textit{Tangibility} + \beta_5 \textit{Future Growth} + \beta_6 \textit{Non-debt tax shields} + \\ & \beta_7 \textit{Chain Structure} + \beta_8 \textit{Deviation} + \varepsilon \end{aligned}$$

Table 3-5: Regression results for Franchisor Leverage

Dependent variable: Leverage				
	H	**(1)**	**(2)**	**(3)**
(Constant)		1.610 (0.000)***	1.610 (0.000)***	1.491 (0.000)***
FirmAge	+/-	-0.070 (0.320)	-0.071 (0.306)	
ChainSize	+	-0.073 (0.039)**	-0.073 (0.039)**	-0.085 (0.009)***
PastGrowth	-	-0.075 (0.007)***	-0.074 (0.007)***	-0.070 (0.008)***
Tangibility	+	0.512 (0.039)	0.514 (0.037)**	0.500 (0.029)**
FutureGrowth	+	-0.370 (0.652)	-0.409 (0.617)	
NDTS	-	-0.058 (0.934)	-0.040 (0.954)	
Liquidity	-	-0.065 (0.014)**	-0.064 (0.015)**	-0.067 (0.005)***
ChainStruture	-	-0.015 (0.943)	-0.013 (0.948)	
Deviation	+/-	0.108 (0.492)		
Adjusted R^2		.136	.140	.161
Observations		122	122	122

Note: This table presents the hypotheses and regression results for the determinants of franchisor's leverage. All variables are defined in Table 1. The column denoted 'H' contains the hypotheses, where '+' implies a positive effect and '-' implies a negative effect. The regressions are Ordinary Least Squares regressions and we report the coefficients and the p-values (in parentheses). '***', '**' and '*' denote significance at the 1%, 5% and 10% level, respectively.

Table 3-5 contains the hypotheses and regression results regarding franchisor's leverage. In model (1) we run a full-model regression of chain/firm characteristics on franchisor's leverage. As we expected, non-debt tax shields show a negative impact on franchisor's leverage, but this influence is not significant. This means that the use of provisions does not lower the firm's total debt level. The coefficient of Tangibility is statistically significant (P=0.039). As predicted, tangible assets can be used as collaterals

and mitigate the lender's risks of suffering agency costs and bankruptcy costs, which leads to more debt. A positive and strong (P=0.007) correlation is found for Past Growth. This finding supports our prediction that franchisor's past growth is predicted to be negatively related to leverage due to the moral hazard problem. By contrast, we find no evidence supporting our prediction that a firm's future growth opportunity is expected to be positively related to leverage. The result of Liquidity supports our prediction as well, which suggests that Liquidity is negatively related with franchisor's leverage according to pecking order theory. And this relation is found to be negative and strong (P=0.014) in our data. As for the Chain/Firm Size, we found a significant but negative coefficient, which contradicts our prediction that Firm Size is positively related with leverage because large firms are more diversified and face less financial distress and lower bankruptcy risks. One possible explanation is that larger firms are more profitable, and they prefer internal financing to external financing according to the pecking order theory. Therefore, we observe less debt in larger firms. We predict that Firm Age can either positively or negatively affect leverage, but we found no significant results in our regression analysis. The sign of the Firm Age's coefficient is negative, which is in line with our prediction even though it is not significant. We also predict that the number of franchised outlets may also negatively affect the franchisor's leverage according to the arguments from capital scarcity in the franchising literature. The coefficient of this variable is not significant even though the sign is negative. Our finding provides additional evidence that the franchisor actually does not use the franchisee as an inexpensive financing resource. Therefore Combs and Ketchen (1999)'s argument is not supported by our data. As for our major arguments on the interaction between franchisor's and franchisee's leverage, we found no evidence supporting our hypotheses. The coefficient of Deviation is positive, which is in line with H1b, but insignificant. Therefore, the franchisor's total debt level is not affected by the setting of the franchisee's debt level. More deviation from the franchisee's optimal leverage does not lead to a change in the franchisor's leverage. In model (2), we removed the variable Deviation, leaving exclusively the variables of chain characteristics in the regression, to test the robustness of the model. The results remain largely the same as in model (1). In model (3), we omit all the insignificant variables in models (1) and (2), and the coefficient and significance level of the variables still remain stable.

We will discuss now the results regarding the franchisor's maturity. Besides the normal firm characteristics, firm leverage is also considered as an important determinant of firm maturity. For example, Leland and Toft (1996) argue that the optimal capital and maturity structure are determined simultaneously. And according to Stohs and Mauer (1996), they find strong evidence supporting the fact that the debt maturity and leverage are highly interrelated. Stohs and Mauer (1996) use leverage as a control variable and find that it is an important determinant of debt maturity—firms with greater financial leverage also use longer-term debt. But one problem involved in these analyses is that leverage is frequently found to be an endogenous variable. Many of the principal factors that influence the debt financing decision also affect the decision of maturity. We therefore control for leverage in the franchisor's debt maturity equation and we apply two-stage estimation, as in Barclay, Marx, and Smith (2003). We use a predicted values of leverage in the debt maturity regression.

In the first-stage estimation, we use the variables that are significant in the regression model of franchisor's leverage to determine the predicted leverage ratio, which is then used in the second-stage maturity analysis. The second-stage regression model of franchisor maturity is as follows:

$$\begin{aligned} \textit{Franchisor Maturity} = {} & \beta_0 + \beta_1 \textit{Firm Age} + \beta_2 \textit{ Future Growth} + \beta_3 \textit{Non-debt tax} \\ & \textit{shields} + \beta_4 \textit{ChainStructure} + \beta_5 \textit{Deviation} + \\ & \beta_6 \textit{Leverage (predicted)} + \varepsilon \end{aligned}$$

Table 3-6 contains the hypotheses and regression results regarding franchisor's maturity. In model (1), we run a regression of standard firm characteristics on maturity without considering Deviation and Leverage. 'Non-debt tax shields' shows a strong and positive impact on franchisor's maturity. This finding contradicts our prediction that Non-debt tax shields are negatively related to maturity. Michaelas et al. (1999) also found a positive relation between the two variables: they argued that tax effects may not be a factor considered by small firms in their short-term capital structure decisions, but more important in the long term capital structure decisions. We find a significant and positive

Table 3-6: Regression results for Franchisor Maturity

Dependent variable: Maturity				
	H	**(1) OLS**	**(2) OLS**	**(3) 2SLS**
(Constant)		.149 (0.109)	.145 (0.115)	.003 (0.983)
Age	+/-	.008 (0.744)	.010 (0.685)	.023 (0.348)
FutureGrowth	+/-	.545 (0.080)*	.588 (0.056)*	.588 (0.041)**
NDTS	-	.723 (0.005)***	.693 (0.006)***	.719 (0.002)***
ChainStruture	-	-.058 (0.443)	-.060 (0.418)	-.043 (0.536)
Deviation	+/-		.123 (0.042)**	.116 (0.041)**
Leverage (predicted)	+			.111 (0.141)
Adjusted R^2		.062	.087	.111
Observations		122	122	122

Note: This table presents the hypotheses and regression results for the determinants of franchisor's maturity. All variables are defined in Table 1. The column denoted 'H' contains the hypotheses, where '+' implies a positive effect and '-' implies a negative effect. The regressions are Ordinary Least Squares regressions and Two Stage Least Square Regression using leverage predicted in the first stage regression. We report the coefficients and the p-values (in parentheses). '***', '**' and '*' denote significance at the 1%, 5% and 10% level, respectively.

coefficient for the variable Future Growth Opportunity. Our result confirms Diamond (1991)'s argument that firms with growth options would like to hedge against risks of inefficient liquidation by issuing long-term debt. Firm Age also does not affect maturity. Chain Structure does not show any significant effect on maturity, which indicates that the number of franchised outlets is not related with firm's capital structure. Therefore the argument of capital scarcity is not corroborated by our results.

In model (2), we include the variable Deviation to test the major hypothesis on the interaction between franchisee's and franchisor's maturity structure. As we expected, Deviation has a significant (P=0.042) and positive impact on the franchisor's capital

structure decision, especially on the long-term debt decision. This result confirms our H2 that the franchisor does opt for longer maturity to reduce bankruptcy risks as he uses debt as a screening tool and commitment device. Model (3) shows the 2SLS regression results for debt maturity. We added predicted Leverage as a control variable. The coefficient of the variable has a positive sign, which is in accordance with our prediction, but not significant. Furthermore, through models (1) to (3), we added variables step by step, and the results across the three models remain stable. Therefore, we believe our model is robust.

3.4 Conclusions

In this study, we further test the propositions raised in Chapter Two, in order to check the robustness and generalizability of our results based on the data of Dutch franchising firms. Moreover, we shift our focus from leverage to maturity. We examine whether and how outlet-specific characteristics affect the franchisee's capital structure, and empirically tested the standard capital structure theories under the franchising setting. Our ultimate goal is to study how franchisor and franchisee's capital structures are interrelated and how this affects the franchisor's financing decision. This study provides extra empirical evidence to the model by Fraja and Piga in 2004, where they propose that the upstream party in a vertical relationship usually strategically imposes a limit on the downstream party's leverage so as to reduce operating risks and raise profits. Furthermore, the study provides a subtle reasoning for the franchising motives. Added to the arguments by agency theory and resource based theory, the results of the study suggest that franchisors may strategically limit the franchisee's debt level and purposefully increase their maturity level so as to seize tax benefits while minimizing bankruptcy risks. Moreover, the study exploratively tests the classical capital structure and maturity theories in the context of franchising, and adds extra understanding of these theories.

We find evidence supporting our main prediction, that the franchisor's capital structure is interrelated with the franchisee's capital structure decision. We find that the franchisor's maturity is positively related to the deviation between franchisee's actual leverage and their optimal leverage. As the franchisor imposes a higher level of

franchisee's leverage in order to screen capable franchisees, the franchisor also increases their maturity to reduce bankruptcy risks. Therefore, the more the franchisee's leverage exceeds the optimal leverage, the more long-term debt is raised by the franchisor.

We find that the outlet-specific factors like outlet size, hard type franchising and non-food retailing industry may significantly affect the franchisee's optimal leverage ratio. Larger outlet size, hard type franchise and non-food retailing industry can lead to a higher debt level. Our results supply a preliminary understanding of the determinants of franchisee's capital structure. As for the franchisor's leverage, our study corroborates the predictions of standard capital structure theories. We find that the impact of firm-specific factors like tangibility, past growth and liquidity is significant and consistent with the prediction of conventional capital structure theories. As for the franchisor's maturity, we find that it is positively affected by future growth opportunities. We find that non-debt tax shields positively affect franchisor's maturity choice, but this is at odds with our prediction.

Our study is not without limitations. Firstly, panel data may be more appropriate for this study, because the factors that determine the capital structure can be influenced by some long-term effects. The second limitation is the potential of measurement error. For example, the proxy for non-debt tax shields used in this study may be subject to such a problem. This could be one of the explanations for why we find the opposite sign. The last important limitation of our study is the missing variable problem. Some variables which are essential in the standard capital structure theories are missing in our study due to the unavailability of proxies. For example, risk and profitability are missing in our study because we do not have any information regarding the profit and loss accounts.

4 AN INCOMPLETE CONTRACTING MODEL OF GOVERNANCE STRUCTURE VARIETY IN FRANCHISING

4.1 Introduction

Franchising is an important business phenomenon. There are an estimated 1,500 different franchisors (franchise business companies) operating in the U.S; and there are believed to be more than 760,000 franchise businesses in the U.S. The franchising industry and businesses employ over 18 million people in the U.S. It is estimated that franchise businesses are responsible for over $1.53 trillion in economic output. It is also found that sales through franchises have accounted for a significant proportion of the following industries: quick service restaurants (56.3%), lodging (18.2%), retail food (14.2%) and full service restaurants (13.1%) (Reynolds 2004).

There is considerable governance structure variety in franchising. Blair and Lafontaine (2005, p88) provide statistics regarding the number of wholly franchised enterprises (where all outlets are owned by independent franchisees), dual distribution franchising (involving the coexistence of both franchisor-owned distributors and independent franchisees), and entirely company owned enterprises (where all outlets are owned by the franchisor). Well known examples of the first type are Baskin-Robbins USA Co. and Allegra Print & Imaging, while McDonalds, 7-Eleven Inc., and Jackson Hewitt Tax Service are examples of the second type. Dual distribution franchising is most widespread of these governance structures, while the third type, i.e. the franchisor owns all outlets, is rare.

The business world adopts also other governance structures. An example is credit card company VISA where the franchisees own the brand and the business format

regarding electronic payments. Other examples of cooperative franchises are Best Western hotels, ACE Hardware, True Value hardware, and Straw Hut Pizza. In these enterprises, either all outlets together own the brand and the business format, or some outlets own the brand and the business format. We label the former as cooperative franchising and the latter as dual distribution cooperative franchising.

Recent empirical work shows that dual distribution franchising is stable over time, i.e. the percentage of company ownership remains fixed after the early years in franchising and firms change their number of both company-owned and franchised outlets as they grow or decline. Lafontaine and Shaw (2005) show that the percentage of company-owned outlets is about 15% on average. However, there are substantial cross- and within-sector differences. For example, their study shows that restaurant chains have a higher percentage of company-owned outlets on average than the construction and maintenance sectors. They show also that there are substantial differences within sectors (Lafontaine and Shaw 2005). For example, the auto rental companies Hertz and National have high levels of company ownership (66% and 40% respectively), while Budget, Thrifty, and Dollar have much lower levels of company ownership. Their regression results show a strong positive relationship between brand value and the percentage of company-owned outlets.

This chapter presents a model to explain the choice of governance structure in franchising. A standard way of delineating a governance structure is to distinguish income and decision rights (Hansmann 1996).[13] Income rights address the question 'How are benefits and costs allocated?', i.e. they specify the rights to receive the benefits, and obligations to pay the costs, that are associated with the use of an asset. For example, a franchise has to choose the level of the royalty rate and the franchise fee. Other important themes regarding income rights are financing, cost allocation schemes, and the effects of horizontal as well as vertical competition. Decision rights in the form of authority and responsibility address the question 'Who has authority or control?', i.e. they concern all rights and rules regarding the deployment and use of assets. For example, a franchise chain has to decide how many outlets will be company-owned. Important themes regarding authority are its allocation ('make-or-buy' decision), formal versus real authority, relational

contracts, access, decision control (ratification, monitoring), decision management (initiation, implementation), task design, conflict resolution, and enforcement mechanisms.[14] This chapter highlights the allocation of decision rights.

A franchise is a vertical relationship between a franchisor and many franchisees. Combs et al. (2004, P907) characterize a franchise by '… one firm (the franchisor) sells the right to market goods or services under its brand name and using its business practices to a second firm (the franchisee)'. This definition stresses the importance of the brand and the business format in franchising, and the right to market goods or services. We will address the relationship between the investment in specific assets, like the brand name and local market knowledge, and governance structure, i.e. the allocation of rights. More specifically, the relationship between the specific investments of all parties in the franchise system and its efficient governance structure is investigated from an incomplete contracting perspective.[15] Franchisees and the franchisor invest in different activities. For example, franchisees invest in local advertising and customer service, quality control, human resource management, and product innovation (Sorenson and Sørensen 2001), while the franchisor invests in system-specific assets like know-how and the brand name (Klein and Leffler 1981, Norton 1988).[16]

The value generated by these investments may depend on governance structure, as indicated by the above observations about widespread stable dual distribution. This is captured by the specification of a unique dual distribution benefit, i.e. a systemic effect. Many ideas regarding the modeling of a dual distribution benefit have been proposed in the literature. Full company ownership entails stronger investment incentives for the franchisor, but it may increase monitoring costs to prevent shirking, capital costs and search costs

---

[13] Saloner et al. (2001) distinguish incentives and authority.

[14] Decision rights are relevant next to income rights because contracts are in general incomplete, due to the complexity of the transaction or the vagueness of language. Incomplete contracts are completed by the allocation of authority in order to decide in circumstances not covered by the contract.

[15] Windsperger and Dant (2006) provide support for this perspective in a franchising context.

[16] The interests of the franchisees and the franchisor are usually not completely aligned with the interests of the entire franchise system. Illustrations are the concerns about free-riding by franchisees on the brand name and territorial encroachment of franchisors adding new units of their brand

(Brickley and Dark 1987, Brickley et al. 1991, Blair and Kaserman 1994, Minkler and Park, 1994). Lewin-Solomon (1999) argues that a dual distribution franchise enhances innovation by providing a credible signal to (potential) franchisees that only profitable innovations will be implemented. Sorenson and Sørensen (2001) explain the franchise mix as the result of a trade-off between exploration (franchising) and exploitation (company-owned units) in organizational learning. The relative compensation literature highlights the 'ratcheting' of incentives (Lazear and Rosen 1981, Green and Stokey 1983). Complementarities along the lines of Bradach (1997) are central in the system of attributes literature (Holmstrom and Milgrom 1991, 1994). Fisher and Harrington (1996) is an example outside the franchising literature, which may provide a way of modeling the evidence that larger, urban units being close to headquarters are more likely to be company owned (see Lafontaine and Slade (2001) for a review). The size of the dual distribution benefit is treated as an exogenous parameter in our model in order to highlight the relationship between investment incentives and governance structure. This parameter is therefore to be interpreted as a reduced form of an underlying interaction process.

