

# The Use Of Capital In Networks

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## **Abstract**

The widespread use of leverage in business networks raises a series of questions about the companies' detrimental reliance on business networks to finance their operations. In this paper, I address a gap in our knowledge of the use of capital in business networks by investigating the increasing levels of leverage among businesses. This gap needs to be explicated if we wish to understand why companies' excessive reliance on business networks to finance the purchase of assets may be detrimental. It appears that companies do not only take the availability of capital in business networks for granted; they also place undue emphasis on the status quo within business networks. The paper develops a theoretical foundation and proposes an agenda for investigating the use of capital in business networks.

## **Introduction**

The capital that is necessary for a single company to operate is not available from a single source. Increasingly, the capital that companies use is heterogeneous in nature and widely dispersed among many different companies within business networks. Companies can activate the capital they need through inter-organizational relationships with other companies (Ford and Håkansson, 2006; Barney, 1986; Denrell *et al.*, 2003). The existence of continuing relationships within business networks confirms this inherent interdependence. In economic terms, companies activate the capital that comprise their own capital (equity) and capital that

they have borrowed and expect to generate a return that is higher than the cost of capital. In this way, expectations and risks influence companies' investment decisions.

Over the last two decades, the process of borrowing capital from other companies in the form of bank loans, corporate bonds or effectively through the delay of payments has become a widespread routine, in the sense of established ways of doing things (Winter, 1986) or recurrent pattern of activity (Nelson and Winter, 1982). In the context of financial assets, this phenomenon is also referred to as 'gearing up' or 'leveraging' and it means that the business is borrowing money to finance the purchase of assets (Myers, 1977). The use of leverage grew particularly rapidly in the years 2001-2008, during a time of extremely low interest rates. As the cost of borrowed capital became extremely low, companies excessively leveraged their businesses by financing their fixed assets and working capital requirements with debt. Increasing leverage has been encouraged by the tax and accounting system which allows debt interests to be tax deductible. The combination of low interest rates and the tax deductible status of debt have resulted in an explosion of leveraged buyouts, consortia of leveraged investors and private equity funds. There has been growing pressure on companies to enhance leverage and, thus, amplify the return on capital by selling off commercial properties, e.g. real-estate, and renting them back. The higher the leverage, the higher was the expected return on capital. Capital, however, bears an opportunity cost (Modigliani and Miller, 1958). This is the weighted average cost of debt and equity of not investing in other business opportunities of similar systematic risk. Although the opportunity cost of equity capital varies from business to business, depending on risk, the cost of debt after the year 2001 (when the US central bank (Federal Reserve) cut the interest rates in a dramatic way from 6.5% in December 2000 to 1% in July 2003 and 0.25% in January 2009) became

extremely low. This contextual conditioning encouraged companies to enhance the leverage in return for incremental increases in returns.

The significance of the use of capital in networks lies in the fact that under conditions of information asymmetry and unforeseen contingencies, it establishes connectivity between the company's resources and external resources. In this way, leveraging assets available in business networks internalizes external productivity and provides connectivity between actors' property rights (Demsetz, 1966; Alchian and Demsetz, 1972; Foss and Foss, 2005). Nonetheless, leveraging assets available in business networks is inextricably linked with actors' excessive risk taking (Baxter, 1967; Baron, 1974; Jensen and Meckling, 1976; Stiglitz and Weis, 1981; Marsh, 1982) and is a source for potential fragility (Dewatripont and Tirole, 1994). There is ample theoretical and empirical evidence that the use of borrowed capital is linked with financial performance and the last credit crisis demonstrated this once again (Shiller, 2008; Turner, 2009; Haldane, 2009). The widespread use of borrowed capital in business networks raises a series of questions about the companies' detrimental reliance on business networks to finance their operations. In this paper, I address a gap in our knowledge of the use of capital in business networks by investigating the increasing levels of leverage among businesses. This gap needs to be explicated if we wish to understand why companies' excessive reliance on business networks to finance the purchase of assets may be detrimental. It appears that companies do not only take the availability of business networks for granted; they also place undue emphasis on the status quo within business networks. In a business landscape in which leverage is used to acquire assets whose yield is uncertain, the risks can neither be overlooked nor can they disappear through diversification because individual companies and their assets are interconnected through recurrent exchange relationships. There is also empirical evidence that this connectivity among actors and resources can lead to

recurring leverage cycles which cause contagion because each increase in the leverage feeds back into asset price increases which encourage business actors to increase their leverage even further (Fostel and Geanakopulos, 2008). I argue that business actors exceedingly leverage their assets because they have incentives to do so (gearing up maximizes return on capital employed because the cost of borrowing is low and interest payments are tax-deductable), risks are not apparent (due to externalities and information asymmetries), and return on capital employed is a recognizable standard.

