An Exploration of Embeddedness: With Special Reference to Japan

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ABSTRACT

This thesis utilises the economic sociology concept of embeddedness as the theoretical underpinning to provide an alternative perspective to traditional explanations of economic growth. In general, the advantages of social embeddedness have been the main focus in the literature on the topic. The main purpose of this study is to explore, with special reference to Japan, how embedded relationships could both enable and hinder growth.

The study examines the operation of embedded ties in four key areas: inter-firm interaction with an emphasis on the auto-industry; embedded relationships within the financial sector; networks in the internationalisation of firms and embeddedness between government and business, including a case study of the construction industry. It finds that while embedded ties have several advantageous facets, they also have the potential to be an impediment to growth, flexibility and adaptability to change. Network ties can expand and become so rigidly structured, especially in a Confucian society like Japan, as to become obstacles particularly in the face of changing economic circumstances. They can atrophy. This finding led to the development of the concluding notion of "atrophied embeddedness".

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INTRODUCTION

1.1 AIM AND SCOPE OF THE STUDY

Embeddedness is the concept that social structures, such as those of business networks, have a marked effect on economic action, with economic actors governed by more than just price and quantity considerations in their economic transactions. This notion was first postulated by Karl Polanyi and his co-authors, in the book *Trade and Market in Early Empires*, where it was suggested that the "human economy is embedded and enmeshed in institutions, economic and non-economic" (Polanyi, Arensburg, & Pearson, 1957, p. 250). Over a quarter of a century later, the idea was again revived and extended by Mark Granovetter in his paper, "Economic Action and Social Structure: The Problem of Embeddedness" (Granovetter, 1985). This opened a fresh line of inquiry in economic sociology, which asserted that embedded social networks founded on kinship, friendship, trust or goodwill could play a vital role in sustaining economic relations and institutions.

In general, the advantages of embeddedness have been the main focus in a growing body of literature on the topic. However, the role that embeddedness plays in sustaining economic institutions can have both positive and negative outcomes. Adopting the embeddedness conceptualisation as its theoretical framework, the primary aim of this thesis is to highlight both the advantages and disadvantages of embedded ties. The main purpose of the thesis is to explore, using as a background the East Asian region, how embedded relationships could both enable and hinder growth and prosperity at both the firm and the economy levels.

Since the Second World War much of East Asia has experienced phenomenal economic growth. There was initially Japan, going from war-time devastation to become the world's second largest economy, then the 'Asian Tiger' newly industrialised economies of South Korea, Taiwan, Hong Kong and Singapore. Later still came the second tier newly industrialised economies such as Indonesia, Malaysia, Thailand and the Philippines. From the 1960s, growth in the East Asian economies was more rapid than any other region and absolute poverty too fell dramatically (World Bank 1998). Despite this overall regional success, the Japanese economy was in a perpetual state of stagnation through most of the 1990s. Beginning in 1997 moreover, a downturn that has commonly been referred to as the Asian economic crisis, has hit the region. Focusing on the case of Japan, this thesis in contrast to standard explanations, uses the embeddedness approach as an explanation both of earlier vibrancy and later decline.

Standard explanations of the 'East Asian miracle'[1] have centred on the role of sound macroeconomic policy and economic fundamentals.

> Macroeconomic performance was usually stable, providing the necessary framework for private investment. Policies to increase the integrity of the banking system and make it more accessible to non-traditional savers increased the levels of financial savings. Education policies that focused on primary and secondary education generated rapid increases in labor force skills. Agriculture policies stressed productivity change and did not tax the rural economy excessively. All of these economies

[1] The miracle being a period characterised by very high economic growth, little inflationary pressure on prices, and low unemployment, a period, which began in the 1960s and ended in 1997, with the recessionary epoch of the Asian economic crisis (Wai, 1999).

kept price distortions within reasonable bounds and were open to foreign ideas and technology (Page, 1994, p. 2).