A governance structure has an impact on the incentive to invest because it determines the allocation of ownership over assets to various parties.[17] The value of an efficient governance structure is that it provides all parties with incentives to invest in such a way that the entire franchise system generates the highest value. We compare wholly-franchised systems, wholly-owned systems, and mixed/dual distribution systems.[18] Circumstances are identified when dual distribution is the unique governance structure that induces investment by the various parties exactly when it is efficient to do so. The trade-offs involved in the determination in the efficient governance structure are addressed by answering two questions: What is the incentive to invest for each party in the franchise

---

proximately to their franchisees' existing units (Kalnins 2004). It is therefore assumed that each party maximizes its own profit, not the profits of the franchise system.

[17] Brickley et al. (1991), Gallini and Lutz (1992), Mathewson and Winter (1994), Lutz (1995) and Dutta et al. (1995) emphasize already the importance of ownership in determining the incentives to invest in different governance structures from a transaction cost economics perspective.

[18] Multiple channels of distribution have been studied before, like the coexistence of employees and subcontractors to perform trucking services (Baker and Hubbard 2004), the coexistence of spot and contract markets in many agricultural markets (Hendrikse 2007), and the marketing literature on dual channels (Balasubramanian 1998, Chiang et al. 2003, Liu and Zhang 2006, Purohit 1997, Zettelmeyer 2000).

system in each governance structure? Which governance structures are efficient under which circumstances?

The chapter is organized as follows. Section 2 presents the model. In section 3, the incentive to invest is determined for each party in each governance structure. Section 4 identifies the efficient governance structures. Section 5 concludes.

4.2 Model

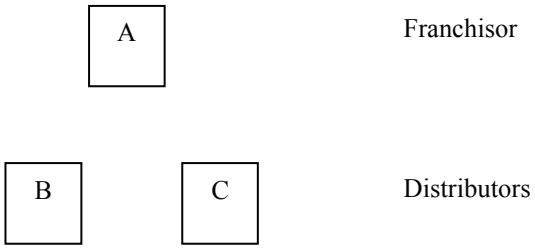


Figure 4-1: The three parties

This section presents a non-cooperative game theoretic model of the interactions between governance structure and the investments of the parties in the franchise system. The decision making parties, the investment and governance structure possibilities, the payoffs, and the sequence of decisions will be specified. Figure 4-1 presents a franchise system consisting of three parties.[19] Party 1 is the franchisor considering a brand / trademark investment generating a value A for the franchise system, party 2 is a distributor considering an investment generating a value B for the franchise system, and party 3 is a

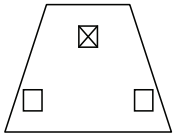
[19] A franchise system consisting of just 2 distributors is a stylized modeling of reality. However, Lafontaine and Shaw (2005) show that experienced franchisors maintain a fixed percentage of company-owned outlets. Franchises establish this stable percentage usually after seven years. Our (equilibrium) model is addressing these established franchises. It suffices therefore to limit the model to this stylized setting. Moreover, it turns out that our governance structure results are not affected by having many distributors generating value B and many distributors generating value C. If party 2 is franchised and party 3 is the manager of a company-owned outlet, then governance structure III with 17 party 2 outlets and 3 party 3 outlets represents the finding of Lafontaine and Shaw (2005) that the percentage of company-owned outlets is about 15% on average.

distributor considering an investment generating a value C (>B) for the franchise system.[20] The cost of investment by party i is k_i when party i invests, otherwise it is 0.

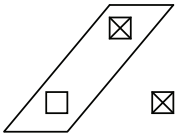
In order to determine the impact of governance structure on the incentive to invest of each party, seven governance structures are distinguished in figure 4-2. A cross in a box indicates that this party has authority/power. Governance structure I entails that all outlets are company owned, i.e. the franchisor has all the power. There are two dual distribution governance structures when the franchisor has power. The high value franchisee (i.e. party 3) is independent in governance structure II and has therefore power, while the low value franchisee (i.e. party 2) has no power. The power of the distributors is reversed in governance structure III. The entire chain is franchised in governance structure IV. Finally, three cooperative franchises are distinguished. A cooperative franchise is characterized by the assets of the franchisor being owned by one or both distributors. In governance structure V, the two stores have the ownership over the entire network. Governance structure V is called a cooperative franchise. There are two dual distribution cooperative franchises as well. The low value distributor owns the brand in governance structure VI, while the high value distributor owns the brand in governance structure VII.

The previous section has motivated that dual distribution may result in unique benefits. They may originate anywhere in the franchise system and may be allocated to one or more parties. A general way to describe the system effects of an investment in a specific governance structure generating a dual distribution effect is to define a parameter σ_{ijg}, where $i,j \in \{1,2,3\}$ and $g \in \{II,III,VI,VII\}$. Parameter σ_{ijg} is to be interpreted as the effect of dual distribution governance structure g on the value of the investment of party i benefiting party j. A number of cases may be illuminating. First, if the dual distribution benefit is a horizontal externality, then $\sigma_{1jg}=0$ and $\sigma_{ijg}>0$ for $i,j \in \{2,3\}$ and $i \neq j$. Second, if the dual distribution benefit is a vertical externality, then $\sigma_{1jg} \neq 0$ and $\sigma_{i1g} \neq 0$ for $i,j \in \{2,3\}$. Finally, if there is a positive (negative) dual distribution effect of the investment of party 2, then $\sigma_{21g} + \sigma_{22g} + \sigma_{23g} > (<) 1$.

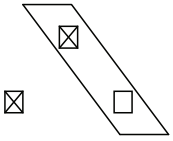
[20] Differences in the individual characteristics of the outlets and franchisees, e.g. geographic proximity to each other, have been important in agency models (Brickley and Dark 1987).



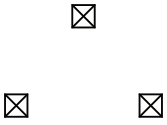
I Wholly Company Owned



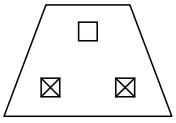
II Dual Distribution Franchise with Low Value Distributor



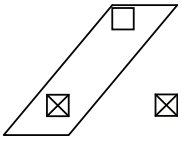
III Dual Distribution Franchise with High Value Distributor



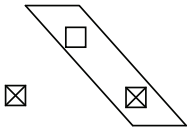
IV Wholly Franchised



V Cooperative Franchise



VI Dual Distribution Cooperative Franchise With Low Value Distributor



VII Dual Distribution Cooperative Franchise With High Value Distributor

Figure 4-2: Seven governance structures

The next two sections determine the equilibrium features of the above model. In order to keep the analysis as simple as possible, we analyze the case where the dual distribution benefit arises only from the investment of either party 2 or 3, all the dual distribution benefits of an investment are captured by one party in each governance structure, and the effect of the investment of party 2 and party 3 is identical. Denote the dual distribution effect by σ. This case highlights already the main investment incentive effects of the various governance structures. Table 4-1 presents the specification of σ_{ijg} of the model to be analyzed in the next two sections. The values $\sigma_{1jg}=0$ reflect the first assumption, i.e. no dual distribution benefit arises from the investment of party 1. The second assumption, i.e. all the dual distribution benefits of an investment are captured by one party, is reflected in two of the parameters of the set $\{\sigma_{i1g}, \sigma_{i2g}, \sigma_{i3g}\}$ for $i\in\{2,3\}$ and $g\in\{II,III,VI,VII\}$ being equal to 0.[21]

Table 4-1: Specification of σ_{ijg}

g	11	12	13	21	22	23	31	32	33
II	0	0	0	σ	0	0	0	0	σ
III	0	0	0	0	σ	0	σ	0	0
VI	0	0	0	0	σ	0	0	0	σ
VII	0	0	0	0	σ	0	0	0	σ

Table 4-2 presents the payoff of each party in every governance structure when all parties invest. These payoffs reflect the value and costs of investment and the impact of governance structure. (The Appendix motivates these payoffs by presenting the underlying characteristic function forms.) For example, the franchisor enjoys a payoff $A+\sigma B-k_1$ when he invests in governance structure II. Revenue A is received due to owning the brand/trademark and revenue σB is due to dual distribution and ownership of the outlet of party 2. The costs of investment are k_1. Party 2 receives no revenues due to lack of

[21] Notice that this specification allows us to concentrate completely on the investment incentive effects of a governance structure, without considering either horizontal or vertical externalities.

ownership of assets, while the costs of investment are born by him. Party 3 receives a dual distribution benefit generated by his investment and pays his costs of investment.

Table 4-2: Payoff of each party in every governance structures when all parties invest

Payoff / Governance structure	Franchisor	Party 2	Party 3
I	$A+B+C-k_1$	$-k_2$	$-k_3$
II	$A+\sigma B-k_1$	$-k_2$	$\sigma C-k_3$
III	$A+\sigma C-k_1$	$\sigma B-k_2$	$-k_3$
IV	$A-k_1$	$B-k_2$	$C-k_3$
V	$-k_1$	$A/2+B-k_2$	$A/2+C-k_3$
VI	$-k_1$	$A+\sigma B-k_2$	$\sigma C-k_3$
VII	$-k_1$	$\sigma B-k_2$	$A+\sigma C-k_3$

The final ingredient of the non-cooperative game theoretic model to be specified is the sequence of decisions. It is in line with the classic incomplete contracting models of Grossman and Hart (1986) and Hart and Moore (1990), i.e. investment decisions are preceded by the determination of governance structure. A governance structure allocates the bargaining strength of each party in the first stage, while bargaining positions are determined by the investment choices in the second stage. An investment in the second stage deteriorates the bargaining position of the investing party due to the incompleteness of contracts.[22] The relationship between the first and the second stage is that the allocation of bargaining power by the governance structure in the first stage determines the incentive to invest in the second stage. (A cross in a box in figure 4-2 indicates that this party has the residual control / power / authority to decide in unforeseen circumstances.) A party is willing to deteriorate its bargaining position in the second stage by choosing to invest in specific assets when the prevailing governance structure allocates sufficient power to this

[22] Contractual incompleteness entails that it is hard to verify ex post that a party has made an investment and the associated costs. Examples are investments in system-specific assets, like the brand name and the business format, as well as local assets, like knowledge about the local market and local operations. The above model specifies therefore that the costs of investment are always paid by the investing party, regardless the governance structure.

party to capture a share of the quasi-surplus in the ex post bargaining process to cover the sunk costs of investment. Three parties are taking investment decisions in the second stage of the game. The sequence of their decisions does not matter due to our specification of the payoffs. We choose to have the choice of the franchisor first, subsequently the choice of party 2, and finally the choice of party 3. The appendix depicts the extensive form of the game.

4.3 Equilibrium investment

The previous section has specified the game theoretic model in terms of the parties, the governance and investment alternatives, the payoffs, and the sequence of decisions. This section presents the equilibrium investment decision of each party. The subgame perfect equilibrium of the game is determined by the method of backward induction. It entails that the investment decisions in the second stage of the game are addressed first, given the choice of governance structure. A party chooses either to invest or not to invest. Investment by party i entails a cost k_i for this party and generates value. If a party does not invest, then there are no costs of investment and no value is generated. A party invests when the payoff of investment is higher than the payoff of not investing. Subsequently, the choice of governance structure is addressed, anticipating the equilibrium investment decisions in the next stage of the game.

Figure 4-3 presents the payoffs of the subgame perfect equilibrium investment decisions of all parties in every governance structure for all possible values of k_2 and k_3 when $k_1 \leq A$ and $\sigma > 1$.[23] The first (second, third) number in the vector after each governance structure is the subgame perfect equilibrium payoff of party 1 (2, 3). For example, if $k_3 \leq \sigma C$ and governance structure II is actual, then parties 1 and 3 will invest (resulting in positive payoffs $A-k_1$ and $\sigma C- k_3$, respectively) and party 2 does not invest (resulting in payoff 0).

Figure 4-3 illustrates in various ways the general result that a party will only invest when the costs of investment are sufficiently low and at least some power is allocated to

[23] The case $k_1 > A$ is presented by replacing the payoff $A-k_1$ of the franchisor by 0 in all governance structures in figure 1.

this party. For example, the franchisor does not invest in the governance structures V, VI, and VII, while there will be investment by the franchisor in the governance structures I-IV when $k_1 \leq A$. Party 2 will never invest in governance structure II because no bargaining power is allocated to party 2. Party 3 recoups its investment costs in governance structure II only when $k_3 \leq \sigma C$. Governance structure II does not allocate sufficient bargaining power to party 3 to induce investment when $k_3 > \sigma C$.

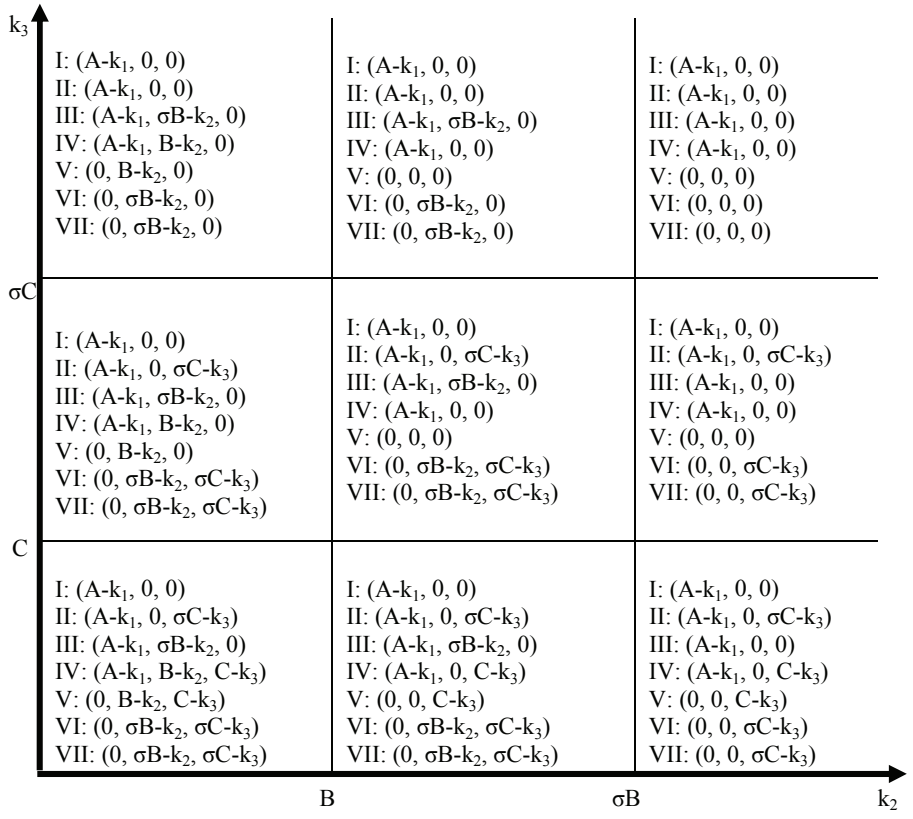


Figure 4-3: Subgame perfect equilibrium payoffs when $k_1 \leq A$ and $\sigma > 1$

4.4 Efficient Governance

This section formulates results regarding the efficient governance structure. First best efficiency entails that the highest possible surplus is generated. Consider the case $k_1 \leq A$. Generation of the highest surplus requires that party 2 (3) invests only when $k_2 \leq \sigma B$ ($k_3 \leq \sigma C$), while party 1 should always invest. Figure 4-3 shows governance structure II is the unique first best efficient governance structure when $k_2 > \sigma B$ and $k_3 \leq \sigma C$, while governance structure III is the unique first best efficient governance structure when $k_2 \leq \sigma B$ and $k_3 > \sigma C$. The governance structures I-IV are first best efficient when $k_2 > \sigma B$ and $k_3 > \sigma C$. Finally, there is no first best governance structure when $k_2 \leq \sigma B$ and $k_3 \leq \sigma C$. The reason is that a dual distribution governance structure is required to generate the first best outcome. However, a dual distribution governance structure has always one party without power, and therefore no incentive to invest, even when $k_1 \leq A$, $k_2 \leq \sigma B$ and $k_3 \leq \sigma C$. Section 4.1 identifies the second best governance structures, while section 4.2 formulates managerial implications.

4.4.1 Second Best Governance Structures

Second best efficiency of a governance structure entails that the sum of the payoffs of the three players in this governance structure is at least as high as the sum of the payoffs of the three players in any other governance structure. The second best efficient governance structures are determined using figure 4-3, and are presented in figure 4-4, when there is a positive, but limited, dual distribution externality.[24]

[24] The upward sloping line in the figures 2 and 3 is characterized by $k_3 = \sigma(C-B)+k_2$.

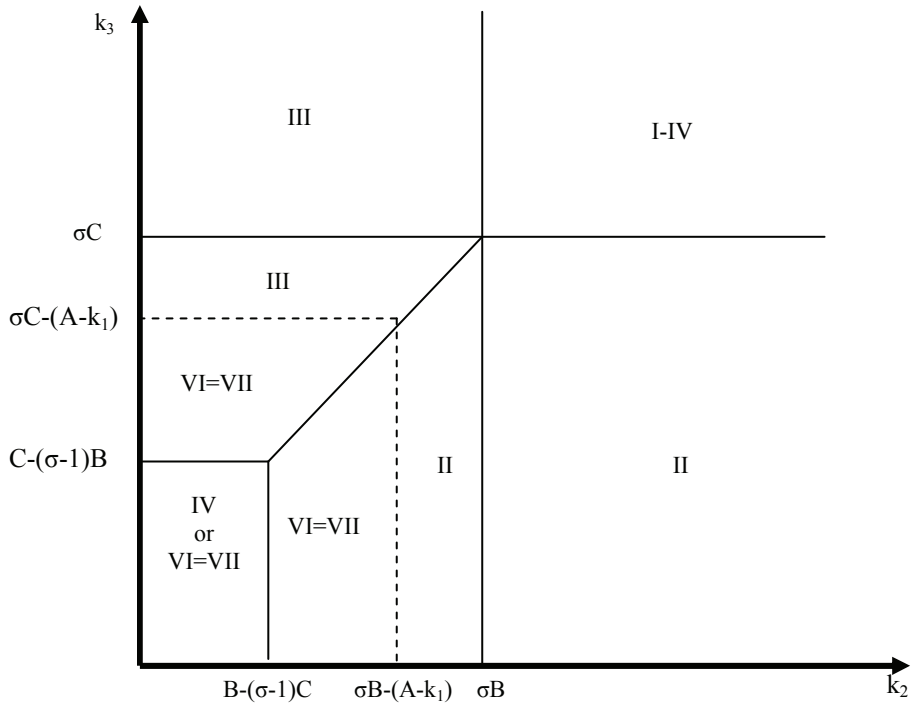


Figure 4-4: Second best efficient governance structures when $k_1 \leq A$ and $1<\sigma< 1+B/C$

A number of results can be formulated. First, the dual distribution cooperative franchises VI and VII are identical in terms of investment incentives for all parties and therefore identical in terms of efficiency. The franchisor will not invest in these governance structures in equilibrium due to not having any power. Ownership of the assets of the franchisor generates therefore no revenues for the owner. It implies also that it does not matter for efficiency which franchisee owns the assets of the franchisor because the value of owning a non-investing franchisor is 0. This result is stated in proposition 1.