### **The role of interaction in the use of capital in networks**

The equity capital and debt capital that companies need to solve their problems is widely dispersed across many different actors and business networks. This dispersion of equity capital and debt capital creates strong inter-individual dependencies at a time of rapid technological changes and global competition for customers and market share. Strong interdependencies lead to formidable uncertainties for individual companies and a high degree of unpredictability (Duncan, 1972; Downey *et al.*, 1975; Milliken, 1987). Individual actors can only activate the capital they need through recurrent interaction within their exchange relationships with others (Barney, 1986; Denrell *et al.*, 2003). This is particularly relevant because a significant number of business activities occur through strategic alliances, equity investments, partnerships, R&D collaborations and many other forms of continuing relationships (Ring and Van de Ven, 1992; Das and Teng, 1999, 2000; Reuer and Arino, 2007). In this way, recurrent interaction represents an opportunity for individual actors to explore variety in their surrounding business networks on a continuing basis (Håkansson and Waluszewski 2002; Håkansson *et al.*, 2007, 2009). Nonetheless, it appears that interaction between individual actors transcends inter-personal discussion or communication. Interaction is a *substantive* process that involves the activities and resources of the involved actors

(Håkansson *et al.*, 2009). In this substantive process, exchange can be seen as the primary element of socio-economic activity (McGinn and Keros 2002; Biggart and Delbridge 2004; Buckley, 2005). When it comes to the use of capital in networks, exchange refers to actors' "voluntary agreement involving the offer of any sort of present, continuing, or future utility in exchange for utilities of any sort offered in return" (Weber, 1978: 72-73). The consent is, ultimately, the moral component that differentiates between valid and invalid exchanges among individual actors (Barnett, 1986). Understanding the role of exchange, however, requires a fundamental insight of the process by which individual actors intentionally seek to create and appropriate joint gains (Lepak *et al.*, 2007). This requires a deep insight into the role of property rights or entitlements which specify the substance of rights that individual actors may possess, acquire, or transfer in their interactions with other actors (Coase, 1960; Demsetz, 1966; Barnett, 1986; Foss and Foss, 2005).

The role of interaction among companies to obtain the capital they need remains, hitherto, an unexplored area. The importance of interaction goes beyond the recognition that it constitutes a substantive process involving the actors' activities and resources. Interaction is often determined by the structure of business relationships with other companies and this structure of relationships may result in significant levels of interdependence. Such interdependence is evidenced in the relations between companies and investors and banks (Clark, 2004; Martin, Casson and Nisar, 2007). Investors, for example, through the board of directors can put pressure on companies to act in a certain direction, reverse a decision or invest in specific areas. Similarly, banks can force companies to make certain decisions, such as selling assets or investing overseas, by extending or restricting credit lines (Dewatripont and Tirole, 1994; Martin, Casson and Nisar, 2007). Through recurrent interaction over time, heterogeneous resources will follow a particular co-evolutionary path of change and development; whilst

each dyadic exchange relationship of an individual actor will be connected with other exchange relationships forming a structure that gives access to and affects a wide array of more or less distant resources.

### **Network complexity and information asymmetry**

Network complexity may result in a formidable force on companies to take a myopic view of the multiple complexities inherent in business networks. This is evidenced in the companies' attempt to segment their business networks (Dyer *et al.*, 1998; Millier, 2000). Business managers, for example, often assess indirect links in their business networks in a static way; they ignore the inherent dynamism and volatility of existing and emerging preferences in their surrounding networks (Blocker and Flint, 2007). One possible explanation for approaching multiple counterparts in the same way may be traced back to the inherent asymmetry of information between suppliers and customers (Akerlof, 1970; Sharpe, 1990; Lim, 2001). Usually customers know much more about their suppliers' performance in their particular relationship than suppliers know about their customers. Consider the relationship between bank manager and a customer when a loan is negotiated or in the insurance markets the relationship between a provider of annuities and a customer (Finkelstein and Poterba, 2004). Asymmetry of information is also evidenced in the contemporary phenomenon of securitisation of debt capital in which credit risk is passed on to other investors far away from the originators of an initial credit (Bryan, 1988). Contemporary risk management systems operate by assigning probabilities to future events or contingencies. For example, probabilities of risk management models such as *Value at Risk* (Jorion, 2006), are often based on a relatively short period of observations. Haldane (2009) provides ample of evidence that during the period between October 1987 and August 2008, the distribution of key variables such as earnings, growth, or asset prices had much smaller variance and slimmer tails

compared with a sample stretching back to the 17th century. Even if longer periods are applied, risk management models assume that, in a random sample, the full distribution of events is normal in shape. Hence, organizational routines of risk management underestimate the chance of low probability, high-impact contingencies (Mandelbrot, 1963; Taleb, 2007). Furthermore, they systematically fail to incorporate new or emerging risks ignoring interdependencies between individual contingencies. Relying on historical data, companies appear to identify a limited number of average risks and construe certainty too narrow; they miss the forest of uncertainty while dealing with few trees (Sims, 2001; Stulz, 2009).