The role that social factors have played in helping the Asian miracle, however, has not gone unnoticed. In the East Asian context, it is not new to argue that strong social ties have played a key role in the economic operations of both the private and public sectors, although not specifically through use of the embeddedness conceptual framework. For instance, a popular view has been that social networks based on Confucian practices (as briefly delineated in the following subsection, 1.1.1), were instrumental in creating the miracle (Haley, Tan & Haley, 1998). Where this study differs, however, is that it examines the embedded nature and practice of business networks focusing not only the economically beneficial role they play, but also their contribution to economic and competitive disadvantage. The thesis will highlight the negative aspects of embedded ties, showing how they can be damaging to firms, especially when these ties become too strong and how they can affect a firm's outcome when exogenous shocks occur. The thesis provides, therefore, an explanation that supplements and complements the existing literature on the reversal of East Asian economic fortunes. In particular this study argues that embeddedness has been a contributory factor in the lesser performance of Japanese businesses in more contemporary times.

Existing literature regarding the reversal of fortunes in East Asia, such as Krugman (1994), attributes the economic downturn to the fact that much of the rapid growth the region experienced was not through improvements and efficiency gains in total factor productivity, but rather from progressively utilising more and more labour, capital and other resources. Growth of this kind, which gradually employs increasingly more scarce resources, must eventually be impeded by diminishing returns to scale, with these diminishing returns building up to the Asian Crisis. It is contended in this thesis that embeddedness can both supplement and complement such economic explanations.

At the outset however, it must be pointed out that the scope of the thesis is limited by the lack of published and other data on the details of network operations and decision-making in the East Asian region. There is generally an 'informational void' or what is described as 'the black hole of Southeast Asia' even when it comes to understanding the external environments of business operation in the region (Haley, et al. 1998, p. 73). The role of embedded networks in impeding growth and adjustment is thus largely argued through inference and suggestion in the thesis.

1.1.1 The Cultural Premise: A Foundation of Embeddedness

It is argued that a major causative factor in the initial success of nations in the East Asian region is that they follow Confucian business practices (Haley, et al. 1998). *K'ung Fu-tzu* or Confucius (551 – 479 BC) and his main adherent *Mang-tsze K'o* or Mencius (372 – 289 BC) formulated a philosophy based on trust and reliance on five key relationships. These relationships were those between ruler and subject, father and son, husband and wife, elder son and younger son, and elder person and younger person (Backman, 1999, p. 10). Within each of these couplets the junior partner was obliged to obey and respect the senior and likewise the senior partner had the responsibility to protect and give due consideration to the subordinate. Further, both senior and junior partners had a high degree of trust for one another. These relationships were said to permeate through society, affecting business dealings as much as any other social relations.

In recent times, relationships over and above the five key Confucian ties have arisen between companies and also between companies and government. Keeping to the spirit of Confucian relationships, however, these links are still frequently based on a senior to junior ranking structure. This is especially the case in inter-firm connections present in the large conglomerates groups, like the Korean *chaebol* and Japanese *keiretsu*. In such conglomerates, a large firm or group of larger firms has a self-supporting relationship with smaller firms like subcontractors and suppliers within the group, with these relationships being characteristically embedded. It has been contended that such social networks rooted in Confucian principles have provided much of the dynamism that promoted the "miraculous" growth of the years of the East Asian miracle (Haley, et al. 1998). It is a contention of this thesis however, that under differing circumstances, embedded ties can also be disadvantageous to the groups involved in them. In subsequent chapters it is shown how in several cases embedded links while initially beneficial and advantageous, have later become disadvantageous, as economic circumstances and business conditions have changed over time.

The following section of this chapter elaborates on the theoretical framework of embeddedness adopted in this thesis. It also draws attention to the possible metamorphosis of embedded links from those that are beneficial, to those that are not.

1.2 THEORETICAL FRAMEWORK: EMBEDDEDNESS

The majority of studies on embeddedness, such as Uzzi (1996, 1997) and Granovetter (1985), have largely emphasised the positive impact that embedded networks have had on firms and economies. Little attention has focused on their potential disadvantages. This is thus an intriguing point to pursue, particularly in light of the recent economic downturn in the East Asian region. Could embedded social networks, the celebrated foundation of East Asian economic dynamism, equally have been a factor behind the downfall of these economies and the firms within them? This thesis attempts to provide an answer to this question. Using examples mostly from Japan it suggests that these networks did indeed have some negative repercussions and may have changed as time progressed, from being strictly beneficial to being much less beneficial.