Proposition 1: The dual distribution cooperative franchises VI and VII are identical in terms of efficiency.

Second, cooperative franchise V is never efficient. It is dominated by the dual distribution cooperative franchises because they generate the positive dual distribution externality $\sigma>1$, whereas V does not. Proposition 2 formulates this result.

Proposition 2: Cooperative franchise V is never efficient.

Third, governance structure I is never a unique efficient governance structure. The distributors have no power in governance structure I, and therefore no incentive to invest. Governance structure I is only efficient when the two distributors do not invest due to the high costs of their investments. If $k_2 \geq \sigma B$ and $k_3 \geq \sigma C$, then the franchisor is the only party investing in the governance structures I-IV. (Nobody invests in the governance structures V-VII. They are inefficient.) However, if one of these inequalities does not hold, then I is always strictly dominated by either II, III or IV. The franchisor and at least one of the sellers will invest in the governance structures II-IV, whereas the franchisor is the only party investing in governance structure I. Proposition 3 summarizes this result.

Proposition 3: Wholly company owned franchise I is never uniquely efficient.

Fourth, governance structure III is the unique efficient governance structure in the north-west rectangle. Seller C never invests when $k_3>\sigma C$ because the costs of investment are too high, regardless the choice of governance structure. This is efficient. The franchisor does not invest in the cooperative franchises V-VII due to a lack of power. These governance structures are therefore inefficient. Governance structures I-IV are efficient in inducing the efficient decision by the franchisor. Party 2 does not invest in the governance structures I and II because there is no incentive to invest due to the lack of power. These governance structures are inefficient because the value generated by party 2 is larger than its costs. Party 2 invests in the governance structures III and IV due to having sufficient power. Governance structure III strictly dominates governance structure IV when there are positive dual distribution externalities, i.e. $\sigma>1$, because the surplus $\sigma B-k_2$ generated by seller B in governance structure III is larger than the surplus $B-k_2>0$ of party 2 generated in governance structure IV. A similar reasoning applies to governance structure II being uniquely efficient in the south-east rectangle. It discourages efficiently investment by party

2 with its relatively high costs of investment, while party 3 invests and generates the dual distribution externality.

> *Proposition 4*: Dual distribution franchising (III or IV) is the unique efficient governance structure when the costs of investment of the franchisee having power are not too large and the costs of investment of the franchisee without power are large.

Fifth, the efficient governance structure choice in the south-west depends on the parameter values. The results are presented in two parts. First, consider the efficiency of governance structures with the franchisor having authority. The efficient governance structure is determined by comparing the governance structures II, III, and IV. If the franchisor has power, then governance structure IV is the unique efficient governance structure choice when k_2 and k_3 are small and σ is limited. The intermediate investment incentives for both distributors in governance structure IV create more value than the strong investment incentive for either party 2 in governance structure III or party 3 in governance structure II when the size of the dual distribution externality is limited, i.e. $\sigma<1+B/C$. The attractiveness of governance structure IV is that both distributors have an incentive to invest because each of them has power. However, the positive dual distribution externality cannot emerge. Governance structures II and III have the advantage of generating the positive dual distribution externality, but only the independent distributor invests. The value of having two distributors investing without generating the dual distribution externality dominates the generation of the dual distribution externality by having just one investing distributor when the dual distribution externality is not too large. However, if the cost of investment of party 2 (3) increase above $B-(\sigma-1)C$ ($C-(\sigma-1)B$), then governance structure II (III) dominates governance structure IV.

Second, the efficient governance structure with the franchisor having authority has to be compared with the efficient governance structure when the franchisor has no authority, i.e. governance structure VI=VII. Governance structure II dominates the governance structures VI and VII when $k_2 \geq \sigma B-(A-k_1)$, i.e. the dual distribution externality is limited or the value of the brand is substantial. II as well as VI and VII induce

investment by party 3, but the costs of investment by party 2 in governance structures VI and VII is too high from an efficiency perspective in order to sacrifice the value generating investment by the franchisor in governance structure II. A similar argument applies regarding governance structure III dominating the governance structures VI and VII when $k_3 \geq \sigma C-(A-k_1)$.

> *Proposition 5*: If the costs of investment of both franchisees are not large and the costs of investment of at least one of the franchisees are at an intermediate level, then a dual distribution (cooperative) franchise is the unique efficient governance structure when the investment by the franchisor adds more (less) value than having two investing franchisees.

The comparison between IV and VI=VII is driven by the dual distribution externality effect. Choosing between allocating authority to the franchisor in governance structure IV and taking away authority from the franchisor in the governance structures VI and VII entails a trade-off between sacrificing the generation of the dual distribution externality at both outlets versus sacrificing the value of brand development. If $A-k_1<(\sigma-1)(B+C)$, i.e. the value added of the brand is insufficient or the dual distribution externality is substantial, then governance structure IV is dominated by governance structure VI=VII. So, taking power away from the franchisor by switching to the dual distribution cooperative franchise VI or VII is efficient when the relative importance of the brand decreases. Proposition 6 states this result.

> *Proposition 6*: A wholly franchised system (dual distribution cooperative franchise) is the unique efficient governance structure when the costs of investment of both franchisees are low, the dual distribution benefit is moderate, and the importance of the brand is above (below) a certain level of the dual distribution effect.

Notice that it is not necessary for dual distribution franchising being a unique efficient governance structure that $B<C$. The value generated by the independent distributor in a dual distribution governance structure is higher than the value generated by either one or two distributors in governance structure IV. This result shows that it is not

necessary for the emergence of dual distribution that there are locational differences, or other differences between the distributors. This result is stated in proposition 7.

> *Proposition 7*: System wide externalities are responsible for dual distribution franchising being the unique, efficient governance structure, not locational or other differences.

We have now covered the case $1<\sigma<1+B/C$, i.e. a positive, but limited, dual distribution externalities. If there are substantial positive dual distribution externalities, i.e. $\sigma\geq1+B/C$, then the size of the south-west rectangle is zero. There are no parameter values for which governance structure IV is the unique efficient governance structure anymore. The intermediate investment incentives for both distributors in governance structure IV are not strong enough to override the strong investment incentives for either party 2 in governance structure III or party 3 in governance structure II.

A figure similar to figure 4-3 can be determined when $\sigma<1$. It turns out that governance structure IV is first best efficient for all parameter values.[25] It prevents on the one hand the emergence of the negative dual distribution externality in the governance structures II, III, VI and VII, and on the other hand the allocation of insufficient power to either the distributors in governance structure I or the franchisor in governance structure V. This result implies that dual distribution is due to the systemic effect σ, regardless the value of brand name, i.e. $A-k_1$, or locational (or other) differences between outlets, i.e. $B-k_2$ and $C-k_3$. The importance of this systemic effect seems to be in line with the empirical result of Lafontaine and Shaw (2005) that dual distribution of established franchises is stable over time, i.e. the percentage of company ownership remains fixed after the early years in franchising and firms change their number of both company-owned and franchised outlets as they grow or decline.

Finally, governance structure IV is also first best efficient for all parameter values when $\sigma=1$. It is the unique first best efficient governance structure when $k_2<B$ and $k_3<C$. If $k_2\geq B$ and $k_3<C$, then also governance structure II is first best efficient. If $k_2<B$ and $k_3\geq C$,

[25] If $k_2\geq B$ and $k_3\geq C$, then governance structures I-III are also first best efficient.

then also governance structure III is first best efficient. The governance structures I-IV are first best efficient when $k_2 \geq B$ and $k_3 \geq C$. Cooperative franchises are never efficient when $\sigma \leq 1$.

4.4.2 Managerial Implications

The managerial implications of our model relate to the second best efficient governance structure, the effect of changes in the parameters on the second best efficient governance structure, and sectoral differences. First, if for specific parameter values the actual governance structure differs from the efficient governance structure predicted by the model, then this discrepancy has to be explained. Many problems are involved in doing such an exercise because the actual business world and a model are hardly ever a perfect match. However, if the model predicts that there are no circumstances for a certain governance to be efficient, then it entails that its occurrence is expected to be absent. Our results show that wholly–company owned franchising, i.e. governance structure I, is not likely to occur. This is in line with the observations of Blair and Lafontaine (2005) that franchise systems with the franchisor owning all outlets are rare. Similarly, if there is a positive dual distribution benefit, i.e. $\sigma > 1$, then dual distribution is predicted to be a unique efficient governance structure for a large set of parameter values. Again, this seems to be corroborated. Lafontaine and Shaw (2005, footnote 6) report that '… most chains operate what they see as the optimal proportion of company units. In the vast majority of cases, this proportion is neither 0% nor 100%'. It is therefore important to manage the systemic effect (Bradach 1997). Notice that the exact dual distribution governance structure to be expected is determined in our model by the importance of the value of investment of all parties, not just the value added by franchisor, e.g. brand name, or the franchisees, e.g. developing the local market.

Second, the model implies a number of changes in the efficient governance structure due to changes in the exogenous parameters. Lafontaine and Shaw (2005) show that the percentage of company owned outlets increases when the value of the brand name increases, i.e. $A\text{-}k_1$. Our model is inconclusive about this relationship because the dotted line in figure 4-4, its location being determined by the value of the brand name, is separating different dual distribution governance structures. However, there is an obvious

relationship between the dual distribution benefit and the efficient governance structure. Dual distribution is absent when $\sigma<1$, while it is pervasive when $\sigma>1$. Figure 4-4 reinforces this relationship because the area where governance structure IV is efficient shrinks when σ is increasing, i.e. a switch from wholly-franchised chain IV to a dual distribution chain is expected. Changes in the costs of investment of the distributors may also change the equilibrium percentage of dual distribution. A decrease in either k_2 or k_3, or an increase in either B or C, may decrease the percentage of company owned outlets because sacrificing the dual distribution benefit is attractive in order to restore the incentive to invest for all distributors (IV).

Third, Lafontaine and Shaw (2005) show that established chains maintain a stable percentage of company-owned outlets, but that this percentage varies considerably across sectors. Some industries such as hotels (Kalnins 2004) exhibit much less dual distribution than others such as fast food. Our analysis indicates that the nature of this variation resides in unique dual distribution benefits and the relative importance of the value of the specific investments of all chain participants. If the percentage of company owned outlets is very low, then our model indicates that positive systemic effects must be absent, regardless the value of the brand.

4.5 Conclusions and Further Research

The main contribution of this chapter is the development of an incomplete contracting model of the efficient governance structure of a franchise system. After laying out all possible governance structures, circumstances are identified when dual distribution in franchising is the unique equilibrium governance structure that induces investment by the various parties exactly when it is efficient to do so. Dual distribution franchising is the sub-game perfect equilibrium governance structure when the dual distribution externalities are significant and the cost of investment is not too large for the parties involved. Whether the dual distribution benefits are realized in a traditional franchise or a cooperative franchise depends on whether most value is added upstream or downstream. A disadvantage of dual distribution is the deterioration of the investment incentives of the party having no authority, i.e. either the company-owned outlet manager in a traditional

franchise or the franchisor in a cooperative franchise. A wholly-franchised system may therefore be efficient even when unique dual distribution benefits are present. A necessary condition for the efficiency of a dual distribution governance structure is a positive systemic effect (σ), not the value of the brand name ($A\text{-}k_1$) or location (or other) differences between outlets ($B\text{-}k_2$ and $C\text{-}k_3$).

A key distinction between our theory and preceding work regarding franchising is that we account explicitly for all possible governance structures. This is valuable because the existing literature provides explanations as to why wholly owned or wholly-franchised structures exist, but not a mixed system (e.g. Lutz 1995). Additionally, an incomplete contracting perspective on franchising is advanced, while the marketing literature on franchising and channels has mainly used complete contracting (principal-agent) models (e.g. Lal 1990). Finally, many analyses of franchise systems consider the incentives to invest for either the franchisor or the distributors. Our model provides a unified treatment of the incentive to invest for the franchisor as well as the distributors.

Further research may be guided by extending the model in various directions. A number of possibilities are formulated. First, actual franchise systems exhibit a substantial power asymmetry between small franchisees and the large franchisor. One way of restoring the balance of power is by erecting a franchisee council (Ehrmann and Spranger 2007) and to study the optimal allocation of rights to them. Our model can be tailored to this issue in a straightforward way by modeling countervailing power as an association of various distributors. Second, our framework seems also to be suitable for analyzing multiple unit franchising, i.e. a franchise system with franchisees owning several outlets.

Third, we assume that the efficient governance structure emerges in the first stage of the game. This is a good assumption to start an analysis of governance structure choice, because a competitive market in governance structures will lead to displacing the relatively inefficient governance structures by the relatively efficient ones. It is also convenient because it eliminates the need for specifying a decision sequence in the first stage of the game. However, there is often a tension between efficiency and distributional / strategic

considerations. Efficiency may dictate a drastic change in governance structure, but the distributional implications may prevent that the change occurs.

Fourth, the model considers only the allocation of ownership. Ownership is a crude instrument to align interests. Many franchises spend considerable effort in designing appropriate franchisee incentive schemes, including franchise fee, royalty rates, preventing free riding by the franchisees on the brand name, and monitoring.[26] Decision and income rights have therefore to be considered simultaneously in the choice of governance structure.[27]

Fifth, the extent of incompleteness is not endogenous in our model. A franchise has to decide how much discretion regarding activities is assigned to the franchisees. The standard way of dealing with this issue in franchises is the choice of the business format. Croonen (2005) shows that the extent of coverage of the business format varies considerably between enterprises. Modeling the extent of coverage of the business format along the lines of Tadelis (2002) is a challenging line of future research. [28]

[26] Bradach and Eccles (1989) highlight the multiplicity of control mechanisms already.

[27] Examples are Holmstrom and Milgrom (1994) address the complementarities between decision and income rights, Bai and Tao (2000) formulate a multitasking model of franchising with the tasks of providing local service and providing effort towards generating goodwill, and Windsperger and Yurdakul (2007) show that dual distribution may alleviate incentive conflicts by assigning a proportion of company-owned outlets to the franchisor in order to increase his weak investment incentives due to the strong investment incentives of a low royalty rate. The empirical result of Lafontaine and Shaw (2005) that dual distribution of established franchises is stable over time, i.e. the percentage of company ownership remains fixed after the early years in franchising and firms change their number of both company-owned and franchised outlets as they grow or decline, seems to be in line with systemic effects in dual distribution franchising.

[28] The standard modeling of complete and incomplete contracts represent two extremes (Bajari and Tadelis, 2001). The cost of specifying an additional state of nature in complete contracting models is zero, whereas it is infinite in incomplete contracting models. Most realistic is that positive, finite costs are incurred by specifying an additional contractual clause, having an impact on the choice of governance structure.

Appendix: Governance structure and payoffs

This appendix formulates the extensive form of the game. In our model, a governance structure is an allocation of bargaining power. One way to represent bargaining power differences between governance structures in a consistent way is by using the Shapley value. Appendix 4.1 is dedicated to determining the Shapley value of each governance structure. These Shapley values are used to specify the payoffs in the extensive form. Appendix 4.2 presents the extensive form.

Appendix 4.1: Shapley values

The Shapley value is an equilibrium concept in cooperative game theory. A cooperative game consists of the characteristic function (N,v), where N is the set of players and v specifies a payoff for every possible subset of the set of players. The characteristic function depends on the choice of governance structure (G) and the choice of investment (x) of the involved parties. Define the vector $x = (x_1, x_2, x_3)$, where x_1 (x_2, x_3) is the investment level by party 1 (2, 3). If a party invests (does not invest), then x_i is equal to 1 (0).

Table A4.1 presents the characteristic function of all governance structures when all parties invest, i.e. x=(1,1,1). For example, the value of a coalition consisting of only the franchisor, i.e. v(1), is A+σB in governance structure II because the franchisor owns their own assets and the assets of party 2. A coalition consisting of only party 2 has no value in governance structure II because this coalition owns no assets. The value of a coalition consisting of the parties 1 and 3, i.e. v(13), is A+σB+σC, because together they own all assets. The value of the coalition of the parties 1 and 3 is identical to the value of the coalition of all players, i.e. v(13) is equal to v(123), because party 2 adds no value to the coalition of the players 1 and 3 in governance structure II. The change from governance structure I to governance structure II shows the effect of a dual distribution governance structure.

