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Stock Trading and Daily Life:

Lay Stock Investors in Taiwan

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Abstract

Drawing on recent discussions of relational embeddedness and socio-technical *agencement*, this thesis analyses the relationship between stock trading and lay investors' daily lives, including their social relations, activities, events, devices, places, work and ways of thinking. Taiwan's stock market provides an appropriate location for investigation because of the dominance of lay investors in the market and the high proportion of Taiwan's adult population who engage in stock trading. The data were obtained from three main sets of sources: in-depth interviews, document analysis and ethnographic observation. I argue that lay market actors are not only framed by the market's mechanisms, but also by daily-life structures.

The Taiwan Stock Exchange, as an electronic, anonymous financial market, has been a challenge to the embeddedness approach due to the absence of direct interaction between the parties to transactions. This study presents another aspect of socio-economic relationships in the market: the role of financial-market activity in wider social interactions. Like taking part in any popular social activity, lay investors' social ties are maintained and expended by engaging in stock trading. Social relations and stock trading are woven together and form a largely seamless whole, part of lay investors' daily life.

The socio-technical *agencements* of lay investors contain distinctive features: diversity, bricolage, use of non-professional 'devices', action in non-financial places, everyday means of controlling market risk and association with everyday events. The differences between the *agencements* of lay investors and professional practitioners produce an asymmetry of calculative capabilities between market actors. Superior calculative capabilities tend to give an advantage to professional practitioners in the market, but these strengths are constrained by political and economic factors.

This study sheds light on micro social factors, which are comparable with economic, institutional and psychological explanations, in accounting for lay investors' behaviours in financial markets. The analysis also suggests the compatibility of the three important social science approaches to economic agents: Granovetter's embeddedness, Zelizer's relational work and Callon's *agencement*.

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Declaration

The work contained within this thesis is entirely the author's original work. No part of this thesis has been submitted for any other degree or professional qualification.

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Chapter 1

Introduction

1.1 Introduction

For a long time, stock markets, as other financial markets, had been considered a domain of professional practitioners, such as analysts, professional traders, financiers, fund managers and stockbrokers. For most people, stock trading tended to be distanced from their daily life (Michie 1999; Preda 2009a). Investing stocks through mutual and pension funds had been a popular means for lay people in many countries to take part in the markets (Thatcher 2007). With the growth of global financial sectors and technological developments, stock markets worldwide have increased in size at a rapid pace and the overall cost of trading has markedly decreased (Weber and Devis 2000; Barber and Odean 2001b, 2002; Lavelle 2004). In some countries, a significant proportion of the population have directly participated in the stock markets, and they (the 'lay investors') have become a major role in the markets and received attention from other market participants and scholars (e.g., Gamble 1997; Hertz 1998; Mayall 2006; Harrington 2008; Roscoe and Howorth 2009; Roscoe 2013).

Lay investors are also called 'amateur investors', 'individual investors', 'retail investors', 'small investors', 'lay trader' or 'non-professional traders' in different social contexts and academic studies. In Taiwan's and China's stock markets, they are called *sanhu* (散戶), which means 'dispersed or scattered players'. All these terms indicate characteristics of lay investors and have constructed a conventional category for them in the markets. Generally, the phrase 'lay investors' refers to those market participants who do not work for financial institutions; instead, they trade small quantities of stock for themselves and usually act individually in the market. In other words, they are in contrast to professional practitioners, who are financial experts, trading for institutional investors, such as mutual funds, in stock markets and managing large investment portfolios.

Recently, research on lay investors has grown rapidly in the social sciences, such as sociology, anthropology, and social studies of finance[1] and behavioural finance.[2] The research tends to focus on lay investors' activities in the market and have provided analyses of their trading behaviours, purchasing decisions, market analysis, information selection, views of the market and uses of contemporary online devices through various perspectives (see Section 2). A comprehensive picture of lay investors' market actions has been constructed by the findings of these impressive studies.

Unlike previous studies whose emphasis was on lay investors' market behaviours, this study is interested in another aspect of lay investors: the relationship between stock trading and daily life. Lay investors are accustomed to trading stock in daily life, as everyday activities in everyday environments. In contrast, for professional practitioners, trading is a job, a career and an assemblage of professional knowledge, skills and devices (Zaloom 2006). These differences pose a sharp distinction between lay investors and professional practitioners, but the distinction has not been underscored in this field. The aim of this study is to explore this relationship and elucidate the importance of this distinctive characteristic of lay investors.

The main approaches of this study are inspired by schools in economic sociology and social studies of finance. In economic sociology, Mark Granovetter's (1985) theory of embeddedness has indicated the inseparable relationship between economic activities and social ties. His key argument is that economic actions are embedded in social relations. This idea has been developed in social-network studies (e.g., Uzzi 1996, 1999; Burt 2001; also see Smith-Doerr and Powell review 2005) and the school of social capital (e.g., Coleman 1988; Portes and Sensenbrenner 1993; also see Lin review 2001). With the growth of criticisms of Granovetter's embeddedness (e.g., Krippner 2001; Krippner and Alavarez 2007), Viviana Zelizer

[1] Broadly speaking, 'social studies of finance' refers to 'the application to financial markets of social science disciplines beyond economics'. However, in its more specific meaning, also more relevant to this study, the term refers to 'approaches to markets that are inspired by social science research on science and technology'. 'Social studies of finance' is seen as analogous to 'social studies of science' (MacKenzie 2009: 2).

[2] 'Behavioural finance' is 'the application of psychology to financial behaviour'. The school burgeoned in the 1980s when a few scholars began to discover anomalies in financial markets, and empirical data were not consistent with mainstream finance such as efficient market theory (Shefrin 2002: 4–10).

has offered an alternative approach in her recent works to investigate the connection between economic action and social interaction by centring on the meanings of the economic action, which is called 'relational work' (2010, 2012). In brief, these schools in economic sociology have provided a set of conceptual tool kits for this study to examine how lay investors' market and social activities are constituted of social interactions, interwoven together in daily life and associated with the maintenance of personal ties.

Social studies of finance have furnished another important source of the theoretical framework. Though this school includes multidisciplinary works, the materiality of financial markets, such as physical artefacts and technologies, is its main concern. Michel Callon (1998, with Millo and Muniesa 2007, and with Caliskan 2010) has suggested that market actors are the social-technical configurations of human beings and non-human entities, such as information and dealing systems. Without market devices, human agents would lose calculative capabilities and thus would be unable to act in the market. This idea has been developed in Donald MacKenzie's serial works (2006, with Muniesa and Siu 2007, 2009). The interconnections between participants and devices in financial markets also have been underscored by other scholars, such as Karin Knorr-Cetina and Urs Bruegger (2002), Daniel Beunza and David Stark (2004) Caitlin Zaloom (2006) and Alex Preda (2009a, 2009b). The idea from social studies of finance has offered a perspective for this study to examine how lay market actors assemble in daily-life environments and which elements are made up of the actors.

Taiwan's stock market probably is one of the best locations for this investigation. This is not only because of the dominance of lay investors in the market, who contribute to about 60 per cent of the market's equity trading value, but also because it is estimated that over 50 per cent of Taiwan's adult population are engaged in stock trading. These figures are much higher than similar statistics in many other countries, such as the US and the UK (see Section 4). The figures also suggest that this society is an appropriate case for the study and imply that the interconnections between lay investors' stock trading and daily life would be discernible in the field.

The literatures are useful to shed light on different socio-economic aspects of lay investors in Taiwan. Granovetterian embeddedness suggests the importance of social connections to explain the proliferation of lay trading in Taiwan. Callon's theory of market actors suggests the importance of market devices to illuminate the market power of different types of investors. Both social relations and technology are expected to play a substantial role in the formation of lay investors in Taiwan's stock market. The viewpoints of this study are mainly based on these two theoretical sources.

Specific research questions of this study are drawn from the theoretical perspectives; the actual conditions of the research case should be also taken into consideration. The structure of this thesis is arranged according to four main research issues.

Chapter 2 will explore the effects of social relations on lay investors' stock trading, as well as the influences of stock trading on the maintenance and extension of their social ties. The chapter will suggest the interactions between stock-market activities and social relations throughout in this fully anonymous electronic stock market.

Chapter 3 will examine the configurations of lay market actors. The main elements include market devices, ideas of stock trading and market risk, and environments. The variety of the configurations and their connections with lay investors' daily life will be analysed.

Devices and other non-human entities constitute market agents' calculative capabilities (Callon 1998, 2007). Chapter 4 will analyse the asymmetry between professional practitioners' and lay investors' calculative capabilities in the market. The chapter will shed light upon the strengths and restraints of professional agents' calculative power.

Brokerage offices are the specific financial places designed for lay investors, though they have lost their exclusive position as providers of real-time information and efficient order placing systems, due to technological developments. Chapter 5 will look at contemporary brokerage offices and examine the interconnections between participants (lay investors and staff), market and social activities, equipment and space. Contemporary Chinese brokerage offices will be included in the

discussion in order to compare them with Jocelyn Gamble's (1997) and Ellen Hertz's (1998) studies of the 1990s Shanghai stock market.

Chapter 6 will be the conclusion and discussion. The following sections of this chapter will provide a literature review, methodology and contextual background.

1.2 Literature Review

1.2.1 Sociology of financial markets

Financial markets are an emerging subject in sociology, though the issues have been previously discussed in Karl Marx's (1974: 476–504) and Max Weber's (1968: 82–5, 635–40, 2000a, 2000b) classical works. After Weber, research on financial markets, as on other economic issues, had grown slowly in sociology. With the recent rapid development of global financial systems, studies of financial markets have re-emerged within contemporary sociologists' concerns (Keister 2002; Smelser and Swedberg 2005; Sassen 2005).

The two important collections edited by Knorr Cetina and Preda, *The Sociology of Financial Markets* (2005) and *The Oxford Handbook of the Sociology of Finance* (2012), have provided an overall view of this field. The range of topics and approaches of the articles in these volumes are broad. The issues include market actions, institutions, investors, politics, governance, financial crises, etc.; perspectives ranging from economic sociology, political sociology, organizational sociology and historical sociology, to gender studies, geography, anthropology, social studies of finance and other disciplines are all adopted for the analyses. The varieties of topics and approaches are a characteristic of the sociology of financial markets and this characteristic has been underscored in other review articles as well (e.g., Keister 2002; Preda 2007).

Actors are a key element of financial spheres and also a focus of sociology of financial markets. Of all these ways to examine financial-market actors, theories of relational embeddedness, drawn from economic sociology, and the perspective of *agencement*, developed in social studies of finance, are some of the most insightful approaches.

Embeddedness is a familiar notion for economic sociologists and economic anthropologists, though the notion does contains more than one concept (Krippner, Granovetter et al. 2004). The concept of embeddedness was originally posited by Karl Polanyi (2001). In Polanyi's idea, the idea suggests the essence of economy. In brief, he argues that economies of all types of society – including market systems of industrial societies – are institutions for production and allocation and are embedded in non-economic institutions. Financial markets, a crucial economic institution of contemporary capitalism, are one example. The idea has been supported by many studies and their findings have indicated that financial markets and products are enmeshed in politics, culture, religion, etc. (e.g., Zelizer 1978; Carruthers 1996; Carruthers and Stinchombe 1999; Siu 2008; Preda 2009a).

Embeddedness is given another meaning by Granovetter (1985, 2005). He applies the idea of embeddedness to micro-level analysis and argues economic actions, including individuals' market activities, are embedded in social relations. In the sociology of financial markets, relational embeddedness and relevant concepts, such as social network and social capital, have become important analysis tools, and social relations are argued as the underlay of financial activities' essential elements, such as trust, order, efficiency and information exchange (e.g., Baker 1984; Abolafia 1996; Uzzi 1999; Mizruchi and Stearns 2001).

On the other hand, social studies of finance tend to focus on the material aspect of financial markets and emphasize the relationship between technicality and society. The approaches of this field, as noted, are strongly influenced by science and technology studies (MacKenzie 2009). A number of works in social studies of financial markets have pointed out that the markets are social-technical constructions. Technicalities and technologies, such as computers, economics, financial models, trading devices, communication tools, price data, information media and the layout of the trading room, not only constitute financial markets but also interact with the markets and shape the markets (e.g., Knorr Cetina 2003; Beunza and Stark 2004; MacKenzie 2005, 2006; Muniesa 2008; Preda 2009a; Pardo-Guerra 2010).

With regard to analysis of market actors, Callon's concept of *agencement* is one major approach in social studies of finance (1998, 2005; with Caliskan 2010). The notion of *agencement* is drawn from Deleuze (Deleuze and Guattari 1998).

Callon develops this concept to challenge the conventional concept of market actors (human actors) and argues the market actors are social-technical *agencements* (assemblages of human beings and non-human entities) (See Chapter 3). MacKenzie and Hardie's (2009) analysis of hedge funds is an example equipped with this perspective.

Indeed, a number of studies in this field have provided examples of the incorporation of these approaches from economic sociology and from social studies of finance. The works have suggested that both technicalities and social relations are crucial for the existences and operations of financial markets (e.g., Knorr-Cetina and Bruegger 2002; MacKenzie and Millo 2003; Preda 2008).

The theories from the sociology of financial markets underpin the viewpoints and theoretical frameworks of this study. The specific literature related to each research issue will be reviewed and discussed respectively in each chapter. The following subsections are aimed to provide an overview of social science research on lay investors.

1.2.2 Social studies of lay investors

Compared to research on professional practitioners, lay investors have received less attention in the sociology of financial markets (see Callon et al. 2007; MacKenzie et al 2007; Knorr Cetina and Preda 2005, 2012). However, the number of studies of lay investors has grown recently in this field. Trading activities are one of the main interests of these studies. Researchers tend to rely on ethnographic data (mainly collected from direct and indirect observation and interviews) and analyse the activities in real social settings.

For example, Margery Mayall (2006) studies different practices of technical analysis of lay investors in Australia. She argues these investors' analysis models mirror their ontologies of the market and the investors are categorized into four ideal types according to their ontologies: system traders, art traders, game traders and explorer traders.

Based on Mayall's findings, Philip Roscoe and Carole Howorth (2009) explore British lay investors' styles of technical analysis. The study enhances Mayall's

argument and provides a more detailed taxonomy of lay technical analysts. Furthermore, they argue that technical analysis for lay investors usually is not a device to generate extra market returns, but, instead, is a heuristic tool to frame the market.

Preda (2009c) studies trading calculations of US lay investors in the online anonymous markets. He argues that the calculations are not planned actions but activities which are situational, relational and coordinated with devices (screens). The goal of the calculations is brief anonymous encounters by making absent strangers present in the traders' situations.

Unlike most studies of this issue which focus on online lay investors and their trading actions (i.e., in front of a screen), Brooke Harrington (2008) investigates decision making within US stock investment clubs. Investment clubs are formal associations which consist of a small group of lay investors. Members pool their money, have regular meetings and jointly decide investments of the club. Harrington argues social factors strongly affect these clubs' operations, performances and investment. When the club members come to an agreement about purchasing or selling stocks, they not only contemplate the financial implications of the decision but also think about its social implications, such as maintaining the solidarity of the club, if it is consistent with their self-identities (e.g., club members view themselves as good citizens who avoid investing in unethical companies), if it complies with the club's investing culture (e.g., some clubs are used to assessing a stock in accordance with fundamental analysis) and often clubs may project gender differences (e.g., all-female clubs may buy clothing companies and retailers' stock and name this type of stock 'girl stocks').

In addition, Harrington finds mixed-gender clubs tend to own more diverse information sources, and 'professional clubs', whose members retain instrumental relationships, encourage the members to openly discuss their opinions. As a result, these two types of clubs usually perform better than single-gender clubs and 'friendship clubs'. However, ironically, due to internal homogeneity and affective ties, the latter two types of clubs are less likely to disband, even without positive financial performance. In general, Harrington argues that lay investors' behaviours are not inclined to be 'irrational', as some financial theories claim, but they are just

more likely to be driven by both economic and non-economic rationalities at the same time.

Other aspects of investment clubs and US lay investors are highlighted in Harrington's subsequent works. Based on Foucault's perspective of 'power as knowledge', Harrington (2012a) emphasizes the power relation in the US stock market. She suggests the rise of lay investors in the 1990s resulted from the contemporary political and economic structural changes: the reform of the pension system, the decline in real wages and the amendment of capital-gains tax. In the US, stock markets have become an arena where lay investors are competing with financial elites, e.g., financial professionals. She claims investment clubs are a means to empower lay investors through providing an institution for learning about investment.

After the burst of the dot-com bubble and after several financial frauds, such as the Enron accounting scandal, were revealed, Harrington (2012b) notices that a significant number of lay investors have continued to participate in the stock market. Among investment club members, some experienced shock and stasis, some denied the end of the bull market and some blamed themselves as complicit in the growth of the bubble. She argues the 'group' (the investment clubs) plays a key role that helps those lay investors continue trading and deal with their feeling of shame, which was supposed to drive them out the market, according to Goffman's theory of shame.

The material embeddedness of UK lay investors is reported in Roscoe's (2013) latest article. Inspired by social studies of finance (Callon et al. 2007), he highlights the role of the 'material' (i.e., devices) in embeddedness. According to his study, UK online lay investors strongly rely on anonymous interactions in the Internet forums (through posters) and the online trading tools provided by securities companies. Furthermore, he argues the economic function of face-to-face interactions, such as attending investment shows or participating in investment clubs, has been marginalized in lay investors' trading. Based on Harrington's argument, Roscoe conjectures the reason of participation in those activities is linked to lay investors' self-identity.

1.2.3 Financial studies of lay investors

In financial economics, lay investors are often regarded as 'noise traders', who 'trade on noise as if it were information', as contrasted to the 'information traders' (*homo economicus* in the financial market), who are usually exemplified by professional investors (Black 1986: 531; Barber et al. 2009). Following this premise, psychological biases behind lay investors' market decisions and actions, that differentiate them from 'ideal' rational traders, have been an important research focus in behavioural finance.[3] A series of studies in the field, mainly contributed by Brad Barber and Terrance Odean, are closely linked to social studies of lay investors.

The high turnover rate of lay investors' portfolios is a main issue of Barber and Odean's (2000) study of the US stock markets. They find that excessively frequent trading has been detrimental to lay investors' performances due to cumulative transaction costs. They argue this phenomenon is a consequence of lay investors' overconfidence.

In a subsequent article, Barber and Odean (2001a) examine the gender difference in stock trading and suggest male lay investors are more overconfident than their female counterparts. According to their findings, men tend to trade more frequently than women and therefore men's investment generally underperforms the women's.

In their other studies, Barber and Odean (2001b, 2002) point out that trading devices have an impact on lay investors' performance. They find switching from phone trading to online trading encourages lay investors to trade more actively and speculatively and, as a result, the investors' performances can be damaged. They argue online trading produces illusions of knowledge and control, and thus makes the users overconfident in their trading. However, Mark Grinblatt and Matti Keloharju's (2009) study of the Finnish stock market dictates that sensation seeking is another important factor driving lay investors, particularly male investors, to trade more frequently.

[3] 'Irrational' behaviours are often displayed by both lay investors and professional investors. For example, the famous 'disposition effect' (investors tend to sell the winners and hold the losers) is observed in both lay investors' and professional investors' behaviours in many markets (Barber and Odean 1999; Shapira and Venezia 2001; Barber et al. 2007).

For lay investors, the decisions regarding stock purchasing would be made differently depending on whether they are trading as individuals or in a group. Based on the comparison of US investment clubs' and individuals' portfolios, Barber, Heath and Odean (2003) find the clubs are more likely to purchase the stocks of most-admired companies and are less likely to be concerned about the stocks' performances. They argue decisions of groups are social dynamics, which need reasons to make the agreement, and admired companies are more likely to give the investment clubs' members good reasons for investment. The findings of this study are linked to Harrington's study (2008), as seen above.

In addition, lay investors and institutional investors tend to use different methods to select stocks and evaluate share prices. Barber and Odean (2008) find US lay investors tend to purchase those stocks which grab their attention, e.g., stocks highlighted on the news, or with an unusual trading volume, or with extreme returns in recent times. By contrast, institutional investors are not inclined to buy these types of stocks. The researchers account for this difference as a result of the limited time and resources that lay investors have for seeking out suitable investments. Mark Seasholes and Guojun Wu's (2007) study of the Shanghai stock market reaches a similar conclusion. They find stocks which hit upper price limits are more likely to attract lay investors' attention. Besides, James Frederickson and Jeffrey Miller's (2004) and Kristian Allee et al.'s (2007) studies of stock price evaluation suggest less-sophisticated investors (lay/retail investors), compared to sophisticated (professional/institutional) investors, tend to use simpler (heuristic-based) valuation models and therefore their cognitions of the market are more likely to be misled by strategically released information.

1.2.4 Research on Chinese and Taiwanese lay investors

Anthropology provides valuable information about lay investors in China's stock markets. Jocelyn Gamble's (1997) and Ellen Hertz's (1998) ethnographies of the beginning years of the Shanghai stock market (in the early 1990s) are good examples. The findings of these two studies are mainly consistent and convergent. Both indicate that lay investors apparently occupy an important position in the Shanghai stock

market and categorize the lay investors into two sub-groups: *dahu* (big players) and *sanhu* (dispersed players). The number of *dahu* in the market is very limited. *Dahu* are usually considered to be those individuals who control a huge amount of capital, have great skills and possess good social connections (e.g., they may have access to insiders of listed companies). Particularly, they are usually imagined to have a capability to manipulate (i.e., corner) the market. On the other hand, *sanhu* refers to the majority of lay investors. They are usually described as the investors who trade only a small amount of money, lack outstanding trading skills and are excluded from insider-information networks.

In addition, both studies also point out some common characteristics of Shanghai lay investors. According to their reports, lay investors in Shanghai tend to cluster together, forming social groups or taking part in associations to exchange market information; they crowd into brokerage offices to trade stock and underscore the efficacy of political analysis rather than fundamental and technical analyses.

In Chinese-language literature, there are several sociological studies of Taiwan's stock market which contain detailed investigation of Taiwanese lay investors.[4] In Cheng-Shu Kao and Chung-Shen Wu's (2002) paper, the rapid growth in the number of *sanhu* (lay investors) in Taiwan's stock market from the mid-1980s to the late 1990s was attributed to the simultaneous transformation of Taiwanese economic and demographic structures. They classify Taiwanese *sanhu* into six categories according to information channel and the counterparts of social interaction: *sanhu* in the financial industry, *sanhu* in listed companies, *guyoushe sanhu*,[5] *sanhu* in brokerage offices, quasi-family *sanhu* and *sanhu* based on screen (online *sanhu*). Kao and Wu point out many features of Taiwanese lay investors through this taxonomy, although the criteria of the categories are equivocal in some respect (e.g., the categories are not exclusive and most Taiwanese *sanhu* would fit in at least two

[4] To date, few social studies of Taiwan's stock market has been published in English academia, to my knowledge. However, a number of master's theses, PhD theses, conference papers and journal articles have appeared in Chinese language, whose topics are related to this study.

[5] *Guyoushe* (股友社) is a specific type of investor association which is not well-known in Western stock markets. The members of a *guyoushe* pay a monthly membership fee and receive daily trading instructions from the *guyoushe*'s organizer. A *guyoushe* organizer's services are usually expensive. To attract members, many *guyoushe* claim their trading instructions base on precise insider information. As also mentioned in Kao and Wu's paper, after several scandals about *guyoushe* were exposed, *guyoushe* have almost disappeared from Taiwan's stock market.

to three categories); therefore, I do not completely agree with Kao and Wu's taxonomy.

In Wu's (2005) subsequent work, he examines the hierarchical structure of the Taiwan stock market's informational dissemination. He argues that *sanhu* occupy the lowest level of the structure, because they are distant from the information sauces (e.g., up-to-date information about industries) and lack sufficient capability (knowledge) to interpret the information. As a consequence, *sanhu* usually are the inferior players in the market, compared to professional practitioners (such as fund managers), or *dahu*. He denotes the disadvantage of being a *sanhu* as 'involuntary blindness'.

Ko-Kang Chien (2008) explores the developments of financial media and production of investment knowledge in Taiwan's stock market. He conjectures that *sanhu*s' understanding of the market is framed by the information and knowledge reported in the media. In addition, he briefly examines the different ideas of the market reported by those *sanhu* who believe in technical analysis and those who believe fundamental analysis. His findings are mainly consistent with the previous studies of the Australian and British stock markets.

In finance, Barber, Lee, Liu and Odean's studies of Taiwan's stock market (2007, 2008) also provide useful information. First, though Taiwan's overall male population is higher, the number of female investors is slightly higher than that of male investors in Taiwan's stock market for reasons that are unclear, and it is unusual in the world. Secondly, they notice Taiwanese men trade more actively and frequently than women, which is consistent with the findings of other stock market studies. Third, Taiwanese lay investors trade extremely excessively and aggressively and this seriously harms their performance. They conjecture this phenomenon is caused by sensation seeking. Fourth, in general, lay investors are the losers in Taiwan's stock market and institutional investors are the winners, particularly foreign institutional investors, which make the most profits.

In brief, social studies of finance, economic sociology, anthropology and behavioural finance portray different facets of lay investors and highlight the connections between lay investors' market activities and psychology, analytical frameworks, online trading systems, investment ideas and market structures.

1.3 Methodology

Methodology was designed for investigation of the four research issues: the relationship between stock trading and social ties; the assemblages of lay market actors in daily-lives; the asymmetric calculative capabilities between professional and lay market actors, and the interlock between market actions, social activities and technology in contemporary brokerage offices in Taiwan and China.

Data were obtained from three main sets of sources for the demonstrations of configurations of lay market actors in daily lives. In-depth interviewing, document analysis and observation were included.

Interviewing was one of the main methods I used to collect primary data about market agents' behaviours, social relations, ways of thinking and uses of trading equipment, particularly under the condition that large-scale quantitative data is not available.

A total of 46 interviews were conducted. Twenty-nine respondents are Taiwanese lay investors; five are lay people who trade in China's stock markets (one Hong Kong resident and four Chinese citizens); nine are professionals in Taiwan's stock market, and three are employees of two brokerage firms in China. Forty-five interviews were conducted in person and the exception was conducted by Windows Live Messenger. Most interviews were recorded and transcribed, but three interviews which took place in China were recorded in notes. Interviews lasted between 20 minutes to two hours. Tables 1.1–1.4 give details of the interviewees.

A key issue of this methodology is how to approach potential respondents; this especially seems a challenge for qualitative studies of lay investors. Lay investors have been thought as a class which is difficult to access by researchers, because their actions are isolated, their identity (as a lay investor) is difficult to be distinguished from their occupation, and their residences are generally geographically dispersed (Mayall 2006; Roscoe 2013). To overcome these barriers, some common approaches have been taken by the researchers. One is to access them through an organizational intermediary, e.g., to send interview requests through brokerage companies to the clients or through relevant associations to the members (Mayall 2006; Harrington

2008). Another approach is to engage with them in social events, e.g., to recruit volunteers for interviews in investment seminars and clubs, public meetings, exhibition shows, or relevant Internet forums (Hertz 1998; Mayall 2006; Harrington 2008; Siu 2008; Roscoe 2013). Furthermore, encounter with lay investors in brokerage offices has been made in some studies of China's stock markets (Gamble 1997; Hertz 1998). Indeed, reliance on more than one approach has been common in this area.

However, this study chose another way to recruit respondents – that is, to seek volunteers for the interviews by *guanxi* (關係, social connections) – rather than the approaches listed above, for some contextual reasons. First, it was less feasible to send interview requests through organizational intermediaries in Taiwan. The Personal Information Protection Act (個人資料保護法)[6] in Taiwan restricts the range of the use of contact information of financial companies' clients. In general, brokerage companies are not allowed to contact clients for purposes which are not stated on the contract; it would be considered an abuse of the clients' personal information. Thus, companies tend not to take any risk of breaking the law, even for academic purposes, though academic research can be exempt from the law on certain conditions. Besides, there is no major association in Taiwan which is designed for retail investors, as is the National Association of Investors Corporation (NAIC)[7] in the US (Harrington 2008). Although the Taiwan Securities Association[8] is an important organization in this industry, it is an association for securities companies, not for investors.

Secondly, social events which are designed for lay stock investors are not held often in Taiwan. For example, there are no investor exhibition shows, investment clubs or public meetings in Taiwan. A few investment seminars are sometimes held by brokerage companies for the companies' clients. However, the majority of these seminars are designed to teach lay investors how to trade futures, options and warrants, markets which are not familiar to most lay investors, and courses for stock investment are not as common. A broker explained the reason to me: the main

[6] The content and legislative history of the Personal Information Protection Act in Taiwan is available at http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=I0050021.
[7] The aims of the NAIC are available at http://www.betterinvesting.org/public/default.htm.
[8] The English website of the Taiwan Securities Association is http://www.csa.org.tw/CSAENG.asp.

purpose of the seminars is to help clients who are new to the markets adopt unfamiliar financial products; the expectation is the clients will be successfully encouraged to trade more frequently in these markets – therefore, the courses usually are free for the attendants. But 'the ordinary stock market, most Taiwanese people are too intimate with it' – the clients probably will not be motivated by the courses to trade stock more actively or need to learn stock trading from the courses. The Internet forums for lay investors are popular in Taiwan.[9] However, I had already recruited a number of interviewees by *guanxi* who visit the Internet stock-trading forums frequently and the visitors to these forums seemingly belong to a specific social group: they are young investors and many of them are students (see Chapter 3). In order to diversify the backgrounds of the sample, I decided not to look for additional respondents through this approach.

This is the same reason why I did not recruit respondents in brokerage offices though I had visited four brokerage offices in Taiwan and two in China. In brief, the people there seemed not to represent a random sample of lay investors but a specific social group. For example, in my observations in Taiwanese brokerage offices, only a small number of lay investors stayed in the brokerage offices and they all were in their fifties or older (see Chapter 5). Another concern was that it would have to take time to *jianli guanxi* (建立關係, build connections) with the unknown investors in brokerage offices, if I wanted to interview them (Hertz 1998; Siu 2008). However, on the other hand, several interviewees, recruited through social connections, are/were accustomed to trading stock in brokerage offices and have provided plenty of information about their trading and their lives. In order to maximize the limited time in the field, I decided not to recruit additional respondents in brokerage offices or from other social events.

The foremost reason I relied on *guanxi* is that it was an effective and efficient approach to recruit interviewees in this case. *Guanxi* is thought to be one of the important elements in shaping the pattern of social interaction in Chinese societies and have been discussed in studies of social capital in Chinese societies (e.g., Lin 2001) and social studies of Chinese financial markets (e.g., Hertz 1998; Siu 2008).

[9] For example, the Ptt-Stock is one of the largest and nonprofit Bulletin Board System (BBS) for lay stock investors (http://www.ptt.cc/bbs/Stock/index.html).

Without *guanxi*, the researcher is likely to be refused admission to the field by the gatekeeper, and their request for an interview is more possible to be rejected by the potential respondents (Siu 2008).

An additional benefit of starting interviews with *guanxi* is that I could gain more accurate and honest answers from some closer ties. In the Taiwanese cultural context, several interviewing questions of this study such as personal saving and investment gains and losses etc are usually thought 'sensitive' questions and hardly talked openly to strangers[10]. In this case, as will be seen in Chapter 2, to keep away from unnecessary troubles and to avoid losing face are those people's main concerns.

Fortunately, I am a Taiwanese and spent most of my life in Taiwan, and therefore the majority of my social ties are located in Taiwan. In the process of data collection, my family members, friends, relatives and acquaintances became the searcher, intermediary and sponsor. They searched for and contacted potential interviewees (people whose situations met the purposes of the study) from social networks, then gained permission from the person for the interview and finally gave me the person's contact information. Because a huge number of Taiwanese people are involved in stock trading, it was not a big deal for them to arrange this. Foremost, almost all the respondents recruited through this means were more willing to answer all my interview questions. I conjectured that their openness at least partially resulted from the trust between the respondent and the intermediary.

Although my fieldwork began with my personal ties, the snowball-sampling method then was used as an additional means of accessing a wider range of interviewees. For example, when I told an interviewee, who is a friend of my aunt and was contacted by her, that I am looking forward to meeting some homemaker investors to interview, she said 'It's a piece of cake.' She immediately went onto her mobile phone and asked a friend whether she was willing to take part in this research. Her friend agreed and arranged the interview time immediately over the phone.

[10] I had been aware of these cultural factors during the fieldwork of my previous research, which focused on the development of Taiwan's tea industry and the transformation of tea production models. In the fieldwork, I had interviewed 85 people, including tea farmers, manufacturers, wholesalers, retailers, customers, government employees etc. The informants in the tea industry had been recruited mainly by the snowball-sampling method. Many of these informants had directly refused to answer the questions about money, incomes, profits, cost etc or only provided vague information. Some of them had frankly told me the reasons: they do not have personal ties with me and are afraid that the information would be leaked to others and therefore cause unnecessary troubles such as personal safety in risk, increase of tax payment, reduction of production subsidies etc.

Through the combination of *guanxi* and snowballing, I could access a target respondent in five minutes. This example underscored the power of *guanxi* in the first instance of recruiting respondents and in the further step of enhancing the efficiency of the snowball-sampling recruitment in this case. In addition, it also implied the popularity of stock investment in Taiwan.