Several studies, adopting standard economic approaches and taking their cue from Krugman's attempts in the early 1990s to alert the world to 'the myth of the Asian miracle' (Krugman, 1994), have put forward explanations for the reversal of fortunes in Asia (e.g. Grimes, 1998 and McLeod & Garnaut, 1998). As has been noted by others however, such studies that utilise traditional economic theory, only explain such significant events as the East Asian miracle and the subsequent reversal of fortunes in the Asian financial crisis, in a relatively limited manner (Krier, 1999).

In an effort to facilitate a better understanding of the decline in East Asia, use of an approach involving an amalgamation of economic and sociological theory, known as the "New Synthesis", is proposed in this thesis (Krier, 1999; Granovetter & Swedburg, 1992; Friedland & Robertson, 1990). A key proposition of this "New Synthesis" is the idea that embedded social networks have a profound impact on economic development and actions (Granovetter, 1985). This idea, which underpins the concept of embeddedness, is a significant theoretical foundation for this thesis.

Embeddedness, the main driver in the "New Synthesis", fuses together two opposing theories. On the one hand there is sociological theory, which maintains that social structures are a key issue in economic behaviour. The sociological viewpoint maintains that people act a certain way because of societal pressures and tradition, with more attention paid to the opinions of peers, rather than to rational choice. This is known as the "over socialised" argument (Granovetter, 1985, p. 483). On the other hand, traditional economic theory holds that social ties have very little impact on economic outcomes and merely create inefficiencies by insulating economic exchange from the market. People are rational, individualistic economic entities, acting largely in self-interest according to this traditional, neo-classical market model. This viewpoint is sometimes classified as the "under socialised" argument (Granovetter, 1985, p. 482).

Reconciling these two opposing arguments, the concept of embeddedness suggests that all economic action is embedded in social ties, which act to either aid or hinder economic action. What this means is that people are not just atomised, rational, solely self-interested entities, nor are they mere automatons governed by tradition. Instead social networks founded on kinship, friendship, trust and goodwill influence economic actors (Uzzi, 1997).

Embedded relationships are predominantly those where economic actors have a degree of trust and familiarity with one another. This familiarity and trust exists over and above any contracts that might exist between actors and further facilitates economic interaction. Studies have revealed that in those industries characterised by embedded ties, exchange partners, rather than pursuing a goal of profit-maximisation, seek a middle of the road solution of finding a satisfactory and fair price for all concerned (Dore, 1983 & Uzzi, 1997). This consequently leads to the formation of long-term mutually dependent ties between firms on a far more equal footing than could ever be possible given arms length-ties inherent in the neo-classical exchange model (Dore, 1983; Romo & Schwartz, 1995). Clearly, these embedded ties can be very beneficial to firms in the early stages of development, providing a degree of stability that non-embedded firms would not have. The moot point however is whether these same embedded ties can hinder the flexibility, adaptation and competitiveness in times of economic downturn. This latter aspect will be explored in later chapters of this thesis.

1.2.1 Alternative Theories

This section examines some alternative theories to embeddedness that have also attempted to explain the effect of social and business networks on business dealings and critiques their ability to effectively incorporate network interaction in comparison to embeddedness. One such initiative is the study of transaction costs, with its main premise being that networks are formed between firms to reduce the cost of performing economic exchanges between parties on repeated occasions (Gulati, 1995). Other frameworks often cited are agency and game theory.

While making an important contribution, all these frameworks are deficient as they disregarded the network structure inherent in embedded ties and concentrated on the interaction of individual dyadic pairs within the network. Game theory, for instance rationalises an embedded network, like that of the Japanese *keiretsu*, into one of an N-person game. The numerous pair-wise interactions between N-players are then individually scrutinised, with a conclusion based on actors being motivated only by self-interest. The dynamism of the network as a whole is completely ignored (Uzzi, 1997, p. 37).