Table A 4.1: Characteristic function forms when all parties invest

x	(1,1,1)	(1,1,1)	(1,1,1)	(1,1,1)	(1,1,1)	(1,1,1)	(1,1,1)
G	I	II	III	IV	V	VI	VII
v(1)	A+B+C	A+σB	A+σC	A	0	0	0
v(2)	0	0	σB	B	A/2+B	A+σB	σB
v(3)	0	σC	0	C	A/2+C	σC	A+σC
v(12)	A+B+C	A+σB	A+σB+σC	A+B	A/2+B	A+σB	σB
v(13)	A+B+C	A+σB+σC	A+σC	A+C	A/2+C	σC	A+σC
v(23)	0	σC	σB	B+C	A+B+C	A+σB+σC	A+σB+σC
v(123)	A+B+C	A+σB+σC	A+σB+σC	A+B+C	A+B+C	A+σB+σC	A+σB+σC

The characteristic function determines the way in which the revenues are allocated to the three parties. This allocation of the revenues is determined by calculating the equilibrium of a cooperative game by the Shapley value.[29] These values/payoffs reflect the distribution of bargaining power. The economic interpretation of the Shapley value is that it provides a measure of the incentive intensity to invest. Table A4.2 presents the Shapley values belonging to the characteristic functions of Table A4.1.

Table A 4.2: Shapley values when all parties invest

x	G	Shapley value franchisor	Shapley value seller B	Shapley value seller C
(1,1,1)	I	A+B+C	0	0
(1,1,1)	II	A+σB	0	σC
(1,1,1)	III	A+σC	σB	0
(1,1,1)	IV	A	B	C
(1,1,1)	V	0	A/2+B	A/2+C
(1,1,1)	VI	0	A+σB	σC
(1,1,1)	VII	0	σB	A+σC

[29] Like Hart and Moore (1990), we use the Shapley value in order to determine the value of each player in each governance structure for all combinations of investment decisions. For a noncooperative justification for the use of the Shapley value, see Gul (1989) and Appendix A of Hart and Moore (1988).

Appendix 4.2: Extensive form

The non-cooperative game of this study consists of two stages. The first stage of the game consists of the choice of governance structure. There are seven possible governance structures. The second stage of the game consists of the investment decisions of the three players. Each player decides between investing and not investing in specific assets. The total number of possibilities is therefore 7x2x2x2=56. This is too much to present in one figure. The extensive form will therefore be presented in seven separate figures. The payoffs are composed of revenues and costs. The revenues are taken directly from Table A2, while each player carries their costs of specific investments. For example, branch NYN in Figure A4.1 corresponds to investment vector (0,1,0) in governance structure I, i.e. only party 2 invests. The investment of party 2 generates revenue B. Revenue B is allocated to the franchisor in governance structure I, while party 2 carries the costs k_2. Table A4.1 presents the payoffs of the branch YYY of the Figures A4.1-A4.7.

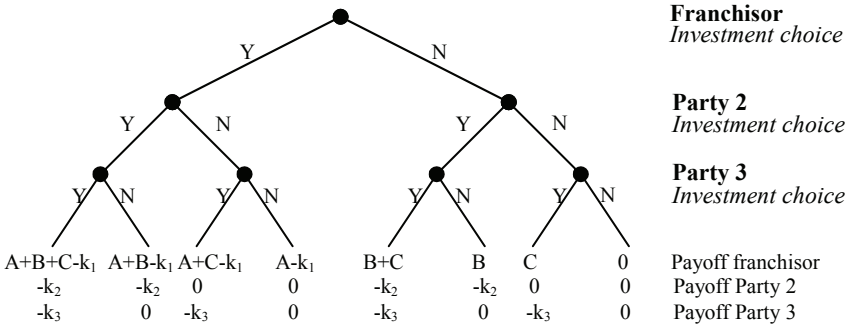


Figure A 4.1: Extensive form when governance structure I

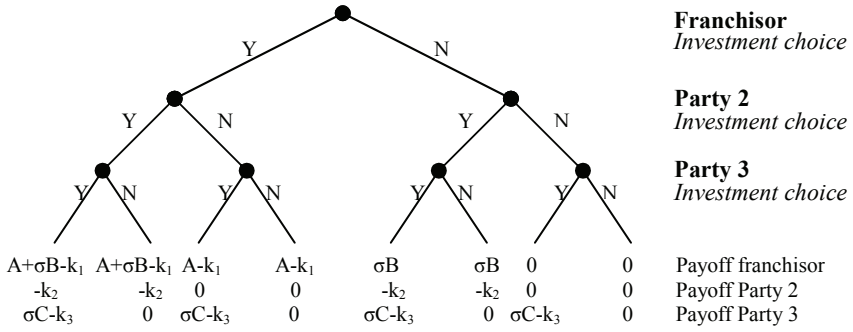


Figure A 4.2: Extensive form when governance structure II

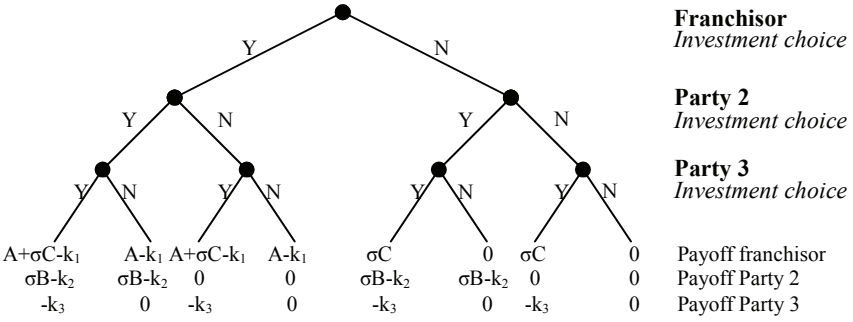


Figure A 4.3: Extensive form when governance structure III

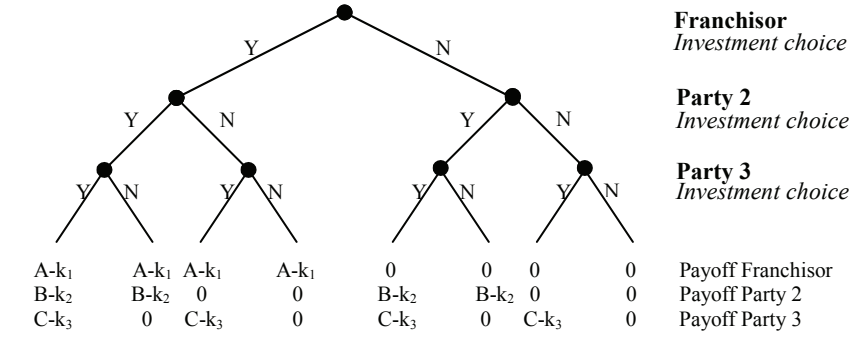


Figure A 4.4: Extensive form when governance structure IV

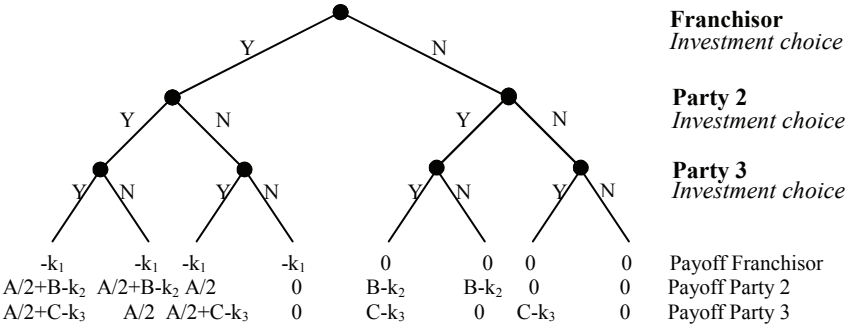


Figure A 4.5: Extensive form when governance structure V

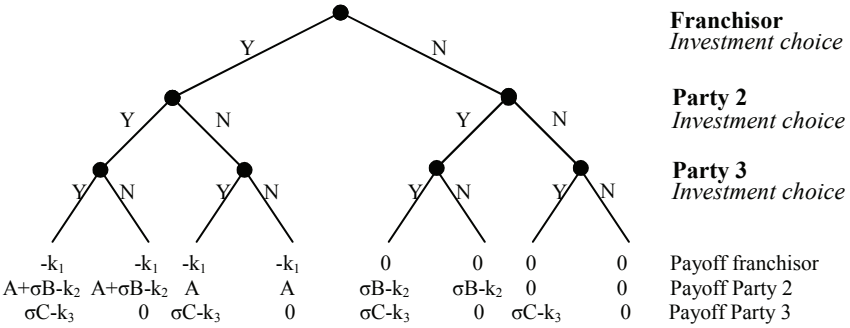


Figure A 4.6: Extensive form when governance structure VI

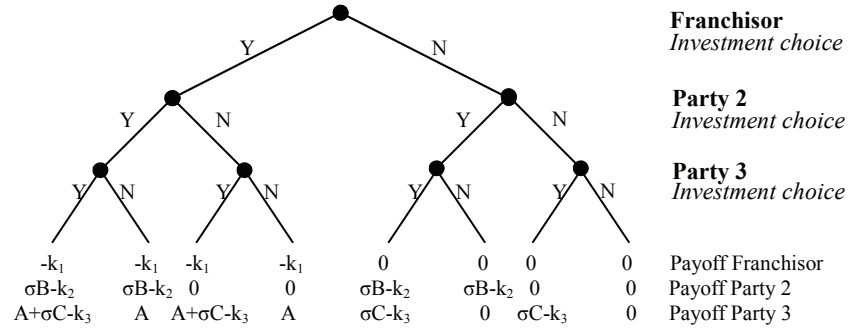


Figure A 4.7: Extensive form when governance structure VII

5 CONCLUSION

This study has investigated two subjects: the determinants of capital structure in franchising and the efficient governance structure choice in franchising. The resource-based view has been controversial ever since it was raised by Oxenfeldt and Kelly in 1969. Several researchers have refuted this view. In this study, we reinvestigate the role of financing in franchising and propose that the strategic use of franchisee capital structure may affect the franchisor's financing decision, which will ultimately affect firm value and the franchising propensity. And we find evidence that franchisors impose limits on franchisees' debt levels so as to take tax advantages, which provides a motivation for franchising. Moreover, this study formulates an incomplete contracting model and examines efficient governance structure choice in franchising. We explore the impact of governance structure on the incentives to invest in specific assets for the franchisor as well as for the distributors. We compare wholly-franchised systems, wholly-owned systems, and mixed/dual distribution systems. Efficient governance structures are identified in all possible situations of asset ownership and investment costs. In addition, circumstances are identified when a dual distribution governance structure uniquely allocates efficient ownership over assets.

In summary, this study has answered two research questions:

1. *Does the strategic use of the franchisee's capital structure affect the franchisor's financing decision?*

2. *Which governance structures in franchising are most efficient under which circumstances?*

In this study, we empirically test our propositions regarding the franchisee's capital structure and its impact on the financing decision, using data of Northern American and Dutch franchise chains. Our major proposition is based on the practice that a certain boundary is imposed on the franchisee's personal equity investment, and is inspired by the

model by Fraja and Piga (2004) arguing that in a vertical relationship the upstream party imposes a limit on the downstream party's debt level in order to avoid bankruptcy risk and secure profits. We posit that firms franchise in order to benefit from the reduced franchisees' operational risks by limiting debt level, such that the franchisor can bear more debt and gain tax-deduction benefits. We therefore predict that franchisee and franchisor leverages are negatively related. In addition, we predict that this effect is stronger when more outlets are franchised. In Chapter Two, we tested our hypotheses using data of ninety-seven franchise chains based in North America between 2001 and 2006. Empirical evidence was found supporting our primary prediction that lower leverage in franchisees induces more leverage for franchisors and vice versa. It is found that as the franchisor requires franchisees to put more equity in the initial investment, the franchisor does bear a higher debt level and gains tax benefits. Furthermore, we also find that this effect is stronger when more units are franchised. In addition, we find that the outlet-specific factors like outlet size and franchise age significantly affect the franchisee's debt ratio, and that the industries like Specialty Food, Non-Food Retailing, and Regular Restaurants require more debt financing, whereas the Business Service industry requires less. As for franchisor's leverage, it is found that size, tangibility, dividend payment and percentage of franchised outlets are the important determinants.

In Chapter Three, we extended our research of Chapter Two by focusing on the effects of long-term vs. short-term debt. In addition to the major propositions given in Chapter Two, we add that the franchisee's debt level is either positively or negatively related to the franchisor's maturity. Following the rationale of signaling theory and Norton's (1995) proposition that debt is used as a bonding and screening device, we predict that the franchisor will increase their debt level as a bonding device when imposing a higher debt level on the franchisee as a screening device. On the other hand, we suggest that the franchisor will prefer long-term debt over short-term debt to reduce bankruptcy risk. Based on 122 franchise chains operating in The Netherlands, we find empirical evidence supporting our predictions. Regression results suggest that the deviation from the franchisee's optimal leverage is positively linked with franchisor's maturity. In addition to the findings in Chapter Two, we find that hard type franchising also significantly affects the franchisee's debt level. Past growth and liquidity are the extra factors affecting the

franchisor's leverage. As for the franchisor's maturity, we find that it is positively affected by future growth opportunities, besides the franchisee's leverage.

Chapter Four answers the second research question. An incomplete contracting model of efficient governance structure choice in franchising is presented along the lines of Hart and Moore (1990). The distinction from the preceding work is that all possible governance structures in franchising are accounted for. Investments are specified regarding system-specific assets, such as the brand name and the business format, as well as local assets, such as knowledge about the local market and local operations. Three parties are distinguished: the franchisor with investment opportunity of value A, a franchisee with investment opportunity of value B, and a franchisee with investment opportunity of value C (>B). Wholly-owned, wholly-franchised, and mixed (dual distribution) franchise systems are considered. A parameter σ captures a horizontal externality which is specific to dual distribution. This simple setting is able to generate various results regarding the choice of efficient governance structure. Complete franchising is the unique, efficient governance structure only when the dual distribution externality is limited and the costs of investment at both local outlets are low. Governance structure choice is irrelevant when the costs of investment are high for all franchisees, because no franchisee will invest. Finally, a dual distribution governance structure is the unique, efficient equilibrium in all other cases because it generates on the one hand the dual distribution externality and on the other hand allocates sufficient power to the independent franchisee in order to make them confident that they will be able to recoup their investment. Not locational or other differences between units are necessary for the emergence of dual distribution franchising, but positive externalities which are specific to dual distribution. Whether the dual distribution externality is realized in a dual distribution franchise or a dual distribution cooperative franchise depends on whether most value is added upstream or downstream.

In conclusion, this study adds knowledge to the resource scarcity perspective, but from a unique angle. And the study also provides an initial understanding of how franchisor and franchisee's capital structure are dynamically related, and offers empirical support regarding the model of Fraja and Piga (2004). It confirms that the strategic use of the franchisee's capital structure does affect the franchisor's financing decisions. For

practical implications, franchisors can strategically manipulate franchisees' capital structure to achieve higher firm values. And this will have a subtle impact on the franchisors' franchising propensity. Moreover, the influence of outlet-specific factors on franchisee's leverage and that of chain-specific factors on franchisor's leverage are also investigated. We offer a first attempt at applying capital structure theories in a franchising setting. And we contribute positively to current knowledge regarding the Dutch franchising industry. Also, for more valid and reliable results, it would be better if data on franchisee's real capital structure could be collected. In addition, this study advances our knowledge regarding the efficiency of various franchising structures from an incomplete contracting perspective.

As for future studies, researchers could look into to what extend the strategic use of franchisee's capital structure can affectthe franchisor's franchising propensity and the chain structure. And it would be great if franchisee's actual debt level can be collected. Moreover, the strategic use of franchisee's capital structure could be studied to see how this strategy could affect the dual distribution phenomenon in franchising. In addition, the benefits of dual distribution would have to be modeled for a better understanding of this phenomenon. And future study could also empirically test the model proposed in chapter four.