However, the disadvantages of this method are obvious. An inevitable hazard of recruiting respondents from one's social connections is that the respondents tend to originate from the same social class. Social networks are somewhat constrained by social class, and this might lead me to access only lay investors whose social backgrounds are similar to mine and therefore would not provide a broad spectrum of Taiwanese lay investors. Thus, in order to mitigate this risk, I purposely selected respondents with diverse attributes: to present a variety in gender, age, education level, occupation, profile size and trading performance. Although some sections of lay investors might still not be represented in the sample group, the diversity of the respondents' social backgrounds seemingly remained to some extent.

Another hazard is 'survivorship bias'. The lay investors who currently trade stock generally are those who have successfully survived in the market, not those who have failed and stopped trading. Therefore, contemporaneous lay investors probably overemphasize the importance of trading in daily life and exaggerate the chances of making profits from trading. In order to diminish this risk, I interviewed three previous lay investors: two have quit trading due to heavy losses, and one left due to 'retirement'. In their interviews, they recalled the life of a lay investor and expressed their perceptions of the market. In general, the two informants who ceased trading due to considerable loss were more pessimistic about the survival chances of lay investors in the stock market, compared to the same comments from those who are still in the market. Otherwise, the rest (also the majority) of their statements, for example, about the trading models, did not apparently conflict with the data from other interviews.

The interviews with Taiwanese professionals, Chinese lay investors and employees of Chinese brokerage firms were conducted in a similar way. The interviews with Taiwanese professionals were designed to supplement the interviewing data drawn from lay investors. A comparison of the power in the market

between professionals and lay investors also highlighted the features of lay investors. The professionals in Taiwan's stock market were recruited through social connections as well. My college friends from the same business school were a great help. The interviews conducted in China were designed to enhance the observational data from the brokerage offices. The Chinese respondents were accessed through the same approach. Most of them were contacted by a relative's friend in Shanghai and a friend in Hangzhou. Due to their help, I was able to interview a broker and a brokerage office manager in China.

Documents were used to supplement the lack of the interview data and as a means of triangulation. Corroborated by the interviewing and observation, document data could indicate the changes in market devices, as well as trading mechanisms and stock market policies. These documents included the *TWSE Monthly Review* (the official magazine of the Taiwan Stock Exchange), newspaper archives, and other relevant books and reports. The TWSE's publications were an important data source. In particular, from No. 593 (September 2011) to No. 597 (January 2012), in order to celebrate the fiftieth anniversary of the TWSE, the *TWSE Monthly Review* published a series of reviews of major events and reforms in the market's 50-year history, drawn from oral-history interviews with TWSE board members, staff and related external parties. The reviews revealed the decision-making processes and the considerations of the TWSE behind the launches of major market policies, which were complemented with the interviews of lay investors' and professionals' views of the market mechanism. Statistic data, reports and other books published by the TWSE, and periodicals and research reports published by the Taiwan Securities Association also contained useful information about the market system.

Furthermore, the press recorded the changes of the stock market from another viewpoint. Two major newspaper digital archives, Udndata.com and Tol.com, have detailed reports on Taiwan's stock market. These datasets contain all the articles of two Taiwanese major national general newspapers: the *China Times* (since 1950) and the *United Daily News* (since 1951), and two Taiwanese major national business newspapers: the *Economic Times* (since 1967) and the *Commercial Times* (since 1978). These four newspapers are considered to be both authoritative and influential, and cover the time span of the Taiwan Stock Exchange.

Observational data was collected to examine the contemporaneous configurations of equipment and brokerage offices' functions, and their economic/social meanings for lay investors. Overall, I visited four brokerage offices in Taiwan (three in Taipei and one in Tainan) and two in China (one in Shanghai and one in Hangzhou). Brokerage offices are thought as a 'quasi-public' place in both Taiwanese and Chinese societies, and people are allowed to enter and stay there without restriction during market hours, even if the person is not a client of the brokerage firm (see Chapter 5). This openness decreased the difficulty of carrying out observations in the six different offices though I had given prior notice to four of the offices about my research. Brief but detailed descriptions of life in brokerage offices in late 1980s' Taiwan and early 1990s' Shanghai have been recorded in news reports (e.g., *United Daily News* 1989,14 September: 22) and Gamble's (1997) and Hertz's (1998) studies. Thus, my observations focused on the social and technological changes at the brokerage offices over the past twenty years and the market and social behaviours of lay investors there. I was present in the X branch (a brokerage office in Taipei) for several hours per day for five consecutive days, and in each of the others for one to three hours from December 2010 to April 2011. Field notes and photos were used to record the observations. Relevant brochures available for free in the offices were collected. The observation data was complemented with interviews with the brokers and managers of four offices and with the lay investors who are/were used to dealing stock in brokerage offices.

Furthermore, data analysis did not become a substantial obstacle though the data contained some technicalities about securities finance. Prior knowledge of finance and the stock market that I gained in business school and in preparation for the examinations of 'Senior Securities Specialist' and 'Futures Specialist' helped me a lot in the analysis. Prior knowledge of the background was also useful.

I acknowledge the data has its limitations. The interviewees were not selected by random sampling and the sample size was limited. Some household demographics in Taiwan might not be included in the fieldwork and the features of their stock trading might not be illustrated in this paper. Therefore, the sample group could not be generalized to the entire populations of lay investors in Taiwan's stock market. Similarly, the interview data with the employees of institutional investors and of

securities companies could not represent the universe of professional practitioners in the securities industry in Taiwan as a whole.

Table 1.1: Interviewees of Taiwanese Lay Investors

		Gender	Age	Education level	Status	Trading frequency* (trade once per)	Portfolio size (USD)
1	Ms Hong	F	50s	college	family business member	hot: 2–3 d; cold: several m, trapped	3k
2	Ms Lin	F	50s	college	family business member	short: 1 w; long: several m	3k
3	Mr Chen	M	50s	senior high school	self-employed	1 m	33–50k
4	Zhi-Chun	F	30s	master's degree	employed	normally 1–2 times a w	3k
5	Ou-Yang	F	30s	master's degree	employed	uncertain, short: under 1 m; long: 1–2 y if trapped	3k
6	Ms Zeng	F	60s	senior high school	retired	every 10–20 d	50–100k
7	Ms Liu	F	50s	n/a	employed	over 1 y because the stocks are trapped	16k
8	Cong-Ying	M	20s	master's student	student	maximum within 2–3 m; holding when lasting low price	6k
9	A-Liang	M	50s	senior high school	self-employed	1–2 m	166k–2m
10	A-Zhen	F	50s	junior high school	self-employed	watching market every day	50–150k
11	Mr Yang	M	70s	master's degree	Retired/attends brokerage office	don't do 'short term', selling when making profit, example: 2 w	66–100k
12	Shu-Ling	F	40s	university	out-of-work/homemaker	uncertain, if making profit, selling on the second day; long: several y if trapped	3–6k
13	Wuma	F	70s	elementary school	homemaker		
14	Ms Qiu	F	20s	master's degree	employed	short: under 1 m; long: trapped, over 1 y	1k
15	Mr He	M	30s	master's degree	employed	normally 2 m; short: 1 m	16–33k
16	Mr Lin	M	60s	n/a	self-employed	n/a	n/a
17	Mr Liu	M	20s	university student	student	1–2 w	3k
18	Mr Zhan	M	30s	master's degree	employed	1 w–3 m	3k

19	Guang	M	20s	master's degree	employed	1–2 m	1k
20	Rou-Zhu	F	30s	college	employed	every week	3k
21	Yi-Zhi	F	30s	n/a	employed	n/a	n/a
22	Ms Huang	F	60s	senior high school	out-of-work	very short, selling when making profit, an example: 2 d	66–100k
23	Ting-Xuan	F	20s	university student	student (mutual fund investor)	n/a	10k
24	Mr Yan	M	30s	master's degree	employed	short-term holding, short: 1 w; long: when the stock are trapped	100–366k
25	Sheng-Ji	M	60s	university	retired/atends brokerage office	holding long, long-term investment (means trading the same stocks frequently), watching every day	n/a
26	Yi-Hong	M	20s	university student	student	1–2 w; most stock hold for 1–2 m	10k
27	Mrs Kuo	F	60s	senior high school	homemaker/attends brokerage office	goes to brokerage office nearly every day	233k
28	Ms Wu	F	20s	master student	student	in the beginning: 1–2 w; now: 1–2 m	3k
29	Mr Zhang	M	30s	university	employed	several m	23–26k

*d: day; w: week; m: month; y: year; trapped: market price is lower than the cost; hot: bull market; cold: bear market; n/a: no available information

Table 1.2: Interviewees of Taiwanese Financial Professionals

		Gender	Age	Occupation
1	Zong-Wei	M	30s	financial adviser
2	Shan-Zhu	M	30s	analyst
3	Steven	M	30s	analyst, former trader

4	Wei-Qian	M	30s	trader
5	Mr Li	M	40s	branch manager of a brokerage firm
6	Mr Wang	M	30s	analyst
7	You-Zi	F	30s	broker manager
8	Jia-Xuan	F	30s	IPO project manager
9	Chun-Shen	M	20s	broker

Table 1.3: Interviewees of Chinese Lay Investors

		Gender	Age	Education level	Status	Residence
(1)	Henry	M	30s	master's degree	student	Hong Kong
2	Caroline	F	20s	master student	student	n/a
3	Jie	M	20s	university	employed	Shanghai
4	Iv	M	60s	college	retire	Hangzhou
5	Biaoge	M	20s	university	employed	Hangzhou

Table 1.4: Interviewees of Chinese Financial Professionals

		Gender	Age	Education level	Occupation
1	Fei	M	50s	college	IT
2	Ji	M	20s	university	customer manager
3	Yuan	F	30s	n/a	branch manager

1.4 Contextual background

Background knowledge of the Taiwan Stock Exchange, Taiwanese lay investors, Taiwanese economic culture and China's stock market was useful for the research. A brief history and summary of each appears below.

1.4.1 The Taiwan Stock Exchange

The Taiwan Stock Exchange is the exchange of Taiwan's stock market. It was launched in 1962. The onset of securities issuing in Taiwan was related to the Kuomintang (國民黨, KMT, also translated as the Chinese National Party), government's policy of land reform in 1953 (Peng 2009: 26). The KMT government represented the central government of China during the Second World War. The end of that war was immediately followed by the Chinese Civil War. With the victory of Communist Party in the Civil War, the KMT government retreated to Taiwan in 1949. Many leaders of the KMT believed that the Communist Party's victory had resulted from its propaganda regarding land reform, which attracted strong support from the enormous number of tenant-peasants. This painful experience spurred the KMT government to commence its land-reform policy in Taiwan in 1949. In 1953, the government implemented the final phase of the land-reform policy. The government levied farm land from the vested owners and then resold the land to the original tenants for a fair price. The owners' loss was indemnified by the government securities and the equities of state-owned enterprises (Huang 2002). This was the first securities issuing in Taiwan (TWSE website).[11]

Trade in these equities heralded the beginning of Taiwan's stock market and retail stock brokerage firms were formed. However, there was no government-sanctioned stock exchange at that time and there were frequent trading disputes. In 1958, the Taiwanese government contemplated the possibility of forming a stock exchange (TWSE website). A number of government officers were sent to Japan and

[11] In 1949, the KMT government issued the 'Patriotic Bond' to collect funds for the civil war in China. However, this bond was seldom seen in Taiwan (Lui 2005; TWSE website). The history of the TWSE is outlined in its website, which is available at: http://www.twse.com.tw/ch/about/company/history.php.

the United States to study the organizational forms and regulations of 'advanced' stock markets. After a year, it was confirmed that a Taiwan Stock Exchange would be established and an American stock-market specialist, George M. Ferris, was invited to Taiwan to assist with the preparatory work in 1960 (Chiang 1991; FSC website).[12] In the same year, the Securities Supervisory Commission was formed. By 1962, the Taiwan Stock Exchange Incorporation (TWSE) was launched (TWSE website). The TWSE has always been a 'private' company, though the government has remained as the largest shareholder and thus has the power to appoint the TWSE's president and to direct the policy of the organization (Peng 2009).[13]

In its first decade, the TWSE's trading value and volumes were maintained at a low level. The market had grown substantially with rapid economic development since the 1970s. From 1986 to 1990, the TWSE entered an unprecedented bull market. The market index, the Taiwan Stock Exchange Capitalization Weighted Stock Index (TAIEX),[14] soared from 1,000 to the highest level in history, 12,000 in just five years. However, the market only stayed at this peak for a few days and the TAIEX immediately plunged to below 3,000 in the same year. From the mid-1980s to present, Taiwan's stock market has experienced several boom-and-bust cycles (Peng 2009).

The mid-1980s was also the beginning of the reformation of Taiwan's financial sectors. The ideas of liberalization, privatization, deregulation and internationalization impacted banking industry as well as securities industry. 'Modernization' had been the goal of the TWSE's reformation (TWSE website).

One fundamental reform of the market mechanism was to introduce the computerized automatic order matching system.[15] Previously, the trading orders in the TWSE had been matched by the staff of the TWSE one after another by hand and the mechanism was less efficient (see Chapter 3). The TWSE adopted the electronic

[12] There is no information about Mr Ferris's occupation in the United States at that time. However, according to his obituary in *The New York Times* (1 November 1992) and *Who's Who in America* (2003: 1612), he was an ex-investment baker and the founder, former president and chairman of the Washington Stock Exchange.

[13] In the UK and the US, the stock exchanges are private and were set prior to the institutes of regulations, which are different to the TWSE.

[14] The TAIEX is an index compiled by the TWSE. The introduction of the TAIEX is accessible on the website http://www.twse.com.tw/en/products/indices/tsec/taiex_1.php.

[15] The establishment of Taiwan's future market in 1997 was another achievement of the 'modernization' of Taiwan's financial markets (TWSE website).

assisting order matching system in 1988. Since then, orders of all securities listed on the TWSE have been automatically matched through the Fully Automatic Order Matching System ('FAST') since 1993 (TWSE website). Compared to many leading stock markets in the world, the TWSE introduced the electronic trading system at an early stage (Jain 2005).[16]

Internationalization was a part of the market's modernization process. Foreign direct investment into the stock market had been strictly controlled until the 1990s. With the progress of internationalization, the market was completely open to foreign investors by 2003. In 2010, the TWSE was ranked the 21st largest stock exchange in the world by the measurement of market capitalization (US$818 billion) (WFE 2010 Annual Report & Statistics: 74).

1.4.2 Lay investors in Taiwan

Historically, the main participants in the stock markets were lay investors (Preda 2001; Harrington 2008). The situation generally changed in the 1960s when the number of institutional investors, such as pension funds and mutual funds, increased in stock markets worldwide. Most main stock markets have been dominated by institutional investors since the 1980s. For example, in the US, institutional investors accounted for around 25 per cent of securities trading value in the 1950s, but this figure increased to over 60 per cent after 1969 (Thatcher 2007: 43). In the 1990s, there was a renaissance of lay investors in the US stock market with the boom of the dot-com economy and the transformation of the pension system (Harrington 2008). At the boom's peak, in 2001, over one-fifth of US families held publicly traded stock. Afterwards, the number decreased to 15 per cent in 2010 (Bricker et al. 2010: 34). The situation in the UK was similar. In 1963, 54 per cent of UK equities were owned by lay investors, but this figure declined to just under 18 per cent in 1993 (Thatcher 2007: 43).

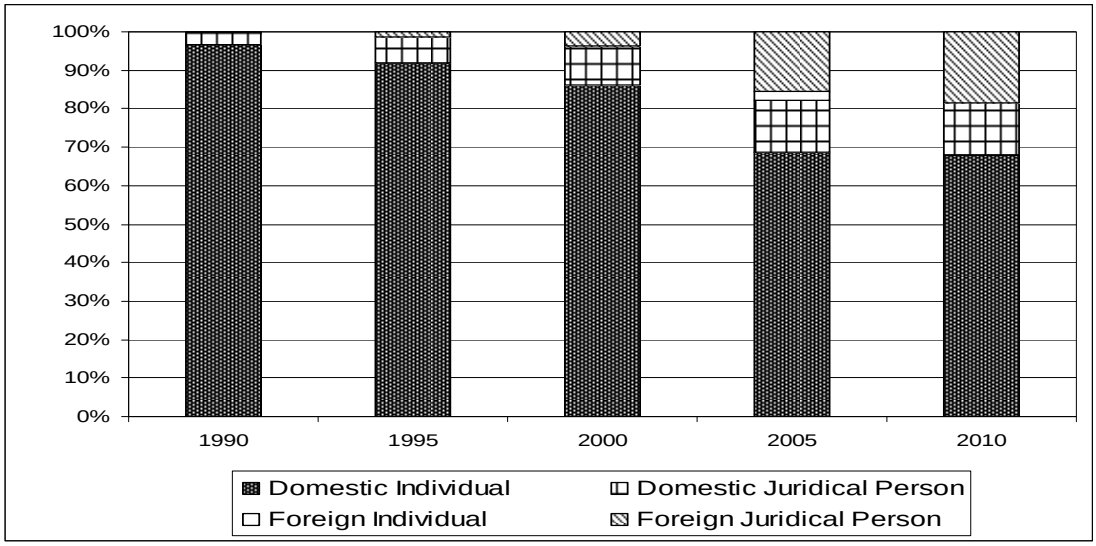
[16] The London Stock Exchange introduced the electronic trading system in 1997 (LSE website), the Frankfurt Stock Exchange in 1997 (DBG website) and the New York Stock Exchange in 2005 (combined with floor-based auction) (NYSE Euronext website). The resistance of incumbent traders seemed a key to why these stock exchanges had hesitated to adopt automatic order matching systems (Thatcher 2007: 73–121).

Unlike the US and UK markets, lay investors have consistently been the major player in Taiwan's stock market for half a century. In 1990, lay investors (called 'domestic individual investors' in statistics) still accounted for 96 per cent of Taiwan's securities trading value. The percentage of foreign juridical person's (foreign institutional) investment was substantially increasing after the market was fully opened to overseas financial companies in 2003. By 2010, the share of lay investors had decreased, but they still formed over 60 per cent of securities trading (TWSE statistics). Diagram 1.1 gives detailed information of these changes.

On the other hand, a high proportion of Taiwan's adult population have been involved in the stock market. In particular, these investors actively trade stock in the market, not simply hold stock in mutual or pension funds. In 2010, there were nearly 18 million adults with over 15 million stock trading accounts (see Table 1.5).

The statistics do not differentiate between active and inactive accounts. According to a popular back-of-envelope calculation in the securities industry, the sum of active accounts is approximately equivalent to 60 per cent of accumulated accounts (Wu 2005: 53). It was estimated that about 9 million Taiwanese adults (over a half of the adult population) traded stock in 2010.

Diagram 1.1 Securities trading value percentage in the Taiwan Stock Exchange



Source of data: TWSE.

Table 1.5: Securities Accounts in Taiwan

Year	Accumulated Securities Accounts	Adult Population*	Accounts Per 100 Adults
1975	205,802	8,558,481	2.40
1980	362,271	10,119,628	3.58
1985	400,461	11,685,421	3.43
1990	5,033,088	13,079,468	38.48
1995	5,734,866	14,273,013	40.18
2000	12,359,893	15,698,216	78.73
2005	14,002,106	16,921,080	82.75
2010	15,659,669	17,929,658	87.34

Note: The adult age in Taiwan is 20.

Sources of data: TWSE; Wu 2005: 59–60; Department of Household Registration Affairs, MOI.

Economic, institutional and technological factors are commonly used to explain the rise of lay investors in stock markets. For example, the introduction of online trading systems in the late 1990s, which substantially reduced the costs of trading for retail investors, is thought crucial (e.g. Barber and Odean 2001b, 2002). On the other hand, Harrington (2012a) emphasizes the effect of institutional reforms such as the changes of the pension system and the tax system on the increase of US lay investors in the 1990s. Wu (2005) claims that economic growth, such as the growths of the stock market, GDP and household savings, and reforms of the market institution, such as the introduction of the computerized order matching system, caused the surge of lay investors in Taiwan in the late 1980s. He also suggests the strong correlation between the boom and bust of the market and the number of new brokerage account opening. However, several institutional factors are conjectured to be important for the rise of Taiwanese lay investors as well, including low brokerage fees, the absence of any conduit for mass savings to professional investors, late development of mutual funds and the government's policies (see below).

Taiwan is not the only case in the world that the stock market is dominated by lay investors. It is common in many emerging economies (e.g., China and Turkey) (Liu et al. 2010; Tarim 2013). However, Taiwan's stock market has its own characteristics: the gross number of lay investors continuously grows, the proportion of adult population engaged in the market continuously increases and the trading

frequency of lay investors are high[17]. It may not surprise that lay investors in Taiwan do not perform outstandingly in the market. They underperform institutional investors and suffer huge lose due to active trading (Barber et al 2008). Thus, the structural reasons mentioned above seem not able to fully account for these features of Taiwan's stock market. As will be seen, this study will illuminate the effect of micro social factors on this particular financial phenomenon.

1.4.3 Culture of Taiwanese economic life: The SMEs spirit

The culture of Taiwan's stock market is still an area waiting to be explored. At present, this topic has not been the focus of academic study according to my knowledge. However, a number of studies about the culture of Taiwanese economic life may provide clues, for two reasons. First, the expansion of the stock market in the 1980s and 1990s was apparently driven by Taiwan's contemporaneous economic boom. Secondly, both lay investors of the market and participants in small and medium-size enterprises (SMEs, the infrastructure of Taiwanese economic boom, see below) respectively accounted for a very large proportion of Taiwan's adult population. A cultural connection between the two sectors seems reasonable and probable, and therefore the findings of the studies in culture of economic life are worth a brief report.

Features of Taiwanese economic cultures are conjectured by Ka (1993), Chen (1994) and Shieh (1997) to be shaped by the predominant industrial organizations of the rapid development period: small and medium-size enterprises. From the mid-1970s to the 1990s, the economy's substantial growth, with a continuous increase in industrial exports, transformed Taiwan's economy from an agriculture-based economy to an industry-based one. This period of development has been called the 'Taiwanese economic miracle'. A distinctive characteristic of this development was the role of the enormous number of SMEs. In many other countries, SMEs often play an important role in the domestic service sector. However, in Taiwan, the situation occurred in the export sector as well (Chen 1994; Biggart and Hamilton 1997). In 1985, SMEs accounted for nearly 30 per cent of the Taiwan's export value and 70

[17] The annual turnover rates for the group of lay investors are estimated between 308% and 630% from 1995 to 1990by Barber et al. (2007:430).

per cent of the SMEs-product value was sold to foreign countries (SMEA 2005)[18]. In 2001, there were 1,098,185 enterprises in Taiwan and 98.18 per cent of them were SMEs (SMEA 2001)[19]. Thus, it is argued that the SMEs culture represents Taiwanese economic culture. Three characteristics of Taiwanese SMEs culture are highlighted in these studies: a spirit of diligence, the ambition of becoming a boss or SME business owner, and personal relations with economically and socially tied interests.

To endure long working hours was a common characteristic of Taiwanese labour in the industrialized period. In particularly, workers in SMEs were accustomed to working much longer hours than normal – this has been called 'the spirit of diligence (勤勞精神)' (Chen 1994). It was attributed to the peculiar structure, ownership and labour source of Taiwanese SMEs. In Taiwan SMEs, it was customary for the patriarch to be the head of the enterprise and other family members to be the principal workers. These family businesses tended to set up production inside their homes, and called 'family factories (家庭工廠)'. As a result, the boundary between home life and work life was dissolved and work usually dominated family life (Ka 1993; Shieh 1997; Hu 1997).

'To be a boss' became a common life goal of many workers during the period of rapid economic development and was conjectured to strongly support Taiwan's industry at that time (Chen 1994; Shieh 1997). The phrase, 'the black-hand becomes the head' (黑手變頭家), demonstrated this belief. The 'black-hand' is the worker and the 'head' means the boss. This phrase was used to describe the chance of success: you will establish your own enterprise one day, if you constantly work hard (Chen 1994; Shieh1997). The contemporaneous structure of industry seemingly supported this belief. The major sector of industry was consumer products manufacturing and this was a kind of low-technology industry. Low barriers to entry rendered the predominance of SMEs in this industry. As a result, the production chains consisted of numerous subcontracts between SMEs and were supported by

[18] *2005 Statistics of SMEs.* SMEA (Small and Medium Enterprise Administration, Ministry of Economic Affairs).
Available at: http://www.moeasmea.gov.tw/lp.asp?ctNode=689&CtUnit=140&BaseDSD=7&mp=1.
[19] *2001 Statistics of SMEs.* SMEA (Small and Medium Enterprise Administration, Ministry of Economic Affairs).
Available at: http://www.moeasmea.gov.tw/lp.asp?ctNode=689&CtUnit=140&BaseDSD=7&mp=1.

their social networks (Ka 1993; Chen 1994; Shieh 1997; Biggart and Hamilton 1997). The belief motivated Taiwanese labour to work hard and suggested their expectations of social mobility and self-controlled economy.

The production chains in Taiwan's industry were based on numerous subcontracts and networks among SMEs. Therefore, maintaining good relations with both up-stream and down-stream manufacturers was important. Due to the small size of Taiwanese enterprises, a relationship between two enterprises was almost equivalent to a personal relation between the two owners. This personal relation was compounded with economic interest and social support. Thus, the boundary between the private and the public relations of Taiwanese tended to become blurred (Chen 1994; Biggart and Hamilton 1997).

1.4.5 Stock markets in China

Stock markets emerged in China in the beginning of the twentieth century. The first exchange was the Beijing Stock Exchange, which was established in 1918, though there had been some unofficial intermittent securities trades in Shanghai before then. The Shanghai Stock Exchange opened two years later, in 1920. In 1949, the Communist Party successfully controlled Mainland China. Due to the market's ideological conflict with communism, the Communist government shut down all of China's stock exchanges in 1952 (Karmel 1994: 1106–7; Green 2004: 8).

Until December 1990, the date of the reopening of the Shanghai Stock Exchange, stock markets had not existed in China for nearly forty years. The Shenzhen Stock Exchange followed in 1991. In December 2007, the total market capitalization of the Shanghai Stock Exchange hit around US$ 3.6 trillion (Shanghai Stock Exchange 2009)[20]. At the same time, the total market capitalization of the Shenzhen Stock Exchange was around US$ 0.14 trillion (Shenzhen Stock Exchange 2009)[21].

[20] *2009* Shanghai Stock Exchange Fact Book.
Available at: http://www.sse.com.cn/researchpublications/publication/yearly/.
[21] *2009 Shenzhen Stock Exchange Fact Book.*
Available at: http://www.szse.cn/main/marketdata/wbw/marketstat/.

China's stock markets are also full of lay investors. In 2005, the Shanghai Stock Exchange recorded a total of 38.56 million trading accounts. Of them, 37.413 million were retail accounts (Shanghai Stock Exchange 2005: 2)[22]. In the same year, 35.36 million trading accounts were recorded in the Shenzhen Stock Exchange, and only 158,500 were institutional investors (Shenzhen Stock Exchange 2005)[23]. In other words, more than 95 per cent of China's stock trading accounts were owned by lay investors. In addition, according to the China Securities Depository and Clearing Corporation Limited (2008)[24], lay investors (domestic individual investors) accounted for over 80 per cent volume of all day trading in China's stock markets. However, compared to the huge Chinese adult population (855 million adults in 2000),[25] the owners of stock trading accounts remain a minority in Chinese society. Stock trading does not yet seem to play an important role in most Chinese people's daily life. This is an important contrast to the main case, Taiwan. In the next chapter, the role of stock trading in Taiwanese lay investors' daily social interactions will be examined.

[22] *2005 Shanghai Stock Exchange Fact Book*.
Available at: http://www.sse.com.cn/researchpublications/publication/yearly/.
[23] *2005 Shenzhen Stock Exchange Fact Book*.
Available at: http://www.szse.cn/main/marketdata/wbw/marketstat/.
[24] *2008 Annual Report*. Available at: http://www.chinaclear.cn/zdjs/xgsnb/rp_list.shtml.
[25] The source of data is *2000 Population Census*, National Bureau of Statistics of China (http://www.stats.gov.cn/tjsj/ndsj/renkoupucha/2000pucha/html/t0107.htm).

Chapter 2

Social Relations

2.1 Introduction

Recently, Granovetter's (1985) concept of relational embeddedness has faced challenges in contemporary electronic anonymous markets and criticism for its theoretical separation of the economic and the social. This study attempts to provide an example of a solution by examining the relationship between stock trading and Taiwanese lay investors' social relations.

Granovetter's idea of relational embeddedness has developed to become a foundation of economic sociological studies since the 1980s (Smelser and Swedberg 2005). The core idea is that when actors carry out economic actions, they are not atomized, as neoclassical economists claim, but are enmeshed in networks. He argues that an individual's economic action is 'embedded in concrete, ongoing systems of social relations' and the action is considerably affected by those relations (Granovetter 1985: 481, 487). In mainstream economics, social relation is argued to hold a marginal status in economic activities and its existence is regarded as the 'friction' for market efficiency (Granovetter 1985: 484). Granovetter's theory of embeddedness takes a contrary view and asserts the effect of social relations on economic action should be heeded. The concept of embeddedness has offered an important research approach for sociologists to explore social relations in economic fields and to examine how social relations benefit or handicap economic performance (see Smith-Doerr and Powell's review 2005). Granovetter's idea has been one of the main theoretical sources of current economic sociology (Granovetter 1985, 2005; Smelser and Swedberg 2005).

The emergence of anonymous electronic markets, particularly in financial industries, has been a challenge for the theory of relational embeddedness in contemporary economic sociology (Krippner, Granovetter et al. 2004: 129–30; MacKenzie 2004; Preda 2012; Zelizer 2012: 164–5). Conventionally, financial markets are regarded as one of the examples closest to economists' ideal type of

market. Participants are expected to trade individually, keep counterparts at arm's length, compete for the best prices and maximize self-interest in the market. However, a number of sociological and anthropological studies of financial markets have indicated that social relations are an intrinsic element in both open-outcry markets and telephone-based and electronically mediated markets.

In open-outcry trading, members of the exchange trade contracts face-to-face using voice and gestures. In telephone or electronically mediated trading, traders make contracts by means of telephone or electronic messages. In both types of markets, social ties among the market participants play a crucial role in establishing the market, smoothing trades, arranging prices, exchanging information and maintaining moral order (that is, preventing opportunism) (Baker 1984; Abolafia 1996; MacKenzie and Millo 2003; Knorr Cetina and Brugger 2002; Zaloom 2006; Muniesa 2008). These studies' findings suggest that the substance of social relations in this sphere are mainly consistent with the relational embeddedness in other types of markets and other economic fields (e.g., Portes and Sensenbrenner 1993; Uzzi 1996, 1999; Mizruchi and Stearns 2001). In other words, the technological transformation from open-outcry trading to telephone and electronically mediated trading does not dispel social relations among participants in financial markets.

However, as mentioned above, the emergence of electronic anonymous trading systems in financial markets becomes a challenge to the core argument of Granovetter's embeddedness, that 'economic action is essentially meshed in social relations.' Electronic anonymous trading mechanisms have been successfully introduced into worldwide financial markets since the late 1990s and have reshaped the trading patterns in this field (Jain 2005; MacKenzie 2012). A key feature of electronic anonymous trading mechanisms is that the trading partner's identity is principally unknown. This is an important distinction between electronic anonymous markets and the open-outcry, telephone and electronically mediated markets, and is perhaps also a crucial reason that the social ties among participants in the electronic anonymous markets are impeded (MacKenzie 2004).

This does not mean that sociality is completely extinct in electronic anonymous financial markets, though personal relations among participants are absent. Various kinds of social interactions among traders in these markets are

reported. For example, MacKenzie (2004) points out that social connectivity, in the form of imitation of trading strategies between market participants whose identities are unknown, is observable in some anonymous financial markets. In addition, Preda (2012) argues transactions themselves could be considered as a type of communication in an electronic anonymous market because market actors there tend to use tags to typify the aims and agents behind the transactions. However, these cases, suggesting implicit social interactions among traders, do not support the existence of embeddedness in contemporary electronic anonymous financial markets. Does this absence imply the embeddedness approach must to be withdrawn from this field?

On the other hand, criticism of the embeddedness approach has arisen in sociology. Economic sociological studies which apply Granovetter's embeddedness approach, particularly in the subfield of network analysis, tend to focus on the 'effect' of social relations on individuals' economic outcomes (see Smith-Doerr and Powell review 2005; Granovetter 2005). By contrast, the 'effect' of economic action in individuals' social relations has not been emphasized, and therefore the interaction between the social and the economic tend to be reduced to a unilateral action in this school. As a result, these studies are criticized for positing 'an exterior relationship between the economic and the social' and the view that 'social relations shape economic outcomes from the outside' (Krippner 2001; Krippner and Alavarez 2007: 30; Zelizer 2010: 1–12, 2012). Based on these criticisms, Zelizer (2012: 149) argues economic sociology should 'move beyond an approach that centres on "relational embeddedness"' and toward analysing 'the continuously negotiated and meaningful interpersonal relations that constitute economic activity'[26].