Agency theory also pursues the interaction of pairs of solely self-interested parties, using the principal-agent framework. Organisational networks in agency theory are often portrayed as being held together by elaborate formal controls, rather than by trust built through familiarity as in embeddedness (Uzzi, 1997, p. 37). As Granovetter stressed, however, it is not complicated institutionalised regulations, nor an overall sense of morality, which discourages malfeasance or cheating between firms and individuals. Rather, it is the relationships between actors and the reputations they have built through long-standing ties that holds a network together (Granovetter, 1985, p. 490).

Transaction cost theory similarly portrays economic actors to be solely self-interested and pays heed only to the pair wise relationships between actors, ignoring network structures and trust within the network. In the Williamson transaction cost approach (1985), opportunism is incorporated into the behavioural assumptions of network pairs. Opportunism however, is in direct contrast to trust which features prominently in embeddedness theory. Further, in the transaction cost framework, firms constantly strive to maximise their advantage, no matter the status or standing of their relationships. This again is contrary to the principles of long standing network ties, where a high degree of trust has been built up over time (Ghoshal & Moran, 1996).

A synthesis of the transaction cost and embedded frameworks has been partly achieved by two recent studies however (Jones, Hesterly & Borgatti, 1997; de Bruin & Dupuis, 1999), with both studies to some extent incorporating the role that network structures play in economic interaction. The de Bruin & Dupuis study shows how social networks are used to economise on transaction costs, but acknowledges that certain sociable and altruistic aspects of embedded ties cannot be fully explained by transaction cost theory, recognising that economic actors are not wholly consumed by self-interest in a solely transaction cost based model. Likewise the Jones et al. (1997) study seeks to rationalise network interaction as being one of status maximisation, where a firm's actions are driven by a desire to propel itself forward within the network structure. This however, once again sees economic actors up as being driven by self-interest, which is clearly not true in every instance.

1.3 MAJOR ADVANTAGES OF EMBEDDED TIES

In a study of the New York garment industry, Uzzi (1996, 1997) identified three advantageous features characterising embedded ties between firms. These were trust, fine-grained information transfer and joint problem solving arrangements. Trust, according to Uzzi acts as a kind of governance mechanism in embedded networks. If there is trust between opposite number network operators, it is much more likely that the actions of any one player are regarded in a favourable light and often emulated. Uzzi found that trust between network partners also facilitated the voluntary exchange of goods and services. In the garment trade Uzzi found that a favoured partner might get special treatment like faster product turnaround when haste was tantamount or extra orders when capacity was slack, thereby aiding their survival in times of lean business (1996, p. 678). Trust in embedded business ties also reduced the risk of the economic exchange, decreasing the uncertainty that was a feature of arms-length, non-embedded exchange in the clothing industry.

In addition, fine-grained information transfer entailed the passing on of more than just price and quantity information like an arm's length exchange does. Rather, valuable production information, market trends (in the garment trade, this means what is fashionable), organisational stratagem and detailed data on a partner's production function was relayed through the embedded link. With this fine-grained information transfer and especially with the exchange of information regarding production functions Uzzi (1997, p. 45 - 46) touched on the possibility that firms might negotiate a fair price between them in the exchange. Thus both benefit, as opposed to the usual arm's-length adversarial bargaining outcome, where there is usually a clear winner after a deal has been struck.

Examining the impact of the social network of CEO-board interlock ties on alliance formation and co-operation, on the basis of a sample of US 'Fortune' and 'Forbes' 500 firms; a recent study has shown that such inter-relationships increase the likelihood of strategic decision making and alliance formation (Gulati & Westphal, 1999). By contrast the study suggests that distrust between corporate leaders when CEO-board relationships are characterised by independent board control, reduces the likelihood of alliance formation.