References

Alon I. 2001. The Use of Franchising by U.S.-Based Retailers. Journal of Small Business Management 39(2): 111-122

Alvarez SA, Busenitz LW. 2001. The Entrepreneurship of Resource-Based Theory. Journal of Management 27(6): 755

Arturs K. 2004. An Empirical Analysis of Territorial Encroachment within Franchised and Company-Owned Branded Chains. Marketing Science 23(4): 476

Bai C-e, Tao Z. 2000. Contract Mix in Franchising. Journal of Economics and Management Strategy 9(1): 85-113

Bajari P, Tadelis S. 2001. Incentives Versus Transaction Costs: A Theory of Procurement Contracts. RAND Journal of Economics 32(3): 387-407

Baker BL, Dant RP. 2007. Stable Plural Forms in Franchise Systems: An Examination of the Evolution of Ownership Redirection Research. University of South Florida: Tampa, Florida

Baker GP, Hubbard TN. 2004. Contractibility and Asset Ownership: On-Board Computers and Governance in U.S. Trucking. Quarterly Journal of Economics 119(4): 1443-1479

Balakrishnan S, Fox I. 1993. Asset Specificity, Firm Heterogeneity and Capital Structure. Strategic Management Journal 14(1): 3-16

Balasubramanian S. 1998. Mail Versus Mall: A Strategic Analysis of Competition between Direct Marketers and Conventional Retailers. Marketing Science 17(3): 181

Barclay MJ, Marx LM, Smith CW. 2003. The Joint Determination of Leverage and Maturity. Journal of Corporate Finance 9(2): 149-167

Barclay MJ, Smith CW, Jr. 1995. The Maturity Structure of Corporate Debt. The Journal of Finance 50(2): 609-631

Bell DR, Wang Y, Padmanabhan V. 2003. The Effect of Partial Forward Integration on Retailer Behavior: An Explanation for Co-Located Stores. The Wharton School, University of Pennsylvania: Philadelphia, PA

Bercovitz JEL. 1999. An Analysis of the Contract Provisions in Business-Format Franchise Agreements, The thirteenth annual Society of Franchising: Miami Beach, FL

Blair RD, Kaserman DL. 1994. A Note on Incentive Incompatibility under Franchising. Review of Industrial Organization 9(3): 323-330

Blair RD, Lafontaine F. 2005. The Economics of Franchising. Cambridge University Press: Cambridge

Bradach JL. 1997. Using the Plural Form in the Management of Restaurant Chains. Administrative Science Quarterly 42(2): 276-303

Bradach JL. 1998. Franchise Organizations. Harvard Business School Press: Boston, MA

Bradach JL, Eccles RG. 1989. Price, Authority, and Trust: From Ideal Types to Plural Forms. Annual Review of Sociology 15: 97

Brickley JA, Dark FH. 1987. The Choice of Organizational Form the Case of Franchising. Journal of Financial Economics 18(2): 401-420

Brickley JA, Dark FH, Weisbach MS. 1991. An Agency Perspective on Franchising. Financial Management 20(1): 27

Castrogiovanni GJ, Combs JG, Justis RT. 2006. Resource Scarcity and Agency Theory Predictions Concerning the Continued Use of Franchising in Multi-Outlet Networks. Journal of Small Business Management 44(1): 27-44

Caves RE, Murphy Ii WF. 1976. Franchising: Firms, Markets, and Intangible Assets. Southern Economic Journal 42(4): 572

Chiang W-yK, Chhajed D, Hess JD. 2003. Direct Marketing, Indirect Profits: A Strategic Analysis of Dual-Channel Supply-Chain Design. Management Science 49(1): 1-20

Cliquet G, Nguyen M-N. 2004. Innovation Management within the Plural Form Network. In J Windsperger, G Cliquet, G Hendrikse, M Tuunanen (Eds.), Economics and Management of Franchising Networks. Physica-Verlag: Heidelberg

Coase RH. 1937. The Nature of the Firm. Economica 4(16): 386-405

Combs JG, Castrogiovanni GJ. 1994. Franchisor Strategy: A Proposed Model and Empirical Test of Franchise Versus Company Ownership. Journal of Small Business Management 32(2): 37-48

Combs JG, Ketchen DJ, Jr. 1999a. Can Capital Scarcity Help Agency Theory Explain Franchising? Revisiting the Capital Scarcity Hypothesis. The Academy of Management Journal 42(2): 196-207

Combs JG, Ketchen Jr DJ. 1999b. Explaining Interfirm Cooperation and Performance: Toward a Reconciliation of Predictions. Strategic Management Journal 20(9): 867-888

Combs JG, Michael SC, Castrogiovanni GJ. 2004. Franchising: A Review and Avenues to Greater Theoretical Diversity. Journal of Management 30(6): 907-931

Croonen E. 2005. Strategic Interactions in Franchise Relationships, Research School Systems, Organisation and Management, Vol. PhD. Rijksuniversiteit Groningen: Groningen

Dant RP, Berger PD. 1996a. Modelling Cooperative Advertising Decisions in Franchising. The Journal of the Operational Research Society 47(9): 1120-1136

Dant RP, Kaufmann PJ. 2003. Structural and Strategic Dynamics in Franchising. Journal of Retailing 79(2): 63-75

Dant RP, Kaufmann PJ, Paswan AK. 1992. Ownership Redirection in Franchised Channels. Journal of Public Policy & Marketing 11(1): 33

Dant RP, Paswan AK. 1996b. What We Know About Ownership Redirection in Franchising: A Meta-Analysis. Journal of Retailing 72(4): 429-444

DeAngelo H, Masulis RW. 1980. Optimal Capital Structure under Corporate and Personal Taxation. Journal of Financial Economics 8(1): 3-29

Deesomsak R, Paudyal K, Pescetto G. 2004. The Determinants of Capital Structure: Evidence from the Asia Pacific Region. Journal of Multinational Financial Management 14(4-5): 387-405

Diamond DW. 1991. Debt Maturity Structure and Liquidity Risk. The Quarterly Journal of Economics 106(3): 709-737

Dnes A, Garoupa N. 2005. Externality and Organizational Choice in Franchising. Journal of Economics & Business 57(2): 139-149

Dnes AW. 1992. Franchising: A Case-Study Approach. Brookfield, Vt. : Avebury: Aldershot, England

Dnes AW. 1993. A Case-Study Analysis of Franchise Contracts. Journal of Legal Studies 22(2): 367

Dutta S, Bergen M, Heide JB. 1995. Understanding Dual Distribution: The Case of Reps and House Accounts. Journal of Law, Economics & Organization 11(1): 189

Ehrmann T, Spranger G. 2007. Beneficially Constraining Franchisor's Power. In G Cliquet, G Hendrikse, M Tuunanen, J Windsperger (Eds.), Economics and Management of Networks: Franchising, Strategic Alliances, and Cooperatives: 145-168. Physica-Verlag: Heidelberg

Ehrmann T, Spranger G. 2007. Franchisee Versus Company Ownership - An Empirical Analysis of Franchisor Profit. In G Cliquet, G Hendrikse, M Tuunanen, J Windsperger (Eds.), Economics and Management of Networks: Franchising, Strategic Alliances, and Cooperatives: 145-168. Physica-Verlag: HeidelbergEisenhardt KM. 1989. Agency Theory: An Assessment and Review. Academy of Management Review 14(1): 57-74

Elango B, Fried VH. 1997. Franchising Research: A Literature Review and Synthesis. Journal of Small Business Management 35(3): 68-81

Fama EF, Jensen MC. 1983. Separation of Ownership and Control. Journal of Law & Economics 26(2): 301-326

Fischer JH, Harrington JE, Jr. 1996. Product Variety and Firm Agglomeration. The RAND Journal of Economics 27(2): 281-309

Flannery MJ. 1986. Asymmetric Information and Risky Debt Maturity Choice. The Journal of Finance 41(1): 19-37

Fraja GD, Piga CAG. 2004. Strategic Debt in Vertical Relationships: Theory and Evidence. Research in Economics 58(2): 103-123

Gallini NT, Lutz NA. 1992. Dual Distribution and Royalty Fees in Franchising. Journal of Law, Economics & Organization 8(3): 471

Green JR, Stokey NL. 1983. A Comparison of Tournaments and Contracts. The Journal of Political Economy 91(3): 349-364

Grossman S, Hart O. 1982. Corporate Financial Structure and Managerial Incentives. In J McCall (Ed.), The Economics of Information and Uncertainty: 107-140. University of Chicago Press: Chicago

Grossman SJ, Hart OD. 1986. The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration. Journal of Political Economy 94(4): 691-719

Gul F. 1989. Bargaining Foundations of Shapely Value. Econometrica 57(1): 81-95

Hansmann H. 1996. The Ownership of Enterprise. The Belknap Press of Harvard University Press: Cambridge, Mass

Harrigan KR. 1984. Formulating Vertical Integration Strategies. Academy of Management. The Academy of Management Review 9(4): 638

Harris M, Raviv A. 1990. Capital Structure and the Informational Role of Debt. Journal of Finance 45(2): 321-349

Hart O, Moore J. 1990. Property Rights and the Nature of the Firm. Journal of Political Economy 98(6): 1119

Hart OD. 1995. Firms, Contracts, and Financial Structure Oxford University Press: London

Hendrikse G. 2003. Economics and Management of Organizations. McGrawHill

Hendrikse G. 2007. On the Coexistence of Spot and Contract Markets: A Delivery Requirement Explanation. European Review of Agricultural Economics 34(2): 137-162

Holmstrom B, Milgrom P. 1991. Multitask Principal--Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. Journal of Law, Economics & Organization 7(2): 24

Holmstrom B, Milgrom P. 1994. The Firm as an Incentive System. The American Economic Review 84(4): 972-991

Hunt SD. 1973. The Trend toward Company-Operated Units in Franchise Chains. Journal of Retailing 49(2): 3

Jensen MC, Meckling WH. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics 3(4): 305-360

Kalnins A. 2004. An Empirical Analysis of Territorial Encroachment within Franchised and Company-Owned Branded Chains. MARKETING SCIENCE 23(4): 476-489

Katz BG, Owen J. 1992. On the Existence of Franchise Contracts and Some of Their Implications. International Journal of Industrial Organization 10(4): 567

Klein B. 1980. Transaction Cost Determinants Of "Unfair" Contractual Arrangements. The American Economic Review 70(2): 356-362

Klein B, Leffler KB. 1981. The Role of Market Forces in Assuring Contractual Performance. The Journal of Political Economy 89(4): 615-641

Klein B, Saft LF. 1985. The Law and Economics of Franchise Tying Contracts. Journal of Law & Economics 28(2): 345-361

Lafontaine F. 1992a. Agency Theory and Franchising: Some Empirical Results. RAND Journal of Economics 23(2): 263-283

Lafontaine F. 1992b. How and Why Do Franchisors Do What They Do? A Survey Report. In PJ Kaufmann (Ed.), Franchising: Passport for Growth and World of Opportunity, Sixth Annual Proceedings of the Society of Franchising, Society of Franchising: Minneapolis, MN

Lafontaine F. 1993. Contractual Arrangements as Signaling Devices: Evidence from Franchising. J Law Econ Organ 9(2): 256-289

Lafontaine F, Kaufmann PJ. 1994. The Evolution of Ownership Patterns in Franchise Systems. Journal of Retailing 70(2): 97

Lafontaine F, Shaw KL. 2005. Targeting Managerial Control: Evidence from Franchising. RAND Journal of Economics 36(1): 131-150

Lafontaine F, Slade ME. 2001. Incentive Contracting and the Franchise Decision. In K Chatterjee, W Samuelson (Eds.), Game Theory and Business Applications. Kluwer Academic Press: Boston

Lal R. 1990. Improving Channel Coordination through Franchising. Marketing Science 9(4): 299-318

Lazear EP, Rosen S. 1981. Rank-Order Tournaments as Optimum Labor Contracts. The Journal of Political Economy 89(5): 841-864

Leland HE, Pyle DH. 1977. Informational Asymmetries, Financial Structure, and Financial Intermediation. Journal of Finance 32(2): 371-387

Leland HE, Toft KB. 1996. Optimal Capital Structure, Endogenous Bankruptcy, and the Term Structure of Credit Spreads. The Journal of Finance 51(3): 987-1019

Lewin-Solomons SB. 1999. Innovation and Authority in Franchise Systems: An Empirical Exploration of the Plural Form. University of Cambridge and Iowa State Universit

Liu Y, Zhang ZJ. 2006. The Benefits of Personalized Pricing in a Channel. MARKETING SCIENCE 25(1): 97-105

Lutz NA. 1995. Ownership Rights and Incentives in Franchising. Journal of Corporate Finance 2(1-2): 103-131

Mang PY. 1998. Exploiting Innovation Options: An Empirical Analysis of R & D-Intensive Firms. Journal of Economic Behavior & Organization 35(2): 229-242

Martin RE, Justis RT. 1993. Franchising, Liquidity Constraints and Entry. Applied Economics 25(9): 1269

Mathewson F, Winter R. 1994. Territorial Restrictions in Franchise Contracts. Economic Inquiry 32(2): 181-192

Mathewson GF, Winter RA. 1985. The Economics of Franchise Contracts. Journal of Law & Economics 28(3): 503-526

McConnell JJ, Pettit RR. 1984. Application of the Modern Theory of Finance to Small Business Firms. JAI Press: Greenwich, Connecticut

Michael SC. 2000a. The Effect of Organizational Form on Quality: The Case of Franchising. Journal of Economic Behavior & Organization 43(3): 295

Michael SC. 2000b. Investments to Create Bargaining Power: The Case of Franchising. Strategic Management Journal 21(4): 497

Michaelas N, Chittenden F, Poutziouris P. 1999. Financial Policy and Capital Structure Choice in U.K. Smes: Empirical Evidence from Company Panel Data. Small Business Economics 12(2): 113-130

Minkler AP. 1990. An Empirical Analysis of a Firm's Decision to Franchise. Economics Letters 34(1): 77-82

Minkler AP. 1992. Why Firms Franchise: A Search Cost Theory. Journal of Institutional and Theoretical Economics 148(2): 240-259

Minkler AP, Park TA. 1994. Asset Specificity and Vertical Integration in Franchising. Review of Industrial Organization 9(4): 409-423

Mocnik D. 2001. Asset Specificity and a Firm's Borrowing Ability: An Empirical Analysis of Manufacturing Firms. Journal of Economic Behavior and Organization 45: 69-81

Modigliani F, Miller MH. 1963. Corporate Income Taxes and the Cost of Capital: A Correction. The American Economic Review 53(3): 433-443

Myers SC. 1977. Determinants of Corporate Borrowing. Journal of Financial Economics 5(2): 147-175

Myers SC. 1984. The Capital Structure Puzzle. The Journal of Finance 39(3): 575-592

Norton SW. 1988. An Empirical Look at Franchising as an Organizational Form. The Journal of Business 61(2): 197-218

Norton SW. 1995. Is Franchising a Capital Structure Issue? Journal of Corporate Finance 2(1-2): 75-101

Olivier Cochet TE. 2007. Preliminary Evidence on the Appointment of Institutional Solutions to Franchisor Moral Hazard - the Case of Franchisee Councils. Managerial and Decision Economics 28(1): 41-55

Oxenfeldt MR, Kelly AO. 1968. Will Successful Franchise Systems Ultimately Become Wholly-Owned Chains? Journal of Retailing 44(4): 69

Penrose JF. 2005. The Playful Prodigy. Wall Street Journal - Eastern Edition 246(124): D8

Petersen MA, Rajan RG. 1994. The Benefits of Lending Relationships: Evidence from Small Business Data. The Journal of Finance 49(1): 3-37

Pettit R, Singer R. 1985. Small Business Finance: A Research Agenda. Financial Management (Autumn): 47-60

Purohit D. 1997. Dual Distribution Channels: The Competition between Rental Agencies and Dealers. Marketing Science 16(3): 228-245

Rajan RG, Zingales L. 1995. What Do We Know About Capital Structure? Some Evidence from International Data. The Journal of Finance 50(5): 1421-1460

Rajiv PD, Patrick JK. 2003. Structural and Strategic Dynamics in Franchising. Journal of Retailing 79(2): 63

Reynolds J. 2004. Economics 101: How Franchising Makes Music for the U.S. Economy, Franchising World, Vol. 36: 37-40

Ross SA. 1977. The Determination of Financial Structure: The Incentive-Signalling Approach. The Bell Journal of Economics 8(1): 23-40

Rubin PH. 1978. The Theory of the Firm and the Structure of the Franchise Contract. Journal of Law & Economics 21(1): 223-233

Saloner G, Shepard A, Podolny J. 2001. Strategic Management. Wiley: New York

Scott FA. 1995. Franchising Vs Company Ownership as a Decision Variable of the Firm. Review of Industrial Organization 10(1): 69-81

Sen KC. 1993. The Use of Initial Fees and Royalties in Business-Format Franchising. Managerial and Decision Economics 14(2): 175-190

Shane S. 1998a. Explaining the Distribution of Franchised and Company-Owned Outlets in Franchise Systems. Journal of Management 24(6): 717-739

Shane SA. 1996. Hybrid Organizational Arrangements and Their Implications for Firm Growth and Survival: A Study of New Franchisors. Academy of Management Journal 39(1): 216-234

Shane SA. 1998b. Making New Franchise Systems Work. Strategic Management Journal 19(7): 697

Shane S., Shankar V., Aravindakshan A. 2006. The Effects of New Franchisor Partnering Strategies on Franchise System Size. Management Science 52 (5), 773-787

Shapley LS. 1953. A Value for N-Person Games. In H Kuhn, A Tucker (Eds.), Contributions to the Theory of Games. Princeton University Press: Princeton, NJ

Sorenson O, Sørensen JB. 2001. Finding the Right Mix: Franchising, Organizational Learning, and Chain Performance. Strategic Management Journal 22(6-7): 713-724

Stohs MH, Mauer DC. 1996. The Determinants of Corporate Debt Maturity Structure. The Journal of Business 69(3): 279-312

Tadelis S. 2002. The Market for Reputations as an Incentive Mechanism. Journal of Political Economy 110(4): 854-882

Thompson RS. 1992. Company Ownership Vs Franchising: Issues and Evidence. Journal of Economic Studies 19(4): 31

Titman S, Wessels R. 1988. The Determinants of Capital Structure Choice. The Journal of Finance 43(1): 1-19

Wald JK. 1999. How Firm Characteristics Affect Capital Structure: An International Comparison. The Journal of Financial Research 22(2): 161

Whited TM. 1992. Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data, Vol. 47: 1425-1460. Blackwell Publishing for the American Finance Association

Williamson E. 1989. Transaction Cost Economics. Handbook of Industrial Organization 1: 135-182

Williamson OE. 1975. Markets and Hierarchies: Analysis and Antitrust Implications. The Free Press: New York

Williamson OE. 1981. The Modern Corporation: Origins, Evolution, Attributes. Journal of Economic Literature 19(4): 1537-1568

Williamson OE. 1985. The Economic Institution of Capitalism: Firms, Markets, Relational Contracting. Collier Manmillan: New York

Williamson OE. 1988. Corporate-Finance and Corporate Governance. Journal of Finance 43(3): 567-591

Williamson OE. 1991. Comparative Economic Organization: The Analysis of Discrete Structural Alternatives. Administrative Science Quarterly 36(2): 269-296

Wilson MJ, Bell N, Michael SC. 1996. To Franchise or Not to Franchise: An Analysis of Decision Rights and Organizational Form Shares. Journal of Business Venturing 11: 57-71

Windsperger J. 2002. The Dual Structure of Franchising Firms, In: Proceedings of the 16th Conference of the International Society of Franchising: Orlando, University of St. Thomas, Minneapolis

Windsperger J, Dant RP. 2006. Contractibility and Ownership Redirection in Franchising: A Property Rights View. Journal of Retailing 82(3): 259-272

Windsperger J, Yurdakul A. 2007. The Governance Structure of Franchising Firms: A Property Rights View. In G Cliquet, G Hendrikse, M Tuunanen, J Windsperger (Eds.), Economics and Management of Franchising Networks. Physica-Verlag: Heidelberg

Zettelmeyer F. 2000. Expanding to the Internet: Pricing and Communications Strategies When Firms Compete on Multiple Channels. JMR, Journal of Marketing Research 37(3): 292

Samenvatting (Summary in Dutch)

Dit proefschrift onderzoekt twee vraagstukken: de determinanten van vermogensstructuur in franchise-organisaties en de invloed hiervan op financieringsbeslissingen; en de keuze voor efficiënte beheersstructuren in franchise-organisaties. We stellen dat ondernemingen kiezen voor een franchise-structuur teneinde te profiteren van de vermindering van operationele risico's voor franchise-nemers door het verkleinen van de schuldratio, opdat de franchise-gever meer vreemd vermogen kan dragen en hiermee kan profiteren van voordelen van renteaftrek. Specifieke hypotheses zijn gebaseerd op verschillende theorieën, zoals *resource-based view*, agent-principaal theorie, signaaltheorie en klassieke vermogensstructuurtheorieën. Wij vinden empirisch bewijs dat, omdat franchise-gevers eisen dat franchise-nemers meer eigen vermogen inleggen bij de initiële investering, franchise-gevers met meer vreemd vermogen financieren en meer verdienen aan de fiscale aftrekbaarbaarheid van rentelasten. Dit effect is sterker indien binnen een franchise-organisatie meer onderdelen een franchise-structuur hebben. Daarbij vinden we tevens bewijs overeenkomstig onze voorspelling, dat de schuldratio van een franchise-nemer positief is gerelateerd aan de looptijd van het vreemd vermogen van de franchise-gever. Deze bevinding suggereert dat de franchise-gever door een hogere schuldratio te eisen in staat is capabele franchise-nemers te selecteren, en de franchise-gever ook de looptijd van het vreemd vermogen vergroot om faillissementsrisico's te verminderen.