[26] The primary thought of this approach has showed in Zelizer's research on intimacy and economy (Zelizer 2005, p. 7-46). In her recent article, Zelizer amends and fleshes this approach by incorporation her original idea with the critiques of the embeddedness approach, mainly drawn from Krippner's argument (Zelizer 2012). In brief, Krippner argues Granovetter's concept of embeddedness essentially posits 'an exterior relationship between the economic and the social'. As a result, the subsequent studies views 'social relations shape economic outcomes from the outside' (with Alavarez 2007: 30). Krippner claims this natural division between economy and society within Granovetter's theory is a peril to economic sociology, because 'it leaves the hard core of instantaneous market transacting outside the realm of economic sociology,' and thus, 'we will be unable to grasp markets fully as constitutive of and constituted by social relations (2001: 785, 798) .' Krippner's argument has received considerable attention and sparked a lasting and server debate on the limitation and the amendment of the embeddedness concept among economic sociologists (e.g. Krippner, Granovetter et al. 2004). Ostensibly, Zelizer's work has both resolved the 'problems' of Graovetter's embeddedness

This study can be considered a response to these challenges and criticisms of the embeddedness approach. I attempt to investigate the substantial social relations in electronic anonymous financial markets by widening the focus from social relations inside the marketplace to outside the market, and by shifting the focus from professional practitioners to non-professional participants.

Social ties between professional practitioners are usually underscored by economic sociologists (e.g., Uzzi 1996, 1999). Sociological studies of financial markets also tend to focus on the social relations inside the marketplaces, because they aim to examine the relationship between social relations and financial-market actions. In general, professional practitioners' social connections inside the marketplace – e.g., the ties among traders – would receive more attention from scholars rather than their other social relations, such as their relations with family members (e.g., Baker 1984; Abolafia 1996; Knorr Cetina and Brugger 2002).

However, in some social contexts, personal relations outside the marketplace probably play a crucial role in individuals' market actions as well, and the relations are interwoven with these people's market activities. Portes and Sensenbrenner's (1993) study about immigration communities provides a clue, though the study does not examine the immigrants' market actions. The findings of the study suggest that immigrants' existing social ties within the community are crucial for and bound up with their economic activities, such as the establishment of business enterprises. According to the study, strong community ties have both positive and negative effects on individuals' economy, and it is difficult to detach their economic actions from their existing social networks.

Similar models are thought to exist within the market sphere as well, including some electronic anonymous financial markets. For this purpose, Taiwan's stock market is a case which is worthy of investigation. Taiwan's stock market is a fully electronic anonymous market.[27] One feature of the market is the great number of

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approach and responded to Krippner's claim─ to decompose market transactions into sheer social relations.

[27] The Taiwan Stock Exchange (TWSE) was launched in 1962 and introduced electronic automated order matching mechanism in 1993 (http://www.twse.com.tw). There is no direct interaction between trading partners in transactions and all orders must pass through brokerage companies' computers into the central computer of the TWSE. In 2010, the TWSE was ranked the 21st largest stock exchange in the world by the measurement of market capitalization (US$818 billion) (WFE 2010 Annual Report: 74).

retail lay investors dominating the market, a number estimated to be around 7.5 million, or nearly half of Taiwan's adult population[28] (see Table 1.5). In this social context, stock trading is very likely to penetrate lay people's daily lives and existing social relations.

Drawing on the case study of Taiwan's stock market, this chapter aims to examine the relationship between lay investors' existing social ties and market actions (stock trading) in electronic anonymous markets, with an emphasis on a conventionally overlooked dimension of this connection: the influence of market actions on individuals' social relations.

As will be seen, many Taiwanese lay investors' stock trading is embedded in their existing social networks, although the market is an electronic anonymous one and consists of millions of individuals. From engaging in trading, exchanging information, learning skills to collecting capital, people's existing social ties usually play a key role in their stock trading. Furthermore, there are examples where stock trading would support, extend or threaten people's social relations. In other words, these lay investors' social relations outside the marketplace are naturally interwoven with their market actions.

The findings illuminate the connection between Granovetter's theory of social network and Callon's theory of human-technology network. In Callon's (1998, 2007, and with Caliskan 2010) argument, market actors are made up of linked human being and non-human elements as human-technology networks. In this case, lay market actors are framed by the computerized market system and are constituted of technology devices and human agents (see Chapter 3). However, those market actors were constructed in the existing social networks and are continuously entangled in social relations. In other words, social relations could be the contents (an element of market actors) as well as the context (where the market actors assembled). Human-technology networks, even in the electronic anonymous market, are still rooted in the structure of social relations.

[28] In Taiwan, individual stock investors are colloquially called '*sanhu*' (散戶; 'dispersed players'). The term implies that they are the market's scattered, unorganized, retail and non-professional stock traders. Furthermore, in Hertz's ethnography of the Shanghai stock market (1998), she also adopts the local jargon, 'dispersed players' (*sanhu*), to denote Shanghai's individual stock investors. In her interpretation, *sanhu* means loose, scattered, random, or unorganized stock market participants. The contextual meaning of *sanhu* seems to be the same in both Taiwan's and China's stock markets.

The findings also suggest that stock trading is not only an economic activity but also a social activity. It is consistent with Krippner and Zelizer's argument: economy is not an autonomous sphere which is separated from the social. However, it does not mean the notion of economy should be abandoned. The terms 'economy' and 'market' are popularly used in daily life, in business and in academy, and the concepts are crucial for people's communication and knowledge exchange. Foremost, when economic agents consider economic activities as social activities, it does not mean they do not 'imagine', 'believe' or '**perform**' the law of the market economy. Callon (1998) and MacKenzie's (2008) studies of performativity have indicated: market agents perform economics in markets and therefore markets are shaped by economics. As will be seen, in Taiwan's stock market, both lay investors and professional practitioners (even some insiders) generally 'believe' the law of the market governing the market trend more or less although they seemingly have different opinions of how effective the law is. Indeed, economics is not the only standard for market actions. This study will show that lay investors' market activities are shaped by both the market law and the daily life framework.

As a result, Granovetter's embeddeness is still a useful conceptual tool to illustrate the way social and market relations are entwined and investigate how stock trading is anchored in these people's existing social relations. Particularly, in this case, the sociality of the relations is not the same to Zelizer's argument, between counterparties in the anonymous market, but instead, within investors' existing social networks.

Furthermore, the entwined relationship between trading and social ties suggests a connection between Granovetter's and Zelizer's appraoches. For Zelizer, all economic activities are operated in different and distinct categories of relations (see Chapter 6). However, this study will show each category of relations tend not to be independent but highly interactive. For example, purchasing stock in the anonymous market and borrowing trading money between family members are different economic transactions and operated in different categories of relations, but they apparently affect each other. This type of interaction has been illustrated by theories of social networks and social capital theories, and the framework of embeddedness is helpful to underpin Zelizer's theory of relational work.

This analysis is expected to contribute to another discussion: that is, to suggest social relations as one of the key factors which encourages continuing large-scale participation of lay investors. Like many other countries, rapid economic development is usually cited as a reason for the explosive expansion of Taiwan's stock market and the increase in lay investors (e.g., Wu 2005). 'Stock fever' is often the phrase used to describe the similar social structure when a large number of lay people actively engage in the stock market. For example, Hertz (1998) uses this term to denote the popularity of stock trading in Shanghai in the early 1990s. At that time (1990), when the Shanghai Stock Exchange was established, many citizens participated with great enthusiasm in the market. The word 'fever' implies that the structure is not expected to last for a long time, similar to how the word 'mania' is used to describe the short period of intense speculation in tulip bulbs in the Netherlands in the seventeenth century. However, in Taiwan, 'stock fever' has transformed into a relatively 'durable' social structure. The high level of stock-market participation has been maintained since the mid-1980s, and during this period of time, there have been several cycles of boom-and-bust (see Chapter 1). Thus, how can 'stock fever' thrive in a society over decades without cessation or decline? It seems insufficient to answer this question citing only economic factors. An insight from the Actor-Network Theory (ANT) is helpful to analyse this phenomenon further (e.g., Callon and Latour 1981; Law 1992; Latour 2005).

From the ANT perspective, a social structure is considered as a heterogeneous network, integrated with human actors and non-human entities, such as technology. The duration and extension of the heterogeneous network would determine this social structure to be a macro/micro and a temporary/lasting structure. Following this idea, the stock-market engagement in Taiwan can be thought as a heterogeneous network (in the ANT definition), and lay investors, social relations, calculative devices and connotations of stock trading[29] (for discussion of these devices and connotations, see Chapter 3) are both the components and the glues that form and

[29] Culture and social definitions often seem to be adopted by anthropologists to explain the inception or the continuance of social activities which are similar to stock trading in Taiwan. For example, Hertz (1998) tends to elucidate the causes of the Shanghai stock fever by its culture and history. In addition, Evthymios Papataxiarchis (1999) takes the cultural perspective to explain the enduring popularity of illegal gambling in Aegean Greece. However, the ANT approach seems capable of enhancing the cultural explanation (see Callon and Latour 1981)

retain the network.[30] Thus, an examination of relational embeddedness in this field would be expected to highlight a key element of this phenomenon's configuration, an element which is less discussed in the relevant studies.

In terms of this chapter, the fieldwork includes the collection of social connotations of *sanhu* (lay investors) and stock trading, observations in brokerage offices (which are usually thought to be the 'embodiment' of the stock market) and interviews with 29 Taiwanese *sanhu* of various ages and social backgrounds in 2010 and 2011. The list of interviewees is in Table 1.1.

The structure of this chapter is as follows. In the rest of this section, I will summarize the concept of relational embeddedness and give a basic introduction to Taiwanese lay investors, *sanhu*. The subsequent four sections will explicate different 'dimensions' of social relations in Taiwanese lay investors' stock trading. In Section 2, I examine how the social relations could act as a 'bridge' to draw lay people into the stock market. In Section 3, I examine the models of assembling trading capital through the social relations. I then argue that the social relations sometimes work as a channel for learning trading skills. In Section 5, I analyse the characteristics of the market information which is accessed through the social relations. Finally, I elucidate the importance of stock trading in the maintenance and expansion of Taiwanese lay investors' social relations.

2.1.1 Social relations in economic actions

The underlying theme of relational embeddedness studies is how the outcomes of individual persons' or companies' economic actions are affected by their social relations. According to these studies' findings, the remarkable influence of social relations in the economic actions mainly results from the 'structures' of social relations and the 'resources' which could be accessed through the social relations. The different 'resources' are usually thought to be channelled through different 'structures'.

[30] Most social studies of Taiwan's stock market, according to my knowledge, tend to take the continuing large-scale stock-market participation for granted and as the status quo, these studies tend not to examine the causes of the market's endurance (e.g., Wu 2005; Qian 2008).

The structures of social relations are usually called ‘social networks’. In studies of social networks, a person’s social network usually is seen as a composition of both ‘strong ties’ and ‘weak ties’ (e.g., Granovetter 1973, 1983, 2005; Uzzi 1996, 1999; Lin 2001; Burt 2001). ‘Strong ties’ usually refer to those connections with people who are close to an individual’s ego, such as relations with family members, close friends and intimate relatives. By contrast, ‘weak ties’ usually means an individual’s connections with people who are acquaintances but not close, such as the relations with distinct colleagues. Indeed, the concepts of ‘strong ties’ and ‘weak ties’ are relative ideas and their definitions vary in the studies.

Some scholars focus on a complete network depiction, made up of the social ties within a ‘closed’ community, such as a company, and emphasize the characteristics of different ‘cliques’ and ‘nodes’ (individual people) in this network. For example, Burt (2001) has proposed the concept of ‘structural holes’ to refer to the strategic advantage of the ‘node’ that has ties between ‘near-closure’ groups. He argues this ‘node’ is similar to a ‘broker’ and would earn benefits by ‘brokering’ information between these two groups.

The ‘resources’ available in a person’s social network are usually called ‘social capital’. The ‘resources’ include tangible items, such as economic capital, and intangible items, such as information, advice and enforceable trust. Economic capital is straightforwardly helpful to most economic actions. The money people borrow from their social ties tends to be easier or less expensive (that is, with a lower interest rate) than from formal financial organizations, such as banks. This is because the enforceable trust between lenders and borrowers, based on their strong social connections, can reduce the cost and risk of transactions (Coleman 1988). In particular, borrowing money through social relations seems popular in many immigration and ethnic minority communities. The communities tend to have strong solidarity and interior sanctions, and the community members are more likely to be rejected by outside financial organizations than mainstream society members (Portes and Sensenbrenner 1993).

Knowledge, advice and suggestions gained from social networks could help individuals to reduce the uncertainty of the business with which they are dealing. For example, Mizruchi and Stearns (2001) find that when bankers are handling highly

uncertain business cases; they tend to seek advice from their colleagues. Beunza and Stark (2004) also argue that advice from colleagues responsible for other financial products could help the traders in a financial company to make arbitrage.

Information is one of the main factors which influence individuals' economic performance. It is often considered one of the most precious 'resources' accessible from social networks. For example, many studies have indicated the importance of information gained from personal social ties in job markets (e.g., Granovetter 1973, 1983, 2005; Lin 2001). Although close friends and relatives are more likely to be eager to help individuals to find jobs, acquaintances are more likely to provide job-seekers more useful information about available job positions, because people's social connections tend to frequently overlap with their close friends and close relatives. Therefore, the information flowing from individuals' strong ties are often repeated. On the other hand, acquaintances belong to another social circle, so they tend to provide more novel information to the individuals. This is called 'the strength of weak ties' (Granovetter 1973). The studies of relational embeddedness provide a standpoint to examine social relations in Taiwanese lay investors' stock trading from these aspects.

2.1.2 Taiwanese *sanhu*

In Taiwan's stock market, *sanhu* are officially labelled 'domestic individual investors' in surveys and documents (TWSE Annual Statistics)[31]. However, their market behaviours are more similar to those of Western 'stock traders'. The different connotations of 'stock investment' in Britain and in Taiwan may possibly confuse some readers. In most English-Chinese dictionaries, 'stock investment' translates as '*gupiao touzi*' (股票投資) and 'investing stock' translates as '*touzi gupiao*' (投資股票). According to the interviews, when these Taiwanese individual investors explain the details of their '*gupiao touzi*' (stock investment) or their behaviours of '*touzi gupiao*' (investing stock), around one-third of them mention that they usually purchase or sell stock 'every one to three days'; other third say 'every one to three weeks'; and the rest say 'every one to two months'. What is called '*gupiao touzi*'

[31] Available at: http://www.twse.com.tw/en/statistics/statistics.php?tm=07.

(stock investment) in Taiwan seems closer to 'stock trading' in British context. In other words, the British connotation of 'stock investment' (that is, holding stock for a long term) would not be identically recognized by Taiwanese individual investors. To avoid misunderstanding and contradiction, in this thesis, the term 'stock trading' is used to refer to the Taiwanese idea of 'stock investment'.

However, the idea of 'long-term holding' is not completely alien to these Taiwanese individual investors. For them, holding a stock for over two months without trading is a 'long-term investment' or 'long-term possession'. If a stock is held over a year, the reason must be that the stock is *taolao*. The term '*taolao*' (套牢) literally means 'to be locked up', or 'to be trapped'. In Taiwan's stock market, the term means that 'the share price continues declining after purchase, but the stock holder does not want to sell the stock to realize loss.' In this situation, 'holding the stock' suggests 'having an opportunity of switching the investment from loss to profit'. Some lay investors joke, 'we are "forced" to do a long-term investment; the stock is trapped.'

Examining the lay investors' conversations, 'doing stock' (做股票, *zuo gupiao*) and 'playing stock' (玩股票, *wan gupiao*) are the most frequently used words to suggest 'trading stock'. To 'do' (做, *zuo*) stock (股票, *gupiao*) is analogous to 'do' (做 *zuo*) business (生意, *shengyi*) or to 'do' (做 *zuo*) work (工作, *gongzuo*). To 'play' (玩, *wan*) stock (股票, *gupiao*) is analogous to 'play' (玩, *wan*) a game (遊戲, *youxi*). These two verbs, to 'do' and to 'play', imply the deep meanings of stock trading in the investors' mind.

Indeed, 'investing stock' (投資股票, *touzi gupiao*), 'purchasing-selling stock' (買賣股票, *maimai gupiao*) and 'trading stock' (交易股票, *jiaoyi gupiao*) are sometimes used to describe 'trading stock'. They are probably formal terms and therefore less common in everyday conversations. 'Stir-frying stock' (炒股票, *chao gupaio*) is the most popular slang phrase in China's stock markets used to refer to 'trading stock' (Gamble 1997; Hertz 1998; Interviewing data). 'Stir-frying stock' (*chao gupaio*) is a neutral term in China and can be used to describe *sanhu*'s and *dahu*'s (big player) stock trading. However, in Taiwan's stock market, 'stir-frying stock' is a kind of negative term which is used by *sanhu* to describe their market

competitors', *dahu*'s and institutional investors', immoral trading strategies. It usually means 'to intentionally and improperly manipulate share prices by throwing a huge amount of capital or releasing inaccurate information'. The notation of '*chao gupaio*' in Taiwan is similar to 'cornering a market' in the West. The terminology of 'stock trading' implies Taiwanese lay investors' worldview of the stock market. A further discussion of this issue is in Chapter 3.

2.2 'Bridges' to stock trading

In Western societies, stock markets are principally the domain of professional market participants and are generally separated from most lay people's life world (Preda 2009a). However, in Taiwan, lay people are introduced to the stock market through many different routes. One of the most important 'bridges' leading to the world of stock trading is probably that of social relations. In this section, I provide three common models to account for why many lay investors' inception of trading stock was motivated by, or associated with, social relations. The different models appear at different stages of the stock market's history. Initially, 'reliable endorsers' could act as 'brokers' to 'introduce' lay people to stock trading when trading had not yet been popular in society. Secondly, during the peak of the stock trading explosion, social ties might suggest 'duplicable models' of becoming overnight millionaires through trading. These role models possibly encouraged and motivated lay people to enter the stock market. Third, when stock trading has 'taken root' and become a 'familiar' system in the society, trading culture shared by 'peer groups' and 'families' often gradually and naturally 'bring' lay people into the stock market, because people tend to 'join' the same 'social activity' (stock trading) as their friends or family members.

2.2.1 Reliable endorsers

Prior to the stock market boom of the late 1980s, stock trading probably had not been well-known in Taiwan. In 1985, on the eve of Taiwan's stock market explosive expansion, the number of accumulated stock investor accounts was 440,461, and the rate of stock accounts per hundred Taiwanese adults was 3.4. This figure increased

dramatically in the subsequent ten years: 1986 to 1995 was the period of market explosion. In 1995, the number of accumulated accounts had grown to 5,734,866 and the rate of the stock accounts per hundred adults was 40.2 (see Table 1.5).

Before the explosion, trading stock probably was an unfamiliar activity for most people whose jobs were not related to the securities industry. Among the 25 interviewees, 11 interviewees' ages were over 50 in 2010.[32] In 1985, these people had been over 25 year old and therefore could plausibly have traded stock. However, only two people had begun stock trading before 1985. Four people engaged in stock trading during the peak of Taiwan's stock explosion (1986–90). The remaining five people began trading after the market boom. Of the interviewees, Mrs Kuo was not the oldest, but is the most experienced investor. She is a homemaker with nearly 40 year' experience stock trading. Her first encounter with 'stock trading' took place in her brother's house, where she was surprised to find that he had erected a blackboard:

> [My brother] bought a blackboard and wrote closing prices of shares on the board every day. [At that time, the shares prices were broadcast over the radio.] I felt very strange. Why was there a blackboard in his house? [Such] *Taiwan-Cement* and *Chia-Cement* [listing companies] [were written on it] … All day [he] was writing words and numbers on it.

This first experience was not successful in attracting Mrs Kuo to engage in stock trading, because 'after observing his activity for a long time, I still could not comprehend what he was doing.'

However, rather than her brother, it was another of Mrs Kuo's social relations, her school friend, who acted as the 'bridge' that led her to the stock market. Mrs Kuo's friend had moved from Kaohsiung to Taipei and asked Mrs Kuo to accompany her to a brokerage office. Mrs Kuo remembers entering a brokerage office for the first time in 1974. In that time, the number of brokerage offices was very limited and most were located on Huai-Ming Street, near the Taipei Railway Station. Accompanied by her friend, Mrs Kuo walked into Huai-Ming Street for the first time. Inside the brokerage office, she was impressed by the noisy crowd of people and the

[32] I started interviewing Taiwanese investors in 2010. Of these eleven people, six were in their 50s, four in their 60s, and the other two were in their 70s.

loud broadcast of share prices. For her, it was a brand new ‘world’. Encouraged by her friend, she bought her first stock, *Formosa Plastics* (the company her friend’s husband was working for). Her friend told her that this company was a very stable enterprise and almost impossible to bankrupt. In reality, 1974 was a harsh year for Taiwanese plastics industry in general. The oil crisis had just started and the price of crude oil, the raw material for plastics manufacture, had surged. As a result, prospects for plastics enterprises were full of uncertainty. However, Mrs Kuo began her ‘career’ of stock trading by choosing the company with which her friend was very familiar. Mrs Kuo trusted her friend and had confidence in her judgement.

Indeed, network studies have pointed out that the social ties among people can act as a crucial channel to distribute information, knowledge and innovations (e.g., Granovetter 1973, 1983; Krackhardt 1992). Based on the trust of friends and relatives, people are more willing to adopt the new innovation that their kith and kin recommend. In this case, the stock market is like an unexplored ‘world’ for those who are new to it. For them, to engage in stock trading is very similar to beginning a ‘venture’. To be introduced to this ‘venture’ by reliable friends or relatives probably inspires people’s interest and gives them confidence to begin.

2.2.2 Duplicable models

Economic interest is one of the main reasons for people to participate in stock markets. The ‘potential’ high profit from stock trading implies that stock trading could be one of the ‘feasible’ ways to rapid wealth creation. Thus, in a particular society, there may be plenty of tales about people becoming overnight millionaires by trading stock. Even if the stories are true, they still sound like ‘fairy tales’ and don’t seem relevant to most people’s daily lives. Indeed, most people probably have never really seriously thought the stories could apply to themselves (interviewing data). However, stories of wealth accumulation would not sound like a ‘fairy tale’ but a ‘duplicable’ model, when the protagonists are, e.g., family members, friends, or colleagues. In the case of Mrs Kuo’s brother, he had told her about his decision to begin stock trading, using one of their uncles, who had earned a lot of money by trading stock, as his role model. This uncle had made enough money to buy a

property in central Taipei. His was an unusual but impressive story that took place before the stock market explosion of the 1980s. Mrs Kuo's brother believed that he could copy this model and become as rich as their uncle.

Social relations could be an 'introducer' to lead potential investors into the world of the stock market, as mentioned above. However, if the 'endorsers' of the stock market have become wealthy through trading, then their persuasion would be even more convincing. Their achievements possibly inspire inexperienced people to try this new activity without hesitation. Ms Zeng, a retired civil servant, began stock trading 26 years ago. In her case, a neighbour was the 'introducer', who portrayed herself as a successful example when encouraging Ms Zeng to do stock trading. One day, her neighbour said directly to her, 'You are too poor, so you have to do stock trading.' At that time, her neighbour had purchased two houses with money made on the stock market. 'I told her that I don't know how to buy [stock],' Ms Zeng says, 'I didn't know how it [stock trading] could make a profit.' However, her neighbour's achievement gave her courage. Following her neighbour's suggestion, Ms Zeng mortgaged her house and used the money to trade stock.

Approval from successful individual investors could strengthen novices' confidence to engage in stock trading. In 1988, Sheng-Ji was an engineer in a large Taiwanese home appliance factory and had never before tried stock trading. His monthly salary was NT$30,000, which was pretty good at that time. However, he was not satisfied with his income and really wanted to change his status. He sought advice from his cousin, who was the same age but had earned NT$10 billion (approximately US$377 million). His cousin considered Sheng-Ji to be very smart and believed Sheng-Ji would have no problem making a profit from the stock market. After the discussion with his cousin, Sheng-Ji quit his job and engaged in stock trading.

With the rapid growth of Taiwan's stock market, more and more overnight millionaire stories are reported in newspapers and magazines and on the television. As noted above, most of these stories sound like fairy tales, not something that happens in real life, and thus don't seem to convince the majority of their audience to begin stock trading (Wu 2005). However, the same stories make it much easier to lure people into the stock market when their acquaintances are successful traders.

Even if the potential investor does not immediately follow their successful acquaintance into the market, they will still remember the success story. Mr He started trading stock when he began his first job. In fact, he had planned to participate in the stock market for years, ever since he had studied at graduate school:

> At that time in the past, when the VIA [a listed company] was the 'king of shares' [the highest price stock in the market], [the share price] was growing to over 600 dollars [NT$]; [it was in] our college period. I had a friend in the graduate school who had staked on the VIA since [his] time in college. The result was that he earned four years' tuition fees. All [money] were taken back by that [that is, the person earned the same amount of money as the tuition fees by trading the VIA shares]. It seems incredible that [his] graduate school tuition fees were 'sponsored' by the VIA as well.

Due to the shortage of trading capital, Mr He could not start trading stock at that time. However, the model set by his friend had inspired him, and he fulfilled this goal after he had saved up his trading capital.

In White's discussion of social formations (2008: 20–34), social networks connect individuals, uniting them, and transform these interwoven individuals into structures. The stories meshed in social networks are a crucial mechanism of uniting various individuals' dispositions and actions. In White's view, sharing stories with other people is a way to 'control' other people, that is a way to make conformity between the individual's ego and other people's others. Narrative floating on an individual's social networks has the power to orient this individual's dispositions and actions. As the cases above indicate, successful stories of stock trading from friends and relatives would easily motivate potential investors to start the same 'activity', i.e., trading stock. White's study does not discuss the different degrees of the story's effect. It can be conjectured that not all stories enmeshed in the social network have the same influence on individuals' orientations. That is, the persuasive powers of the stories will not be equal. When the protagonist is an individual's acquaintance, the story is expected to be more influential on that individual's orientation.

2.2.3 Peer group

After Taiwan's stock market boom of the late 1980s, 'stock trading' is no longer a strange activity to most Taiwanese people. Usually, they have a basic idea about the stock market, even if they have no practical experience or professional knowledge of it. A decline in the importance of 'endorsers' has been conjectured. Several market crashes probably have reminded people that the chance of becoming a millionaire overnight through stock trading is not huge. The lay investors who participated in the stock market over the past twenty years tend to have different ideas about stock trading (see Chapter 3).

However, social relations perhaps still influence people's willingness to take part in stock trading. Many interviewees told me that they were involved in the stock market because their peer groups had been in the market. Mr Yang started to trade stock a short while after he retired from his position as a junior high school head. After retirement, he had a lot of spare time and felt a little bored. Some of his friends had traded stock for a while, so he thought it might be interesting to join them.

Employees, homemakers and students also tend to begin their stock trading because of their peer groups. For example, A-Zhen, a tea retailer, had saved money in order to purchase a flat, but she changed her mind and instead put the money into the stock market. The reason she gave is that her close friends were doing stock trading and she thought they could analyse the market and trade stock together.

Sometimes influence from peer groups transforms into a kind of 'peer pressure'. Mr Yan began stock trading when he was 22 years old, the year he entered postgraduate school, the top research institute for electrical and communication engineering in Taiwan. Most of Mr Yan's classmates and seniors had gained their undergraduate degree from this school. In other words, they had known each other for years and had created their own 'culture'. According to Mr Yan's description, his 'pure-blood' classmates, who had studied as both undergraduates and postgraduates in this school, were very confident. They thought themselves to be smart in everything, including stock trading and also had professional knowledge of IT and electrical manufacture, which could be used to analyse the IT and electrical

industries' market cycles. Trading stock was a part of the school culture. 'All [the students] in the postgraduate school were investing [trading stock]', Mr Yan says, 'All [the people] in the postgraduate school [and] in [my] office were buying stock.' Mr Yan was one of a few students who had graduated from less prestigious universities. He had to work hard to integrate himself into the peer group, and thus it seemed better to join the same activity. The 'culture' shared by Mr Yan's peer group in the postgraduate school pushed him to start stock trading immediately after entrance. For him, it became a means to integrate himself into the community.

2.2.4 Family

Stock trading has spread all over in Taiwan over the past two decades, and probably has become a cross-generational social phenomenon. The younger generation possibly grow up in a society familiar with stock trading, and it has been practiced in many families for a period of time. All but one of the young lay investors interviewed have 'investor parents': twelve of the interviewees are under 35 year old and eleven of these people' parents are lay investors as well. In some cases, not only their parents but also their siblings are involved in stock trading. Cong-Ying, a master's student in sociology, engaged in stock trading in college. He describes the influence of his family:

> It [trading stock] happened naturally, because my family are 'playing' [trading stock]. Father and mother are 'playing' [stock]. Besides, my junior brother is studying finance in [his] postgraduate [and college]. It became three people at home are 'touching' [involved in stock trading] It would be [weird] … if I had not 'touched' it. [Being] influenced gradually, I [decided to] 'play' [stock] with them.

The investor parents could 'recruit' children to the stock market in a subtle and unintentional way. Through practising trading in daily life, stock trading possibly has become a component of family culture and has been 'inherited' by the children in these families. Observing their parents' stock trading may be an initiation for the

younger generation to trade stock. In some cases, the effect could be traced back to adolescence. Mr Liu started trading stock when he entered the college, but he had learned stock trading and analysed the market by himself when he was only a junior high school student. At that time, his father went to open a stock account attached to an online account. Mr Liu always saw his father browsing the stock-trading websites at home. 'It looked very interesting,' Mr Liu says, 'so I got involved in it.' He joined internet forums about stock trading, bought stock-investing magazines, and watched stock analysis programmes on television. 'Through these [channels], I partially understood some probably right or wrong theories [about stock trading],' he says.

Sometimes this kind of family culture succeeds in crossing three generations. Yi-Hong is a college-student investor. His mother is a homemaker investor who watches real-time stock market information on television at home every weekday. In his home, not only both his parents but also his grandfather are lay investors. He still remembers stock charts piled always on the top of his grandfather's desk when he was a child. His grandfather had been a big player at that time, but lost almost all his money at once in a crash. After that, his grandfather has rarely touched stock. However, the trading culture still remains in his family.

As well as the passive absorption of stock trading as part of family culture, some investor parents openly and actively encourage children to practice stock trading. Zhi-Chun started to trade stock when her occupation changed to being a cabin crew member, a job in which it is usual to have days off during the week. Her mother suggested Zhi-Chun take up stock trading. According to her mother, Zhi-Chun's spare time should not be wasted and stock trading would be a good use of that time.

Assisting family members in handling stock accounts can also be a 'lure' to draw potential investors into the stock market. Two of my interviewees have had similar experience. For example, Mr Zhan opened a brokerage account, in his own name, for his mother; that is, '[T]he money was provided by a parent [his mother],' he says, 'the parent bought [stock through the account registered in his name].' The reason for opening this account was information revealed by his uncle, who advised his relatives to buy his company shares soon. For Mr Zhan's mother and other relatives, it seemed an assured opportunity to make a profit (the interviewee does not

explain the reason explicitly): ‘So, everybody bought the stock.’ However, Mr Zhan’s mother did not already have her own stock account and at the time, she was too busy to handle the ‘triviality’ of this trading, including going the brokerage firm to open an account and buying and selling the stock herself. Thus, Mr Zhan ‘had to’ be his mother’s ‘agent’. Namely, it was up to him to open the stock account, observe the share price’s movement, and trade the stock, though it was really his mother’s money, stock and profit. Trust between Mr Zhan and his mother was fundamental to this event. During the process of setting up and managing the account, he was generally ‘tempted’ into the stock market. After his mother took back the capital and profit, Mr Zhan kept the account open and started his ‘own’ stock trading.

Because of the trading culture, practices and encouragement of stock trading inside or ‘outside’ the family, it is taken for granted that the children will probably engage in stock trading. Ms Wu began stock trading when she first earned money from a part-time job. ‘[My] parents gave me moral support,’ she says. ‘They set an example.’ Moreover, the friends around her had traded stock for a while at that time. ‘[In addition,] their [her parents’] friends are [trading stock] as well,’ she adds. This environment helped to formulate Ms Wu’s ideas about stock trading. One idea is that ‘stock [trading] equates to “investment” [Taiwanese connotation]’. Another one is that ‘no matter early or late, stock trading is necessary to learn in everyone’s life.’ According to her understanding, ‘[if you want] to do “investment”, [you have] to learn [trading] stock first.’

When stock trading becomes an everyday practice in some families, the trading culture is easy to construct and to transmit across generations. The people who grew up in individual-investor families are used to trading and take it for granted. Although the discussion is in a different context, Pierre Bourdieu’s argument regarding the reproduction of habitus and lifestyle within the family is helpful for further understanding of this issue. In Bourdieu’s studies of the inheritance of cross-generational lifestyles in each class (1984: 169–225) and the transmission of cultural capital (1986: 241–58), he emphasizes the importance of family. Family is key in transmitting culture, idea and practices between parents and children. In particular, during childhood, people are shaped by their habitus without awareness. When a worldview is constructed, the dispositions and behaviours of the

actors would be taken for granted and not be reflected upon. Through the process, tastes are formed and the distinction between different classes is displayed. Like the reproduction of habitus, stock trading can be argued as a 'practice' of 'financial habitus' and reproduced in some Taiwanese families.