Joint problem solving arrangements are another advantage of embeddedness. Such arrangements are defined (Uzzi, 1997, p. 47) as mechanisms found in embedded ties that enable actors to co-ordinate resources to solve problems. The idea is that of buyers and sellers working together to solve problems in the production process. Uzzi (1997) found that certain difficulties that firm's might get in arm's length economic exchanges, such as getting products out of specification are reduced. If an actor was not able to meet the requirements of its embedded customers, for instance due to some form of technical difficulty, a compromise or solution was likely to be devised between the two exchange partners.

Moving to more of an Asian focus, the analysis of the Japanese auto-industry and to a lesser extent the electrical industry by Hagen & Choe (1998) found that similar levels of trust, fine-grained information transfer and joint problem solving, faceted embedded ties existed there too. However, they related a far less rosy picture of ties based not on mutual trust, but rather one based on almost forced trust. This occurred where large manufacturers like Toyota and Mitsubishi acted as masters to a pyramid of component manufacturers under them.

The big carmakers seemed to utilise sanctions to keep their subordinates in line. For instance they found evidence that each subcontractor, from the apex of the production pyramid to its base, graded the suppliers below it. Grading criteria was based on quality, engineering specifications and delivery promptness. Each supplier periodically gets a "report card" with their grade that gave them comments on where they could improve. Firms in the chain with better grades reaped rewards of even more long-term supply contracts and more responsibility. In contrast, when a firm consistently received lower grades, it faced sanctions of less lucrative, shorter-term supply contracts and might find its standing diminished in supplier rankings (Hagen & Choe, 1998). This monitoring arrangement was also efficient for the master firm, since it only has to monitor the larger parts suppliers immediately below it in the supply pyramid and conversely every firm in the chain monitors only the companies immediately below itself. This kind of arrangement may seem restrictive. Taken in the Confucian cultural context that operates in the Japanese economy, however, it is not so unusual. Nor is it considered overly disadvantageous by the firms that operate within such enforcement frameworks.

Grading of subcontractors alone is clearly insufficient to keep them subordinate. If information about a subcontracting firm's performance were confidential only to the particular network to which it belongs, then it would be a simple matter for the firm to jump ship to another network, since the new network would not be privileged to the information regarding its past performance. However, mechanisms like government sponsored trade associations, horizontal *keiretsu* groupings, and even sometimes social networks like the *amakudari* retirement system, where government bureaucrats retire to private industry, but maintain ties with their original government ministries, can act as a medium for fine-grained information transfer on a number of topics. Firms are less likely to defect since the knowledge of their past performance will be known industry wide through such links (Odagiri, 1994).

Other enforcement powers of the supplier networks in the auto-industry included master firms maintaining dual suppliers for any one product, so the two subcontractors can always be played one against another. This was sometimes initiated under the guise of the parent firm desiring to ensure constant supplies of what have been deemed vital parts, but in reality the measure was merely a leverage tool. Further, supply contracts seldom exceeded 12 to 16 months in length, so a contractor was perfectly within its rights to move to another contractor in short order (Fruin, 1992). In addition firms were often bound together by the tradition of long standing business ties dating back to pre-war *zaibatsu* days and subcontractors moving between different carmakers simply was not done. Moreover, master firms and subcontractors maintain cross-shareholdings between each other. These cross-shareholdings, which are still a critical component of *keiretsu* organisations, will be examined extensively in the coming chapters.

Lastly, joint problem solving was also found in the Japanese *keiretsu* network with many big manufacturers aiding smaller ones with production know how and capital. This clearly served to foster an atmosphere of trust between master and subordinate firms (Nishiguchi, 1994). It also had an aspect of coercion, since subordinate firms were indebted to their masters. Such network structures as those found by Hagen and Choe (1998) clearly have played and indeed still play a vital role in the establishment and efficient running of parts supplier pyramids in the auto-industry. Further examination of this industry will form a major component of the investigations of subsequent chapters of this thesis.