One explanation for the problem of internalizing network complexity is that the notion of uncertainty is not the same as risk. While risks can be identified and calculated stochastically by individual actors, uncertainty is an amorphous topology for which individual actors cannot assign any probabilities (Knight, 1921). Even in periods of perceived certainty, circumstances can dramatically change by unforeseen contingencies.

### **Dealing with Information asymmetry**

Understanding how individual companies deal with network complexity and information asymmetry requires an investigation of the role of investment banks, rating agencies and hedge funds. Investment banks operate their businesses in securities markets (Eccles and Crane, 1988; Morrison and Wilhelm, 2007). Companies use securities markets to raise capital by giving in return voting rights over their actions (equity securities) or by promising a fixed schedule of future payments (debt securities). The role of investment banks is to facilitate the issuance of new securities by companies, for example by raising equity capital for companies via initial public offering or by issuing corporate bonds to fund companies' projects. The core function of an investment bank is, hence, to create an *information marketplace* that links

investors and corporations (Morrison and Wilhelm, 2007). Over the last two decades, investment banking activity experienced exponential growth. This is mainly attributed to a) globalisation of business (e.g. the rise of business in Asia), b) information technology (e.g. computerisation and internet) c) mergers and acquisitions and d) financial innovations (e.g. derivatives, such as Over-The-Counter Contracts (OTC) to provide tailor-made solutions to risk management problems (Morgan, 2008). For example, in order to cope with the inherent risk in these equity and debt securities, more synthetic products such as the Credit Default Swaps were created to provide insurance in case of a default. Because of lack of regulation in this area, it is possible for un-licensed companies, such as hedge funds, to enter business networks and collect premiums creating the illusion that risk can be eliminated. Dealing with information asymmetry rating agencies as independent institutions would assign credit ratings to issuers of securities (e.g. bonds) such as companies, banks or even governments by evaluating issuers' credit worthiness. The rating given, for example AAA, is based on past data and reveals the risk of a security if it is hold to maturity. Because of the importance of assessing the probability of default of securities, many firms establish ratings-based procedures that allow investments only to financial institutions ranked above a certain rating. This creates a systemic pro-cyclicality with self-reinforcing herd effects. Many investors misinterpret assigned credit ratings assuming that a rating reveals information regarding liquidity and business stability rather than information about credit risk. Hedge funds add leverage by using the revenues of short sales to finance long positions which amplified the total return on equity. In this way, hedge funds operate as investment portfolios which seek high returns by taking positions on speculative opportunities. Structured as limited partnerships, hedge funds perform on a highly leveraged basis. As they invest in cash and derivatives markets securities for the benefit of other investors they have been regarded as major contributors to the flexibility of the financial system. The lack of transparency in their

operations and absence of regulation, however, magnified their stigma as ‘locusts’ or ‘destabilizers’ of financial markets (Lhabitant, 2006).

### **Return on capital as a recognizable standard**

Many companies increase their leverage in order to amplify the return on capital employed. The usual form of doing so is through selling off commercial properties, e.g. real-estate, and renting them back. The higher the leverage, the higher is the expected return on capital. This kind of sense-making is visible to other actors through business interaction and influences those other actors’ sense-making (Weick, 1995). Hence, each individual interpretation supposes a ‘shared understanding’ or what Heidegger (1966) described as ‘prejudice’. Thomas Schelling (1960) observed that individual actors coordinate their individual efforts by relying upon focal points. In his words, mutually perceived expectations provide “a focal point for each person’s expectation of what the other expect him to expect to be expected to do” (Schelling, 1960: 57). Focal points imply that, in recurrent interaction processes among actors, the precedent becomes extremely relevant. As focal points are a product of interaction, they are sought through modal, rather than median or mean responses (Myerson, 2006; Janssen, 2006; Mouzas & Ford, 2009). For example, one could expect that return on capital as a standard that is used frequently would excessively draw individuals’ attention. Therefore, the efficacy of focal points will depend on their level of frequency and prominence or salience (Mehta *et al.*, 1994; Juang, 2001). The problem with the return on capital as a recognizable standard is that it may lead to pre-conceptions, biases and errors when forming judgements (Kahneman & Tversky, 1979; Kahneman *et al.*, 1982; Kahneman & Lovallo, 1993).