2.3 Skills

Social networks can be a 'bridge' for lay people to enter the stock market; they also could be a 'channel' for them to learn the basic skills of stock trading. To do stock trading, it helps to have some basic analytical skills, such as fundamental and technical analyses. From the perspective of finance, technical analysis is conventionally considered a 'pseudoscience' (e.g., Malkiel 1996; Preda 2009a). However, in terms of Taiwan's stock market, both professional practitioners (such as analysts) and lay people tend to think both fundamental and technical analyses are useful tools when analysing market trends (Interview data).

Nowadays, it's not difficult for a Taiwanese lay investor to learn basic stock trading skills. Hundreds of books, dozens of magazines, and several newspaper columns offer advice for lay investors who wish to teach themselves fundamental and technical analysis skills. In addition, stock analysis programmes on television and Internet websites, blogs and forums explain stock trading basic skills, and lay investors can also attend courses offered by educational institutions or brokerage companies to gain more professional knowledge of market analysis. As in many other countries, the diffusion of stock trading knowledge in Taiwan is developing with the growth of the stock market and the development of technology (Wu 2005; Siu 2008; Chien 2008; Preda 2009a).

However, for Taiwanese lay investors, personal social networks sometimes act as one of the channels to learn stock trading skills. In particular, in the earlier stage of the market's explosion, learning materials and accessible channels had not been fully developed. In the case of Ms Zeng, her neighbour was not only the person who introduced her to the stock market but also taught her the 'most' basic idea of charting, that is, recording daily closure share prices. Ms Zeng remembers:

> [S]he asked me to draw the lines [of share prices]. She said, 'You studied in high school and I only graduated from elementary school. You have to draw it.' [Her neighbour thought Ms Zeng had the ability to do it.] … In that time, temperature-recording sheets with small grids were often available in hospitals. I took temperature-recording [sheets to recording share prices] … Actually, I did not understand much [about charting]. I only drew one type [of chart]. Drawing, drawing, drawing. [When the prices reached] a very high [point], [I would] sell it [the shares] quickly. That was all.

Shu-Ling is another example of someone drawn into stock trading through her social network. When she started to trade stock in 1990 with her mother, she was a complete novice. Her acquaintances in the brokerage office taught her the basic ideas of finance, for example, 'how to evaluate the "reasonable" share prices by EPS (Earnings per share) or dividend'. In fact, knowledge learned from acquaintances is usually very basic, because most 'teachers' are not professionals, but simply more 'experienced' lay investors. After gaining more experience, the newcomers may realize just how 'basic' is the level of knowledge they gained from their acquaintances.

In the interview, Shu-Ling's mother mocked this kind of 'teaching' as 'amateur-teaching-amateur'. Shu-Ling completely agrees with her mother, but she still admires these 'non-professional teachers' who helped her understand the world of 'stock trading' when she was a newcomer. Shu-Ling also emphasizes that the situation totally changed after several television channels focused on stock trading were set up, and nowadays, stock trading skills are often taught on television. As a result, learning 'basic' techniques of stock trading and finance has become much more convenient. 'Just watch TV,' Shu-Ling says. 'On TV, some analysts would introduce charts,' her mother supplements, '[If you] take time to study, [you] would understand.'

With the increase in teach-yourself materials and the television channels, the function of learning stock trading skills through social networks seems to be mainly replaced. However, for some lay investors, social networks sometimes are not just a

channel to learn ‘basic’ skills but one to learn the ‘advanced’ skills or ‘tacit’ knowledge which is based on other people’s many years of practical experience in stock trading. As mentioned above, Mr Liu has taught himself many fundamental and technical analyses skills starting from when he was a junior high school student. However, a friend, who is an analyst in an investment bank and on a stock trading online forum, shared many ‘advanced’ trading techniques with him. The skills which he taught Mr Liu are based on a combination of professional knowledge and practical experience. To the present day, they have never met each other in person and only contact each other via emails and online messages.

Social relations may be a channel that helps lay investors learn market analysis skills, but sometimes also can be a factor that ‘allows’ lay investors to benefit from stock trading without necessarily learning stock trading skills. For example, Cong-Ying has a brother who is an individual investor who studied finance in college and graduate school, and is very familiar with many fundamental and technical analyses skills. When Cong-Ying is interested in some company’s stock, he just asks his brother to ‘check the conditions’ of the stock (that is, analyse the company) for him. He has some basic ideas of stock trading, but has not had enough motivation to learn more advanced market analysis skills because he knows his brother will do it for him.

2.4 Trading capital

Social networks have been considered as one way for individuals to raise funds for starting business enterprises. Compared to borrowing money from banks or raising fund in capital markets, the social network channel is very informal and the amount is usually not much. However, gaining capital through social networks tends to be easier, especially at the beginning of establishing a business (Granovetter 1973, 1983; Portes and Sensenbrenner 1993). In this section, I examine two aspects of social networks for some Taiwanese lay investors looking to raise their stock trading capital. The first one is the transfer of stock trading capital between parents and children, while the other is to manage a stock trading ‘mutual’ fund funded by family members and/or friends.

2.4.1 Family and the original capital

In Bourdieu's discussion of social class, economic capital is still the foundation of social stratification. A class's cultural capital and social capital would convert to its economic capital in the end. In this system, family is the key fact of class inheritance. Family is not only the 'mechanism' to transmit 'cultural capital' (lifestyles) and social capital (social connections) from parents to children, but also the mechanism to directly transmit 'economic capital' (money) between generations (1986). Furthermore, in theories of social networks, embeddedness and social capital, the relations between family members are a kind of 'strong tie', belonging to individuals' 'social capital'. In general, economic resources tend to be accessible through personal strong ties (Granovetter 1973, 1983; Portes and Sensenbrenner 1993; Lin 2001).

In terms of Taiwan's stock market, family is the main provider of younger-generation investors' original trading capital. The situation is probably more common among student investors because of two reasons. First, it is not easy for them to save enough money while they are in college. Secondly, their parents usually are individual investors as well and therefore are inclined to support them to trade stock. I interviewed four Taiwanese student investors. All of their parents are lay investors and three of their families sponsored or loaned them part or all of their first trading funds. The stock trading culture inside their families perhaps made this 'natural' occurrence. For example, Mr Liu, mentioned above, has studied stock trading since he was a junior high school student, due to his father's influence. During his junior and high school period, Mr Liu often discussed stock trading with his father. When he entered college, his father accompanied him to a brokerage office to open an account into which he deposited NT$50,000 (US$1,700). His father directly told him that this money is lent to him solely for trading stock. After a period of time, he felt the money not enough and asked his father to lend him another 50,000. Due to their many years of talking about stock trading, it seemed very 'natural' for Mr Liu to ask his father to provide him the trading capital.

Yi-Hong's case is similar but a little different. At the end of his first year of college, Yi-Hong had the idea to engage in stock trading. However, he did not have

any capital and hesitated to tell his parents about his intentions. At that time, he wasn't sure if his parents would support him. His hesitation might have been a result of his grandfather's huge loss in the stock market. It took Yi-Hong several months to confess to his parents. In order to convince them about his resolution and trading capability, for three months he had practiced simulated trading on paper, sharpening his 'sense' of the market. Only then, in a chat with his parents, he casually asked 'Do you think it's a good time to do some stock trading?' The result was a little outside of his expectations: his parents' attitudes were very positive. They immediately gave him a brokerage account which was owned by his father, but had not been used for a while. The account still had around NT$30,000 (around US$1,000), which he used as his original capital for stock trading.

To encourage their children to start stock trading, some investor parents provide them with their first trading capital, even if these children have been employed for a while and had a steady income. When Zhi-Chun's mother encouraged her to do stock trading, she and her husband gave their daughter NT$100,000 (around US$3,350) as the starting capital. They wanted to give her not only moral but also economic support.

Ou-Yang's case is somewhat similar to Mr Zhan's. Ou-Yang's mother deposited money in Ou-Yang's bank account. Her mother asked her to use this money as the original capital to do some 'investment' (including to do stock trading) for her. Although Ou-Yang had never studied business and finance, and her job was not connected to commerce, she is the closest person to her mother in the family. Ou-Yang's mother's behaviour not only suggested that she trusted her daughter. The mother also apparently 'implied' that the main profit of the 'investment' could be freely used by Ou-Yang, if she was successful in stock trading. It meant that the mother provided the capital and took the risk of capital loss, but that her daughter would earn the profit. In other words, this was a 'covert' action of gifting money. However, Ou-Yang's mother always claimed that Ou-Yang is only a helper for managing her wealth. Avoid Ou-Yang's sister's jealousy and any 'potential' tension between the sisters may be the reason for this.

2.4.2 'Fund manager'

In Taiwan, raising capital from family members and close friends to establish businesses is not restricted to minority groups. Indeed, it is popular in the society and is one of the main sources of the establishing capital of some Taiwanese small to medium-sized enterprises (SMEs). Notably, in some cases, a lay investor 'passively' accepts capital from relatives and is responsible for managing the fund. Usually the capital providers are people who desire to earn money from the stock market but are not confident stock traders. They entrust their savings to a skilled and reliable friend or relative to trade stock. The structure of this kind of fund is somewhat similar to the structure of a mutual fund, but it is much simpler, smaller and more informal. The role of fund manager is performed by a reliable lay investor. Ms Zeng played this role. In the late 1980s, she managed NT$12 million (around US$440,000) in the stock market. Her own capital was $3 million; another $6 million was from her two sisters, and the remaining $3 million was from a very close friend. Mrs Kuo also tells me a similar story. She is very close to her cousin, who had no idea how to do stock trading. Her cousin provided Mrs Kuo with capital and asked her to do stock trading for her. Mrs Kuo successfully stock traded, earning a profit and making her cousin very happy.

In general, the work doesn't seem to be a desirable 'job'. First, usually there is no formal contract or agreement between the capital providers and the 'manager' entrusted with the capital, so disputes can easily break out. Secondly, the 'manager' probably suffers high pressure, because the money is from their close relatives or friends. If the 'manager' loses money in the market, the relationship between the 'manager' and the capital providers may be damaged. Except for very close relatives or friends, people tend not to accept this kind of offer. Ms Huang's friend once asked her to do this work, but she refused immediately. 'If I did that,' she says, 'I would suffer very high pressure.' Thus, 'I told him: no way.'

2.5 Information

For the financial industries, information is one of the most fundamental components. Without information, no financial market can operate. In some way, a financial

market is simply an assembly of market information (Knorr Cetina and Bruegger 2002; Preda 2009b). On the other hand, market information transmitted through personal social ties is one of the main interests in studies of social networks and social capital, though the studies tend to focus on the job market (Lin 2001; Granovetter 2005).[33] In terms of Taiwan's stock market, as will be seen, lay investors are embedded in a net of information. Their social relations embody this net and work as a means to facilitate market information circulation.

The market information which Taiwanese lay investors often gain from relatives, friends and acquaintances can be divided into three general categories. The first is *xinwen* (新聞, news), or *zixun* (資訊, general information/intelligence) of markets, industries, or listed companies. This sort of information is publicly available. The informant transmits this publicly available information which he/she knows to the information recipient in an interaction. The informant does not add personal comments to the information and the recipient could access the exact same information on their own, from the mass media. To exchange this sort of information between lay investors is very similar to chatting about news between friends or colleagues.

The second sort of information is *jianyi* (建議, suggestion) of trading strategies, or *tuijian* (推薦, recommendation) of stocks. This sort of information is based on the informant's judgement of the future trends of companies, industries, or the market. The opinion stems from the informant's analysis of the market trend or his/her interpretation of published information.

The third sort of information is *xiaoxi* (消息), which literally translates as 'information' in English. In the context of Taiwan's stock market, *xiaoxi* usually refers to the latest, or unpublished, unreleased, or unconfirmed information (sometimes simply rumours) of listed companies' operations, industries, markets, government policies and market corners (for example, share-price-manipulation). The idea of *xiaoxi* is in some way similar to that of 'insider information', but with a much broader context. Due to the secretive character in the transmission of this sort

[33] It does not mean that the transmission of information on other markets has not been discussed. For example, Brian Uzzi (1999) discusses embeddedness and its effect on the access to lending information in the business capital market.

of information to some extent, personal social networks become the main channel to convey and receive this sort of information.

This classification is not the only taxonomy of market information of Taiwan's stock market, though I argue it is an appropriate model to analyse features of lay investors' social relations in the circulation of market information. For example, Wu (2005) categorizes information of Taiwan's stock market into three types: informative information, market knowledge, and industrial knowledge. His argument is based on the idea that principally all market information is informative information and the information receiver would translate information into market or industrial knowledge. However, the features of different sorts of market information would not be revealed in Wu's classification.

In addition, Preda (2009b) provides a systematic taxonomy of market information. In his argument, relational information (e.g., gossip heard at a party) and transactional information (e.g., price) would be exchanged (or produced) when market actors encounter each other in the market (in transaction or in social interaction). Furthermore, economic and financial experts produce another type of information (epistemic objects) outside the market, e.g., securities analysts' comments on share price tendencies. However, Preda's study focuses on the information which is produced or exchanged inside the market (relational and transactional information), or which is created by professional experts (epistemic objects). By contrast, the market information discussed here mainly refers to information which is circulated in lay investors' social networks. Thus, the taxonomy of market information in this study is expected to complement Preda's theory.

Though the three sorts of information – news, advice and *xiaoxi* – are all frequently received through lay investors' social relations, this section will only focus on the last two, because they stand out as the features of informational circulation in this information transmission mechanism.

Before moving on, I would like to take Mr Yan as an example of the circulation of *xiaoxi* in Taiwan's stock market. He relied heavily on *xiaoxi* to trade stock and his story provides a typical model of how a lay investor trades stock by *xiaoxi*.

2.5.1 Mr Yan's story

> In [20]07, I knew Shan-Zhu. While I was in graduate school, my trading had not been successful. During that period [in graduate school], I was not good at buying stock. Shan-Zhu said [he would] help me. At that time, his girlfriend and the people around him all said 'his investment [trading strategy] is not an easy way to make money', so they had reservations. However, in that time, the items [shares] which he recommended … [He] seemed to [be able to] freeze water by words. What he said would be that [true]. Immediately, [my money] increased from more than [NT$] 5 million [around US$150,000] to more than [NT$] 9 million [around US$280,000]. At best, it was over [NT$] 11 million. He was incredible. [Every time] I called [him] to ask which share is better, and then [the share price] would directly hit the limit-up [daily 7 per cent from the last-trading-day closure price] on the second day. The situation had lasted 3–4 months. During that time, I felt he was like a god. In the best situation, it could grow over four columns [reaching the daily limit-up for more than four days]. I didn't use margin buying at that time, just bought shares [with my own money]. BOM! BOM! BOM! [The money] increased by one million in a month. [It was] really incredible. Therefore, when entering the MT [a semiconductor company], I had [NT$] 9½ million cash. In the [end of the] second month in the MT, I had more than [NT$] 11 million, 11.73 million. I clearly remember. After that, it was constantly going down. When [the market was] dropping, Shan-Zhu['s information] was not reliable. He had his own trading strategy which was not suitable for everyone. However, I didn't figure out it [at that time] … [I] lost money and wanted to earn the money back, so I bought stock on margin. [The strategy] was not right. The trend was turning to down. This [margin buying] made [the situation] worse. That was the first time I lost money [after I followed Shan-Zhu's information]. I lost until the rest [of the money] was only [a little] more than 3 million … [In that period,] I only staked on only one stock [at a time]. All of them were obscure [not

> well known], such as YungTay. During [20]07 to early [20]08, all [stocks] were obscure. Even if you tried to memorize [all of them], you could not. How could you know these [strange stocks]? Finally, [the amount of money was NT$] 3.38 million. [The digit] marks in mind. Only 338 left after selling all shares… After 338, I have not followed Shan-Zhu[’s information and suggestions]. I buy [stock] by myself.

Mr Yan’s story is not an unusual one. Similar plots are often heard from lay investors when they talk about some of their previous transactions based on *xiaoxi*, accessed through their social relations. Through analysing these cases, some common features of these stories are uncovered. These features suggest a typical model of Taiwanese lay investors’ trading by *xiaoxi*. The first characteristic is that lay investors usually do not know the sources of their informants’ information.

2.5.2 Unknown sources of *xiaoxi*

The ‘original sources’ of *xiaoxi* are usually unknown to lay investors. In Mr Yan’s case, it was difficult to confirm the source of Shan-Zhu’s information. The information might have been his personal analysis of the market, but the share prices rose almost immediately after the information was given, so the information was more likely based on the information of the ongoing *dahu*’s share-price manipulation (corner plans). In Taiwan’s stock market, this sort of information is called ‘*neixian xiaoxi*’ (內線消息), usually shortened to ‘*neixian*’ (內線). *Neixian* could be literally translated as ‘insider information’ in English, but has other meanings.[34] The official definition of ‘insider information’ from regulation is included in the idea of ‘*neixian*’, but ‘*neixian*’ in Taiwan’s stock market also includes the ‘information’ of share-price manipulation plans[35] (as will be seen below) and ‘leaked’ information of the government’s future policies. Within Taiwanese lay investors’ social networks, these

[34] According to Paragraph 1, Article 157-1 of the Securities and Exchange Act (Taiwan), ‘insider information’ means ‘any information that will have a material impact on the price of the securities of the issuing company, after the information is precise, and prior to the public disclosure of such information or within 18 hours after its public disclosure’ (http://www.twse.com.tw/en/investor/insider_trading.php).

[35] In China’s stock markets and futures markets, corner events, manipulated by *dahu*, seem very common as well (Hertz 1998; Siu 2010).

three sorts of 'insider information' (*neixian*) are often circulated. However, their 'truthfulness' is always difficult to prove.

Shan-Zhu did not seem to be a member of a share-price manipulation group (Shan-Zhu's status will be mentioned later), so his 'information' probably came from someone else. Who was the person providing this 'information' to Shan-Zhu?' From the beginning to the end, the 'original source' had remained anonymous.

According to the interviews, when Taiwanese lay investors face this kind of situation –that is, to be given *neixian* from someone else – they rarely probe the information's 'original source'. They presume the 'original source' is a valuable secret of the informant's and that they shouldn't probe too deeply about it. Sometimes, lay investors tend to know the 'original source' of the information but their acquaintances fail, because even the informant may not know the original source of the information and only know their informant. Furthermore, when the *neixian* seems very 'sensitive' (that is, when the revelation of the information is possibly against relevant regulations), the information receivers are aware that they should not actively pursue the source's identity.

On the other hand, knowledge about the original source is usually not important for information receivers. Investors tend focus on whether or not the information can help them make a profit; other questions usually don't factor into their consideration. Ms Qiu is an example. She usually follows a friend's information when trading stock: '[About trading strategies,] namely, I just follow her [the friend] to purchase [stock]. In fact, I don't spend much time reading about some things, such as fundamental data [of these listed companies].'

After Over the years, Ms Qiu has never asked her friend about her source of information. She assumes that her friend obtains the information because she 'seemingly knows some friends who play [a] "larger" [amount]' (that is, they trade a large amount of money in the stock market). Zhi-Chun is another example. She often receives 'useful' trading information from her uncle. She has no idea who is the original source of her uncle's information, but 'all [information] is very useful', she says. 'So I think this thing [the way information is transmitted] must be that *dahu* know [the information first] and then [they] reveal it to some *xiaohu* [small players, *sanhu*] who have some *guanxi* [social relation/connections with them, like her

uncle].' In Wu's (2005: 138) study of the mechanism of informational transmission in Taiwan's stock market, he also argues that market information (which is not specified) is transmitted/flows in one direction, from *dahu* to *sanhu*.

2.5.3 The reliable informant

In an ideal situation, the information receiver would be able to acknowledge the 'original source' of information and then to judge the information's accuracy according to the credibility of the 'original source'. For example, if the informant says 'the information originates from a high-level staff of a listed company', the information would seem more reliable than if the informant had said 'the information originates from another lay investor.' However, in reality, acknowledging the 'original source' is not easy.

If the 'original source' is usually unknown, how can the information receiver have confidence in the information and rely on it when making a transaction? The answer is the expected one: 'they trust the informant.' But what is the foundation of the trust between the information receivers and providers? According to the interviews, this kind of 'trust' mainly based on two elements: the relationship between the information receiver and provider, and the 'status' of the information provider.

Having a close relation with the informant would increase an information receivers' confidence in their informant's advice. People are inclined to think that friends or relatives would not deliberately relay 'fake' information to them, so people tend to trust the information's authenticity if it is provided by friends or relatives. Similarly, the tendency of trusting relatives' or friends' *neixian* exists among Taiwanese lay investors. For example, Ms Qiu's informant is her friend and Zhi-Chun's informant is her uncle. Informants and information receivers are linked by strong social ties.

The case of Mr Yan seems somewhat unusual, because he followed Shan-Zhu's information to trade stock even though he had known Shan-Zhu for just a short while. However, Shan-Zhu is a mutual friend of three of Mr Yan's close friends. Before they met in person, Mr Yan had heard Shan-Zhu's name mentioned many

times over the years and knew that his three friends trusted him. Mr Yan naturally extended his trust of his friends to that of Shan-Zhu. This kind of trust-extension is not unusual. The extension of strong ties and trust has been discussed (Granovetter 1973). An individual's close friend's close friend is likely to be this individual's friend, because it would be helpful to maintain the balance of social interactions between these people.

The 'status' of the informant also affects the information receiver's trust of the informant. Shan-Zhu's professional qualifications were another factor which underpinned Mr Yan's trust in him. Shan-Zhu is a securities analyst with a master's degree in finance from a top university. To Mr Yan's mind, it was reasonable to believe that Shan-Zhu could provide him with correct information, because Shan-Zhu works in the securities industry and therefore probably has *guanxi* (social connection) with *dahu* and managers of listed companies and can get *neixian* from them.

Ms Zeng's informant is another example. In Ms Zheng's interview, she insists that she always chose stock based on her own judgement and had not followed other people's *neixian*. However, she also admits that she had benefited from information provided by her son's *ganba* (乾爸, roughly equivalent to a 'godfather' in Western countries). At that time, her son's *ganba* was working in the Ministry of Finance. The *ganba* seems a typical *neixian* provider, having a close relation with the information receiver and working in a related 'industry'.

Besides professional links, the 'status' of an informant could be based on their 'social position' in the market, for example, their position as a *dahu*.[36] Mrs Kuo experienced what is usually regarded as the 'darkest' time in the Taiwan stock market's history, the incident of 'the proposal of restoring capital gain tax from securities trading'. In September 1988, Financial Minister Kuo, Wan-Rong announced that the government would restore capital gains tax for securities trading

[36] *Dahu* (big players/'big' individual investors) tend to have a higher status among lay investors. The original reason probably is that they control a huge amount of trading capital (more than most individual investors), which is the literary meaning of *dahu*. However, there are other factors which perhaps facilitate *dahu* to occupy a higher social position in the market. First, *dahu* usually access information more rapidly than other individual investors (Wu 2005). Secondly, in China's stock markets, *dahu* are usually believed to have better trading skills (Hertz 1998). In interviews, some lay investors sometimes use '*dahu*' to refer institutional investors as well, probably because institutional investors have met the criteria of *dahu* in aspects of capital, information and skills.

in the following year. After the announcement, share prices in Taiwan's stock market continued to fall for 19 days and thousands of investors demonstrated against this new ruling. Finally, the government was forced to withdraw the plan. Hours before the announcement, Mrs Kuo got a call in the middle of the trading hours:

> A *daka* [大咖, an important person, meaning '*dahu*' in this context] told me, 'run out [and sell] half [of the shares] first. Something's already [happened].' [I thought] can any important incident happen? [The worst incident was when] the US severed the diplomatic relations with R.O.C. [Taiwan], but [the relations] had been severed [in 1979]. Can it [the relations between the US and Taiwan] be [broken up] again? … [It is definitely] impossible. [However,] I said 'ok, ok, ok,' [on the phone]. I immediately went to clear [sell shares] at that time.

According to the conversation, even the informant himself was not sure how the market would react after the policy announcement. In that time, Mrs Kuo had no idea of the reason, the context and the 'original source' of the information. However, she still followed the advice to make a crucial decision, selling half of her holding shares immediately without concern for the price. Her trust in this person, a familiar *dahu*, overcame any suspicion in her mind.

Preda (2009b) argues that 'charismatic trust' is the foundation of the type of market which is constituted of status groups, and the credibility of the information is determined by the informer's status in the market structure. On the other hand, in the network-structural market, relational trust, highly based on 'knowledge of the person', supports the reliability of the information. In this case, the credibility of *neixian* is determined by both the 'status' and 'familiarity' of the informant. Social status has its influence on the informational network.

2.5.4 The uncertainty of *neixian*

Before a transaction, the intimacy with and status of the informant are the 'credentials' (or probably the only available information) for the information receiver

to evaluate the information's credibility. After following the same informant's *neixian* trading advice several times, the information's accuracy would be the third criterion to evaluate the reliability of the informant's information. In Wu's study of Taiwan's stock market (2005: 84), he mentions some *dahu* using money to 'test' the reliability of each informant. To 'test' means to follow all *neixian* to trade and then to figure out which informants are more reliable. Due to the limit of capital, it is not feasible for most lay investors to test all *neixian* which they have received.

Indeed, *neixian* always remains to some extent uncertain. Even information from a long-term reliable informant can be wrong sometimes. In the case of Mr Yan, the *neixian* provided by Shan-Zhu (a trusted informant), had been perfectly accurate in the first few months until it turned wrong. In general, the majority of the interviewees agree *neixian* could be very useful for them to do stock trading, but many of them also are cautious about *neixian*. Inaccurate *neixian* sometimes would incur a huge loss for the information follower. For example, both Mrs Kuo and Ms Zeng mention some of their friends were 'tripped up' in the market due to inaccurate *neixian*. A number of other interviewees also tell me that they have heard this type of story from their social ties. Overall, the structure of all these stories is quite similar. The common theme that they share is that 'the informant only calls the follower to hop on the bus, but the informant never reminds the follower when to hop *off* the bus.' Based on the interviewing data, here I attempt to relate a typical unsuccessful *neixian*-trading story.

> Lay investor **A** got *neixian* from friend **B**, who said, 'Friend **C** reveals *neixian* to me that some 'powerful market participants'[37] are going to corner XXX. It's a great time to purchase shares in XXX.' After **A** purchased some, the share price rose for several days, but then, the price started to dip a little. **A** thought the slight fall was temporary and continued to hold their shares. A few days later, however, the share price sharply dropped, and continued to do so. **A** was aware that the situation seemed problematic and called **B** right away. It would be then that **A** might find **B** had already sold his shares but did not inform **A**, or that **B**

[37] Several different powerful market participants are mentioned in the interviews, *dahu* being one of the typical figures.

was trapped in the market as well. No matter which situation, **A** had been 'tripped up'.

Sometimes, when *neixian* becomes 'faulty', it does mean that the informant attempted to 'cheat' the receiver, or intentionally feed 'incomplete' information to the receiver. A familiar *waiwei* (外圍, a member of a 'corner' group; see below) even told Mrs Kuo about some details of corner events which he and others had done together. The *waiwei* confessed that not every corner was successful. Sometimes, even when they had thrown in a huge amount of money to raise the share prices, they still could not reverse the market's dropping trend. They called this 'the power of the market'. One failed case led to the *waiwei* losing a tremendous amount of wealth, much higher than what he had earned by corner.

For lay investors, to trace powerful market participants' **corners** could be a trading strategy. Mr Liu has constructed for himself a typical mental model of a market **corner**. In general, the model is mainly consistent with Mrs Kuo's story. Using the relevant information from Mrs Kuo and Mr Liu, a rough picture of **corner** in Taiwan's stock market is introduced here.

Usually a joint group of powerful market participants choose a small company as the 'target', and would incorporate with the company's main shareholder. A small company does not have many shares in the public market and is easier for the corner group to manipulate the price. Members of a typical **corner** group includes *zhuli* (主力, head) who conducts the **corner**, the *waiwei* (外圍, outsider) who provides capital to the *zhuli*, *gongsi* (公司, company) who is the company's main shareholder and provide the shares to the *zhuli*. They often successfully manipulate the company's share prices when the market remains 'stable'. However, if the market trend changes, the 'artificial' price can be broken easily, which may explain Mr Yan's experience, that is, why the *neixian* became inaccurate when the market trend reversed.

Due to the unpredictability of **corner**, some lay investors still hesitate to follow this kind of *neixian* to do trading, even if the *neixian* is provided by a reliable informant. For example, Shu-Ling relates the **corner** incident of the Tang-Feng (a listed company).

> [When] a person told us [the *neixian* about Tang-Feng], [the share price] was over 90 dollars [per share] at that time. We [Shu-Lin and her mother] said, 'This stock [company] does not earn much money. [It is too unreasonable to] be over 90 dollars, [because it] only earned one to two dollars [last year EPS].' [Then] it grew to over 200 dollars 'to show you' [to surprise you]. Later, it was warned [by the Taiwan Stock Exchange]. Later, the transaction [in Tang-Feng shares] was suspended.

The price of Tang-Feng quickly increased, from 39.25 dollars per share to 238.50 dollars in two months. The regulator noticed the abnormal share price rise and investigated. In the end, a manipulator (*zhuli*), a capital provider (*waiwei*) and the director and several managers of Tang-Feng (*gongsi*) were prosecuted. Some of them had admitted the increase of Tang-Feng's share price in two months was actually manipulated by them by making fake transactions and revealing false information (CAN News 10/02/2012[38]). This was a recently disclosed **corner** event in Taiwan's stock market.

2.5.5 Unprovability of *neixian*

In many Taiwanese lay investors' understanding, the category of '*xiaoxi*' includes not only valuable '*neixian xiaoxi*' (insider information) but also other 'valueless' information. Generally, information can be considered 'valueless' for many reasons, for example, it might be out of date. Regarding *xiaoxi* in the stock market, the credit of the informant would mainly decide the 'value' of the information. The information provided by an 'unreliable' informant is usually called '*malu xiaoxi*' (馬路消息, 'road information'), '*xiaodao xiaoxi*' (小道消息, 'path information') or '*caishichang xiaoxi*' (菜市場消息, 'food market information') in Taiwan. These are pejorative terms which literally mean the information is gained from a person met on a road, on a path, or in a food market. According to the interviewees, this type of information is

[38] Available at: <http://tw.news.yahoo.com/%E6%B6%89%E7%82%92%E8%82%A1%E7%8D%B2%E5%88%A9-%E5%8F%A4%E8%91%A3%E5%BC%B5%E5%88%A49%E5%B9%B4-105617527.html> (accessed on 16 July 2012).

almost equal to rumour and is clearly distinguished from *neixian xiaoxi*. Casual acquaintances, such as some acquaintances known in brokerage offices, are a main source of this sort of information. Unreliable information seems to flood through lay investors' social networks. Lay investors must train themselves to 'automatically' filter out these types of *xiaoxi* and not give them serious consideration.

However, when the 'original source' of the information is unknown, the distinction between 'reliable' and 'unreliable' *neixian* is always tricky and subjective. Some *neixian* is easy to prove, for example, leaked government's future policies or companies' unpublished financial reports. After the official announcement is released, the information receivers can confirm the 'accuracy' of the *neixian*. On the other hand, the 'accuracy' of some types of *neixian* is difficult to confirm. For example, the information is about a stock has been chose as the target of **corner**. With the exception of a few cases which have been investigated by the regulator, such as the case of Tang-Feng, most information about **corners** cannot be confirmed. Except members of the corner group, the public (such as lay investors, journalists and securities analysts) only can 'guess' at possible manipulation by abnormal changes of share prices.

However, even if the information about **corners** is 'true', it may be 'incorrect'. Some **corner** groups may attempt to raise share prices, but they fail and thus the information looks like a 'false' information due to the fall of share prices. By contrast, even if the information is not 'true' (no one is intentionally raising the share price in reality), the information may look 'correct' due to the rise of the share price. In the market, many reasons besides intentional manipulation can make share prices rise. When the 'original source' of the information is unknown, it is always difficult to prove the performance of this share price is really the result of a 'secret' **corner** or not.[39]

To disperse 'inaccuracy' *xiaoxi* would damage the 'insiders' influence in the market. However, the vague, fuzzy and imprecise nature of some of the *neixian* is conjectured to open the space for the reliable insiders to justify the inconsistency between the market trend and the information. As a result, the *neixian* informants would be allowed to sustain their reputation and defend their positions within the

[39] Some individual investors, for example, Mr Liu, claim they are able to tell whether the share price is manipulated by *dahu* or not by some technical analysis indices.

hierarchy. The unprovability of the *neixian* may ironically encourage some of the insiders to actively offer *neixian*.

Similarly, the 'unprovable' market information could be tricky for research. For example, Hertz (1998:174–87) discusses a '**corner'** from the Chinese government in the Shanghai stock market. She claims the Chinese government was willing to raise the share-prices index level by means of secret interventions. However, in the end, the government failed due to the overwhelming power of the market. The argument probably is based on the unofficial information which was widely circulated among lay investors at that time. The trick is that it is difficult to prove that the fluctuating share-prices index level in that time was 'really' a result of the government's price-manipulation. If it was a 'secret' manipulation, how could the public confirm with certainty the fact that manipulation had occurred? From some aspects, this kind of information is similar to the 'reasonable interpretation' of change in share prices.