Het proefschrift onderzoekt ook de invloed van beheersstructuur op de prikkels voor de franchise-gever en de franchise-nemers om te investeren in specifieke activa. Drie franchise-systemen worden geanalyseerd: franchises die volledig bestaan uit filiaalhouders, franchises die volledig bestaan uit franchise-nemers, en duale franchises bestaande uit zowel filiaalhouders als franchise-nemers. Er wordt bepaald onder welke omstandigheden alleen een duale beheersstructuur leidt tot een efficiënte toewijzing van eigendomsrechten over activa. Een noodzakelijke voorwaarde voor de efficiëntie van een duale franchise is een positief systeemeffect, niet de waarde van het merk of lokatie (of andere) verschillen tussen de winkels. Bepalend voor de efficiëntie van een duale franchise of een duale coöperatieve franchise blijkt de omvang van de waardecreatie door de franchise-gever ten opzichte van de waardecreatie door de franchise-nemer te zijn.

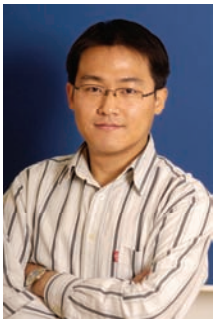
中文摘要（Summary in Chinese）

特许经营是近年来在商业以及在学术领域都很热门的一个话题。然而，一些相关的基本问题还有待探讨。本论文主要研究了两个问题：一. 哪些因素影响了特许经营企业的资本结构的选择以及随后的融资决定？二. 特许经营企业如何选择最有效的治理结构？

战略地使用特许加盟店的资本结构会影响到特许人的融资决定，这将最终影响到公司价值并且会微妙地影响其对特许经营的偏好。本文提出公司开展特许经营是因为可以得益于通过限制受许人的债务水平从而减少其业务风险，特许人因此可以提高其自身债务率并获得税收减免的好处。根据资源基础观，代理理论，信号理论和古典资本结构理论，本文提出了多种假设。基于 2001 年至 2006 年间北美地区 97 家上市的特许连锁店，我们发现当特许人要求受许人在初始投资中使用更多权益资本时，特许人确实提高其债务资本的水平从而获取税收减免的好处。我们还发现在拥有更多加盟店的企业中，这一现象更加明显。此外，我们还使用了荷兰特许经营企业的数据实证分析了我们的假设，从而扩展及巩固了我们的发现。基于 122 家荷兰的特许经营店，我们发现受许人的杠杆率是和特许人的到期结构成正相关的。这表明，当特许人使用高负债率筛选有能力的受许人时，特许人会选择延长他们的负债的到期日，以减少破产风险。

为了解释特许经营中各种治理结构的选择问题，我们探究了治理结构如何影响特许人和经销商的特定资产投资动机。全资，独资专营，及混合（双分布）式的特许经营结构都在文中得以考虑。本文指出了在何种情况下双分布式的治理结构能够独特地分配有效的资产所有权。一个基于产权理论的不完全契约模型被设立并用于研究特许经营权中有效的治理结构的选择。我们发现，特许经营或者合作社式的特许经营中的双分布结构的好处的实现取决于是否大部分价值被加在了上游还是下游。双分布制度的缺点是它弱化了无权力方的投资动机。这样，一个使用完全授权经营的系统才有可能成为有效的治理结构，即便有双分布系统利益的存在。一个能使双分布结构有效的必要条件是一个正的系统性效应，而不是品牌的价值或者好坏地点间的差异。

Curriculum Vitae



Tao Jiang was born in Tianjin, China on March 13th, 1978. He studied foreign trade in Tianjin University of Finance and Economics from 1997to 2001 and received his Bachelor's degree in Economics. He then worked for the Netherlands Business Support Office (NBSO) for one year in Tianjin. Since 2002, he joined in the research Master's program, majoring in organization, in Tilburg University in the Netherlands and received his MSc in 2003.

Since 2004, he joined the PhD program at the Department of Organisation and Personnel Management of the Rotterdam School of Management, Erasmus University. His main research interests focus on governance structure choice and corporate finance, specifically in franchising field. He presented his papers in international conferences, like International Conferences on Economics and Management of Networks and International Council for Small Business (ICSB) World Conference.

Currently, Tao holds a position at the Customer and Market Intelligence Department of TNT Express.

ERASMUS RESEARCH INSTITUTE OF MANAGEMENT (ERIM)

ERIM PH.D. SERIES

RESEARCH IN MANAGEMENT

ERIM Electronic Series Portal: http://hdl.handle.net/1765/1

Althuizen, N.A.P., *Analogical Reasoning as a Decision Support Principle for Weakly Structured Marketing Problems*, Promotor: Prof.dr.ir. B. Wierenga, EPS-2006-095-MKT, ISBN: 90-5892-129-8, http://hdl.handle.net/1765/8190

Alvarez, H.L., *Distributed Collaborative Learning Communities Enabled by Information Communication Technology*, Promotor: Prof.dr. K. Kumar, EPS-2006-080-LIS, ISBN: 90-5892-112-3, http://hdl.handle.net/1765/7830

Appelman, J.H., *Governance of Global Interorganizational Tourism Networks: Changing Forms of Co-ordination between the Travel Agency and Aviation Sector*, Promotors: Prof.dr. F.M. Go & Prof.dr. B. Nooteboom, EPS-2004-036-MKT, ISBN: 90-5892-060-7, http://hdl.handle.net/1765/1199

Assem, M.J. van den, *Deal or No Deal? Decision Making under Risk in a Large-Stake TV Game Show and Related Experiments*, Promotor: Prof.dr. J. Spronk, EPS-2008-138-F&A, ISBN: 978-90-5892-173-4, http://hdl.handle.net/1765/1

Baquero, G, *On Hedge Fund Performance, Capital Flows and Investor Psychology*, Promotor: Prof.dr. M.J.C.M. Verbeek, EPS-2006-094-F&A, ISBN: 90-5892-131-X, http://hdl.handle.net/1765/8192

Berens, G., *Corporate Branding: The Development of Corporate Associations and their Influence on Stakeholder Reactions*, Promotor: Prof.dr. C.B.M. van Riel, EPS-2004-039-ORG, ISBN: 90-5892-065-8, http://hdl.handle.net/1765/1273

Berghe, D.A.F. van den, *Working Across Borders: Multinational Enterprises and the Internationalization of Employment*, Promotors: Prof.dr. R.J.M. van Tulder & Prof.dr. E.J.J. Schenk, EPS-2003-029-ORG, ISBN: 90-5892-05-34, http://hdl.handle.net/1765/1041

Berghman, L.A., *Strategic Innovation Capacity: A Mixed Method Study on Deliberate Strategic Learning Mechanisms*, Promotor: Prof.dr. P. Mattyssens, EPS-2006-087-MKT, ISBN: 90-5892-120-4, http://hdl.handle.net/1765/7991

Bijman, W.J.J., *Essays on Agricultural Co-operatives: Governance Structure in Fruit and Vegetable Chains*, Promotor: Prof.dr. G.W.J. Hendrikse, EPS-2002-015-ORG, ISBN: 90-5892-024-0, http://hdl.handle.net/1765/867

Bispo, A., *Labour Market Segmentation: An investigation into the Dutch hospitality industry*, Promotors: Prof.dr. G.H.M. Evers & Prof.dr. A.R. Thurik, EPS-2007-108-ORG, ISBN: 90-5892-136-9, http://hdl.handle.net/1765/10283

Blindenbach-Driessen, F., *Innovation Management in Project-Based Firms*, Promotor: Prof.dr. S.L. van de Velde, EPS-2006-082-LIS, ISBN: 90-5892-110-7, http://hdl.handle.net/1765/7828

Boer, C.A., *Distributed Simulation in Industry,* Promotors: Prof.dr. A. de Bruin & Prof.dr.ir. A. Verbraeck, EPS-2005-065-LIS, ISBN: 90-5892-093-3, http://hdl.handle.net/1765/6925

Boer, N.I., *Knowledge Sharing within Organizations: A situated and Relational Perspective,* Promotor: Prof.dr. K. Kumar, EPS-2005-060-LIS, ISBN: 90-5892-086-0, http://hdl.handle.net/1765/6770

Boer-Sorbán, K., *Agent-Based Simulation of Financial Markets: A modular, Continuous-Time Approach,* Promotor: Prof.dr. A. de Bruin, EPS-2008-119-LIS, ISBN: 90-5892-155-0, http://hdl.handle.net/1765/10870

Boon, C.T., *HRM and Fit: Survival of the Fittest!?,* Promotors: Prof.dr. J. Paauwe & Prof.dr. D.N. den Hartog, EPS-2008-129-ORG, ISBN: 978-90-5892-162-8, http://hdl.handle.net/1765/1

Braun, E., *City Marketing: Towards an Integrated Approach,* Promotor: Prof.dr. L. van den Berg, EPS-2008-142-MKT, ISBN: 978-90-5892-180-2, http://hdl.handle.net/1765/1

Brito, M.P. de, *Managing Reverse Logistics or Reversing Logistics Management?* Promotors: Prof.dr.ir. R. Dekker & Prof.dr. M. B. M. de Koster, EPS-2004-035-LIS, ISBN: 90-5892-058-5, http://hdl.handle.net/1765/1132

Brohm, R., *Polycentric Order in Organizations: A Dialogue between Michael Polanyi and IT-Consultants on Knowledge, Morality, and Organization,* Promotors: Prof.dr. G. W. J. Hendrikse & Prof.dr. H. K. Letiche, EPS-2005-063-ORG, ISBN: 90-5892-095-X, http://hdl.handle.net/1765/6911

Brumme, W.-H., *Manufacturing Capability Switching in the High-Tech Electronics Technology Life Cycle,* Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Prof.dr.ir. L.N. Van Wassenhove, EPS-2008-126-LIS, ISBN: 978-90-5892-150-5, http://hdl.handle.net/1765/1

Burgers, J.H., *Managing Corporate Venturing: Multilevel Studies on Project Autonomy, Integration, Knowledge Relatedness, and Phases in the New Business Development Process,* Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda, EPS-2008-136-STR, ISBN: 978-90-5892-174-1, http://hdl.handle.net/1765/1

Campbell, R.A.J., *Rethinking Risk in International Financial Markets*, Promotor: Prof.dr. C.G. Koedijk, EPS-2001-005-F&A, ISBN: 90-5892-008-9, http://hdl.handle.net/1765/306

Chen, H., *Individual Mobile Communication Services and Tariffs*, Promotor: Prof.dr. L.F.J.M. Pau, EPS-2008-123-LIS, ISBN: 90-5892-158-1, http://hdl.handle.net/1765/11141

Chen, Y., *Labour Flexibility in China's Companies: An Empirical Study*, Promotors: Prof.dr. A. Buitendam & Prof.dr. B. Krug, EPS-2001-006-ORG, ISBN: 90-5892-012-7, http://hdl.handle.net/1765/307

Damen, F.J.A., *Taking the Lead: The Role of Affect in Leadership Effectiveness*, Promotor: Prof.dr. D.L. van Knippenberg, EPS-2007-107-ORG, http://hdl.handle.net/1765/10282

Daniševská, P., *Empirical Studies on Financial Intermediation and Corporate Policies*, Promotor: Prof.dr. C.G. Koedijk, EPS-2004-044-F&A, ISBN: 90-5892-070-4, http://hdl.handle.net/1765/1518

Delporte-Vermeiren, D.J.E., *Improving the Flexibility and Profitability of ICT-enabled Business Networks: An Assessment Method and Tool*, Promotors: Prof. mr. dr. P.H.M. Vervest & Prof.dr.ir. H.W.G.M. van Heck, EPS-2003-020-LIS, ISBN: 90-5892-040-2, http://hdl.handle.net/1765/359

Derwall, J.M.M., *The Economic Virtues of SRI and CSR*, Promotor: Prof.dr. C.G. Koedijk, EPS-2007-101-F&A, ISBN: 90-5892-132-8, http://hdl.handle.net/1765/8986

Diepen, M. van, *Dynamics and Competition in Charitable Giving*, Promotor: Prof.dr. Ph.H.B.F. Franses, EPS-2009-159-MKT, ISBN: 978-90-5892-188-8, http://hdl.handle.net/1765/1

Dijksterhuis, M., *Organizational Dynamics of Cognition and Action in the Changing Dutch and US Banking Industries*, Promotors: Prof.dr.ir. F.A.J. van den Bosch & Prof.dr. H.W. Volberda, EPS-2003-026-STR, ISBN: 90-5892-048-8, http://hdl.handle.net/1765/1037

Elstak, M.N., *Flipping the Identity Coin: The Comparative Effect of Perceived, Projected and Desired Organizational Identity on Organizational Identification and Desired Behavior*, Promotor: Prof.dr. C.B.M. van Riel, EPS-2008-117-ORG, ISBN: 90-5892-148-2, http://hdl.handle.net/1765/10723

Erken, H.P.G., *Productivity, R&D and Entrepreneurship*, Promotor: Prof.dr. A.R. Thurik, EPS-2008-147-ORG, ISBN: 978-90-5892-179-6, http://hdl.handle.net/1765/1

Fenema, P.C. van, *Coordination and Control of Globally Distributed Software Projects*, Promotor: Prof.dr. K. Kumar, EPS-2002-019-LIS, ISBN: 90-5892-030-5, http://hdl.handle.net/1765/360

Fleischmann, M., *Quantitative Models for Reverse Logistics*, Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Prof.dr.ir. R. Dekker, EPS-2000-002-LIS, ISBN: 35-4041-711-7, http://hdl.handle.net/1765/1044

Flier, B., *Strategic Renewal of European Financial Incumbents: Coevolution of Environmental Selection, Institutional Effects, and Managerial Intentionality*, Promotors: Prof.dr.ir. F.A.J. van den Bosch & Prof.dr. H.W. Volberda, EPS-2003-033-STR, ISBN: 90-5892-055-0, http://hdl.handle.net/1765/1071

Fok, D., *Advanced Econometric Marketing Models*, Promotor: Prof.dr. Ph.H.B.F. Franses, EPS-2003-027-MKT, ISBN: 90-5892-049-6, http://hdl.handle.net/1765/1035

Ganzaroli, A., *Creating Trust between Local and Global Systems*, Promotors: Prof.dr. K. Kumar & Prof.dr. R.M. Lee, EPS-2002-018-LIS, ISBN: 90-5892-031-3, http://hdl.handle.net/1765/361

Gilsing, V.A., *Exploration, Exploitation and Co-evolution in Innovation Networks*, Promotors: Prof.dr. B. Nooteboom & Prof.dr. J.P.M. Groenewegen, EPS-2003-032-ORG, ISBN: 90-5892-054-2, http://hdl.handle.net/1765/1040

Gijsbers, G.W., *Agricultural Innovation in Asia: Drivers, Paradigms and Performance,* Promotor: Prof.dr. R.J.M. van Tulder, EPS-2009-156-ORG, ISBN: 978-90-5892-191-8, http://hdl.handle.net/1765/1

Govers, R., *Virtual Tourism Destination Image: Glocal Identities Constructed, Perceived and Experienced*, Promotors: Prof.dr. F.M. Go & Prof.dr. K. Kumar, EPS-2005-069-MKT, ISBN: 90-5892-107-7, http://hdl.handle.net/1765/6981