The efficacy of actors' focal points is higher when *reference points* or *anchors* (Neale and Bazerman, 1991; Kahneman, 1992), such as interest rates or average yields, are supplemented by facts, data and information. But people usually underweight events that are probable compared with events that are certain. For example, the longer the period since the occurrence of a past event, the lower the perceived probability that people assign to it. Such behaviour does not only confirm actors' propensity to underestimate the past; it also leads to a systematically hyperbolic discounting of future (Laibson, 1997). Individual companies often take the financial markets' conjectures as fixed and certain; hence, they act with short time horizons inflating current bottom line results to boost current share prices (Stein, 1989). This mode is often imitated by other companies. Although companies are usually not in the position to fool financial markets, they are "trapped into behaving myopically" because markets use current earnings to make a forecast of the firm's value (Stein, 1989, p. 656). The observation that the recognizable standard of return on capital may lead to preconceptions and errors is vividly illustrated by investment banking practices. Investment banking routines are characterised as *revenue-driven business* (Eccles and Crane, 1988). This implies that during periods of economic growth, the shared concern among bank managers is with revenue generation, for example through deal-making routines, and less with cost, complexity or risk. Amid growing product proliferation and increasing capital requirements to conduct complex deals, there is a loose and precarious linkage between revenues and profitability. Consider corporate practices with regard to performance measures. Many recurrent performance measures, such as earnings per share or return on equity, are misused as inter-cognitive representations for corporate planning. The adequacy of these standards can be questioned because they are based on accrual accounting designed for ex-post external reporting (Pappaport, 1981, 1983). These observations are in line with other studies that demonstrate the misuse of accounting measures of return to imply business performance

(Fisher and McGowan, 1983). In this way, ‘standards’ designed as means to achieve specified ends can become ends in themselves. As Eccles and Crane (1988, p. 160) observe “people can become more concerned about affecting the measures reported than about accomplishing the ends that the systems attempt to measure”.

## **CONCLUSIONS AND RESEARCH IMPLICATIONS**

In a business landscape in which leverage is used to acquire equity and debt assets whose yield is uncertain, the risks can neither be overlooked nor can they disappear through diversification because individual companies are interconnected through exchange relationships. Nonetheless, companies demonstrate an excessive and detrimental reliance on business networks because they have incentives to do so (gearing up maximizes return on capital employed), risks are not apparent (due to network complexity and information asymmetries), and return on capital is recognizable, salient standard (through recurrent interaction processes). What are the relevant research implications for the study of the use of capital in business networks?

### *Implications for theory and research*

Exploring the use of capital in business networks has three important implications for theory development and research.

First, the use of capital in business networks is inextricably linked with the possibility of exchange. Behind the increasing levels of leverage among companies lay their capacity to establish exchange relationships with other actors. However, the efficacy of companies’ use of capital in business networks is triggered in only conducive circumstances. This means that companies’ capital structure choices take the form of providing the rationales and resources

for other actors to act. That brings us to the essence of the use of capital in networks, which is to find unique or better ways to create and capture value in exchange relationships and, hence, achieve a competitive advantage (Coff, 1999; Barney, 2001; Lepak *et al.*, 2007). Hence, instead of simply looking at companies' capital structure choices, we need to look at the whole spectrum of inter-connected exchange relationships that are enabled through capital structure choices.

Second, network complexity is accompanied by massive information asymmetries and may have a dramatic impact on individual companies. This may lead to 'contextual myopia' in which distant inter-connections in business networks are overlooked. The increasing use of debt capital exposes individual companies to unprecedented levels of risk because in business networks, "it is not enough to know your counterparty; you need to know your counterpart's counterparty too" (Haldane, 2009, p. 9.). Individual companies cannot rectify information asymmetries regarding transactions, asset prices or risk exposure in business networks. Through business interaction, however, companies can explore the inherent network heterogeneity (Håkansson and Waluszewski, 2002; Håkansson *et al.*, 2007, 2009).

Third, the structure of incentives appears to be significant. Leverage as recurrent pattern of activity is encouraged by low interest rates, tax benefits and degradation of credit standards. Research needs to look at the whole structure of current incentives and companies' intentional choices to create joint gains. This would provide new insights and better understanding of use of capital in networks.

It would be useful if the idea of detrimental reliance on business networks is tested through further research; this would allow further empirical insights to be generated about the actual

connectivity, rewards and risks in business networks. For this purpose, we need to embrace new analytical tools that may raise important questions about our intellectual assumptions regarding business networks. There is a long way to go and we have just started. The present paper has, hopefully, provided a conceptual platform to continue this exploration.

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