2.5.6 Trading suggestions and recommendations

Besides *xiaoxi*, trading suggestions and recommendations of stocks (*jianyi* and *tuijian*) are another type of information which is widely circulated amongst lay investors' social networks. Taiwanese lay investors are used to gaining trading advice from family members, friends and acquaintances, because many of them are also lay investors and have their own trading experience. Unlike *xiaoxi*, the suggestions stem from these 'non-professional advisers' understandings of the market. The understanding is usually based on, say, one adviser's market analysis, and then comments provided by other people (such as securities analysts, brokers, journalists, or the person's friends, relatives, or acquaintances), or a combination of all of these. When lay investors evaluate these suggestions' credibility, a close relationship between the advisers and themselves is not crucial. It is the 'expertise' of the non-professional advisers that is the priority. For example, Ou-Yang often follows her postgraduate-school classmate's suggestions when trading stock and hence makes profit. 'I think he probably knows [the market] better,' she says, 'he probably has much more knowledge of industries rather than I.'

However, a lay investor may receive an overabundance of trading suggestions through their social network, but the trading suggestions – very similar to *malu xiaoxi*, *xiaodao xiaoxi* and *caishichang xiaoxi* – provided by unreliable advisers are usually filtered out 'automatically' by the listener. For example, Mr Yang admits that he is used to ignoring most friends' suggestions:

> Some friends are not really reliable. Probably they are not experts [in stock trading]. [They] make [the suggestions] 'unseriously' [casually] and [I] listen [them] 'unseriously'. [My investment will] go to pot [if I] 'jump in' (follow their suggestions). [I know] many people['s investment went to pot due to] this reason.

Only two friends' suggestions are considered by Mr Yang: 'They also graduated from university [as Mr. Yang], [they studied in the] department of finance, [their] levels are higher.'

Suggestions from friends, relatives, or acquaintances who have different 'principles' of stock trading – that is, trading model/strategies, and preferences for certain types of stocks – tend to be filtered out by the listeners as well. Each investor has their own 'principle' of stock trading, for example, some investors tend to trade in stocks with volatile price changes and they only hold the stocks overnight. The trading suggestion is 'meaningless' for a person who is used to trading according to a different principle. Ms Hong explains the reason:

> Everyone's principle is different. Everyone prefers different [types of] stocks. When he [the adviser] makes his [comments], you [Ms Hong refers to herself] just listen 'unseriously' [casually]. Because you are not familiar with [the adviser's recommended stocks], you would not really 'do it' [buy the stocks].

Trading suggestions and lists of 'recommended' stocks are not provided only by lay investors' social ties. Nowadays, this type of information is almost available everywhere in Taiwan's stock market. Financial companies, television programmes,

websites, newspapers and magazines frequently update their lists of recommended stocks, which are provided by professional securities analysts. The suggestions from these analysts are regarded as more 'professional' than those from other lay investors. Most interviewees agree that suggestions from friends, relatives and acquaintances are not expected to be as professional as those from securities analysts, but they usually still give the former some attention. '[When a friend] makes [suggestions] certainly,' Shu-Ling says, 'we [Shu-Ling and her mother] feel [that we] should "look at" [the stocks].' By 'look at', Shu-Ling means she spends some time analysing the companies and the share prices. Mr Zhang describes his practice in this situation:

> I sometimes pay a little attention to other people's '*xiaoxi*' [means 'suggestions' here]. Then [I would] think whether [it] is really worth it to invest (buy). [I would] see [check] the historical data [of the company] and how the fundamental dimension is [what conditions the company is in].

In his interview, Mr Chen also indicates a similar pattern. After hearing a suggestion from friends and relatives, he would use his technical analysis skills to 'trace' the changes in the suggested company's share price. In Taiwan's stock market, there are over a thousand listed companies. It is nearly impossible for a lay investor to analyse all these companies and then find out the proper trading targets. For these people, recommendations from friends, relatives and acquaintances act like a 'preliminary' selection of stocks from the 'pool'. Indeed, many lay investors tell me that they are used to carry out the same 'examination' on stocks recommended by professional securities analysts as well.

2.5.7 Brokers

The role of the broker is very special in Taiwanese lay investors' social relations. The 'social distance' between brokers and individual investors can be as close as that of friends, or as far as unfamiliar acquaintances. Brokers are the staff in brokerage companies who handle opening accounts and placing trading orders for investors. From a business perspective, the relation between brokers and investors is similar to

that between sellers and clients. A broker 'automatically' enters an individual investor's social network when that person begins to trade stock. Whether close to their clients or not, it is necessary for brokers to maintain at least a 'reasonable' relation with them. Otherwise the brokers may be dismissed by their clients one day (see Chapter 5).

Brokers' main source of income from share trading fees. Theoretically, they have the incentive to given *xiaoxi* and suggestions to lay investors in order to encourage them to trade stock more frequently. In particular, brokers are professional practitioners of the securities industry, and thus are usually expected to be more professional than their clients' lay-investor friends or relatives. Particularly, the production of *xiaoxi* (including *neixian*) also suits the interest of the brokerage industry.

It is illegal for brokers without securities analyst qualifications to provide trading information to clients. Securities analysts' income is generally higher than that of brokers in Taiwan, so few people with qualifications are willing to act solely as a broker. However, according to the interview with Mrs Kuo, brokers were accustomed to providing *xiaoxi* and suggestions to clients in the past. After market regulation became more stringent, the situation has apparently changed, but the practice is not entirely extinct. Nowadays, some brokers still occasionally provide their clients something resembling trading suggestions. The interaction between Ms. Lin and her broker is an example.

> [I have been] friends with our broker … They [he] is not irresponsible to give [me] *xiaoxi*. [He] does not tell you what to do. However, if [my trading] decision deviates from the market [trend] a lot, he would analyse [explain the situation] to you. [He] tells you the general situation [of the market].

This is also why Zhi-Chun prefers to place trading orders by telephone rather than via the Internet. She once received a 'warning' from her broker over the phone when her order seemed obviously to be going against the market trend. Due to the warning, she did not make a 'bad' trading decision.

However, not all brokers' suggestions are welcome. Ms Qiu is annoyed with her broker, who often tells her some *neixian*. However, she always ignores his *xiaoxi* and suggestions. 'First, [the information is] not accurate,' she complains, 'secondly, I don't like his attitude.' She implies that she will probably change her broker in the future. Some lay investors, such as Mr Chang, rarely interact with their brokers, because they do not like their trading decisions to be influenced by their brokers' opinions.

2.5.8 Information and actively trading

Overall, these three different types of market information – news and general information, *neixian xiaoxi*, and trading suggestions – are often received by Taiwanese lay investors from social relations – family members, friends, and acquaintances. Furthermore, the majority of these social ties (information providers) are lay investors as well. Regardless of the *quality* of the information (whether useful or worthless), the *amount* of information circulated in lay investors' social networks is apparently huge.

An important impact of the flood of information probably is to boost the trading frequency of lay investors and also offer them a motivation (or 'a confidence') to continue to trade in a disadvantage environment. In general, lay investors underpeform large institutional investors in Taiwan's stock market, and most of lay investors seemingly clearly acknowledge the overwhelming power of institutional investors (see Chapter 1 and Chapter 4). However, they are still inclined to enter the market and trade actively.

According to Barber, Lee, Liu and Odean's (2007, 2008) study, this paradox is partially accounted for by the combination of psychological biases: overconfidence and sensation seeking. They argue the high level of overconfidence in Taiwan, which is estimated to nearly double to the same measurement in the US, contribute to much of excessive trading of lay investors in Taiwan (the annual turnover rates for the group of lay investors are estimated between 308% and 630% from 1995 to 1990). The answer is helpful to understand the activeness of lay investors but still not

sufficient, because they do not explain that which factors may facilitate lay investors in Taiwan to continuously sustain overconfidence at a higher level.

The market information, which is intensively fed by lay investors' social ties, is expected to play a role here. The *neixian*, which is offered by reliable insiders, is probable to give lay traders the impression that they have market advantage. The *xiaoxi* and suggestions, which is frequently talked in lay investors' everyday social interactions, are probable to give lay investors the impression that they have knowledge of the market, industries and companies. The confidence of lay investors in Taiwan is probable to be spurred by this large amount of information, and lay investors' social networks are the structure of the mechanism.

Furthermore, a tendency of keeping silence over losses might strengthen the confidence. Although lay investors are used to share their trading experience with and give market information to their friends, relatives and acquaintances, many of them tend to avoid talking about their personal losses straightforwardly. As will be seen in Section 6.4, to 'save face' in front of close ties is a main concern. When the information about losses is only occasionally circulated in lay investors' social networks, the difficulties of making profits by trading might be underestimated.

2.6 Stock trading as 'social activity'

Among Taiwanese lay investors, transmission of market information is rarely 'one way' only. Ostensibly, talk about stock trading between lay investors is a kind of 'information exchange'. However, for the participants, they may not expect to either hear or provide any useful market information; for them, joining this kind of discussion is not only to participate in information exchange but also a 'social activity. In other words, 'maintaining social relations' is a reason to have this kind of talking.

Furthermore, due to engaging in the same 'social activity' (stock trading), two unacquainted individual investors possibly have found a common topic for discussion and then become familiar with each other and build their social connections. In addition, in stock trading discussion, the topics are selected depending on the relation. Having a close relation to each other does not mean they

will have an intimate conversation. For example, at times, some lay investors will deliberately avoid some ‘sensitive’ topics when they talk about stock trading with their family members, as opposed to discussions with friends.

2.6.1 Maintenance of social relations

As mentioned above, the number of individual investors in Taiwanese society is very impressive. Ms Hong, one of the interviewees, uses the term *quanmin yundong* (全民運動, a movement for all people) to describe stock trading’s popularity in Taiwan. She thinks it is necessary to know how the stock market works, and to be able to talk about it. ‘Otherwise’, she says, ‘you cannot take part in other people’s discussions.’ Indeed, stock trading seems to be one of the most common discussion topics among those Taiwanese who participate in the stock market. Mr Yan says, ‘Everyone [around me] likes to chat about [stock trading].’ He has an explanation for the popularity of this discussion topic among his friends and relatives: he thinks the average income of Taiwanese ‘salarymen’ (white-collar workers) is too low and many of them are looking for an alternative way to accumulate wealth. Stock trading is one way to do that, so it is a popular topic for discussion.

Even if people usually have their own principles for stock trading, talking about trading and exchanging ideas seem to be common practice for many lay investors. For example, Mr He often discusses the stock market with friends who have different ideas about trading:

> Everyone has different opinions of [stock] ‘investment’ [trading]. Having a talk [is still not bad]. For example, other people may have ideas which I had never thought of before. [Such as] the *xiaoxi* which they pay attention to or some dimension … I might neglect either. Those [ideas] could be [used as] the basis of comparison.

Due to the large number of individual investors in Taiwan, it may happen quite often that a lay investor encounters an old friend and they find out that they each are involved in stock trading. Mr Zhan’s experience is an example. He encountered a

college friend at the architect's qualification examination and by chance realized that both of them were doing stock trading. His friend excitedly told him a lot about his own 'theory' of stock trading. Since they've re-established contact, they sometimes exchange ideas about the market.

Talking about the stock market with friends and relatives tends to be very casual and relaxed. Ou-Yong uses the word '*popomama*' (婆婆媽媽) as the metaphor to describe the feeling of discussing stock trading with friends and relatives. *Popo* literally means 'the mother of one's husband',[40] while *mama* literally means 'mother'. *Popomama* usually means to be 'fussy' or 'emotional', and carries a stereotypically female association. In this context, Ou-Yong means that stock trading discussion amongst family and friends is equivalent to 'women's gossip':

> You can do some research [about the market and talk about it]; or to [tell] some *xiaodao xiaoxi*. That feeling is really similar to everyone [in] *popomama*. Everyone tells you a '*mingpai*'[41] ['a recommended stock' or stock tip] today. Then, everyone exchanges information and maintains relations.

Providing market information can also be a way to express friends' care for each other. When some of Ms Huang's schoolfriends, who are experienced individual investors, found out she had just started stock trading, they worried about her performance, because she was a newcomer. They often sent her emails about market information. Although Ms Huang does not think the information has ever been helpful, the emails represent her friends' care for her.

In some investors' families, talking about stock trading can be a regular social activity between family members and relatives. For example, Zhi-Chun talks about market information with her grandmother, uncle and mother when they have a meal

[40] In Chinese, 'the mother of one's wife' is called '*yuemu*' or '*zhangmuniang*'. In English, *popo*, *yuemu* or *zhangmuniang* is called 'mother in law'.

[41] *Mingpai* (明牌) cannot be literally translated into English. This term originates from lotteries. Originally, to tell you *mingpai* means to tell you the exactly drawn numbers of a lottery in prior. The information of the drawn numbers is surely profitable information. In the sphere of Taiwan's stock market, it means to recommend you a stock and you will surely make profit by purchasing this stock. The content of *mingpai* sometimes is simple and only contains the titles of companies.

together, and they also often chat about trading by MSN messages or phone. 'When we have time,' she says, '[we] form a discussion group [on the MSN].' She considers discussing stock trading has become one of the activities which facilitate frequent contacts between the family members.

A number of studies have pointed out financial market participants tend to exchange market information when they encounter each other in the market (e.g., when they are making a transaction) and this type of social interactions is thought to facilitate the maintenance of social relations which are an element of the market structure (e.g., Knorr Cetina and Bruegger 2002; Preda 2009b). In Taiwan, the stock exchange itself is an anonymous market and there is no direct interaction between trading partners in transactions. However, exchanging stock market information has become a regular form of social interaction in many lay people's daily lives. Thus, it is not only an example that social relations help individuals in their market activities, but also that market activities enhance many individuals' social solidarity.

2.6.2 Extension of social relations

Participating in stock trading, or talking about it with friends, relatives and acquaintances is perhaps similar to joining a 'social activity' sometimes, and is helpful in maintaining a lay investor's existing social relations, as well as extending their social network. The situation occurs often in brokerage offices, according to the interviews and observations. A brokerage office is one of the main 'places' where lay investors who are strangers meet each other[42]. The 'consumption of time of meeting each other' is a key factor for developing social relations between people (Granovetter 1973, 1983). If people frequently visit a place and stay there for a while each time, it would not be unusual that some of these people begin to chat with other people sitting nearby and become acquainted, especially because they have a common discussion topic: the stock market. Thus, with the passage of time, it is natural that some of these acquainted people become friends.

[42] In Taiwan, a brokerage office is a kind of the 'embodiment' of the stock market. All trading orders need to travel through the computer of each brokerage office to the central computer of each brokerage company, then to the Taiwan Stock Exchange finally. A typical brokerage office in Taiwan provides a hall with chairs, screens with real-time market information and water or tea to individual investors (See Chapter 5).

Brokerage offices are a place where social connections among lay investors proliferate. Both Sheng-Ji and Mrs Kuo are lay investors who are accustomed to trading stock in brokerage offices and both have friends whom they met in brokerage offices. Sheng-Ji goes to a brokerage office everyday, where he has a reserved seat in the VIP area, and where he usually stays until the market closes. Those individual investors in the VIP area often have dinner and other social activities together. For him, it is very natural for these people to be friends, because '[we] chat here [in the brokerage office] everyday.'

Mrs Kuo also made many friends in the brokerage offices and sometimes received useful *xiaoxi* from them. Nowadays, she does not do stock trading as frequently as in the past. However, she still regularly visits the brokerage offices to 'see friends there'. Some lay investors, like Shu-Ling and her mother, no longer go to brokerage offices for stock trading and they have lost contact with the acquaintances they met there. However, as mentioned above, Shu-Ling and her mother still remember some of the lay investors they knew in the brokerage offices who had taught them basic stock trading skills, which were helpful for them at that time. The social interactions among lay investors and between lay investors and brokers in brokerage offices are worth exploring and are discussed further in Chapter 5.

Brokerage offices are a 'physical' space where social relations among lay investors would flourish. By contrast, online stock-trading forums are a 'virtual' space, where some individual investors communicate with each other and develop friendships in the process.[43] Mr Liu is an example. As mentioned above, one of his cyber-friends teaches him some advanced skills for selecting proper trading targets by means of online messaging. In addition, eight of his friends who met each other on an online futures-trading forum have formed a discussion group. One of them, who studied finance and psychology, is the group's organizer. They have a regular 'physical' meeting every month. In the monthly meeting, they discuss each other's feelings about trading stock and futures, and possible strategies to avoid emotional biases when trading. The group members' backgrounds are diverse. Their ages range from the 20s to 40s, and their occupations include a student, a lecturer, a homemaker

[43] Online internet forums are also argued to be an important 'place' for professional market participants of electronic anonymous financial markets to have social interactions and exchange information (Preda 2012)

and others. In the ‘real’ world, lay investors from diverse backgrounds have less opportunities to get to know each other. However, Internet forums overcome the ‘real’ world obstacles and facilitate people from different social backgrounds in constructing social relations through their common interest: stock trading.

2.6.3 Threats to social relations

In studies of social networks and social capital, the job market is usually one of the main areas to be scrutinized. Information about the job market (i.e., information about available positions) transmitted through personal social ties is always useful for the information receiver and is thought to strengthen the social relations between the informer and the receiver (Lin 2001; Granovetter 2005). However, this may be not the case in financial markets, because sometimes ‘wrong’ information would bring about a huge loss for the information receiver, as mentioned in Section 5. As a result, the social relations perhaps are not underpinned but are instead undermined, due to information transmission. Similarly, Preda (2009b) also argues that financial experts’ charisma would be damaged when they give wrong market advice and it would undermine their status in the group (the market). Thus, although stock trading is a common discussion topic for Taiwanese lay investors and all of the interviewees are used to talking about trading with friends, colleagues, relatives, or acquaintances, they tend to be somewhat cautious in their talk.

Some lay investors are used to take a ‘passive’ stance toward this topic. Both Ms Liu and Ms Wu admit that their stock trading performances are not good. They believe their poor performances suggest insufficient stock trading skills. Both of them worry that they cannot provide any useful information to their friends, so they usually avoid ‘actively’ opening a discussion about stock trading. Ms Liu thinks the situation is like school students doing their homework together:

> We [the people like me] cannot provide any opinion. Our performance/mark [in the stock market] is not good.

How could a bad student teach other students how to do homework?' However, when other people 'actively' begin on this topic, both of them would take part in the discussion.

Some lay investors tend to avoid talking explicitly about their ideas regarding the market, or trading suggestions and names of recommended stocks to people when they first meet them. For example, Mr. He says:

> f he [the person] followed my opinion to purchase [the stock] and then lost money, [the situation] would be awkward when we meet next time. Even if I hadn't told him to purchase [the stock], he might have another attitude the next time he sees you. If you are familiar [with me], [it] may be fine [i.e., may be not so awkward in the same situation].

For similar reasons, Ms Zeng presently avoids revealing her opinions when discussing the stock market:

> I rarely speak out what I think [about the market]. I did it before. I always sincerely thought the stocks were good [and recommended them to other people]. However, what I said was wrong. Then I thought that these people would not have done [the trading if I had not said it]. Due to what you [I] said, it made other people's loss. Somewhat, I felt guilty [about that].

'Worrying that friends might think they are to blame if a stock tip fails' is probably the main reason why some lay investors are enthusiastic to provide general market information to friends but hesitate to mention recommending specific stocks. For example, Yi-Hong's classmate asked Yi-Hong to teach him stock trading. Before beginning to teach him, Yi-Hong told his classmate:

> I would like to tell you the basic knowledge [of stock trading. For example,] 'what is stock?' 'Why does [the price of a share] grow or fall?' However, I would not tell you which stock [you should] purchase. If

> what I say caused you to lose money, should you blame me? [I would be] disappointed if [you] blamed me.

Mrs Kuo has similar concerns. She is used to talking about stock trading with friends, relatives and acquaintances, but she does not like to tell other people which stocks she has recently purchased:

> [For example,] I tell him which stocks I bought. If then he followed me to buy [the stocks] and was 'trapped' up [in the market], I would feel anxious. I had been trapped up … and had to worry about you as well … If [the person] made profits, he would say 'Mrs Kuo, great! Great!' … If the situation was bad, he would feel angry with you [me].

Although people have different concerns when discussing stock trading, the focus of their caution is similar. Many lay investors are afraid they may provide incorrect trading suggestions, lists of recommended stocks, or *xiaoxi*. If their friends, relatives or acquaintances follow their advice for trading stock and subsequently lose money, it may damage the existing or future social relations between them.

2.6.4 Safety and face

In stock trading discussion, some individual investors tend to avoid revealing private information. With the exception of family members and close friends, some Taiwanese lay investors usually avoid mentioning details about how much their trading capital is worth, or profits from, and outcomes of, trading. For the investors, their stock trading money is usually the main portion of their personal savings, so they don't want other people 'guesstimating' their wealth by knowing how much trading capital they possess. For example, except for close friends and family members, Cong-Ying has not revealed details of his stock trading to his 'normal' friends, because he believes in a traditional saying: 'wealth should not be flaunted.' To avoid unnecessary trouble is a possible reason why some lay investors don't reveal that they usually make profits in the stock market.

However, on the other hand, other lay investors don't want others to know if they *lose* money in the stock market. My interviews contain some evidence that the main reason is that they are worried they will lose 'face' in front of friends, relatives and acquaintances. Some Taiwanese individual investors tend to view the stock market as a game and each individual investor is a player in this game (see Chapter 3). Therefore, the performance of stock trading implies the level of each player's intelligence and capability. If you lose money in the stock market, in some lay investors' mind, the implication is that you are a 'loser' or an 'inferior' person.

For example, A-Liang admitted in his interview that he lost a huge amount, around NT$60 million (around US$2.4 million), in the stock market, but he emphasizes that most of his investor friends would never reveal their losses to unfamiliar people, because they care about their 'face'. However, due to our *guanxi* (he is a family friend) he was willing to talk about his loss openly. Mrs Kuo also knows that some of her friends have lost a lot of money in the stock market, but they still 'pretend' that their trading performances are good in front of distant acquaintances. Mrs Kuo thinks these friends 'love "face" more than other things'.

2.6.5 'Close' might be 'far'

Family members are supposed to be very close to an individual. Surprisingly, some Taiwanese lay investors are likely to talk about stock trading with friends, distant relatives and acquaintances, but seldom talk about stock trading at home. Around one-third of the interviewees refrain from discussing stock trading with family members, although all the interviewees do so with friends, colleagues, or classmates. Indeed, most of these interviewees' family members are lay investors, and they and their family members know that each other is trading stock. In this type of environment, it could be surmised that stock trading would be a topic for discussion at home. However, the reality is that it is not. In general, two different concerns are linked to this phenomenon.

The first reason for people's reluctance to discuss stock trading within the family circle may be to avoid a family quarrel. In some cases, lay investors and their family members may have completely different principles of stock trading and they

apparently disagree with each other's. Unlike friends or other distant relatives, family members are more likely to directly argue with each other when their ideas differ. Furthermore, compared to 'outsiders', family members sometimes tend to think they have a 'right' to 'intervene' in other members' decisions and 'instruct' them in what should be done. Due to intensive, frequent and intimate interactions, disagreement and irritating 'instruction' sometimes develops into family quarrels. Mr Yang is an example. As mentioned above, he is used to take serious consideration of some 'reliable' friends' trading suggestions and opinions, while casually discussing stock trading with other friends. However, he tends to avoid talking about stock trading with his family members:

> [I] don't talk [about stock trading] at home. [Our] opinions are different and will become a quarrel. Because … [our] understandings [of the market] are different. I only use my own money [to trade stock]. [I] do not dare to use [my] wife's [or] other [family members'] money … [If I use their money to trade stock and] make a profit, everyone will be happy … [but if I] lose money … [I] don't talk about stock [trading] with [my] child either. He thinks he know [stock trading] better than me. Your generation knows [how to use a] computer, [but] I don't. [However,] to know [how to use a] computer does not ensure [that you will] win [in the stock market].

Sheng-Ji and his wife are another example. Both of them are individual investors, but they have different principles of stock trading. They do not discuss each other's trading strategies. Sheng-Ji says:

> She buys some [stocks]. She buys her own. She is inclined to listen [to other people's information] and follow. I don't like that … Following other people's [suggestions] means she does not have confidence [in her own judgement]. Listening to other people's [advice and] asking other people which one [stock she] should buy means she does not have confidence and [she] could not make money [by stock trading].

Shen-Ji apparently disagree his wife's principles of stock trading and thinks his own strategies and performance of stock trading are better than his wife's, but he does not want his opinion to become an 'instruction' and set off quarrels between the couple. For him, the best way to avoid a quarrel is to avoid talking about stock trading at home.

The other reason for lay investors' reluctance to discuss trading within the family home is related to secrecy regarding personal savings. In Taiwan, personal savings which are unknown to other family members is called '*sifangqian*' (私房錢). The idea of *sifangqian* originates from the Taiwanese traditional idea of the family economy. Traditionally, a family was an economic unit, and each person's savings was considered to be part of the family's wealth and should be used for the family's benefit. Therefore, many people were inclined to have their private and secret savings of which other family members were unaware. If other family members discovered the secret saving's existence, they might demand that the savings be handed over for the family's use. In the past, especially, the husband controlled the family's economic resources and budget, so the wife would have *sifangqian* for herself. Nowadays, *sifangqian* remains in some form in many Taiwanese families, and both husbands and wives may have *sifangqian*. Thus, they probably withhold from their partners the amount of their *sifangqian*, because if their partners discover their *real* wealth, and not what they have claimed, they may be asked to add more money to the family funds.

For some lay investors, money for trading stock is a part of their *sifangqian*. Although it seems difficult for these people to keep the existence of *sifangqian* completely unknown to the family, they probably try as hard as possible to keep secret the exact amount of their *sifangqian*. Thus, the best way to do this seems to avoid discussing stock trading at home Ms. Qiu's family is an example. All her family members know the others are trading stock, but they do not discuss this issue at home:

> My father plays a lot [throws a lot of money into the stock market] … Indeed, he has never told [us] when every time he plays … He has not

> discussed this kind of questions [stock trading] with me. Probably, he does not want me or my mother to know the cash flow of his money … Our family members seldom ask [each other about the situation of each other's stock trading]… It seems that [each family member] does not want another [family member] to know [the detail of their *sifangqian*].

Ms Qiu's family doesn't seem to be an unusual case. Ms Wu's family situation is similar. Although both of Ms Wu's parents are lay investors and encouraged her to trade stock when she had her first savings, her parents have never discussed stock trading with her. When people do discuss it, they more or less have to reveal some details about their money. Her parents apparently tend not to reveal to her any details about their savings, so they directly avoid any talk about the stock market at home.

2.7 Summary

The relational embeddedness approach suggests individuals' economic activities are meshed in their existing social relations, but the perspective is challenged by electronic anonymous market systems and criticized for its theoretical separation of market and social spheres. This chapter aims to respond to the challenge and criticism by examining the relationship between social relations and stock trading of Taiwanese lay investors. Although the stock market is a fully electronic, anonymous market with millions of participants, social ties act as an important channel for lay investors to learn trading skills, collect trading capital and access information. The information circulated in the social network includes publicly available information, personal advice and *neixian*, which is a particular type of information. *Neixian* is usually unprovable and full of uncertainty, and the information source tends to be unknown. Foremost, many lay investors were introduced to the market by friends, relatives, or family members who had already been trading stock. As a result, stock trading acts as a key element of lay investors' daily social interactions. Taking part in stock trading is generally helpful in maintaining and extending their social relations, because stock trading has been become a common topic for discussion and a popular social activity. However, improper talk of trading may damage social relations and

lay investors are conscious of this. In general, for lay investors, social relations and stock trading have become interlinked. Therefore, the characteristic social phenomenon – the large-scale participation of lay people in the stock market – is conjectured to be encouraged by social relations.

Chapter 3

Lay Market Actors

3.1 Introduction

Economic actors are a fundamental element of the market. In many schools of both economics and sociology, the actors are equivalent to individual human beings. The contrast between the schools is to denote the different properties of the economic actor. For example, in neoclassical economics, market actors are assumed to be individuals who do rational actions in the market (see Weintraub 1993). In the field of behavioural economics, market actors are suggested as individuals whose decisions are somewhat driven by psychology (e.g., Kahneman and Tversky 1979). For many economic sociologists, economic actors are human beings embedded in social relations and therefore their market actions are enmeshed in the social network (e.g., Granovetter 1985). Otherwise, economic actors are also argued to be interactive individuals whose actions are integrated in existing webs of meanings and relations (e.g., Zelizer 2012).

Michel Callon's study of the market does not completely follow this line of debate. Inspired by scientific and technological studies, he offers an alternative approach for studying economic actors: to think about what are economic actors made up of? For Callon, a market actor is not merely an individual human being or an aggregation of individuals. A market actor needs to be equipped with the capability of evaluating and exchanging in the market, because evaluation and exchange are the essence of the market's action. Without this capability, an individual is unable to act as a market actor. To explore the configurations of market actors therefore becomes a key issue in Callon's discussion of the market (Callon 1998, 2005; Caliskan and Callon 2010).

For Callon, a market actor, that is, an entity with the capability of calculating and exchanging (which is also called an 'individual market agency'), is 'made up of human bodies but also of prostheses, tools, equipment, technical devices, algorithms, etc.' (2005: 4). The notion of socio-technical *agencement* is introduced to describe

the ‘arrangement of a market actor’. The notion of *agencement* is drawn from Gilles Deleuze and Félix Guattari’s work (1998), but Callon applies this notion to the economic field in a specific way (Palmås 2007).

Callon elucidates the idea of *agencement* in an article with Koray Caliskan:[44]

> The term *agencement* is a French word that has no exact English counterpart. In French its meaning is very close to ‘arrangement’ (or ‘assemblage’). It conveys the idea of a combination of heterogeneous elements that have been adjusted to one another. But arrangements (as well as assemblages) could imply a sort of divide between human agents, those who do the arranging or assembling, and things that have been arranged … We therefore choose to use the French word *agencement*, instead of arrangement, to stress the fact that agencies and arrangements are not separate. (Caliskan and Callon 2010: 9)

The concept of *agencement* also suggests that the action, cognition and calculation in the market are distributed among human beings and non-human elements. The individual human agent (the conventional concept of the market actor) is only one of the elements of the action, cognition and calculation (Callon 2008: 33–7; also see MacKenzie 2009: 16–9).

Although market actors are considered human-technology networks (the connected human agents and technology) rather than social connected individuals in Callon’s theory, the *agencement* approach does not necessarily conflict with Granovetter’s embeddedness. As shown in Chapter 2, even in an electronic anonymous market, the market actors are still constructed in the existing social networks. The findings of this chapter will illustrate the compatibility of these two approaches.

A number of social studies of financial markets have suggested that the market actors in financial markets are *agencements*. Computers, communicative equipment, market information, mathematical models, calculative tools, the layout of the trading

[44] Donald MacKenzie (2009: 19–25) also deliberates Callon’s concept of *agencement* and points out the double references of the term in French. This French word could refer both the meaning of ‘assemblage’ and the meaning of ‘agency’ in English.

room and even the back-office in another country are vital for market practitioners to trade in foreign currency markets, option markets, stock markets, hedge funds and arbitrage (Knorr Cetina and Bruegger 2002; MacKenzie and Millo 2003; Beunza and Stark 2004; MacKenzie and Hardie 2009; Preda 2012). If the market agents (e.g., traders) are taken off material, technical and textual devices, the arrangements are disassembled and they would be deprived of the capability of doing market action. In other words, without assemblage, they would not be able to engage in the markets, and thus they would not be market actors anymore.

A common feature of these studies is the focus on the professional market actors, that is, professional market agents. Professional agents probably are the dominant participants in most leading financial markets. Here, 'professional' means that these market agents are those individuals who are specialists in financial trading, who engage in market activities as their main paid occupation (that is, they work in the financial industry) and are usually, though not always, members of professional financial organizations. The similarities of these market actors across different financial markets seemingly have been accounted for in these studies. A typical professional market actor in financial markets would be the arrangement comprised of a professional trader, a trading room, screens, real-time market information systems and dealing mechanisms (e.g., Knorr Cetina and Bruegger 2002; Beunza and Stark 2004; Zaloom 2006; MacKenzie and Hardie 2009; Preda 2012). This model indicates a professional market participant as the market agent equipped with a list of sophisticated, specialist equipments for calculation. In other words, these market actors are arranged in professional environments. Thus, when the individual agent is replaced by a lay investor and the configurations assemble in daily-life environments, the arrangements are expected to differ in many ways. Two aspects of the configurations are investigated in this study: the diverse and bricolage models of the arrangements and the connotations of stock trading. They mark the characteristics of lay market actors.