Graaf, G. de, *Tractable Morality: Customer Discourses of Bankers, Veterinarians and Charity Workers*, Promotors: Prof.dr. F. Leijnse & Prof.dr. T. van Willigenburg, EPS-2003-031-ORG, ISBN: 90-5892-051-8, http://hdl.handle.net/1765/1038

Groot, E.A. de, *Essays on Economic Cycles*, Promotors: Prof.dr. Ph.H.B.F. Franses & Prof.dr. H.R. Commandeur, EPS-2006-091-MKT, ISBN: 90-5892-123-9, http://hdl.handle.net/1765/8216

Gutkowska, A.B., *Essays on the Dynamic Portfolio Choice*, Promotor: Prof.dr. A.C.F. Vorst, EPS-2006-085-F&A, ISBN: 90-5892-118-2, http://hdl.handle.net/1765/7994

Hagemeijer, R.E., *The Unmasking of the Other*, Promotors: Prof.dr. S.J. Magala & Prof.dr. H.K. Letiche, EPS-2005-068-ORG, ISBN: 90-5892-097-6, http://hdl.handle.net/1765/6963

Halderen, M.D. van, *Organizational Identity Expressiveness and Perception Management: Principles for Expressing the Organizational Identity in Order to Manage the Perceptions and Behavioral Reactions of External Stakeholders*, Promotor: Prof.dr. S.B.M. van Riel, EPS-2008-122-ORG, ISBN: 90-5892-153-6, http://hdl.handle.net/1765/10872

Hartigh, E. den, *Increasing Returns and Firm Performance: An Empirical Study*, Promotor: Prof.dr. H.R. Commandeur, EPS-2005-067-STR, ISBN: 90-5892-098-4, http://hdl.handle.net/1765/6939

Hermans. J.M., *ICT in Information Services; Use and Deployment of the Dutch Securities Trade, 1860-1970,* Promotor: Prof.dr. drs. F.H.A. Janszen, EPS-2004-046-ORG, ISBN 90-5892-072-0, http://hdl.handle.net/1765/1793

Hessels, S.J.A., *International Entrepreneurship: Value Creation Across National Borders*, Promotor: Prof.dr. A.R. Thurik, EPS-2008-144-ORG, ISBN: 978-90-5892-181-9, http://hdl.handle.net/1765/1

Heugens, P.P.M.A.R., *Strategic Issues Management: Implications for Corporate Performance*, Promotors: Prof.dr.ir. F.A.J. van den Bosch & Prof.dr. C.B.M. van Riel, EPS-2001-007-STR, ISBN: 90-5892-009-9, http://hdl.handle.net/1765/358

Heuvel, W. van den, *The Economic Lot-Sizing Problem: New Results and Extensions*, Promotor: Prof.dr. A.P.L. Wagelmans, EPS-2006-093-LIS, ISBN: 90-5892-124-7, http://hdl.handle.net/1765/1805

Hoedemaekers, C.M.W., *Performance, Pinned down: A Lacanian Analysis of Subjectivity at Work*, Promotors: Prof.dr. S. Magala & Prof.dr. D.H. den Hartog, EPS-2008-121-ORG, ISBN: 90-5892-156-7, http://hdl.handle.net/1765/10871

Hooghiemstra, R., *The Construction of Reality: Cultural Differences in Self-serving Behaviour in Accounting Narratives*, Promotors: Prof.dr. L.G. van der Tas RA & Prof.dr. A.Th.H. Pruyn, EPS-2003-025-F&A, ISBN: 90-5892-047-X, http://hdl.handle.net/1765/871

Hu, Y., *Essays on the Governance of Agricultural Products: Cooperatives and Contract Farming*, Promotors: Prof.dr. G.W.J. Hendrkse & Prof.dr. B. Krug, EPS-2007-113-ORG, ISBN: 90-5892-145-1, http://hdl.handle.net/1765/10535

Huij, J.J., *New Insights into Mutual Funds: Performance and Family Strategies*, Promotor: Prof.dr. M.C.J.M. Verbeek, EPS-2007-099-F&A, ISBN: 90-5892-134-4, http://hdl.handle.net/1765/9398

Huurman, C.I., *Dealing with Electricity Prices*, Promotor: Prof.dr. C.D. Koedijk, EPS-2007-098-F&A, ISBN: 90-5892-130-1, http://hdl.handle.net/1765/9399

Iastrebova, K, *Manager's Information Overload: The Impact of Coping Strategies on Decision-Making Performance*, Promotor: Prof.dr. H.G. van Dissel, EPS-2006-077-LIS, ISBN: 90-5892-111-5, http://hdl.handle.net/1765/7329

Iwaarden, J.D. van, *Changing Quality Controls: The Effects of Increasing Product Variety and Shortening Product Life Cycles,* Promotors: Prof.dr. B.G. Dale & Prof.dr. A.R.T. Williams, EPS-2006-084-ORG, ISBN: 90-5892-117-4, http://hdl.handle.net/1765/7992

Jansen, J.J.P., *Ambidextrous Organizations*, Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda, EPS-2005-055-STR, ISBN: 90-5892-081-X, http://hdl.handle.net/1765/6774

Jennen, M.G.J., *Empirical Essays on Office Market Dynamics*, Promotors: Prof.dr. C.G. Koedijk & Prof.dr. D. Brounen, EPS-2008-140-F&A, ISBN: 978-90-5892-176-5, http://hdl.handle.net/1765/1

Jong, C. de, *Dealing with Derivatives: Studies on the Role, Informational Content and Pricing of Financial Derivatives*, Promotor: Prof.dr. C.G. Koedijk, EPS-2003-023-F&A, ISBN: 90-5892-043-7, http://hdl.handle.net/1765/1043

Keizer, A.B., *The Changing Logic of Japanese Employment Practices: A Firm-Level Analysis of Four Industries,* Promotors: Prof.dr. J.A. Stam & Prof.dr. J.P.M. Groenewegen, EPS-2005-057-ORG, ISBN: 90-5892-087-9, http://hdl.handle.net/1765/6667

Kijkuit, R.C., *Social Networks in the Front End: The Organizational Life of an Idea,* Promotor: Prof.dr. B. Nooteboom, EPS-2007-104-ORG, ISBN: 90-5892-137-6, http://hdl.handle.net/1765/10074

Kippers, J., *Empirical Studies on Cash Payments,* Promotor: Prof.dr. Ph.H.B.F. Franses, EPS-2004-043-F&A, ISBN: 90-5892-069-0, http://hdl.handle.net/1765/1520

Klein, M.H., *Poverty Alleviation through Sustainable Strategic Business Models: Essays on Poverty Alleviation as a Business Strategy,* Promotor: Prof.dr. H.R. Commandeur, EPS-2008-135-STR, ISBN: 978-90-5892-168-0, http://hdl.handle.net/1765/1

Knapp, S., *The Econometrics of Maritime Safety: Recommendations to Enhance Safety at Sea*, Promotor: Prof.dr. Ph.H.B.F. Franses, EPS-2007-096-ORG, ISBN: 90-5892-127-1, http://hdl.handle.net/1765/7913

Kole, E., *On Crises, Crashes and Comovements*, Promotors: Prof.dr. C.G. Koedijk & Prof.dr. M.J.C.M. Verbeek, EPS-2006-083-F&A, ISBN: 90-5892-114-X, http://hdl.handle.net/1765/7829

Kooij-de Bode, J.M., *Distributed Information and Group Decision-Making: Effects of Diversity and Affect*, Promotor: Prof.dr. D.L. van Knippenberg, EPS-2007-115-ORG, http://hdl.handle.net/1765/10722

Koppius, O.R., *Information Architecture and Electronic Market Performance*, Promotors: Prof.dr. P.H.M. Vervest & Prof.dr.ir. H.W.G.M. van Heck, EPS-2002-013-LIS, ISBN: 90-5892-023-2, http://hdl.handle.net/1765/921

Kotlarsky, J., *Management of Globally Distributed Component-Based Software Development Projects,* Promotor: Prof.dr. K. Kumar, EPS-2005-059-LIS, ISBN: 90-5892-088-7, http://hdl.handle.net/1765/6772

Krauth, E.I., *Real-Time Planning Support: A Task-Technology Fit Perspective,* Promotors: Prof.dr. S.L. van de Velde & Prof.dr. J. van Hillegersberg, EPS-2008-155-LIS, ISBN: 978-90-5892-193-2, http://hdl.handle.net/1765/1

Kuilman, J., *The Re-Emergence of Foreign Banks in Shanghai: An Ecological Analysis,* Promotor: Prof.dr. B. Krug, EPS-2005-066-ORG, ISBN: 90-5892-096-8, http://hdl.handle.net/1765/6926

Langen, P.W. de, *The Performance of Seaport Clusters: A Framework to Analyze Cluster Performance and an Application to the Seaport Clusters of Durban, Rotterdam and the Lower Mississippi*, Promotors: Prof.dr. B. Nooteboom & Prof. drs. H.W.H. Welters, EPS-2004-034-LIS, ISBN: 90-5892-056-9, http://hdl.handle.net/1765/1133

Le Anh, T., *Intelligent Control of Vehicle-Based Internal Transport Systems*, Promotors: Prof.dr. M.B.M. de Koster & Prof.dr.ir. R. Dekker, EPS-2005-051-LIS, ISBN: 90-5892-079-8, http://hdl.handle.net/1765/6554

Le-Duc, T., *Design and Control of Efficient Order Picking Processes*, Promotor: Prof.dr. M.B.M. de Koster, EPS-2005-064-LIS, ISBN: 90-5892-094-1, http://hdl.handle.net/1765/6910

Leeuwen, E.P. van, *Recovered-Resource Dependent Industries and the Strategic Renewal of Incumbent Firm: A Multi-Level Study of Recovered Resource Dependence Management and Strategic Renewal in the European Paper and Board Industry*, Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda, EPS-2007-109-STR, ISBN: 90-5892-140-6, http://hdl.handle.net/1765/10183

Lentink, R.M., *Algorithmic Decision Support for Shunt Planning*, Promotors: Prof.dr. L.G. Kroon & Prof.dr.ir. J.A.E.E. van Nunen, EPS-2006-073-LIS, ISBN: 90-5892-104-2, http://hdl.handle.net/1765/7328

Li, T., *Informedness and Customer-Centric Revenue Management,* Promotors: Prof.dr. P.H.M. Vervest & Prof.dr.ir. H.W.G.M. van Heck, EPS-2009-146-LIS, ISBN: 978-90-5892-195-6, http://hdl.handle.net/1765/1

Liang, G., *New Competition: Foreign Direct Investment and Industrial Development in China,* Promotor: Prof.dr. R.J.M. van Tulder, EPS-2004-047-ORG, ISBN: 90-5892-073-9, http://hdl.handle.net/1765/1795

Liere, D.W. van, *Network Horizon and the Dynamics of Network Positions: A Multi-Method Multi-Level Longitudinal Study of Interfirm Networks,* Promotor: Prof.dr. P.H.M. Vervest, EPS-2007-105-LIS, ISBN: 90-5892-139-0, http://hdl.handle.net/1765/10181

Loef, J., *Incongruity between Ads and Consumer Expectations of Advertising*, Promotors: Prof.dr. W.F. van Raaij & Prof.dr. G. Antonides, EPS-2002-017-MKT, ISBN: 90-5892-028-3, http://hdl.handle.net/1765/869

Maeseneire, W., de, *Essays on Firm Valuation and Value Appropriation,* Promotor: Prof.dr. J.T.J. Smit, EPS-2005-053-F&A, ISBN: 90-5892-082-8, http://hdl.handle.net/1765/6768

Londoño, M. del Pilar, *Institutional Arrangements that Affect Free Trade Agreements: Economic Rationality Versus Interest Groups*, Promotors: Prof.dr. H.E. Haralambides & Prof.dr. J.F. Francois, EPS-2006-078-LIS, ISBN: 90-5892-108-5, http://hdl.handle.net/1765/7578

Maas, A.A., van der, *Strategy Implementation in a Small Island Context: An Integrative Framework,* Promotor: Prof.dr. H.G. van Dissel, EPS-2008-127-LIS, ISBN: 978-90-5892-160-4, http://hdl.handle.net/1765/1

Maeseneire, W., de, *Essays on Firm Valuation and Value Appropriation,* Promotor: Prof.dr. J.T.J. Smit, EPS-2005-053-F&A, ISBN: 90-5892-082-8, http://hdl.handle.net/1765/6768

Mandele, L.M., van der, *Leadership and the Inflection Point: A Longitudinal Perspective*, Promotors: Prof.dr. H.W. Volberda & Prof.dr. H.R. Commandeur, EPS-2004-042-STR, ISBN: 90-5892-067-4, http://hdl.handle.net/1765/1302

Meer, J.R. van der, *Operational Control of Internal Transport*, Promotors: Prof.dr. M.B.M. de Koster & Prof.dr.ir. R. Dekker, EPS-2000-001-LIS, ISBN: 90-5892-004-6, http://hdl.handle.net/1765/859

Mentink, A., *Essays on Corporate Bonds*, Promotor: Prof.dr. A.C.F. Vorst, EPS-2005-070-F&A, ISBN: 90-5892-100-X, http://hdl.handle.net/1765/7121

Meyer, R.J.H., *Mapping the Mind of the Strategist: A Quantitative Methodology for Measuring the Strategic Beliefs of Executives*, Promotor: Prof.dr. R.J.M. van Tulder, EPS-2007-106-ORG, ISBN: 978-90-5892-141-3, http://hdl.handle.net/1765/10182

Miltenburg, P.R., *Effects of Modular Sourcing on Manufacturing Flexibility in the Automotive Industry: A Study among German OEMs*, Promotors: Prof.dr. J. Paauwe & Prof.dr. H.R. Commandeur, EPS-2003-030-ORG, ISBN: 90-5892-052-6, http://hdl.handle.net/1765/1039

Moerman, G.A., *Empirical Studies on Asset Pricing and Banking in the Euro Area,* Promotor: Prof.dr. C.G. Koedijk, EPS-2005-058-F&A, ISBN: 90-5892-090-9, http://hdl.handle.net/1765/6666

Moitra, D., *Globalization of R&D: Leveraging Offshoring for Innovative Capability and Organizational Flexibility,* Promotor: Prof.dr. K. Kumar, EPS-2008-150-LIS, ISBN: 978-90-5892-184-0, http://hdl.handle.net/1765/1

Mol, M.M., *Outsourcing, Supplier-relations and Internationalisation: Global Source Strategy as a Chinese Puzzle*, Promotor: Prof.dr. R.J.M. van Tulder, EPS-2001-010-ORG, ISBN: 90-5892-014-3, http://hdl.handle.net/1765/355

Mom, T.J.M., *Managers' Exploration and Exploitation Activities: The Influence of Organizational Factors and Knowledge Inflows*, Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda, EPS-2006-079-STR, ISBN: 90-5892-116-6, http://hdl.handle.net/1765

Mulder, A., *Government Dilemmas in the Private Provision of Public Goods*, Promotor: Prof.dr. R.J.M. van Tulder, EPS-2004-045-ORG, ISBN: 90-5892-071-2, http://hdl.handle.net/1765/1790

Muller, A.R., *The Rise of Regionalism: Core Company Strategies Under The Second Wave of Integration*, Promotor: Prof.dr. R.J.M. van Tulder, EPS-2004-038-ORG, ISBN: 90-5892-062-3, http://hdl.handle.net/1765/1272

Nalbantov G.I., *Essays on Some Recent Penalization Methods with Applications in Finance and Marketing*, Promotor: Prof. dr P.J.F. Groenen, EPS-2008-132-F&A, ISBN: 978-90-5892-166-6, http://hdl.handle.net/1765/1

Nguyen, T.T., *Capital Structure, Strategic Competition, and Governance*, Promotor: Prof.dr. A. de Jong, EPS-2008-148-F&A, ISBN: 90-5892-178-9, http://hdl.handle.net/1765/1

Nieuwenboer, N.A. den, *Seeing the Shadow of the Self*, Promotor: Prof.dr. S.P. Kaptein, EPS-2008-151-ORG, ISBN: 978-90-5892-182-6, http://hdl.handle.net/1765/1

Ning, H., *Hierarchical Portfolio Management: Theory and Applications*, Promotor: Prof.dr. J. Spronk, EPS-2007-118-F&A, ISBN: 90-5892-152-9, http://hdl.handle.net/1765/10868

Noeverman, J., *Management Control Systems, Evaluative Style, and Behaviour: Exploring the Concept and Behavioural Consequences of Evaluative Style*, Promotors: Prof.dr. E.G.J. Vosselman & Prof.dr. A.R.T. Williams, EPS-2007-120-F&A, ISBN: 90-5892-151-2, http://hdl.handle.net/1765/10869

Oosterhout, J., van, *The Quest for Legitimacy: On Authority and Responsibility in Governance*, Promotors: Prof.dr. T. van Willigenburg & Prof.mr. H.R. van Gunsteren, EPS-2002-012-ORG, ISBN: 90-5892-022-4, http://hdl.handle.net/1765/362

Paape, L., *Corporate Governance: The Impact on the Role, Position, and Scope of Services of the Internal Audit Function*, Promotors: Prof.dr. G.J. van der Pijl & Prof.dr. H. Commandeur, EPS-2007-111-MKT, ISBN: 90-5892-143-7, http://hdl.handle.net/1765/10417

Pak, K., *Revenue Management: New Features and Models*, Promotor: Prof.dr.ir. R. Dekker, EPS-2005-061-LIS, ISBN: 90-5892-092-5, http://hdl.handle.net/1765/362/6771