1.4 DISADVANTAGES OF EMBEDDED NETWORKS

In past literature much more emphasis is placed on the positive and advantageous aspects of embeddedness, with very little written regarding its negative attributes. For instance, Uzzi (1997), states that embedded ties promoted "economies of time, integrative agreements, Pareto improvements in allocative efficiency, and complex adaptation" (p. 35), all of which may have been significant in Japan, since the War. However, he points out that these gains only apply up to a point, beyond which "embeddedness can derail economic performance by making firms vulnerable to exogenous shocks or insulating them from information that exists beyond their network" (p. 35). In essence this may be interpreted that after a certain point a firm can become too embedded. Further, just because a network structure like the *keiretsu* is widespread in Japan does not necessarily mean that it is efficient. As DiMaggio and Powell (1983) found structures may exist simply because they are deemed to be legitimately appropriate in a given situation. Thus the prevailing culture may perceive such network forms as accepted business practice even though the said practice may not always be the best for a given situation.

Caves and Uekusa (1976) compared the profitability of a group of 243 Japanese firms. Their sample comprised both *keiretsu* and independent firms during the period of 1961 to 1970. The basic finding of this study was that *keiretsu* affiliation decreased a firm's profitability when compared to independent firms. There was a negative correlation between group ties and profitability. Their data also hinted at there being less variability in the profits of group-linked firms.

A later study by Nakatani (1984) analysed an assortment of 317 firms, from the period of 1971 to 1982, taking up where the Caves and Uekusa study left off. This study's sample, as with the earlier study, included companies both with and without group connections. Furthermore, in this research a large number of variables were factored in, including net profits, dividend to share price ratio, the ratio of debt to equity, the growth rate of the firm in the form of market capitalisation and employee remuneration, as well as the growth in sales the firms experienced and variations in other factors like interest rates. The findings of this study were similar to that of Caves and Uekusa, with Nakatani noting that profits were largely lower for group companies, yet at the same time mean employee remuneration packages and debt to equity ratios were higher. The group firm's profits, growth rates and interest rates were also far more consistent in comparison to non-group affiliated counterparts. Nakatani concluded that companies traded off lower profitability and growth for the stability provided by group affiliation.

Two similar studies by Lincoln, Gerlach and Takahashi (1992) and Lincoln Gerlach and Ahmandjian (1996) have reinforced the findings of the previous studies of Nakatani and Caves & Uekusa, also finding that stronger firms with network affiliations act to bolster weaker network partners and this in turn proves detrimental to the stronger firm. Admittedly a study by Cable and Yasuki (1985), with overlapping data to the Nakatani research, from the years 1968 to 1978 of 89 large Japanese firms, found no significant relationship between profits and group network links. However, this study was primarily focussed on the link between multidivisional firms and financial performance and examined group affiliation as an aside. What is more, their regression analysis of network affiliation did not perform nearly as well as their analysis of the relationship between multidivisionality and profitability. By and large though it would appear from these studies of Japanese group affiliated firms that profit maximisation conflicts with the goal of group formation, with *keiretsu* formation enhancing stability at the cost of profitability.

A recent, more microeconomic firm study of managers' networks (Gargiulo and Benassi, 2000) which uses the theory of network closure which stresses cohesion and embeddedness, contrasting it with structural hole theory which emphasises competitive advantage obtained through rapid movement of information, may also be used to highlight possible disadvantage arising from embeddedness. In this study the strength of long-term relationships, lessens the possibilities of structural holes and thus inhibits flexibility and adaptability. The paper uses an interesting turn of phrase in its title, asking the question: 'Trapped in your own net?' This thesis takes up this imagery again in its concluding chapter.

The disadvantages of embeddedness highlighted in this section are elaborated in following chapters, which form the basis of four key areas of investigation in the thesis. Points covered in these main chapters underpin the central assertion that embeddedness has been a significant barrier to economic development of a number of firms, chiefly affecting those involved in *keiretsu* networks.

1.5 THESIS OUTLINE AND MAIN AREAS OF INVESTIGATION

This introductory chapter has provided the background and motivation behind this thesis, and has introduced the concept of embeddedness. Using Japan as the prime example, the thesis attempts to identify the advantages and the disadvantages that embedded ties have caused. While Japan is utilised as the representative East Asian economy, the discussion to follow may well be applicable to other economies in the region. It is however, beyond the scope of this study to thoroughly investigate this possibility in detail.