3.1.1 Diverse and bricolage models

The variety of *agencements* of economic actors is proposed in the market sphere (Callon 2007). In particular, the configurations of the market actors 'in the wild' (that is, in non-professional environments) are assumed to be more diverse and bricolage occurs. Lay investors are less confined in an isomporphic financial organizational field and usually are unable to afford sophisticated, specialist, well-designed and often identical market devices (DiMaggio and Powell 1983; Fligstein 2001). By contrast, these characteristics are usually shared by professional market practitioners (e.g., MacKenzie and Millo 2003; MacKenzie 2005; Callon et al. 2007). Without strong organizational support, each lay investor is conjectured to use their own at-hand resources and devices to achieve the same goal as the professionals: to calculate and exchange in the market. The configurations of lay market actors are expected to be less identical and less 'professional', which is what the idea of 'bricolage' suggests here. 'Bricolage' is used as a metaphor for the diverse *agencements* of lay market actors in everyday life environments; whose metaphorical connotation in this paper is different to the use in classic Lévi-Strauss (1966) sense[45].

However, at present, social studies of contemporaneous lay investors seem to not fully support this assumption (e.g., Mayall 2006; Preda 2008; Roscoe and Howorth 2008; Roscoe 2013). For example, Roscoe's study (2013) gives a detailed description of the *agencements* of UK lay investors. According to his findings, the *agencements* are principally organized by securities service companies and therefore the models are similar: screens with online trading interfaces which are inscribed by the companies.[46] This model seems also common in the configurations of lay stock investors in Australia and the US (Mayall 2006; Preda 2008c). The convergence of these *agencements* perhaps is because, at least apparently in the US, the renascences

[45] 'Bricolage' in everyday French means to 'do-it-yourself' or 'makeshift jobs'. Originally, the notion 'bricolage' was introduced by Claude Lévi-Strauss (1966) into social sciences. This term was taken as a metaphor in his work to contrast the thought of engineers with the myth-making bricoleur. Following Lévi-Strauss, Raghu Garud and Peter Karnøe (2003) use the term to indicate the different paths of technology entrepreneurship; Ismail Erturk et al. (2013) use the metaphor to highlight the innovation of financial products by financial elites. However, Lévi-Strauss's bricolage— the contrast between experts/ scientists/ engineers and non-experts/ non-scientists/ non-engineers— is criticised by Barry Barner. Following Barner, Donald MacKenzie (2003; with Pardo-Guerra 2013) uses bricolage to describe the way that innovators use pieces of culture in new ways to perform new tasks, and to illuminate the histories of innovations in financial markets.

[46] To some extent of diversity of the *agencements* of the lay investors still remains. Roscoe (2013) indicates the lay investors would select a list of tools provided by different investment service companies. However, the models of the tools are similar in general.

of lay investors in the market was associated with the popularity of online discount brokerage companies at the end of last century (Barber and Odean 2001b).[47] The packaged and modelled online information and trading systems rendered by these companies steer the isomorphic configurations of lay investors in the market (Preda 2008; Roscoe 2013).

The identical model of the configurations of lay market actors should not be as universal and permanent phenomenon as the theory suggests. To investigate a market which has been dominated by non-professional investors for a prolonged time without interruption is conjectured to be a more proper means to examine the variety of the *agencements*. Taiwan's stock market is a case which meets this criterion.[48] Unlike many worldwide stock markets, Taiwan's stock market has been dominated by individual investors for over fifty years (see Chapter 1). Furthermore, the number of stock brokerage accounts is nearly three-quarters of Taiwan's adult population.[49] These figures suggest the prolonged popularity of stock trading in Taiwanese society. The growth in the number of lay investors should be associated with the development of approachable, affordable and adequate information and trading devices.

Market information provides the essential data (e.g., prices, trading volumes) to market agents to accomplish calculation, and the market mechanism is the necessary mediation for them to carry out exchanges. Information and trading devices are intrinsic items of any market actor's configuration. Without these two kinds of devices, an individual will not be arranged as a market agency. A specific professional space with advanced and sophisticated information and trading devices, such as a trading room with the Bloomberg information system and high-frequency trading computers, seems somewhat out of reach for the majority of lay market agents. As will be seen, lay investors trade stock in daily-life places, such as the home or workplace. The information and trading devices which are popularly adopted by lay investors must be approachable in their everyday life. Thus, a review

[47] The companies provide low fees to individual investors to trade stock through their online trading systems. With the reduction of trading cost and the prosperity of the stock markets, lay investors seemingly revived in several stock markets (see Chapter 1).
[48] The Taiwan Stock Exchange (TWSE) was ranked the 21-largest stock exchange in the world by the measurement of market capitalization (US$818 billion) in 2010 (WFE 2010 Annual Report: 74).
[49] In 2011, the amount of stock brokerage accounts is 16,175,554 (http://www.twse.com.tw), and the amount of the adult population (over 20 years old) is 21,612,675 (http://www.ris.gov.tw).

of the securities market's information and trading devices will help us to identify the crucial elements of the configurations of lay market actors.

3.1.2 Connotations of trading

The studies undertaken using with Callon's approach tend not to emphasize the market practitioners' understandings of economic actions. For Callon, 'the construction of its meaning is part of an *agencement*' (Callon 2007: 320). 'Economics' has given the meaning and principle of economic actions to market agents, and the market agents perform 'economics' in the market (Callon 1998). Indeed, Callon (1998, 2007) uses the term 'economics' in a broad sense, and in his works, the term includes a range of disciplines in commerce, such as finance, accounting and management. With regard to financial markets, the performativity of economics has been attested by MacKenzie (2006).

In a stock market, 'to trade' tends to be taken for granted by professional traders and the scholars who study them, because it is the 'job' of traders. The meaning of the action, interlocked with the 'material resource' (i.e., a large amount of manageable capital for transaction), has been inscribed in the title of the occupation. The professional traders' attitudes to their job are described in Caitlin Zaloom's study (2006). The traders define their work as to 'take risk' (make profit by taking risk) and 'enforce' themselves as 'pure economic people' to do that. In other words, to deal with the market's volatility is the core of stock trading. The professionality of the job has rendered sufficient meaning to them to trade (and deal with the risk). However, this is less the case for lay investors. Lay investors, as the phrase implies, lack neither the identity as '*homo economicus*' nor a large amount of managed capital. The meaning of stock trading for them could not be fully drawn from the professionality and economics (in a broad sense). The different handles on trade with risk, presenting in different connotations, suggest another key distinction between the *agencements* of professional and lay market actors.

Since Max Weber's study of the spirit of capitalism (2001), the religious and social meanings behind economic activities have been addressed in sociology. In the recent literature, the importance of the 'meanings' of the economic action has been

emphasized by Viviana Zelizer (1978, 2005, 2010, 2012). She argues that ordinary people need to integrate economic activities into their existing webs of meanings. Without this integration, it is less possible for the economic activity to become acceptable and popular.[50] The connotation that economic actors (human beings) give to economic activity would determine a set of the activity's 'appropriate' operations of (Zelizer 2010, 2012: 146).[51] From other perspectives, Preda's (2009) historical study of the transformation of stock investment's social connotations – that is, from a gambling activity to a science – and Harrington's (2008) examination of the links between the connotations of different industrial categories of securities, gender projection and self-expectation in securities selection in investment clubs also enlighten the essence and influence of meanings in financial markets.

Zelizer proposes that what meanings stock trading holds for lay investors is worthy of investigation. However, there is a difference between her theory and the approach of this study. In her argument, the meaning of each economic action is formed in social interactions (Zelizer 2012). In the case of Taiwan's stock market, the meaning of trading probably is not produced in social interactions, because the market is a fully anonymous, electronic market with millions of participants and the counterparty in transactions is completely unknown (see Chapter 1). Thus, the social interaction of this activity would not be the focus of this study. Instead, the analysis will underscore the shared pattern of Taiwanese lay investors' personal definitions of stock trading, particularly about the core of the activity: how to deal with risk.

3.1.3 Sources and structures

[50] Take the money transaction between two people as an example. It could be a 'gift' or a 'debt' between them. The 'meaning' of this economic transaction is relevant to the social relation between them. Are they the father and the son, the debtor and the creditor, or both? The content of the transaction and the subsequently interactions between these two people are linked to the 'meaning' and 'social relation' of the economic action. Four elements are argued by Zelizer (2012) to be found in all economic activities: social ties, economic transactions (interaction and social practices conveying goods and services), media for those transactions (such as money or favours, that represents rights to goods and services), and negotiated meanings. This approach emphasizes the importance of the connotations of economic activities for the agents and the creation of meaning that is driven by the social interactions between the economic agents.

[51] Zelizer's definition of the 'economic actor' is the socially connected human beings. The concept is not completely the same to the 'market actor' in Callon's approach. For her, the meanings of economic activity are produced in the interaction between the economic actors who are involved in the same economic transaction. Thus, she names her perspective the 'relational work' approach (Zelizer 2012).

To document the information and trading devices and meanings of trade with risk within the *agencements* of lay market actors is the aim of this study. Studies about professional economic actors in financial markets have provided helpful examples of the construction of an analytical framework, though the research scopes are not the same as this study's (Knorr-Cetina and Bruegger 2002; MacKenzie and Millo 2003; Beunza and Stark 2004; Zaloom 2006; Muniesa 2008; MacKenzie and Hardie 2009; Preda 2012). In particular, MacKenzie and Hardie's 2009 study of the *agencement* in the hedge fund industry renders a clear model. In addition, a number of social studies of non-professional stock traders in the US, Britain, Australia and China have suggested some common features of lay stock investors (Gamble 1997; Hertz 1998; Barber and Odean 2000, 2001; Mayall 2006; Roscoe and Howorth 2009). Several sociological and historical studies of Taiwan's stock market have offered useful information to this study as well (Chiang 1991; Wu 2005; Qian 2008; Peng 2009).

Interviews and documents are the main sources of the data for this study. The interviewees were recruited in 2010 and 2011, and include 28 lay stock investors, one mutual-fund investor who was ready to trade stock and nine professional practitioners. The summary of the interviewees is in Table 1.1 and 1.2. The data from this collection has its limitations as far as representation is concerned. However, the data is consistent with the information reported in other social studies of Taiwan's stock market (Wu 2005; Qian 2008). The documents include newspaper archives, *TWSE Monthly Review* (the official journal published by the TWSE) and other publications from the exchange.

Ethnographical observation is a common research method in a number of sociological and anthropological studies of economic actors in financial markets (e.g., Knorr-Cetina and Bruegger 2002; Beunza and Stark 2004; MacKenzie and Hardie 2009). However, the majority of lay investors trade stock in everyday places, such as homes, offices, or schools, and are usually occupied with other tasks at the same time. It is difficult for a researcher to make systematic participant observations in these fields. Brokerage offices perhaps are the only exception (see Chapter 5).

The analysis is presented in the following three sections: the development of information and trading devices, denotations of stock trading and configurations of lay market actors.

3.2 Development of information and trading devices

The dynamic arrangements of the lay market actors in Taiwan's stock market correspond with the development of information and trading devices. In general, there are two fundamental requirements for any agent trading stock. The first is to access the accuracy and immediate market information. The other one is to deliver the trading order into the market instantly and correctly. For these two purposes, various information and trading devices have been introduced into stock markets ever since exchanges were formed (e.g., Preda 2009a, 2009b). Technology fosters the development of these devices. When new technology is introduced into financial markets, the forms of the markets and the market devices usually, though not always, will follow suit (e.g., Zaloom 2006; Preda 2008; MacKenzie 2013). Taiwan's stock market is no exception; the transformation of the market devices there is steered by technology as well.

In this section, I review two types of market devices in Taiwan's stock market: the information devices that are or were designed to deliver 'real-time' market information to lay investors, and the order-placing devices which used by the investors. An 'external effect' of these devices is that they allow lay investors to trade stock in everyday places (whether this function has been inscribed in the devices or not) (Akrich 1992). Without these devices, lay market actors would be hard to assemble at home, office, or school. The history of Taiwan's stock market stretches over fifty years and the data of this section is mainly drawn from documents, historical books and some of the interviews. Due to the data's limitations, I cannot guarantee all of these recorded devices are or were actually widely used by lay investors though they are or were available. However, the devices discussed below, which have been introduced into the market within the past twenty years, were often mentioned by the lay investors in the interviews. Thus, at least, those 'contemporary' devices are familiar to them and probably popular in the market.

3.2.1 Broadcasting

Since the launch of the Taiwan Stock Exchange (TWSE) in 1962,[52] investors have always been kept outside the exchange. Both market information and order-placing were delivered by phone between staff of brokerage companies inside the exchange and the staff in the company offices. The failures and inconvenience of this system were often complained about by the participants[53] (*TWSE Monthly Review* 593: 17–18, 2011). In 1964, the TWSE made a contract with the Broadcasting Corporation of China (BCC). The TWSE set up a small broadcasting room inside the trading hall and BCC announcers began a daily continual radio broadcast of up-to-date market dealing information from opening trading until the market closed. The transaction data was written on a blackboard (*United Daily News*, 17 November 1964: 5). Brokerage firms representatives crowded onto the trading hall floor and shouted their orders to the exchange clerks. Usually the representatives shouted very loudly, because they were afraid that the clerks would miss their offers. An offer included the code of the share, to bid or to ask, the quantity and the price. When the exchange staff heard the orders, they would immediately write on-the-spot bid-price or ask-price on the large blackboard. Each column belonged to a specific share, while the digits on the blackboard were the trading information (*United Daily News*, 22 December 1995: 39; *TWSE Monthly Review* 593: 23–4, 2011). The representatives saw the prices on the blackboard and decided to whether or not to make the deal with their counterparts. When both agreed on the deal, they simply filled out a form and gave it to the exchange counter (Peng 2009: 54–7). In the broadcasting room, the announcers read the columns on the blackboard in order. After recitation of the whole list, they would go back starting from the first column; they started from the opening of the market at 9 a.m., and only stopped when the market closed at 3.30

[52] The original abbreviation of the Taiwan Stock Exchange Corporation was "TSEC". It had been used since the exchange opened. In 2008, the Taiwan Stock Exchange Corporation claimed the "TSEC" was the same to the abbreviations of several other stock exchanges in the world and it easily confused foreign investors. Therefore, the Taiwan Stock Exchange Corporation adopted "TWSE" as the new abbreviation. For consistency, I only use "TWSE" to refer the Taiwan Stock Exchange Corporation in this thesis.

[53] Before the introduction the broadcast in 1964, the brokerage firms hired several clerks to report the shares prices by telephone. It was inefficient and abolished after the radio broadcast launched (*United Daily News*, 22 December 1995: 39).

p.m. The up-to-the-minute market information was transmitted to audiences through a BCC radio channel; investors could listen to the radio and catch up on the on-the-spot market trading situation.

This live broadcast was the source of real-time market information for each brokerage office as well. Mrs Kuo, a senior individual investor, recalls the situation in brokerage offices in the 1960s. In the brokerage office, a blackboard was erected in the investing lobby. The brokerage clerks listened to the radio, followed the broadcast to erase the old digits, and write down the new bidding and asking share prices. This action was repeated until the broadcast finished. Brokerage offices, securities companies and investors all accessed the trading information through the radio. In other words, in practice, outside the exchange, no one could receive trading information earlier than anyone else.

After the TWSE moved to a new building in 1972, the trading hall was redesigned. The exchange abolished the noisy central trading floor system and shares were not all simultaneously traded in the central point. Different categories of shares were divided into different trading counters. The representatives offered ask or bid orders to the staff inside the appropriate counter and the staff would match the deals (Peng 2009: 99–101). However, the market dealing information was still recorded on the blackboard, which was still the focus of the trading hall. In 1974, an electronic display panel replaced the blackboard (*Economy Daily News*, 5 January 1974: 7). The exchange staff no longer had to write the share prices on the blackboard – now they just clicked on the keyboard inside their particular trading counter (*United Daily News*, 2 January 1996: 13). However, this change in the stock exchange did not immediately affect the market information display devices in the brokerage offices. The brokerage clerks still followed the radio to write the share prices on their blackboards.

3.2.2 Telephone

The representatives in the stock exchange and the clerks in the brokerage offices were connected by telephone. Each brokerage firm had clerks inside the exchange whose task was handle calls from the firm. They recorded the offers from the

headquarters and gave the orders to the representatives (Peng 2009: 100). In brokerage offices, the clerk would ring the exchange after individual investors filled in the trading order forms. Some investors were illiterate and the brokers would fill in the forms for them. However, mistakes and misunderstandings occurred sometimes and sparked off disputes between the clients and the companies. Mrs Kuo says she has witnessed several arguments in the brokerage office due to these mistakes.

At that time, individual investors could stay at home, listening to market information on the radio and placing orders by telephone. However, some individual investors preferred to go to the brokerage offices. Mrs Kuo was an example. Before the 1980s, there was a limited number of brokerage offices, and none close to her home; it was a 30-minute bus ride to the nearest brokerage office. The 'safety' of her share dealing was what she took into consideration. At that time, the brokerage offices did not have a telephone recording system, and a dishonest broker would be able to 'eat' a client's order. For example, a client might ring the broker to place a call market order of the XX share for $10 when the price was announced on the radio. Then, when the deal was done, the share price might go up to $10.50. An unethical broker might 'steal' the order and respond to the client that the deal was undone, or denied that they had even received a call from the client. In this situation, the client suffered the loss, but usually lacked enough evidence to appeal. Mrs Kuo had experienced this situation once, and after that insisted on trading in person, in the brokerage office. The fraud might happen even when the client was on the spot, but at least the client could monitor the broker's behaviour.

3.2.3 Electronic display panel in brokerage offices

Starting in 1978, the blackboard began to disappear from the brokerage offices, to be replaced by an electronic display panel. Similarly, the electronic display panel was also erected in the investing lobby (*Economy Daily News*, 18 October 1987: 12). Via the phone connection, market information on the TWSE's electronic display panel could almost immediately be transmitted to each brokerage office's electronic display panel. The transmission only took 53 seconds (*Economy Daily News*, 24

January 1978: 10). The panel in the brokerage office could display all the share prices at the same time, though the information lag behind the TWSE was nearly one minute. On the other hand, the BCC broadcast would take minutes to report a full cycle of share trading. Investors waited minutes to renew the last prices of the same share and might miss price changes between the two rounds. Lay investors became more and more likely to trade in brokerage offices due to the electronic display panels (Peng 2009).

3.2.4 Computerization

In 1983, the TWSE planned to introduce an automatic-order-matching system. However, the process of 'computerization' was not going smoothly. Technological difficulties and limited funds became the major obstacles to achieving this goal. After over a year's delay, the technical group still could not overcome the technological difficulties. The exchange was forced to modify their plans and adopted already existing 'half-computerized systems'. In 1985, the computer-assisted order-matching system, which was already in use in some other exchanges, was launched in the TWSE (Chiang 1991: 164–70). The central trading hall was gradually downsized and the space used to store computer hardware. In 1991, the trading hall was totally removed from the exchange (Peng 2009: 123).

In 1987, all listed shares had been included in the computer-assisted order-matching system. Since then, brokerage representatives have disappeared from the exchange. The brokerage office clerks could simply type trading orders into the office computers which were connected to the TWSE (*Economy Daily News*, 30 December 1986b: 7). These orders were sent from the brokerage firms to the TWSE and the TWSE's staff would match the orders according to the prices and times. When the staff were matching the orders in the computer, all data was recorded at the same time (Peng 2009: 124).

This digitalized data comprised a rich and deliverable transportable database. The TWSE was able to transmit more complete and instant market information to brokerage firms. In 1987, the information which was showed on the panels, screen, or monitors in brokerage offices included not only share prices, but also historical

market data and the data of each listed company (Chiang 1991: 170–71). Compared to the broadcast, brokerage offices could provide much more detailed and instant information through digital data transmission. With Taiwan's stock market boom at the end of the 1980s, a rapidly increasing number of individual investors crowded the brokerage offices. The 'trading crowd' became an impressive social phenomenon, a hallmark of that era of Taiwanese society (*United Daily News*, 14 September 1989b: 22). Mrs Kuo remembers crowded investing lobbies at that time: 'Some people brought their own stools to brokerage office, because all the benches were occupied instantly after the brokerage office opened the door. Many people [who came later] had to stand in the lobby.'

3.2.5 Cable television

In 1986, the closing point of the TWSE Capitalization Weighted Stock Index (TAIEX) and each share's closing price was reported on broadcast television daily (*Economy Daily News*, 30 January 1986a: 07). However, knowledge of immediate market changes is always important for stock investors and the televised information at that time was insufficient. An investor who was not in a brokerage office still had to rely on the radio to gain 'delayed' information. Real-time market information was not yet accessible outside the brokerage offices.

In 1988, this situation started to change. The TWSE collaborated with the Telecommunications Bureau on the development of the Chinese Videotex System (CVS). Through the CVS, real-time stock market information could be transmitted to investors' homes or offices via telephone line (Chiang 1991: 170–71). The brokerage offices' dominant position for being the real-time stock-market information providers was challenged. However, the CVS's high service fee impaired its popularity, but, unexpectedly, it fostered the fast-growing market of cable television starting around 1990 (*Economy Daily News*, 14 May 1990: 17).

Cable television suddenly became very popular in Taiwan, from the end of the 1980s. In fact, it was still illegal at that time, but its inexpensive service charge along with rich content attracted many households to take up this illegal service. Although the government was busy trying to 'cut' the cable lines everywhere, the result was

not obvious.[54] The cheap real-time market information was a crucial reason for many people to adopt the cable service (*United Daily News*, 22 December 1990: 6). The cable TV business operators bought real-time market information from the CVS and transmitted it to their clients' homes via the cable lines. Compared to the CVS's fee, the cable TV companies might charge only less than a third of the original price and with additional channels (*Economy Daily News*, 14 May 1990: 17).

After years of struggle, cable television became a legitimate business in 1993 (*United Daily News*, 21 September 1993: 16). The home penetration rate of cable TV in Taiwan grew rapidly. The figure was 26.5 per cent in 1992, which was on the eve of legalization, 45.7 per cent in 1993, and by 1997 had risen to 78.5 per cent (see Table 3.1). In the late 1990s, almost 80 per cent of Taiwanese households could access real-time stock information.

Before the legalization of cable TV in Taiwan, there were only three television broadcasting channels. Two were directly controlled by the government and the other was owned by the ruling party, the KMT. Cable television in Taiwan was commonly called the 'fourth channel', and the cable system allowed many new channels providers to enter the television industry (*United Daily News*, 7 August 1989a: 13). UNIQUE TV (非凡電視), formed in 1993, was the pioneer of professionally financial television channels in Taiwan. Indeed, the former company of UNIQUE TV had existed in the cable TV industry when cable was still illegal. The company focused on stock market analysis programmes. During that time, after market closing, the company would invite securities analysts to analyse that day's market trends, then videoed the analyses as tapes and sent the tapes to community cable television companies for broadcasting. UNIQUE TV was the first legal channel to provide real-time market information, without any lag, and with plentiful securities analyses programs (http://www.ustv.com.tw/). One housewife investor, Wuma, describes to me how cable television reformed her investing behaviour. When she traded stock in the early 1990s, she went to a brokerage office nearly every day. However, since she's installed cable television, she just stays at home and rarely visits the office. 'It

[54] Another possible reason allowed the illegal cable TV to exist for years. The martial law in Taiwan was removed in 1987. The government loosed strict control over the media and civil society.

wastes too much time to go to the brokerage office,' she says, 'I can use the time to do a lot of housework.'

Table 3.1: Home penetration rate of cable TV in Taiwan

Year	Penetration rate (%)
1992	26.5
1993	45.7
1994	61.9
1995	70.7
1996	75.9
1997	78.5

Source: National Communications Commission (TW)
http://www.ncc.gov.tw/chinese/files/10052/1994_15319_100520_1.pdf.

3.2.6 Telephone recording and reporting system

Twenty-five years ago, the number of brokerage offices was limited and controlled; in 1977, there were only 28. A licence to set up a new brokerage office was difficult to obtain. In 1988, the government deregulated the securities brokerage industry. Only three years later, over 300 new brokerage firms had been established. The fierce competition among them pushed them to introduce new equipment to attract clients (Peng 2009: 129–31).

The telephone recording system greatly enhances the reliability of telephone-order-placing transaction. Beginning in 1988, brokerage firms gradually set up telephone recording equipment on the phone lines in their offices (*Economy Daily News*, 29 August 1988: 23). Now, when investors called their brokers to place orders, their conversations would be recorded automatically. When the investors and brokers find themselves in dispute, both parties have the right to access the record as the evidence. The surveillance of brokers has been unnecessary for lay investors. Compared to staying in brokerage offices, staying at home has become a practical option for lay investors. To learn real-time market information by watching the stock market channel and to place trading order by ringing brokers could completely replace the 'instrumental functions' of brokerage offices.

Almost at the same time, the telephone automatic reporting system was installed in brokerage firms. An individual investor could ring the automatic answer system of the brokerage firm to find out the trading result (*Economy Daily News*, 29 August 1988: 23).[55]

3.2.7 The Internet

In 1993, the fully automatic order-matching system was introduced into the TWSE (TWSE 2002: 156–9). The upgrade of the order-matching system did not affect most investors' trading behaviours at that time, but it was the foundation of future online trading. In 1997, brokerage firms obtained permission from the TWSE to launch an online stock-trading system (*Economy Daily News*, 27 November 1997: 20).

The connection between investors and the 'market' is not 'directly' through the online stock-trading system. The trading orders are first transmitted to the brokerage firms' computers and then to the mainframe computer of the TWSE. The result would then be transmitted to brokerage firms immediately and automatically. The deal simultaneously becomes part of real-time market information and is shown on brokerage offices' monitors, television and the Internet. The whole process only takes seconds (TWSE 2002: 156–9).

The online trading and information systems also fostered the development of stock trading gadgets on mobile phone and PDAs (personal digital assistants) (*Economy Daily News*, 24 June 1999: 25). Since 1999, several PDAs designed specifically for stock investment have been launched.[56] They are commonly known as '*gupiaoji*' (股票機, 'stock gadget') by lay investors. Stock gadgets' functions include real-time market information, an order-placing mechanism and technical analysis software. People could access real-time market information and place trading orders wherever they were.

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[55] To report the trading result was an important part of brokers' work. Although the automatic answering equipment has been introduced into the industry for over twenty years, to date, many brokers still prefer to report the trading results to clients by themselves. As mentioned in Chapter 5, this behaviour is used to show their passion to service the clients.

[56] Both of Taiwanese large stock-gadget producers, the E-TEN Information Systems Co. (http://www.etencorp.com/) and the Fonestock Technology Inc. (https://www.fonestock.com/en/indexs.php), launched their first products in 1999.

By 2006, electronic trading (i.e., trading through the Internet and by mobile phone) accounted for 20 per cent of the TWSE's entire trading volume (*Economy Daily News*, 2 March 2006: C2). For up-and-coming brokerage firms, an extension into online trading service presented a great opportunity to take the market share from major companies. For example, Polaris Securities, which was the brokerage firm with the largest share in online trading service, was established in 1988. Electronic trading orders comprised 75 per cent of Polaris Securities' entire trading volume in 2007(*Economy Daily News*, 21 August 2007: C2).

The Internet also has become one of the main channels for lay investors to access real-time trading information and listed companies' data. A round of automatic order-matching of each share is executed approximately every 20 seconds in the TWSE's current system. The real-time trading result and price information is automatically and immediately disclosed on the Market Information System (http://mis.twse.com.tw/), an affiliated website of the TWSE, and also simultaneously transmitted to the organizations that have contracts with the TWSE, including all securities companies, brokerage companies and a number of news media, e.g., Yahoo.tw. These organizations broadcast the information to their customers and audience. The trading information updates nearly simultaneously with the order-matching execution and renews on all the displayed media at the same time (http://www.twse.com.tw/ch/trading/introduce/introduce.php#1). Thus, an investor is able to receive real-time trading information through the Internet.

In 2002, the TWSE set up the 'Market Observation Post System' (MOPS) website (http://mops.twse.com.tw/mops/web/index). The purpose of the website is to allow investors to freely access listed companies' public information. All listed companies are required to upload their company profile and financial reports, such as income statements, balance sheets and cash-flow statements, and to disclose the company's information immediately on the MOPS website. Data from the most recent years is available on the website as well (*TWSE Monthly Review* 596: 23, 2011).

In brief, technology and the transformation of the stock exchange's dealing system foster the development of market devices. Brokerage offices, cable television, telephone, phone gadgets and the Internet have made available and affordable

information and trading equipment for contemporary Taiwanese lay investors to organize their own configurations of stock investment (also see Image 5.14). In collaboration with social connotations of stock trading, diverse and bricolage models of lay market actors would assemble in everyday lives.

3.4 Social connotations of stock trading

Various affordable and accessible market devices have been accessible to lay people in the pro-stock-trading environment and become available items of the configurations. The connotations of stock trading, on the other hand, are more like the statements of the *agencements*, which always interacts with the market action and continues to shape and to be shaped by the action (Callon 2007).

For lay investors, the connotations of stock trading are drawn from social conventions rather than economic doctrines or professionality. From a general perspective, these connotations compose lay investors' principles and practices of handling the risk in the stock market. They 'perform' these social connotations as professional market agents perform economics. The connotations and their actions in the market are entwined together.

In the field, as noted, the two informal phrases, to 'do stock' (做股票, *zuo gupiao*) and to 'play stock' (玩股票, *wan gupiao*), were frequently used by lay investors to refer to the action of trading stock, rather than more formal phrases, such as to 'invest stock' (投資股票, *touzi gupiao*), to 'purchase-sell stock' (買賣股票, *maimai gupiao*) and to 'trade stock' (交易股票, *jiaoyi gupiao*). To 'do' (做, *zuo*) stock (股票, *gupiao*) analogizes stock trading to 'do business' (做生意, *zuo shengyi*) or to 'do a job' (做工作, *zuo gongzuo*). On the other hand, to 'play' (玩, *wan*) stock (股票, *gupiao*) in stock trading is analogous to 'playing a game' (玩遊戲, *wan youxi*; 比賽, *bisai*). The frequent interchanges of these two phrases, *zuo gupiao* and *wan gupiao*, in the lay investors' conversations imply the connotations of trading stock are drawn from the notions of 'to do business' and 'to play a game'. In their perceptions, these two notions are not conflicting but instead are interlocking. Both

sets of the connotations of ‘stock trading as a sideline business’ and ‘stock trading as a hobby’ present and represent their practice in the stock market.

3.4.1 A sideline business

In the fieldwork, ‘sideline business/side job’ (副業, *fuye*) is one of the common descriptions used by lay investors to define stock trading. The category of ‘sideline business’ infers that these investors have other main jobs while they are trading and that the earnings and losses from trading would not affect their basic livelihood (see Table 3.1). This sideline business functions as a way to increase savings or to extend investment capital for future business. Four notions are generally linked with the connotation of trading stock as conducting sideline business: to make use of spare time, to invest spare money, profit as extra income and restricted involvement. These ideas also represent many lay investors’ general principles of stock trading.

3.4.1.1 Savings and investment capital

Some Taiwanese individual investors expect stock trading act as an instrument which would help them increase savings. For example, Guang chooses stock trading as a way to save money faster. He does not expect to make big money by stock trading, but ‘the savings interest [rate in banks] is too low’, he complains. Thus, he went to ‘see [if there were] any chance [of increasing saving faster] in the stock [market]’. Mr Zhang has a similar idea: ‘[My] salary is not high. I can only rely on this [stock trading] to manage money gradually.’ Even for some college students, stock trading is also regarded as a plausible and efficient method to save money. Cong-Ying, a student investor, says:

> Presently, [I am] a student. The capital thrown [into the market] is a little, not much, [but the income from stock trading would] have some help. Really, [the purpose of trading stock] is to save up, because [I] do not need to use the money now.

Similarly, for some other lay investors, stock trading is expected to be an instrument to raise capital for future business. In Mr Yan's mind, 'success' in a person's life is determined by their property holdings. Thence, for him, to engage in property investment is his goal and stock trading is regarded as an 'interim business'. '[B]efore I enter the property market,' he says, 'it [stock trading] is an instrument to "extend" my capital.' Indeed, Mr Yan seems to be not the only person with this idea. Among the interviewees, several experienced lay investors, such as Sheng-Ji, Ms Zeng and Mrs Kuo, have successfully transferred their profits from stock trading to property investment. Purchasing property becomes the 'vessel' for 'storing' the fortune they made from the stock market.

3.4.1.2 Spare time

Either during work or in the intervals between jobs, people may have a little spare time. To trade stock, similar to having a sideline business, could be a way to make use of that time. As mentioned in Chapter 2, when Zhi-Chun changed jobs to become a flight attendant, her mother encouraged her to make use of the interim between jobs to trade stock. A-Liang, a self-employed worker, is another example. He outlines the reasons for engaging in stock trading:

> [The] main [reasons] were [that I] had a little cash and too much free time. Because of [my] job, often, [there] was too much free time and nothing [I] could do [between jobs].

Sometimes, trading stock would conflict with their main employment, particularly when the market is volatile. In this situation, lay investors tend prioritize their main employment. Ms Hong, a partner in the family enterprise, describes this dilemma:

> [Trading stock] should not affect your normal [main] job. In the time of running cases [business], you leave it. You're unable to handle [the trading]. You can't know its situation. [Sometimes], 'Wa', today [the

> market] is volatile, but you can't grasp [the change] in time, [because you are in work].