Pattikawa, L.H, *Innovation in the Pharmaceutical Industry: Evidence from Drug Introduction in the U.S.*, Promotors: Prof.dr. H.R.Commandeur, EPS-2007-102-MKT, ISBN: 90-5892-135-2, http://hdl.handle.net/1765/9626

Peeters, L.W.P., *Cyclic Railway Timetable Optimization*, Promotors: Prof.dr. L.G. Kroon & Prof.dr.ir. J.A.E.E. van Nunen, EPS-2003-022-LIS, ISBN: 90-5892-042-9, http://hdl.handle.net/1765/429

Pietersz, R., *Pricing Models for Bermudan-style Interest Rate Derivatives*, Promotors: Prof.dr. A.A.J. Pelsser & Prof.dr. A.C.F. Vorst, EPS-2005-071-F&A, ISBN: 90-5892-099-2, http://hdl.handle.net/1765/7122

Poel, A.M. van der, *Empirical Essays in Corporate Finance and Financial Reporting*, Promotors: Prof.dr. A. de Jong & Prof.dr. G.M.H. Mertens, EPS-2007-133-F&A, ISBN: 978-90-5892-165-9, http://hdl.handle.net/1765/1

Popova, V., *Knowledge Discovery and Monotonicity*, Promotor: Prof.dr. A. de Bruin, EPS-2004-037-LIS, ISBN: 90-5892-061-5, http://hdl.handle.net/1765/1201

Pouchkarev, I., *Performance Evaluation of Constrained Portfolios*, Promotors: Prof.dr. J. Spronk & Dr. W.G.P.M. Hallerbach, EPS-2005-052-F&A, ISBN: 90-5892-083-6, http://hdl.handle.net/1765/6731

Prins, R., *Modeling Consumer Adoption and Usage of Value-Added Mobile Services*, Promotors: Prof.dr. Ph.H.B.F. Franses & Prof.dr. P.C. Verhoef, EPS-2008-128-MKT, ISBN: 978/90-5892-161-1, http://hdl.handle.net/1765/1

Puvanasvari Ratnasingam, P., *Interorganizational Trust in Business to Business E-Commerce*, Promotors: Prof.dr. K. Kumar & Prof.dr. H.G. van Dissel, EPS-2001-009-LIS, ISBN: 90-5892-017-8, http://hdl.handle.net/1765/356

Quak, H.J., *Sustainability of Urban Freight Transport: Retail Distribution and Local Regulation in Cities*, Promotor: Prof.dr. M.B.M. de Koster, EPS-2008-124-LIS, ISBN: 978-90-5892-154-3, http://hdl.handle.net/1765/11990

Quariguasi Frota Nero, J., *Eco-efficient Supply Chains for Electrical and Electronic Products*, Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Prof.dr.ir. H.W.G.M. van Heck, EPS-2008-152-LIS, ISBN: 978-90-5892-192-5, http://hdl.handle.net/1765/1

Radkevitch, U.L, *Online Reverse Auction for Procurement of Services*, Promotor: Prof.dr.ir. H.W.G.M. van Heck, EPS-2008-137-LIS, ISBN: 978-90-5892-171-0, http://hdl.handle.net/1765/1

Rinsum, M. van, *Performance Measurement and Managerial Time Orientation*, Promotor: Prof.dr. F.G.H. Hartmann, EPS-2006-088-F&A, ISBN: 90-5892-121-2, http://hdl.handle.net/1765/7993

Romero Morales, D., *Optimization Problems in Supply Chain Management*, Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Dr. H.E. Romeijn, EPS-2000-003-LIS, ISBN: 90-9014078-6, http://hdl.handle.net/1765/865

Roodbergen, K.J., *Layout and Routing Methods for Warehouses*, Promotors: Prof.dr. M.B.M. de Koster & Prof.dr.ir. J.A.E.E. van Nunen, EPS-2001-004-LIS, ISBN: 90-5892-005-4, http://hdl.handle.net/1765/861

Rook, L., *Imitation in Creative Task Performance*, Promotor: Prof.dr. D.L. van Knippenberg, EPS-2008-125-ORG, http://hdl.handle.net/1765/11555

Samii, R., *Leveraging Logistics Partnerships: Lessons from Humanitarian Organizations,* Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Prof.dr.ir. L.N. Van Wassenhove, EPS-2008-153-LIS, ISBN: 978-90-5892-186-4, http://hdl.handle.net/1765/1

Schaik, D. van, *M&A in Japan: An Analysis of Merger Waves and Hostile Takeovers,* Promotors: Prof.dr. J. Spronk & Prof.dr. J.P.M. Groenewegen, EPS-2008-141-F&A, ISBN: 978-90-5892-169-7, http://hdl.handle.net/1765/1

Schauten, M.B.J., *Valuation, Capital Structure Decisions and the Cost of Capital,* Promotors: Prof.dr. J. Spronk & Prof.dr. D. van Dijk, EPS-2008-134-F&A, ISBN: 978-90-5892-172-7, http://hdl.handle.net/1765/1

Schramade, W.L.J., *Corporate Bonds Issuers,* Promotor: Prof.dr. A. De Jong, EPS-2006-092-F&A, ISBN: 90-5892-125-5, http://hdl.handle.net/1765/8191

Schweizer, T.S., *An Individual Psychology of Novelty-Seeking, Creativity and Innovation,* Promotor: Prof.dr. R.J.M. van Tulder, EPS-2004-048-ORG, ISBN: 90-5892-077-1, http://hdl.handle.net/1765/1818

Six, F.E., *Trust and Trouble: Building Interpersonal Trust Within Organizations*, Promotors: Prof.dr. B. Nooteboom & Prof.dr. A.M. Sorge, EPS-2004-040-ORG, ISBN: 90-5892-064-X, http://hdl.handle.net/1765/1271

Slager, A.M.H., *Banking across Borders*, Promotors: Prof.dr. R.J.M. van Tulder & Prof.dr. D.M.N. van Wensveen, EPS-2004-041-ORG, ISBN: 90-5892-066–6, http://hdl.handle.net/1765/1301

Sloot, L., *Understanding Consumer Reactions to Assortment Unavailability*, Promotors: Prof.dr. H.R. Commandeur, Prof.dr. E. Peelen & Prof.dr. P.C. Verhoef, EPS-2006-074-MKT, ISBN: 90-5892-102-6, http://hdl.handle.net/1765/7438

Smit, W., *Market Information Sharing in Channel Relationships: Its Nature, Antecedents and Consequences*, Promotors: Prof.dr.ir. G.H. van Bruggen & Prof.dr.ir. B. Wierenga, EPS-2006-076-MKT, ISBN: 90-5892-106-9, http://hdl.handle.net/1765/7327

Sonnenberg, M., *The Signalling Effect of HRM on Psychological Contracts of Employees: A Multi-level Perspective*, Promotor: Prof.dr. J. Paauwe, EPS-2006-086-ORG, ISBN: 90-5892-119-0, http://hdl.handle.net/1765/7995

Speklé, R.F., *Beyond Generics: A closer Look at Hybrid and Hierarchical Governance*, Promotor: Prof.dr. M.A. van Hoepen RA, EPS-2001-008-F&A, ISBN: 90-5892-011-9, http://hdl.handle.net/1765/357

Stam, D.A., *Managing Dreams and Ambitions: A Psychological Analysis of Vision Communication*, Promotor: Prof.dr. D.L. van Knippenberg, EPS-2008-149-ORG, http://hdl.handle.net/1765/1

Stienstra, M., *Strategic Renewal in Regulatory Environments: How Inter- and Intra-organisational Institutional Forces Influence European Energy Incumbent Firms,* Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda,, EPS-2008-145-STR, ISBN: 978-90-5892-184-0, http://hdl.handle.net/1765/1

Szkudlarek, B.A.*, Spinning the Web of Reentry: [Re]connecting reentry training theory and practice*, Promotor: Prof.dr. S.J. Magala, EPS-2008-143-ORG, ISBN: 978-90-5892-177-2, http://hdl.handle.net/1765/1

Teunter, L.H., *Analysis of Sales Promotion Effects on Household Purchase Behavior*, Promotors: Prof.dr.ir. B. Wierenga & Prof.dr. T. Kloek, EPS-2002-016-MKT, ISBN: 90-5892-029-1, http://hdl.handle.net/1765/868

Tims, B., *Empirical Studies on Exchange Rate Puzzles and Volatility*, Promotor: Prof.dr. C.G. Koedijk, EPS-2006-089-F&A, ISBN: 90-5892-113-1, http://hdl.handle.net/1765/8066

Tuk, M.A., *Is Friendship Silent When Money Talks? How Consumers Respond to Word-of-Mouth Marketing*, Promotors: Prof.dr.ir. A. Smidts & Prof.dr. D.H.J. Wigboldus, EPS-2008-130-MKT, ISBN: 978-90-5892-164-2, http://hdl.handle.net/1765/1

Valck, K. de, *Virtual Communities of Consumption: Networks of Consumer Knowledge and Companionship*, Promotors: Prof.dr.ir. G.H. van Bruggen & Prof.dr.ir. B. Wierenga, EPS-2005-050-MKT, ISBN: 90-5892-078-X, http://hdl.handle.net/1765/6663

Valk, W. van der, *Buyer-Seller Interaction Patterns During Ongoing Service Exchange*, Promotors: Prof.dr. J.Y.F. Wynstra & Prof.dr.ir. B. Axelsson, EPS-2007-116-MKT, ISBN: 90-5892-146-8, http://hdl.handle.net/1765/10856

Valk, W. van der, *Buyer-Seller Interaction Patterns During Ongoing Service Exchange*, Promotors: Prof.dr. J.Y.F. Wynstra & Prof.dr.ir. B. Axelsson, EPS-2007-116-MKT, ISBN: 90-5892-146-8, http://hdl.handle.net/1765/10856

Verheul, I., *Is There a (Fe)male Approach? Understanding Gender Differences in Entrepreneurship*, Prof.dr. A.R. Thurik, EPS-2005-054-ORG, ISBN: 90-5892-080-1, http://hdl.handle.net/1765/2005

Verwijmeren, P., *Empirical Essays on Debt, Equity, and Convertible Securities*, Promotors: Prof.dr. A. de Jong & Prof.dr. M.J.C.M. Verbeek, EPS-2009-154-F&A, ISBN: 978-90-5892-187-1, http://hdl.handle.net/1765/1

Vis, I.F.A., *Planning and Control Concepts for Material Handling Systems*, Promotors: Prof.dr. M.B.M. de Koster & Prof.dr.ir. R. Dekker, EPS-2002-014-LIS, ISBN: 90-5892-021-6, http://hdl.handle.net/1765/866

Vlaar, P.W.L., *Making Sense of Formalization in Interorganizational Relationships: Beyond Coordination and Control,* Promotors: Prof.dr.ir. F.A.J. Van den Bosch & Prof.dr. H.W. Volberda, EPS-2006-075-STR, ISBN 90-5892-103-4, http://hdl.handle.net/1765/7326

Vliet, P. van, *Downside Risk and Empirical Asset Pricing*, Promotor: Prof.dr. G.T. Post, EPS-2004-049-F&A, ISBN: 90-5892-07-55, http://hdl.handle.net/1765/1819

Vlist, P. van der, *Synchronizing the Retail Supply Chain*, Promotors: Prof.dr.ir. J.A.E.E. van Nunen & Prof.dr. A.G. de Kok, EPS-2007-110-LIS, ISBN: 90-5892-142-0, http://hdl.handle.net/1765/10418

Vries-van Ketel E. de, *How Assortment Variety Affects Assortment Attractiveness: A Consumer Perspective*, Promotors: Prof.dr. G.H. van Bruggen & Prof.dr.ir. A. Smidts, EPS-2006-072-MKT, ISBN: 90-5892-101-8, http://hdl.handle.net/1765/7193

Vromans, M.J.C.M., *Reliability of Railway Systems*, Promotors: Prof.dr. L.G. Kroon, Prof.dr.ir. R. Dekker & Prof.dr.ir. J.A.E.E. van Nunen, EPS-2005-062-LIS, ISBN: 90-5892-089-5, http://hdl.handle.net/1765/6773

Vroomen, B.L.K., *The Effects of the Internet, Recommendation Quality and Decision Strategies on Consumer Choice*, Promotor: Prof.dr. Ph.H.B.F. Franses, EPS-2006-090-MKT, ISBN: 90-5892-122-0, http://hdl.handle.net/1765/8067

Waal, T. de, *Processing of Erroneous and Unsafe Data*, Promotor: Prof.dr.ir. R. Dekker, EPS-2003-024-LIS, ISBN: 90-5892-045-3, http://hdl.handle.net/1765/870

Watkins Fassler, K., *Macroeconomic Crisis and Firm Performance,* Promotors: Prof.dr. J. Spronk & Prof.dr. D.J. van Dijk, EPS-2007-103-F&A, ISBN: 90-5892-138-3, http://hdl.handle.net/1765/10065

Wennekers, A.R.M., *Entrepreneurship at Country Level: Economic and Non-Economic Determinants,* Promotor: Prof.dr. A.R. Thurik, EPS-2006-81-ORG, ISBN: 90-5892-115-8, http://hdl.handle.net/1765/7982

Wielemaker, M.W., *Managing Initiatives: A Synthesis of the Conditioning and Knowledge-Creating View*, Promotors: Prof.dr. H.W. Volberda & Prof.dr. C.W.F. Baden-Fuller, EPS-2003-28-STR, ISBN: 90-5892-050-X, http://hdl.handle.net/1765/1042

Wijk, R.A.J.L. van, *Organizing Knowledge in Internal Networks: A Multilevel Study*, Promotor: Prof.dr.ir. F.A.J. van den Bosch, EPS-2003-021-STR, ISBN: 90-5892-039-9, http://hdl.handle.net/1765/347

Wolters, M.J.J., *The Business of Modularity and the Modularity of Business*, Promotors: Prof. mr. dr. P.H.M. Vervest & Prof. dr. ir. H.W.G.M. van Heck, EPS-2002-011-LIS, ISBN: 90-5892-020-8, http://hdl.handle.net/1765/920

Zhang, X., *Strategizing of Foreign Firms in China: An Institution-based Perspective*, Promotor: Prof.dr. B. Krug, EPS-2007-114-ORG, ISBN: 90-5892-147-5, http://hdl.handle.net/1765/10721

Zhu, Z., *Essays on China's Tax System*, Promotors: Prof.dr. B. Krug & Prof.dr. G.W.J. Hendrikse, EPS-2007-112-ORG, ISBN: 90-5892-144-4, http://hdl.handle.net/1765/10502

Zwart, G.J. de, *Empirical Studies on Financial Markets: Private Equity, Corporate Bonds and Emerging Markets*, Promotors: Prof.dr. M.J.C.M. Verbeek & Prof.dr. D.J.C. van Dijk, EPS-2008-131-F&A, ISBN: 978-90-5892-163-5, http://hdl.handle.net/1765/1

Erasmus Research Institute of Management - ERIM

CAPITAL STRUCTURE DETERMINANTS AND GOVERNANCE STRUCTURE VARIETY IN FRANCHISING

This thesis investigates two questions: the determinants of capital structure in franchising and its subsequent impact on the franchise financing decisions; and the efficient governance structure choice in franchising. We posit that firms franchise in order to benefit from the reduced franchisees' operational risks by limiting the debt level, such that the franchisor can bear more debt and gain tax-deduction benefits. Specific hypotheses are based on various theories like resource-based view, agency theory, signaling theory and classical capital structure theories. We empirically find that as the franchisor requires franchisees to put more equity in the initial investment, the franchisor does bear a higher debt level and gains from tax deductibility of interest expenses. This effect is stronger when more units are franchised. Moreover, we also find evidence supporting our prediction that the franchisee's leverage is positively linked with franchisor's maturity. This suggests that as the franchisor imposes a higher level of franchisee's leverage in order to screen capable franchisees, the franchisor also increases their maturity to reduce bankruptcy risks.

This thesis also explores the impact of governance structure on the incentives to invest in specific assets for the franchisor as well as the distributors. Wholly-owned, wholly-franchised, and mixed franchise systems are considered. Circumstances are identified when a dual distribution governance structure uniquely allocates efficient ownership over assets. A necessary condition for the efficiency of a dual distribution governance structure is a positive systemic effect, not the value of the brand name or location (or other) differences between outlets. We find that whether dual distribution benefits are realized in a franchise or a cooperative franchise depends on whether most value is added upstream or downstream.

ERIM

The Erasmus Research Institute of Management (ERIM) is the Research School (Onderzoekschool) in the field of management of the Erasmus University Rotterdam. The founding participants of ERIM are Rotterdam School of Management (RSM), and the Erasmus School of Economics (ESE). ERIM was founded in 1999 and is officially accredited by the Royal Netherlands Academy of Arts and Sciences (KNAW). The research undertaken by ERIM is focussed on the management of the firm in its environment, its intra- and interfirm relations, and its business processes in their interdependent connections.

The objective of ERIM is to carry out first rate research in management, and to offer an advanced doctoral programme in Research in Management. Within ERIM, over three hundred senior researchers and PhD candidates are active in the different research programmes. From a variety of academic backgrounds and expertises, the ERIM community is united in striving for excellence and working at the forefront of creating new business knowledge.

ERIM PhD Series
Research in Management

Erasmus Research Institute of Management - **ERIM**
Rotterdam School of Management (RSM)
Erasmus School of Economics (ESE)
P.O. Box 1738, 3000 DR Rotterdam
The Netherlands

Tel. +31 10 408 11 82
Fax +31 10 408 96 40
E-mail info@erim.eur.nl
Internet www.erim.eur.nl

Design & layout: B&T Ontwerp en advies (www.b-en-t.nl) Print: Haveka (www.haveka.nl)