The following chapters of the thesis are organised on the basis of an examination of embeddedness as it applies to four key aspects of economic activity: firm interaction and interdependence in the manufacturing sector of the domestic economy; inter-firm relationships in the financial sector of the economy; the internationalisation of Japanese firms and the links between the government and business sectors of the economy.

Chapter 2 discusses the general underpinnings of network operations in the Japanese economy. It utilises examples from the Japanese automobile industry to highlight how embedded ties facilitated inter-firm interaction, especially in regard to automakers and their parts suppliers. The mechanisms that played a vital role in the formation of ties between automakers and suppliers is examined in this chapter and how these mechanisms led to the establishment of trust-based, information-sharing networks between firms is discussed. Chapter 2 also covers the disadvantages of these trusting networks between firms, highlighting how they can, subsequent to the establishment of trusting networks; hinder interaction with new firms, not already in the network. This information isolation thus makes network bound firms inflexible and less able to exploit new and lower cost opportunities.

The second key aspect to be investigated - the financial sector, becomes the subject matter of Chapter 3 of this thesis. The financial sector is a sector particularly important in Japan due to the historical tendency of Japanese firms to pay for their growth with loans rather than through other means like share portfolio offerings. Chapter 3 examines the interaction between Japanese firms and the financial sector. Embedded ties between financial institutions and their client firms play a prominent role in

Japanese business circles and the relationship between *keiretsu* firms and their main banks is particularly vital. This chapter elaborates on how embedded links lead to strong keiretsu networks being established, with central *keiretsu* banks providing direction and financial stability to other firms within the *keiretsu* network. Keeping with the general format of firstly highlighting the advantages of embedded structures in each key area and then discussing how subsequently embedded ties can lead to disadvantages, Chapter 3 goes on to show how the stability of the *keiretsu* system leads to some financial institutions making unwise lending decisions. This bad loan situation of highly embedded banks is contrasted to the less severe bad debt results of less highly embedded banks and inferences are drawn from this.

Overseas markets and internationalisation are another important component of the expansion of the operations of firms, both in providing new markets for products as well as through overseas production facilities. Chapter 4 looks at how embedded ties were instrumental in the global expansion of many Japanese firms, particularly with the assistance of *keiretsu* trading companies, the *sogo shosha*. These advantages that *keiretsu* networks provided in giving firms the resources and contacts necessary for expansion across national borders is analysed. The chapter then goes on to investigate the common tendency for established firms to supplant trading company links with their own internal networks over time. Again the disadvantages that embedded ties can cause are examined, with Chapter 4 covering the effect that they can have on areas of cross border international production and parts supply. The propensity for embedded links to lock firms into dealing with only a few select entities overseas, with which they have pre-existing relationships, is highlighted. How this can make a firms lose out on new opportunities is also discussed.

The final key aspect identified by this thesis is examined when the embedded relationship that exists between business and government in

Japan is discussed in Chapter 5. During Japan's post-war development phase, government ministries like the Ministry of Finance (MOF) and the Ministry of International Trade and Industry (MITI) played an active role in rehabilitating certain targeted industries, deemed vital for the nation's recovery. In this endeavour they were phenomenally successful. Through this proactive role that the government ministries had in developing the economy, a relationship of close embedded ties arose between firms in targeted industries and government. This was certainly advantageous during Japan's post-war development, but since that time, such relationships have become weighed down by corruption and crony capitalism. Chapter 5 employs the construction industry in Japan as a case study. An analysis of embedded ties between construction firms and the Ministry of Construction is shown to affect the nature of business dealings conducted in that sector and is used to illustrate how questionable business practices can increase construction costs.

The concluding chapter summarises the findings on the impact of embeddedness within the broad themes of the four key areas identified by this investigation. Certain negative aspects of embedded ties uncovered by the thesis are elaborated on and it is suggested that these negative aspects arise chiefly as a consequence of what is termed "atrophied embeddedness". Hence a novel contribution of this thesis is the development of the concept of atrophied embeddedness.