In Western stock markets, trade is usually described as a 'masculine work' both within the exchanges (e.g., Levin 2001; Zaloom 2006) and among non-professional traders (e.g., Barber and Odean 2001; Roscoe and Howorth 2008). However, this doesn't seem to be the case in Taiwan. There is no apparent gender stereotype about stock trading in the market and female investors comprised half of my interviewees without intentionally selecting them. In particular, a popular slang word, *cailanzu* (菜籃族, 'vegetable-basket group'), is used to specifically refer to 'housewife investors'. Combining the role of homemaker and lay investor probably is common in this society. For example, Wuma had not traded stock until she became a 'full-time' homemaker:

> In the past time, [we] ran a business. When running the business, [I] didn't have time to do [stock trading]. Then, the business was closed … At home, you still have to do housework and other work. [I] am not [the person] who specializes in investment. [I] just have a little money [to trade stock].

Similarly, during a period of unemployment, some people may take the opportunity to do stock trading. Shu-Ling, Wuma's daughter, started trading stock twenty years ago, when she was a college student, but after she left her previous job, a year before I interviewed her, she stayed at home and made use of her time trading stock, along with her mother. Another example is Ms Huang, who was a successful estate agent. Because of needing to care for her ill mother, she left her job and makes use of her spare time to trade stock. However, she thinks this is a temporary situation, and she says she will return to the property market in the near future.

3.4.1.3 Spare money

In the field, there are two ‘rules’ in trading stock frequently mentioned. The rules seem to be acknowledged and adhered to by many lay investors. The first rule is ‘Don’t borrow money to trade stock.’ The second is ‘Don’t live on the income from stock trading.’ The idea behind these two rules is interlinked with the connotations of stock trading as a sideline job.

During the interviews, almost all the informants underline they only use spare money or personal savings to trade stock. To deal with the risk, ‘to be trapped up in the market’ is the reason. Shares prices often go down after purchase. ‘Even if [the stocks] don’t make a profit,’ Ms Liu says, ‘[it] is totally fine [for me] to leave [them].’ This connotation helps them deal with, or mitigate the mental and financial pressures of a loss in the market. Ms Hong says:

> [It] would be dreadful to borrow [money to trade stock]. [Investors] should [be able to] afford [the loss of] playing [stock]. Therefore, [they] should not borrow. Borrowing will produce [huge] pressure. [If they lose in the market], [they] would go crazy, would lose [their] reason.

This might be the reason that some lay investors, for example, A-Liang and A-Zhen, did not go bankrupt after losing a huge amount of money in the stock market. In both cases, when they got involved in stock trading, both of them only invested their spare money (the majority of their savings) into the market, and while they were trading stock, they continued to work in their main jobs. Thus, the subsequent failures caused suffering, but did not drive them into severe financial difficulties.

3.4.1.4 Extra income

As noted above, lay investors tend to emphasize that their own or their family’s living does not rely solely on income from stock trading. For example, Mrs Kuo, a homemaker investor, explains how money is managed in her family:

> Our living cost is totally irrelevant to [the income from stock trading] … I am the housekeeper of our family. One-third of my husband’s salary

> was taken [for living expenses]. The rest [of the salary] is [saved for] some occasion which needed money.

Mrs Kuo's words correspond to the studies of mental accounting in behavioural finance (see Thaler 1999). However, as MacKenzie's study suggests (2008: 266–8), the shared social and cultural factors behind individuals' economic behaviours should be concerned. Mrs Kuo continues to talk about the philosophy behind this method of money management:

> [The money] would be spent on necessities [and it] would not be spent on unnecessary things. The ancients had an adage: 'Store grain when you are eating rice.' If you have a ladle of rice, you should not eat all of it. You must leave a half-ladle or 80 per cent. Even if [you] only leave a little, [it] is still fine. Don't finish it all.

A similar idea to this is probably shared by most lay investors. People tend to consider the profit from stock trading as 'extra' income. For example, Ms Lin is used to dividing her stock-trading income into two parts: one part is her private 'pin money' and the other is added to the family travelling fund. If she loses, she tells herself 'to stop playing [stock] for a period of time'. Similarly, Ms Hong regards the profit from stock trading as 'pin money' and any loss as 'losing money carelessly'. These analogies helps her to face the market risk and still keep calm. The idea of extra income perhaps also affects the way lay investors use their profit from stock trading. Mr Yan explains the change in his consumption style when he earned substantial profits in stock trading:

> [I] bought a car, bought name brands. I felt nothing [when buying] these items … [T]his money was spare, [which was earned] from stock investment. How could [I] feel [it] painfully when I spent? [It] was completely not painful. There was no feeling. If I had to pay with my salary, as [you] see, I am a very thrifty person, it would be impossible [for me] to spend the money.

3.4.1.5 Restricted involvement

Among the interviewees, Sheng-Ji is the only investor who quit his job and devoted himself to stock trading[57]. All the other employed individual investors continue or had continued to work in their main jobs until they retired. In Sheng-Ji's mind, *zuo gupiao* (doing stock) is the same as creating a business:

> [It is] like we are going to do [establish] a business. You have to make a plan and follow your plan through to execution. Regardless of the [changing] situation of the market, you have to follow your plan through.

Sheng-Ji thinks an advanced plan could help the investor (trader) brave the vagaries of the changeable market. To be confident in your judgement of the market, to insist on sticking to your plan, and to remain unperturbed by the market's temporary volatility are keys to success in stock trading, as they are keys to success in running a business.

However, most lay investors are different from Sheng-Ji. They worry about the volatility of the market and deliberately restrict their involvement in the market. Indeed, they are aware of the risks involved in stock trading and often caution themselves when making profits in the market. Compared to the income from other jobs, the profit gained from stock trading is relatively 'unstable' and 'unreliable'. Ou-Yang explains this kind of concern:

> [Stock trading] is really difficult to become a stable income, unless I retire … Because I have my own main job … Furthermore, I, this person, belong to the stable [prefer a stable situation] [and] tend to be conservative. In fact, [even if] my friend tells me [about a]'*mingpai*' [recommended stock], I only buy one [lot (1,000 shares)] at most.

[57] At present, Sheng-Ji still goes to the brokerage office and trades stock almost every day, but he claims he is what could be called 'semi-retired'that is, the wealth he has earned from stock trading has been invested in property. The rent from a shop front, purchased with money he earned from stock trading, is enough to cover his living expenses.

For many lay investors, it is too precarious to live only on the income from stock trading. The risky nature of this business deters them from throwing all their money and time into the stock market. Ms Hong views stock trading as a sideline business, mainly due to the risk:

> If I could anticipate [the result of] each transaction precisely [to succeed in every transaction], [I would] take [the income from stock trading] as the main income definitely. [I] wished, but [I] found it was not as easy as [I] had thought.

3.4.2 Hobby

In this field, phrases such as ‘like an entertainment ’, ‘for fun’ or ‘like playing a game’ are widely used by Taiwanese lay investors to describe their feelings when trading stock. Indeed, Australian and British lay investors seemingly share a similar feeling: they describe trading as a ‘game’ and themselves as ‘players’ (Mayall 2006; Roscoe and Howorth 2009). As the phrase ‘*wan gupiao*’ (play stock) implies, stock trading for these lay investors is like taking part in a leisure activity or joining a game. When the investors only use their spare time and money to trade stock and cover their living expenses with other incomes, it implies that the investment results would not directly affect their current living conditions and therefore they can take a relatively relaxed attitude to stock trading. It suggests the principle that lay investors deal with the market risk with a certain frame of mind. This connotation is fully compatible with the idea of stock trading as a sideline business. For lay investors, stock trading can be thought of, on the one hand, as a sideline business, and as a hobby on the other.

To separate stock trading from earning a livelihood is a prerequisite for some lay investors. For example, Mr Yang, a retired junior high school head, clearly defines the position of stock trading in his life:

> [The money used to trade stock is] spare money, [thus there is] no pressure. [Stock trading can be] considered as a pastime. [Because of playing this], [I] would not get the Alzheimer's disease … I still have other income from rent … [Even] the rent is not used up.

In this situation, the incentive to trade stock is not just to gain economic reward. As with other games, the amusement and the psychological satisfaction gained in the process may enhance the investors' motivation, and is an important reason for Mrs Kuo to trade stock:

> [The] stock market is fun for me. A kind of [game] experience … I have a kind of fulfilment … I don't take my fixed income deposits to invest [trade stock]. I certainly don't do that.

3.4.2.1 A game with learning

If stock trading can be considered as a game, then, this 'game' probably not only provides entertainment, psychological satisfaction and economic benefit, but also offers an opportunity for ordinary people to gain financial knowledge. Zhi-Chun thinks this is a benefit of trading stock: '[Stock trading] is a nice entertainment. Then [it] is a good way to kill time. Furthermore, [I can] feel the progress of [my] knowledge.'

In particular, due to its long history (compared to other financial markets in Taiwan, such as the futures market), the stock market is the most acknowledged and familiar financial market in the society. Thus, for some lay investors, the stock market is a way to increase their knowledge of finance. Mr Zhan says:

> [Stock trading] is more like [a practicable way] to earn extra income and an opportunity to learn … [To learn] how to view the market value; then, [to learn how] to access financial products. To understand [them]. To be familiar with [them]. [Otherwise I] would not know nothing [about financial markets].

3.4.2.2 Game feelings

When individual investors are trading stock, several emotions are often involved in the process. These emotions, commonly shared by lay investors, are a key element of the idea that trading stock is a game-like activity. Excitement, fulfilment and passion are words frequently used by lay investors to describe their mood while partaking in trading stock. In Callon's discussion of the market (1998, with Çalışkan 2010), the emotions of human individuals engaged in economic activities have not been included. However, in this case, emotions apparently play an important role in the configuration of a lay market actor.

3.4.2.2.1 Excitement

In the field, excitement is one of the feelings expressed when people describe themselves trading stock. This feeling is usually intense in their early experiences of trading stock. Guang describes his mood when he commenced stock trading: 'Excitement, in the time of early beginning … In that time, the feeling was a little close to the feeling of gambling and the feeling of playing [other games].'

This feeling is difficult to sustain without frequent stimulus. For example, Ms Wu also felt excited when she first started trading, but the feeling was gone after the first two months. 'Now, [I] don't have that feeling,' she says.

After the early stage, the sense of excitement is maintained by positive trading results. Wuma says: 'If [it is] making money, [I] feel excited. If [it is] not making money, [I] feel listless, have no mood.'

Ms Lin admits she feels enthusiastic only when '[the profit] continues to enter the account', and has no mood when '[the results] are constantly not good.' The sense of excitement in trading stock is analogous to that felt when gambling. Mr Zhan says:

> [The result of trading] is difficult to predict. Then, the mood of operating [trading] is similar to gambling. I am a normal person. I really appreciate the people who are not normal people. Their hearts are super strong.

The exciting feeling could decline for other reasons as well. Mr Liu felt excited in trading stock. However, he feels 'less excited' after he started to trade futures. Compared to futures, the 'game' (stock trading) is not been 'thrilling' anymore. Still, some lay investors try to refrain from getting too excited, because they are afraid their emotions will cloud their judgement and affect their performance in the market. Just like professional traders, the goal is to be a rational economic agent. '[A]fter [I] read several investment psychology books,' Yi-Hong says, 'I [am ready] to do my best to suppress that kind of feeling.'

3.4.2.2.2 Fulfilment

In the stock market, no matter how much prior information and advice an investor has received, they still must make their trading decisions themselves. Thus, their trading results suggest the degree of 'wisdom' of their judgement. As in other games, positive results always are an index to prove that the participant is an excellent player. For lay investors, to make a profit in the stock market is similar to winning a game. The fulfilment of winning is an important mental reward. Mrs Kuo, who has been mentioned above, is an example and Mr Yan is another: 'If you make money [in trading], you would feel, it seems that, I am a giant. You would feel it seems to define [who] you [are].'

3.4.2.2.3 Passion

In any game, some participants are always more enthusiastic than others. 'Passion' perhaps is the right word to describe this enthusiasm. Some lay investors admit that they have been overly preoccupied with stock trading. For example, Ms Huang admits that stock trading has dominated her life:

> [Y]our full spirit is caught up in. [The situation] is not it catches you; [the situation] is [that] yourself cannot leave [it]. Your mind would always be there.

For her, stock trading has been an exhausting activity. The market information has taken up almost all her attention, and she cannot give it up: '[I] can't sleep well. I feel [it is] not worthy.' This is the main reason that Ms Huang is going to return to the property industry in the near future.

This passion sometimes crosses the line into addiction. Rou-Zhu admits she has become a 'trading' addict:

> [T]hat is, you are addicted to … Sometimes, you would do [trading] because [you] want to … Buy, because you want to buy, even if [you] don't have a clear intuition of the [market] trend … .

The passion for stock trading often occurs in a cycle, repeatedly appearing and disappearing, in a lay investors' mind. For example, Ou-Yang feels the periodic change of her passion in trading stock:

> [I]n some period of time, [I am] passionate and buy a lot [of stocks]. [However,] in current, [I] don't have mood to buy. I am different in each period.

In general, excitement, fulfilment and passion are the emotions lay investors experience when trading stock. These feelings probably are shared by professional traders as well. However, a distinction between these two groups is that the professionals tend to suppress their feelings and seek to be a pure economic figure in the market (Zaloom 2006). By contrast, the majority of lay investors do not consciously detach themselves from these feelings (except for a few exceptions, such as Yi-Hong), because these feelings are an intrinsic element of the 'game'.

3.4.2.3 Gambling?

The money, the speculation and the feelings of excitement, fulfilment and passion reasonably cause some lay individual investors to view stock trading as analogous to gambling. Nearly half of my informants think that, at least sometimes and in some aspects, trading is like gambling. For example, Ou-Yang sometimes equates the idea of gambling with the act of trading:

> Sometimes, that feeling is like buying a lottery ticket. That feeling, honestly, is like gambling. [I trade stock] just for fun, [and expect it] can make some money. I sincerely feel [stock trading] interesting … .

On the other hand, the majority of the interviewees emphasize that trading stock is not equivalent to a casino game. A key difference is that stock trading is not a double-or-quits game. Mr Zhang says:

> '[I] think [gaming] in casinos [is only] double or quits. However, when you play stock, [if you] don't borrow money to play, use [your] own money to 'run'. In fact, [if you] only choose stable [companies'] stocks [to trade], you will not lose everything in the end.'

Dividends give lay investors the feeling of 'safety' and reduce the feeling that they are 'speculating'. Receiving dividends distinguishes stock trading from gambling. Mr He explains:

> You buy good stocks. [Even if] you are trapped up at that time, it still provides dividends every year. Thus, I don't think [trading] is the same as gambling.

3.4.2.4 Simulation game

In Taiwan, several financial websites and brokerage companies occasionally hold stock trading simulation competitions. Usually, these competitions are open to the

public and the top ranks gain monetary prizes. This kind of simulated game to some extent supports the social connotation of trading stock as playing a game. Before Mr Liu was twenty, the eligible age for an individual to open a brokerage account, he joined this kind of competition several times. Once he even came fourth place in a game, when he was a junior high school student. For Mr Liu, trading stock in the simulation games and in reality are somewhat similar. From the virtual to the real, he continues to enjoy the feeling of 'playing'.

Furthermore, many business schools in Taiwan provide stock market simulation programmes to their students. These programmes teach the students about the actual environment of Taiwan's stock market and helps them to learn and practise trading skills. Like the trading competitions, the information in the programmes is real-time market information from the TWSE, but the participants use virtual money to trade. At Yi-Hong's university, the lecturers strongly encouraged the students to take part in the simulation programmes. Some of Yi-Hong's classmates performed so well that they became famous amongst the students; to achieve good results in the programme was seen as means to gain respect from colleagues.

Another informant, Shan-Zhu, who is a securities analyst, also had a similar experience when he was in college. At that time, he was a student investor and was well-known in his department because of his outstanding performance in the stock market. Some colleagues who were also student investors often discussed trading strategies with him. This phenomenon perhaps results from the structural feature of Taiwanese society: that is, a high proportion of the adult population is involved in stock investment. Thus similarly, when a group of friends play the same game and one performs better than the others, this person is likely to earn social honour within the group.

3.4.2.5 Future career

In general, student investors tend to adopt only a game-playing attitude to trade stock. Among the interviewees, all student investors define stock trading as a contemporary hobby, but expect it to development further. For example, both Ms Wu and Cong-

Ying consider trading stock as a present-day hobby and a plausible sideline business in the future. Cong-Ying explains the reason:

> For me, presently, [stock trading] is a hobby. In the future, [it] probably will become [my] sideline job. The [average] salary in Taiwan is relatively low. If [people] do not 'trans-invest' [to use their salary to invest], it is difficult to accumulate fortune only by the salary.

Due to the game-like emotional pleasure (e.g., fulfilment) that they get from trading, some student investors are determined to enter the securities industry and become professional traders. Mr Liu has made such a decision:

> [I] consider [stock trading] as [my] pastime and the future career … I am very interested in that … Even when [I] lost money, [I] still felt … How to say … [I was] not frightened by the loss and wanted to continue.

In summary, their ideas of trading as 'a sideline business' and 'a hobby' reveal that lay investors tend to construct another mental mechanism, unlike the professionals' one, to deal with the risk factor in trading. They also suggest the meanings within the configurations of lay investors are drawn from social conventions rather than economics. Various market devices and alternative sources of meanings of trading imply the variety and bricolage of the models of *agencements* of lay market actors.

3.5 Assembling lay market actors

When lay investors define stock trading as a sideline business or a hobby, it suggests that their trading activity is woven with other activities in their lives. In other words, the *agencements* of lay market actors would assemble in different daily-life environments. The occupation of a lay investor roughly represents this person's main daily-life environment; for example, the occupation somewhat determines a person's timetable, content of work and places furnished with market devices. I roughly

divide the configurations of lay investors into four models according to the spatio-temporal characteristic of their occupations: student, employee, self-employed and brokerage-office attender. The data is mainly drawn from the interviews and collaborated with the observation of the last category. These models just suggest some popular models in Taiwan and do not encompass all configurations of lay investors. The function of the construction of these models is to underscore the characteristic of variety and bricolage of *agencements* of lay market actors.

3.5.1. Students

The TWSE's daily session lasts from 9:00 to 13:30. The trading hours clashes with students' morning classes. In order to catch the immediate changes of shares prices without interruption, Mr Liu usually carries his laptop into class. He listens to the lecture while at the same time giving some attention to his laptop screen, which is displaying real-time stock market information transmitted via the Internet. Sometimes, when market fluctuation is particularly active, he will skip class and concentrate on trading. Mr Liu probably is an extreme case. The other student investors rarely watch the real-time market information while in class. Instead, they usually make use of their lunch break to check share prices and collect general trends of that day's market. In most Taiwanese universities, no classes are held during the lunch break, and the computer laboratories are open for students to use freely. This is convenient for student investors, who want to watch the last-hour trading. The last trading hour is usually considered an important hour of the trading session, because shares prices or the general market trend sometimes dramatically change just before the market closes. For many student investors, checking the market situation at lunch time has become a habit. Furthermore, some informants, e.g., Yi-Hong, tell me they would use a little time to read the review of the day's stock market on the Internet and put the next day's limit price order into the online trading system before going to sleep.

The computer is the main market device for student investors to trade stock. They tend to use computers to read analysts' reports, collect data of listed companies, learn about the market, put trading orders, access real-time market information and

exchange opinions about the market with others. They usually don't watch the stock market television channels, read financial newspapers, or go to brokerage offices. Computers connect them with the world of stock trading. In addition, a common feature of the student investors is that they frequently visit online stock trading forums to read information and other investors' opinions of market trends. Among the many large stock trading online forums in Taiwan, the forum which is commonly visited by these student investors is the Ptt. The Ptt is the largest Bulletin Board System (BBS) in Taiwan, which is supported by the non-profit BBS student association of the National Taiwan University. While the trend of BBS usage is declining, the number of the Ptt users is growing.[58] Its 20,000 message boards cover nearly all the popular topics in Taiwan. Not surprisingly, the Stock board is one of the hottest boards. The Stock board's contents include news, listed companies information, knowledge of the stock market, analysis skills, personal opinions of market trends, shares and specific issues and individuals' trading experience (http://www.ptt.cc/bbs/Stock).

3.5.2. Employees

During the daytime, most employees are in their offices and their actions are usually supervised by company managers. Several informants told me that a number of Taiwanese companies block their office computers' Internet connection to 'distracting' websites, such as Facebook and online stock trading sites. In addition, it is also difficult for employees to use office phone lines to place trading orders, because the boss often patrols around. In this situation, employee investors tend to use their cell phones to place orders. They either call brokers or connect to online trading systems via the 3G network. In the past, before the widespread use of cell phones, Ms Zeng used to go out of the office and place orders by calling her broker on a public phone.

Reading the newspaper in the morning, watching stock television channels or browsing the Internet news at night to collect the market information is a common pattern for employee investors, e.g., Mr He, Mr Zhang and Ou-Yang. The market

[58] The Ptt has over a million registered members, above 20,000 message boards and around 150,000 visitors constantly on line in daily peak hours (http://www.ptt.cc).

hours overlap with most employer investors' working hours. It is inconvenient for them to keep up with real-time market information, though the information is important for stock trading. Some websites which provide real-time stock market information, such as Yahoo (http://tw.stock.yahoo.com/), are usually also blocked in companies' computers.[59]

3.5.3 Self-employed, family-owned business members and homemakers

It would be expected that homemaker investors are expected to have the most 'freedom' for trading stock during working hours, because their workplace is their home. They are able arrange their working schedule to some extent and are not supervised and regulated by other people during their work. Wuma's life schedule is an example of a homemaker investor's model. She is used to turning on a real-time stock market television programme when the market opens. Usually, she does housework, e.g., cooking, and watches the market simultaneously. When she thinks the share prices have hit her target prices, she will call her broker and place an order. However, sometimes she is unable to immediately respond to market changes. For example, in the middle of the market's opening hours, she will need to go shopping at the food market. After the market closes, she will continue to watch market-analysis television programmes for one to two hours.

In the past, Wuma traded stock in a brokerage office. This was very inconvenient for her, because she had to travel between the brokerage office and home and could not do housework and stock trading at the same time. The rise of cable television in the late 1990s seemed a key factor in freeing many homemaker investors like Wuma from the brokerage office. Cable television conveys inexpensive real-time trading information into the home. In addition, the telephone recording system is another supporting device for homemaker investors trading at home. The system enhances investors' confidence in placing trading orders by telephone, as it assures investors that their trading orders will not be 'eaten' by a dishonest broker. The Internet is also used by some homemaker investors to browse

[59] Although some employee investors' office computers are allowed to access these websites, e.g., Mr. Yan, they usually cannot concentrate on the information. They have to handle their work and the manager dislikes employees watching the real-time stock market in the office.

the data of listed companies and access real-time price information. However, in general, when using a computer, the person must sit at a desk. It is not as 'flexible' as watching the television, which you can do while also doing housework. Thus, homemaker investors tend to access the market information via cable television. The computer with Internet connection is a kind of 'assistant' calculative device for homemaker investors.

The trading behaviour of investors who are a partner of a family-owned business, or who are self-employed, is somewhat similar to that of homemaker investors. Many of them often do work and trade stock simultaneously. Family-owned small and medium enterprises play an important role in the Taiwanese economy.[60] The line between business and family life and the boundary between office and home are blurred, because most of the staff and shareholders are family members (see Chapter 1). Thus, people who work in their family enterprises tend to consider their workplace as a 'semi'-home.

For example, Ms Lin is a partner and the bookkeeper for her family's enterprise, a small construction company. In the office, she occasionally keeps an eye on real-time market information via the Internet and trades stock by telephone. She trades stock overtly during working hours, because she is a main shareholder of the company. This is different to many employee investors, who must be more stealthy when trading stock in the office. Ms Hong is another example. She is a member of her family's business and usually the only person who stays in the office (other members usually work in the field and sometimes she works in the field as well). Thus, she is used to switching on a real-time stock market television programme when she enters the office. When she stays in the office, she usually does the company's work principally and occasionally pays attention to the television and calls the broker to place orders.

3.5.4 Brokerage-office occupant

[60] According to the government's survey, there were over 1,200,000 SMEs that occupied nearly 78 per cent of employment in Taiwan in 2011 (SMEA 2012). The majority of the SMEs are conjectured to be small and medium-sized family businesses (Chen 1994; Sheih 1997).

The development of technology has eliminated most corporeal reasons for individual investors to trade stock in brokerage offices, as mentioned above. Real-time market information and the reliable order-placing systems are accessible and often cheaper outside the brokerage offices; thus, there must be other reasons for these people to stay in there. This issue and the configuration of lay investors there will be elucidated in Chapter 5.

3.5.5 Discussion: integration of stock trading into daily life

According to Zelizer's (1978, 2000) assertion, economic activities must be integrated into ordinary people's existing webs of meaning and solidarity; otherwise, they would hardly be popular in society. Her study of the diffusion of life insurance in North America is one of the most perfect examples. The popularity, sociality and social connotations of stock trading in Taiwan seem completely consistent with Zelizer's claim. However, the role of technology and the effect of social networks in the process should not be ignored. As shown above, the development of information and trading devices and the impacts of existing social relations are also crucial for the diffusion of stock trading in society and the integration of stock trading into people's daily life. It suggests that Zelizer's cultural approach, Granovetter's social-network approach and Callon and MacKenzie's technological approach can complement each other and all are useful to illustrate the accomplishment of the popularity of stock trading in Taiwan.

3.6 Summary

This chapter aims to examine the two characteristics of the *agencements* of lay market actors: the diverse and bricolage models and the social connotations of trade with risk. The technological and institutional transformation of the market have produced various available information and trading devices for lay investors and therefore have allowed them to trade in everyday places, though some of these were unintentionally products of the exchange, technicians, or other organizations, e.g., the illegal cable television companies. The connotations of 'trading as a sideline

business' and 'trading as a hobby' present and represent lay investors' mental mechanism and physical practices in dealing with the market risk. The sources of these connotations are drawn from social conventions rather than economics or professionality. The *agencements* of lay market actors are diverse, bricolage, non-professional and correspond with alternative connotations of trade, compared to the *agencements* of professional market actors. However, in the fiercely competitive financial markets, would the differences between the two sets of the *agencements* determine the power relation between professional and lay market agents? This is addressed in the next chapter.

Chapter 4

Asymmetric Calculative Capabilities

4.1 Introduction

The power of professional practitioners and lay investors in financial markets are conventionally believed to be asymmetric. Financial studies have provided some empirical evidence to support this idea. For example, Barber et al. (2007, 2008) have systematically examined the performances of different categories of investors in Taiwan's stock market and found professional practitioners, such as institutional investors, generally outperform lay investors. The researchers argue that the result is attributed to the psychological differences between these two groups. From a behavioural financial perspective, both professional and lay investors do not act completely rationally in the market. However, some studies (including Barber et al.'s studies) argue that lay investors' decisions, compared to professionals', are more likely to be driven by overconfidence, heuristics, framing effect, etc., and thus lay investors are more likely to make 'irrational' market actions, such as overtrading, which severely damage the investment result (Barber and Odean 2000; Allee et al. 2007; Barber et al. 2007, 2008). In other words, these studies tend to believe that the advantage of professional investors in the market results from their relatively solid economic rationality, though they claim that, in general, all market participants do not act fully rationally.

Sociologists tend to take another viewpoint to examine the relation between lay and professional investors in financial markets. In general, they believe the disadvantage of lay investors stems from the hierarchical market structure (Wu 2005; Harrington 2012a). The uneven distribution of knowledge and information between classes of market participants is conjectured to generate the hierarchy in the markets (Preda 2009b).[61] Wu's (2005) study of the informational structure of Taiwan's stock

[61] The argument that the hierarchical structure of the market produces unequal positions for market participants have been discussed in economic sociology (e.g., Podolny 1993). Preda (2009b) further examines the relation between market structures and information. He categorizes market structures

market and Harrington's (2012a) study of the power relations of US stock markets both take this perspective and gain similar conclusions. They assert the knowledge and information of the stock markets are controlled by professional practitioners, because the professionals have the advantage to access the latest market information and also have better knowledge to interpret the information. Lay investors, on the other hand, generally are excluded from the centre of information production and knowledge transmission. These studies' viewpoints are similar: information and knowledge equate to 'power' in the stock markets and lay investors are powerless due to insufficient information and knowledge.

Although behavioural finance and sociology seemingly reach different conclusions about the causes of the asymmetry, I think these two viewpoints complement rather than displace in illumination of this subject and both of them can be incorporated into Callon's (1998, 2008) theory of market actors. The concept of *agencement* is the core of Callon's theory and has been introduced in Chapter 3. In brief, from the *agencement* approach, the market actor is a socio-technical configuration with calculative capability which performs economics (in a broad sense, also including accounting, finance, etc.) in the market. The market actor is constituted of human beings and non-human entities. Thus, economic rationality, knowledge and information all are elements of *agencement* and they compose part of the market actor's calculative capability. In other words, resulting from the different configurations of *agencement*, professional practitioners are capable of performing better than lay investors in the stock market.

A contribution of the *agencement* concept is that it renders a broad scope with which to examine asymmetrical relations in financial markets; it also indicates another crucial cause which is less emphasized by behavioural finance and sociology: the difference of market devices.

'Market devices' refer to 'the material and discursive assemblages that intervene in the construction of markets' (Muniesa et al. 2007: 2). The concept includes information systems, trading tools, evaluation models and all other non-human entities which are necessary or helpful for agents to calculate and exchange in the market (Callon et al. 2007). Furthermore, Ismail Erturk and his colleagues (2013)

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into three categories: networks, groups and communities, and argues the different structures would create different mechanisms of informational flow and knowledge distribution.

point out market devices are not always neural and purpose-designed tools but instead the uses and results of the devices vary with the contexts. Particularly, market devices (e.g., financial innovations) might be used by agents in a 'dark' way (immorally).

Different classes of market agents tend to use different market devices, and the functions, qualities and costs of these devices are not the same. Thus, the *agencements* of market actors are less likely to be identical. Sometimes, the different configurations generate the asymmetry of calculative capabilities between market agencies and become a cause of the inequality in the market (Callon 2008).

For example, after automated order-matching systems were introduced into stock markets, the configurations of the markets have been substantially reformed. In these stock markets, to keep one step ahead of other participants by both accessing share prices and putting trading orders more rapidly, even within only milliseconds, would create an arbitrage opportunity (MacKenzie et al. 2012). Thus, the market practitioners have an incentive to reduce the time of data transmission between their computers and the server of the exchange. One of the feasible means to save time is to 'cut' the physical distance of the transmission by placing the company's computers as close as possible to the exchange's server. This plan has been carried out by large securities companies in the US and the fierce competition for the advantage locations has triggered soaring rents in the area around the computer server of the New York Stock Exchange (Financial Times 2010, 15 January: 18). In other words, the location itself has become a market device, which facilitates the market agents in strengthening their calculative capability; thus the agents who can afford the expensive rental rate assemble 'more powerful' *agencements* in the market.

The asymmetry of calculative capabilities between lay investors and professional practitioners is expected to be larger than the gaps among different professional agencies. Normally, professional agents are members of organizations and they represent these institutions to act in the market. Supported by these organizations, professional agents are given plenty of resources and time to perform their market activities and achieve the maximum economic results. These organizational resources could transform into advanced and specialist devices and arrange powerful market *agencements*. On the other hand, lay investors tend to be

limited to devoting their individual time and resources to the market, because they do not control organizational resources. Normally, they cannot afford the advanced, but expensive, market devices as those used by professional practitioners. Therefore, the calculative capabilities of lay investors are more likely to be inferior to professional practitioners'.

4.1.1 Asymmetry of *agencements*

Following the idea of *agencement*, Callon examines the market agents without sufficient calculative devices from another aspect: what helps them survive in the market? In a competitive market, if there is no additional support, the majority of disadvantaged agents are expected to 'rapidly sink into exclusion' or generally 'cease to exist' in the market. This idea indeed includes a set of questions: Who are the sources of support? What is the supporting equipment? How do disadvantaged market agents adopt and adapt the equipment? In Callon's works, he concisely elucidates the ideas of sources and the supporting equipment by giving examples (governments, NGOs and international organizations as the examples of the sources; policies, micro-enterprise and micro-debits development programmes, information and communication devices as the examples of the equipment) and focuses on the adoption and adaptation of the equipment. In order to illuminate the different models of the integrations, Callon proposes the concepts of prosthesis and *habilitation* as the analysis framework (Callon 2008; Caliskan and Callon 2010).

Inspired by Ingunn Moser's (2005) and Myrian Winance's (2006) works in disability, Callon cites the market agents without correct and sufficient market devices as analogous to 'disabled people' and the agents with proper equipment to the 'able-bodied'. He argues that 'disabled people' would become 'autonomous individuals' (as the able-bodied) after overcoming maladjustment. The configurations of readjustment are classified as the prosthesis model and the *habilitation* model. The concept of prostheses is used to 'describe a strategy of filling the gaps between unequal agencies' and it refers to providing disabled people with the equipment which is deliberately designed and has inscribed in it the course of actions (Callon 2008: 44–6; Caliskan and Callon 2010: 13). However, prosthesis is

not always necessarily helpful. In a disadvantageous environment, new devices such as online trading systems might provide lay people with more opportunities to lose money in the market (see below).

The alternative idea of *habilitation* is used to account for the environment that 'shapes devices, procedures, and forms of organization, aiming for the inclusion of the disabled person in an interactive diagram'. '*Habilitation*' is a French word that means 'to proffer a capacity to act to someone who lacks it'. The notion of *habilitation* is 'to put the disabled person in a position to define her own projects by constructing the *agencements* enabling her both to conceive them and accomplish them' (Callon 2008: 44; Caliskan and Callon 2010: 13). For Callon, these two concepts indicate two distinct approaches for analysing market *agencements*:

> In the prosthetic conception, individual agency is embedded in devices which define possible scenarios of action in a fairly rigid and restrictive way. In the habilitating conception, the entities involved (be they humans or non-humans) are more numerous, more diversified, more autonomous, and less disciplined, while the individual is put in a position to be able to interact with them in order to define projects. (Callon 2008: 45)

Callon's idea provides an insightful perspective to examine the devices which help lay investors overcome their disadvantages and to analyse the different integrations of the agents and the devices. In the literature, technical analysis skills (Mayall 2006; Roscoe and Howorth 2009), investment clubs (Harrington 2008, 2012a, 2012b) and online investment gadgets (Roscoe 2013) have been indicated as crucial market devices for lay investors' stock-trading activities and seemingly match up with either Callon's prosthetic or *habilitation* model.

However, the difficulties of the application of Callon's approach to the present study is that the 'utilities' of those various devices are difficult to assess and less evident; the reason perhaps also accounts for why the use of these devices is limited in some specific groups of lay investors. Particularly, the market devices which enable lay investors to calculate in the market and the devices which enable them to reach professional practitioners' level of calculative capabilities are essentially

different. Almost all the market devices which are approachable to lay investors are accessible to professional practitioners as well, but not vice versa.

It also tempting to focus on specific tools from the large pool of market devices and attribute the survival of lay investors to them. Online trading systems are an example. Almost without doubt, online trading systems are considered a crucial supporting trading device for the majority of contemporary lay investors. However, Barber and Odean's studies (2001, 2002) point out that online trading systems' convenience and low transaction fees incite lay investors to overtrade, and indeed the overall performance of online stock investors is severely damaged (worse than phone-based investors) due to the accumulative trading costs on the contrary.

In order to deal with these difficulties, I develop an alternative strategy to study the asymmetry: that is, to begin my investigation from the perspective of the professional practitioners. First, I seek the critical and exclusive devices (and resources) which bring about the general advantage of professional practitioners over lay investors in the market. Secondly, I examine the 'restraints' which universally contain the power of professional agents to some extent and thus the gap of calculative capabilities in the market are not extended between the professionals and the lay investors. Third, I examine lay investors' perceptions of the asymmetry and their responses to this market structure.

This strategy is designed to analyse the maladjustment and readjustment of lay market agents from the *agencement* approach, but also avoid the nearly impossible work of encompassing and evaluating all market devices which have been adopted by lay investors.

The data sources drawn on in this chapter are the same interviews and documents cited in Chapter 3.

4.2 Advantages of the professional practitioners

Mr Wang, a stock analyst of a large insurance company in Taiwan, lists the most important advantages of institutional investors (one type of professional practitioners) in the stock market:

> [An institutional investor controls] a large amount of capital, so it is able to build a more comprehensive [investment] portfolio … In addition, an institutional investor has more resources … [Such as] information [and] instruments, more investment instruments, more available investment instruments … data sets [and] [market] devices are more … [Furthermore, it] has more people.

In other words, the advantage of institutional investors in the market is generally attributed to the configurations of more devices, information, investment capital and personnel. The contribution of the assemblage of people (professional practitioners) within a financial institution probably stems from the synergy of the division of labour and exchange of ideas between peers. The combination of this synergy and specific market devices (e.g., office layouts) has been discussed in Beunza and Stark's (2004) work. In this section, I will focus on the first three factors: devices, information and capital.

4.2.1 Equipment

In December 2010, I went to interview Wei-Qian, an insurance company trader, in his office lobby. In the interval (of only a few minutes), I was allowed to enter the office, a trading room pertaining to the investment department. The trading room is located in the headquarters building of the insurance company. The time was during the market hours. Dozens of traders with suits were sitting in the room. Some traders were staring at their screens and some were talking to their colleagues at either side. Although the time was too short to observe the details, the first impression of the scene reminded me of the images of trading rooms described in ethnographic works in social studies of finance (e.g., Beunza and Stark 2004; MacKenzie and Hardie 2009).

In the trading room, desks are arranged in rows, with each row including several seats. Traders sit side by side. Each seat has two to three screens which are displaying real-time market information, the trading system, or some other information. A keyboard, a telephone and papers are scattered on the desk. Next to

this trading room is a meeting room, which is used as the venue for the whole department's daily morning meeting. Sometimes, some traders use this meeting room to discuss their trading strategies as well.

The trading room is a contrast to the places where most lay investors trade stock, as mentioned in Chapter 3. It is apparent that the room is a space specifically designed for trading. The information and trading systems inside the trading room are advanced and specialist market devices. However, as discussed below, these devices do not render exclusive services to professional traders. For example, the time-consumption of data transmission in Taiwan's stock market (that is, to receive real-time market information from the exchange and to place trading orders to the exchange) is the same for all investors. Professional practitioners cannot take advantage of a reduction of time consumption.

Financial models are one of professional practitioners' prominent exclusive market devices. The financial models I discuss here are not academic works in economics and finance. Academic financial models are used to account for operations of the market by economic principles. Originally, this kind of model was not designed for industrial purposes, though some of them are popularly used by practitioners in the financial industry (MacKenzie 2008). In the Taiwanese securities industry, financial models are thought of as an assistance tool to predict the share prices of listed companies. The disposition of these models is to associate share prices' volatility with various economic and industrial indices. This tool is popularly used by professional practitioners in Taiwan's stock market, particularly stock analysts.

Construction of specialist financial models requires the combination of advanced knowledge of finance and statistics, and data sets (including detailed and comprehensive industrial and economical statistics), as well as specific software and computers. In brief, the models are a product of professional works. In the fieldwork, no lay investor had told me that they had ever used financial models to analyse the market. In this context, financial models are one of professional practitioners' exclusive calculative devices, and therefore the use of financial models is a distinction between the professionals and the lay investors in market analysis. Mr Wang explains the application and the restraint of financial models in his work:

> [To build] a financial model is [to facilitate] you to understand the operation of the company further. Then, in a different scenario, how will the profit [and] operation of the company change? … For example, you predict [the company's profit] in next year … You may have some idea about the trend of the market environment … the trend of [the] economy … Through a model, you are able to … quantify [the facts] that affect the profit … The figure [the predicted profit] is outputted. [However,] does it reflect the share price [in the next year]? … [You just] conjecture the share price through the [predicted] profit. [Even if] your prediction of the profit is one hundred per cent accurate, the [prediction of] share price may be not. Because, in the end, [what determines] the share price is related to the evaluation [of the stock] from the whole market.

Indeed, Wei-Qian has a similar comment on professional stock analysts' forecast of the share prices:

> [An analyst] can know the company. He [is able to] estimate the earnings and other [company figures] in [the] next year, but can he estimate how much [is the price] that people are willing to purchase the stock?

The answer is 'no'. All financial models or other tools are unable to precisely predict the market, no matter how sophisticated the equipment. The collection of powerful calculative devices, e.g., financial models, tends to give professional market actors an advantage in the competition of the market, but not the power to 'prophesy share prices'.

4.2.2 Information

Professional practitioners tend to have the advantage in collecting market and industrial information (Wu 2005; Preda 2009b). For example, they are more likely

than lay investors to receive listed companies' updated information (e.g., Yang 2003; Wu 2005). However, in this case, this information sharing is not an outcome from advanced equipment but from social networks. In Taiwan, visiting a listed company is a common way for professional practitioners, particularly analysts and fund managers, to access that company's latest information (interviewing data). Their status as professional agents allows them to frequently visit the listed company, talk with the financial managers and investor relations (IR) personnel, and view manufacturing operations. Listed companies tend to welcome them and arrange private visits for them, because they represent large financial institutions and their decisions will substantially affect the companies' share prices.

On the other hand, individual investors rarely have this privilege. For example, Sheng-Ji, an experienced lay investor, is used to calling listed companies to ask information about their latest policies. Most companies would answer his questions as clearly as possible over the phone. However, these companies have never arranged a visit for him.

Mr Wang is used to visiting listed companies and agrees his visits are a helpful tool for collecting information:

> More or less it is still somewhat [useful]. You would know the companies better … [I]n fact, mainly when you visit a company, [it] is less possible to view the factories … Frankly speaking, for example, [even if you were allowed] to view the manufacture of the Taiwan Semiconductor (TSMC), can you catch on [anything of the production]? … [Thus, the main purpose of visiting a company] is to build *renmai* [人脈, personal network], to build a communicative channel. Then, you can update information of this company somewhat [quicker]. [The channels usually] are the Chief Financial Officer [and] the IR [Investor Relations of the company].

Indeed, among the professional practitioners, the asymmetry of social status still exists. Steven, an analyst from a securities company, points out the issue of discrimination. Some large listed companies only arrange private visits for agents

from large (influential) financial institutions. If the agent's company is not large (not influential) enough, the agent must wait until a scheduled group visit is arranged (for professional practitioners only).

Furthermore, Steven emphasizes that the information provided by the company managers is sometimes not reliable:

> For example, when we write an analysis report, we still follow the guidance provided by the company's [informant] to write … [If] generally he deceives us … The situation happens frequently that the analyst is deceived [by the company's informant]. Many times you would find later that the trend of the share prices completely differs from what the analyst writes.

In Callon's discussion of *agencement* and the asymmetrical power between the market actors, the effect of the social network is not emphasized. However, the social network's influence in individuals' economic performances has been underscored by many studies (see Granovetter's review 2005). In this case, a listed company's most recent information, which is transmitted through the personal network, is valued dependent on the informer's status in the market, and thus it an obvious advantage to be a professional practitioner. The networks somewhat strengthen professional agents' calculative capabilities. However, as Steven emphasizes, the information from this type of personal network is not always reliable; fraud and failure occur sometimes. As sophisticated market equipment, the social network is helpful but still unable to let professional investors always make profits in the stock market.

4.2.3 Investment capital

Professional investors trade organizational proprietary capitals or collective capital of clients' assets in the stock market. Essentially (or strictly speaking), the managed investment capital is not a part of market devices (the investment capital is not a component of the calculative capabilities of professional market agents). However, it

fosters the performance of the *agencements* of professional market actors in two aspects.

First, the large size of investment capital is a necessary element for constructing some trading strategies. For example, Wei-Qian, the insurance company trader, is in charge of managing an approximately US$100 million investment fund in the stock market's financial sector and a US$16.5 million investment fund in the futures market; the other five traders in his 'financial stocks' team all manage similar-sized investment funds. The size of the investment funds allows Wei-Qian to hedge (reduce risk exposure of) the equity in the portfolio by taking an opposite position in futures. He often uses this means to reduce the asset portfolio's volatility. The size of investment capital is a marked distinction between institutional investors and lay investors. Normally, hedging is not a feasible strategy for most lay investors, due to their limited amount of capital.

Secondly, the investment capitals are not these traders' own money, and it is helpful for them to insist upon economic rationality in their decision making. Like most traders in the market, Wei-Qian's salary is linked to the performance of the investment portfolio. However, he thinks the feeling is still different to trading one's own money in the market:

> You are not very afraid of losing money, so your investment [decisions] are more likely to go back to [follow] rationality … [For example,] a *sanhu* [lay investor] has [a total of] 100,000 dollars asset and takes 500,000 dollars to play [trade stock] … [That person] will have large pressures. …The money [investment capital] of institutional investors is companies' money … Because [it is] not my own money … [it] doesn't mean [I] don't care … [but I] can make decisions more rationally … I think even the most excellent professional trader can't keep the same [rational] mood when the investment capital is his own money.

This idea is consistent with the findings in behavioural finance and elucidates one of the reasons why lay investors' market decisions are more likely to be driven by psychological bias.

4.2.4 Further discussion: insider information

The 'advantageous' market devices reported in this section are all 'legal' ones. These devices tend to facilitate professional practitioners in frequently outperforming lay investors in the market, but not always. However, as underscored in Erturk et al.'s article (2013), the dark side of market devices should not be overlooked. A powerful but infamous device in stock markets should be included in this discussion: insider information.

Nowadays, insider trading is a universally illegal conduct, because the activity undermines the fairness of the market. However, it was not the case before the 1980s. Insider trading was not prohibited in many countries and to profit from it was treated as a form of compensation for managers and employees.[62] The number of countries which set insider-trading laws increased obviously from the 1980s and these laws quickly became common in stock markets worldwide (Newkirk and Robertson 1998; Kitch 2000; Bhattcharya and Daouk 2002).

Though both professional practitioners and lay investors have chances to access insider information, professional practitioners probably have more information channels and earn more profit from insider trading, due to their social connections inside the industries and large amounts of investment capital in general. For example, SAC Capital (the US$14 billion Wall Street hedge fund) was recently accused of insider trading. According to the *Financial Times*, SAC has regularly maintained 30 per cent annual returns since the 1990s and seemingly confounded efficient-market theories. The government alleged the astonishing overperformance of SAC was partially attributed to insider information (*Financial Times*, 26 July 2013).

With regard to Taiwan's stock market, almost all lay investors agree insider information is one of the most powerful market 'devices' and incidents of insider trading are often heard about in the market, though insider-trading regulations were

[62] In 1934, the US first set insider-trading regulation. The next country to do so was France in 1967, Britain followed in 1981. In 1989, the European Community Insider Trading Directive was passed, and all EU countries were required to establish insider-trading regulations. For example, Germany and Italy established the laws in 1995 and 1996 respectively (Newkirk and Robertson 1998; Bhattcharya and Daouk 2002).

set in 1988 and the first prosecution took place only a year later (Bhattacharya and Daouk 2002). The circulation of insider information by lay investors has been discussed in Chapter 2.

Similarly, the professional practitioners also think insider information is powerful and commonly used in the securities industry. For example, both Shan-Zhou and Zong-Wei (a financial adviser) consider insider information is much more useful than other analytic devices and trading strategies. Steven conjectures that insider trading remains popular inside the industry because the regulations are not strict and comprehensive enough and thus the perpetrators can easily find loopholes. However, the situation may start to change. In 2013, several fund managers were sequentially prosecuted for insider trading and some pleaded guilty (*China Times* 2013, 9 April), suggesting that the use of insider information, the most powerful market 'device', is becoming ever more risky.

Unfortunately, due to the limitation of the data, this study is unable to examine the circulation and popularity of insider information amongst professional practitioners, and therefore the possible asymmetry in this aspect between the professionals and lay investors cannot be analysed. However, it is worth exploring this issue further in future studies.

4.3 Restraints

Analysis devices, information networks and investment capital facilitate professional practitioners to occupy an advantageous position in the market. However, the advantage is restricted. Several 'restraints' confine the professionals' superior calculative capabilities to some extent and therefore the gap between professional practitioners' and lay investors' calculative capabilities remains but is not necessarily widening.

4.3.1 Market system

A reduction in the time consumption of data transmission, particularly incorporated with high-frequency trading systems, is one of the most powerful market tools for

professional practitioners in the US stock markets (*Financial Times* 2010, 15 January: 12). However, this is not the same case in Taiwan. According to the interviews with traders, brokers and analysts, professional investors have not been able to take advantage of this aspect. That is, the time consumption of data transmission between the exchange and each investor, whether professional or lay, is practically the same.

A contingent factor which produces this equilibrium is the design of the TWSE's automated order-matching system. The TWSE introduced the computer-assisted order-system in 1985 and then upgraded the system to the fully automated order-matching system in 1993. Indeed, it was one of the earliest in the world (Jain 2005; *TWSE Monthly Review* 595: 14, 2011). Due to technological restrictions at that time and in order to maintain the consistency of the trading pattern between the two systems, the exchange decided not to adopt a 'fully' continuous trading model in the new system (*TWSE Monthly Review* 595: 14–16, 2011). In the beginning, a round of each match was 90 seconds. During this 90 seconds, the matching execution did not follow time priority but price priority. In other words, within the time period, whether the order arrived at the first second or the last second, it would not affect its sequence in this round of matching. With the improvement of the computer system and the increase of trading volume, the time of order-matching has gradually been reduced until it is at the present time 20 seconds per round (*TWSE Monthly Review* 595: 14, 2011).

Under this condition, there seems no room for time arbitrage. To place an order 'physically' quicker does not gain any advantage in the market, which may be the reason that the high-frequency trading system based on the advantageous speedy data transmission, as found in Wall Street (*Financial Times* 2010, 15 January: 12), has not been introduced into Taiwan. At least, it has not been heard by any of the interviewees that any market participant in the industry has established the high-frequency trading system.[63]

In fact, to reduce the processing time of order-matching from 20 seconds to milliseconds has not been a technological problem for the exchange. Since 2010, the warrants trading in the TWSE has shifted from 20-seconds-a-match to the completely continuous trading system (a match within milliseconds). It was an experiment for

[63] In the interviews, the professionals in the securities industry have a rough idea of high-frequency trading systems, but they usually know about them through foreign financial news reports.

the exchange. 'Public reaction' about the new warrants trading system would determine the date when the exchange will introduce the completely continuous trading system into the stock market. According to news reports, it is expected to be introduced in the near future (*Economy Daily News*, 28 June 2010; Wang 2011).

4.3.2 The government's attitude

'Public reaction' is a crucial concern of the TWSE's decision making. The lay investors' opinions seem to be the main ingredient of 'public reaction'. Like many stock exchanges formed after the Second World War, the establishment of the TWSE was directed by the government and its main purpose was to promote economic development (Chiang 1991; Lavelle 2004). To date, the government is still the largest shareholder, has the right to appoint the CEO and directs the TWSE's policies, though the TWSE is in name a 'private' corporation (Peng 2009: 281–2). For Taiwanese people, the TWSE is more like a public institution rather than a private company (interview data). On the other hand, the TWSE's employees seem to consider themselves as civil servants rather than working for a private company, and 'to implement government policy' is often mentioned in the oral history of the TWSE staff (*TWSE Monthly Review* 593–7, 2011).

Another reason that the TWSE is thought to be concerned about lay investors' reactions to any new policy, such as the introduction of new trading system, is drawn from conventional political interventions in Taiwan's stock market. The huge number of stock investors in Taiwan (almost half of the adult population) has determined this group would be an influential 'class' in politics. The government seems to want to please (or at least not alienate or anger) the *sanhu* (small, lay investors). A prominent example is the conventional *hupan* policies (Hsu 1999; Deng 2001; Huang 2001; Lu 2003).[64]

[64] Hsu (1999), Deng (2001) and Huang (2001) all argue that the KMT party endeavoured to maintain their position as the ruling party after democratization, so the government intervened in the stock market and raised share prices to please individual investors. In other words, the intervention was a strategy for election mobilization for the KMT party. However, these researchers only study Taiwan in the 1990s, the early years of the democratic regime. They do not mention that the intervention policies have not changed since the party rotations in 2000 and 2008.

The terms '*hupan*' (護盤), is a very popular slang term in Taiwan's stock market. '*Hupan*' literally means 'to protect, rescue or maintain the situation'. It is used to describe the action, 'to intervene in the stock market for maintaining share prices, especially after a downturn'. This term often appears in the news and reports, and also has been used in academic financial studies (e.g., Ma, Zhan and Hu 2002). In general, the purpose for government intervention in the stock market is '*hupan*'.

The first time that the Taiwanese government intervened in the stock market was in 1965, at the time of the plunge in world sugar prices. At the same time, Taiwan's stock market crashed with the collapse of the Taiwan Sugar Corporation's share prices. The government closed the market for ten days and instructed the state-owned banks to purchase the shares until they recovered (Lu 2003: 55).

To the present day, there have been dozens of *hupan* events in the history of Taiwan's stock market.[65] One, for example, took place in October 1988. Due to the continuous falls in the market, groups of lay investors from all over Taiwan had planned to demonstrate in front of the TWSE building. The demonstration was postponed only the day before it was to be held, because the TWSE's director privately passed on a message to key members of the groups in which he promised the market will 'satisfy everybody' soon (implying that the government will *hupan* on that day) and asking that the demonstration be cancelled. The market rebounded that very day and the demonstration was called off (*United Evening News*, 22 October 1988: 3).

'Small-investor democracy' perhaps is an apt term to describe the political power of Taiwanese lay investors. It seems less possible that the government (including the TWSE) apparently favours professional practitioners in policy making or intentionally creates an institutional opportunity which would allow professional practitioners to 'overwhelm' lay investors by superior calculative capabilities. The

[65] Lu (2003: 55–64) has compiled a list of the government's main interventions (*hupan*) in Taiwan's stock market from 1965 to 2000. According to Lu's report, the Taiwanese government's interventions in the stock market can be divided into two stages. The first stage is from 1965 to 1988, and the second one from 1990 to 2000. During the first stage, Taiwan was still an authoritarian regime. The government was used to instruct banks, especially state-owned banks, and push 'big' stock investors to enter the stock market to purchase shares. During the second stage, Taiwan has been a democratic state with liberalized, privatized and deregulated financial sectors. The government changed to instruct the state-controlled funds to enter the stock market to purchase shares. The foundation of the National Financial Stabilization Fund was an important occasion. The function of this fund is to 'stabilize' Taiwan's stock market; in other words, it is a professional '*hupan*' fund.

relations between politicians and financial elites in Taiwan remain close, and as evidence, a number of political corruption scandals in securities industry have been reported, as in many other countries (Peng 2009; Harrington 2012a). However, the voice from lay investors (representing half of the total amount of votes) cannot be ignored and the government seems wary of alienating or angering them in any aspect.

4.3.3 Regulation

Compared to institutional investors, 'trading under less regulation' is an advantage of lay investors in the market, though most lay investors seem not aware of this. In general, institutional investors' market activities are under stricter regulations. Take the case of Wei-Qian, for example. As a trader for a listed insurance company, his investment portfolio cannot include the stock of this insurance company and other companies of the same conglomerate because of a conflict of interest.

In addition, he and his colleagues' trades are likely to conflict with each other's action and they always must negotiate and reach a joint agreement. In this company, six traders are in charge of financial stocks investment and each trader manages an independent portfolio. The investment of the whole company on each stock has a legal cap: 10 per cent of the overall shares. When the company holds over 5 per cent shares of a financial company's stock, the company must announce to the public every 1 per cent increase in the share value. Thus, the traders must always add up the shares of each stock of each person's portfolio for conformity to regulations and negotiate who can purchase more when all the traders have a similar positive idea about investing in a certain company.

It is impossible that they always have the same visions of shares prices of stocks. However, they belong to the same institute, and an institutional investor is forbidden to do reverse trading of the same stocks in one day. It means they must choose only 'on the buy side' or only 'on the sell side' of each stock in one day. If coincidentally some traders plan to purchase some stocks but other traders plan to sell the same stocks from their portfolios, they have to negotiate whose trades will be active on that day and whose trades will be on another day though each of them think the same date is the best timing for their transaction. Sometimes share prices change

dramatically between the two days, and thus postponing the trade will probably have hurt at least one of these traders' performances.

Furthermore, most institutional investors are not allowed to 'leave' the market completely even if the assets managers expect the market is going to decline. The proportions of cash in their assets are regulated and capped by the companies and the government. For example, the proportion of cash in assets of mutual funds is not allowed to exceed 20 per cent.[66] Shan-Zhu, a securities analyst and former fund manager, cites the 2008 stock market crash as an example:

> In [20]08, the most awkward thing which [I] encountered was that [I] had known it [the market] would fall, but you could not [had to buy]. [I] had to select the one [whose price] would decrease less from a hundred, a thousand stocks. Those stocks, [I] had known [the trades] would lose money. [I] had to buy [them]. It was very painful … just because of the contracts of the mutual funds … .

In Wei-Qian's department, conventionally, the cash proportion of the managed assets is around 10 per cent. In a market plunge, they cannot sell all the stocks, keep the cash on hand, wait for the rebound and then enter the market again. In contrast, lay investors are able to freely convert all their stocks into cash if the market plunges and reduce the damage of their asset prices' decline.

Institutional investors' actions are under more rigorous regulations and sometimes this affects their performances. This is one of the reasons that a number of the professional interviewees insisted that lay investors still have opportunities to 'compete with' institutional investors in the market.

4.3.4 Market efficiency

The inequality in professional and lay market actors' calculative capabilities in a financial market is linked to the discussion of both random walk theory and efficient-market theory. The core idea of these theories is that if the market is efficient, then

[66] The percentage is inscribed in '*Regulations on the Management of Collective Investment Trust Funds*' (http://www.selaw.com.tw/Scripts/newsdetail.asp?no=G0060910).

securities prices should always fully reflect all available information and that therefore price movements can only be caused by new information which makes the price changing unpredictably or randomly (Fama 1965, 1970).[67] In other words, any analysis skill or any analysis tool should not enable market participants to continuously defeat others in a stock market. Thus, if the professionals own obviously superior calculative capability, no matter due to calculative devices, knowledge, or information, does it suggest that the market does not work efficiently and the professionals could always overwhelm the lay investors and that the latter would drift out of the market?

An interesting contest held by the *Wall Street Journal* perhaps provides a useful clue about the evaluation of professional practitioner's calculative capability. To slightly test the efficient-market hypothesis, the journal held a game to compare the performances of a small number of stocks selected by the professionals and a similar number of stocks selected by randomly throwing darts. From 1990 to 2002, the professionals defeated the darts 87 times in 142 contests. In 1999, the newspaper's readers had also been invited into the game. Overall, the professionals outperformed the readers as well (Jasen 2002). Obviously, the game is not a robust academic research study. In the academy, the overperformance of a number of 'hot-hand' mutual fund managers is somewhat evident, but the 'reasons' for their superior performance are still under debate (e.g., Carhart 1997; Wermers 2000; Malkiel 2003).

The result is somewhat consistent to the argument of this study. Professional market actors tend to posses superior calculative capability in the market, but the advantage is not 'strong' enough to allow them to 'win' (outperform) every time in the market. In other words, the market remains 'efficient' to some extent. Wei-Qian's comment on his job elucidates a professional practitioner's idea of the 'efficiency' of the market:

> [T]he characteristic of [stock] investment is that it is very hard in the first year when you enter [this job]. After you have done [trading] for ten

[67] Indeed, the debate about the existence of the efficient-market hypothesis in the market still continues in academy. Particularly, the attack from behavioural fiancé is very fierce (e.g., Shiller 2003; Malkiel 2003).

> years, [the work] is still as hard as your first year … [You would get] more experience if you have done [it] for a longer time, but it does not ensure that you, the experienced [person], would earn more than the less experienced person … So the thing [performance] is very unsecured [the experience is no guarantee of the performance]. Today, you do well, do smoothly. What you do is completely correct. [However,] the same strategies may not work in the next year … Because share prices are share prices, stock analyses are stock analyses.

The market is still somewhat efficient and fair. All market participants are destined to face market uncertainty, and professional investors' decisions and strategies are not always 'right'. This is another restraint of the calculative capabilities which is underscored by professional practitioners.

4.4 Lay investor's perceptions and responses

Rational individuals will not enter a stock market when they expect they almost surely will lose money. If the inequality of professional actors' and lay actors' calculative capability is so overt, why are so many lay people willing to engage in stock trading rather than investing mutual funds (the funds managed by professional practitioners)? Lay investors' perceptions of the institutional investors' advantage in the stock market perhaps give us a clue. These perceptions are not necessarily fully consistent with theories and findings of academic studies or professional practitioners' understandings, but the perceptions must render lay investors somewhat confident in the market competition and facilitate them in developing useful strategies to respond to the advantage of institutional investors. Otherwise, they would not have thought of entering the market (because it seems impossible to compete with professional investors) or would have left the market already (because their strategies were not at all workable).

4.4.1 Perceptions of the advantage

In general, lay investors do not consider professional practitioners to have superior trading skills in the market. For example, Sheng-Ji asserts this argument by his observation of professional practitioners' trading in the market:

> Institutional investors are not always right. Sometimes, [they] sell [stocks] at the lowest points [lowest prices] and buy [stocks] after [the prices] have grown a lot.

In Taiwan's stock market, the daily statistic report announces the sum of each stock's trading volume. The report discloses the changes of shareholdings of the three categories of institutional investors: dealers, securities investment trust companies, and foreign investors. The data does not reveal the sum of the shares of each stock held by each institutional investor. However, the data seems enough for many lay investors to interpret institutional investors' trading strategies and to evaluate the overall performance of this group. In many lay investors' perception (though it does **not** mean their perception is correct), the calculative capabilities of institutional investors don't seem to be outstanding. Professional market actors' sophisticated devices and professional financial knowledge are not considered by lay investors as super-powerful weapons in the market competition. For example, Ms Zeng is inclined to suspect the expertise of professional practitioners:

> Their expertise is financial expertise. All [these] experts do not conform to the expert in the stock market. I think there are doctors of science, engineering and medicine, [but] there is no doctor of stocks. I really think so.

Her suspicion also suggests that many lay investors are somewhat confident about their trading decisions. At least, they tend to consider their capability for market analysis is not inferior, even if not superior, to professional practitioners' analyses. Sheng-Ji elucidates the 'reason' for his confidence in his securities analysis:

> [If] it [the institutional investor] employs ten [analysts] … [there are] 2000 stocks [in the market] [and] he [an analyst] has to study 100 stocks. [Would my understanding of the stocks] be inferior to his [the analyst's] if [I] only [study] one [or] two stocks? Is it reasonable? Even I am not as clever as him [the analyst], [but] I only study one [or] two stocks. Who will win? Even [if] I am not as clever as him.

On the other hand, most lay investors still concede that institutional investors occupy an advantageous position in the market. They argue the advantage does not stem from professional practitioners' calculative capability (most lay investors seemingly deny it), but from their investment capital. Most lay investors agree that their huge amounts of investment capital are the institutional investors' key advantage. 'The stock market is still where who has more bullets [capital]', Ms Qiu says, '[will easily] be the winner.' In this situation, 'we can't play better than it [institutional investors]', Ms Huang says, 'its capital is [huge] enough.' Particularly, the prices of many small-cap (small-market-capitalization) stocks are easily affected by institutional investors' trades. Ms Hong says:

> Because they [institutional investors] have more [investment] capital, [the institutional investor] may be able to make [the share price] up and make it down. It is powerful [for] this [reason]. The 'powerful' doesn't mean it is really [any] good in analysis.

Mr Yang suggests another benefit of institutional investors' large investment capital:

> Usually [unfavourable] political factors would [impact institutional investors] as well [as individual investors]. However, their [institutional investors'] capital is abundant and [the money] can be placed in [the 'trapped' stocks] for a long time … until releases of favourable news.

4.4.2 Strategies

In lay investors' eyes, huge investment capital is the main advantage of institutional investors rather than their calculative capabilities. In contrast, they believe themselves to be modest participants in the market, because the amounts of their capital are too small to affect the market trend. In order to survive in this 'unfavourable' market structure (from the individual investors' perspective), the adoption of proper trading strategies seems key. Mr Zhan says:

> I think the interesting part of [trading] stock is that *sanhu* [lay/individual investors] have *sanhu*'s strategy and *dahu* [big players][68] have *dahu*'s strategy. What you [*sanhu* need to] do is to grasp the best timing.

The best 'timing' for lay investors is to precisely catch the rising 'trend' in the market. They tend to 'sit on' the 'trend' and take a little benefit from it. Mr Yan says:

> [We] just [want] to share a small cup of soup [a piece of the action]. [We] only follow the trend to act [trade]. [Lay investors] have to understand. Don't think [misunderstand] yourself are very excellent. Don't think [you] can act [trade] against the trend. [We] only can say when the wave is coming you are going to surf a section on the way.

To make a profit by surfing on the 'trend' is not a rare strategy. The momentum effect (the tendency that rising share prices remain rising and falling prices keep falling) has been attested in finance (e.g., Jegadeesh and Titman 2001). The similar strategies are popularly used by UK and Australian lay stock investors (Mayall 2006; Roscoe and Howorth 2009). However, from the Taiwanese lay investors' perspective, the 'trend' is highly connected to big players' actions in the market. The rising 'trend' is created by 'money' and institutional investors' trading is one of the main

[68] *Dahu* originally denotes the 'powerful' individual investors who have large amounts of money (see Chapter 2). However, with the growth of institutional investors in the TWSE, the connotation of *dahu* includes also institutional investors in some contexts, because both types of *dahu* control large amounts of investment capital.

sources producing the trend. Thus, to trace institutional investors' trades has been a common trading strategy for lay investors.

'We follow others [institutional investors] to purchase,' Wuma says. '[The strategy is to] ride on others' [big players'] sedan chair.' Mr Liu has a similar comment. Many analogies are used by lay investors to describe their relationship with the institutional investors. '[We] are somewhat similar to the small fish alongside the whales,' Guang says, '[we] eat their leftovers.'

To follow institutional investors' trades and take a piece of their action is what many lay investors expect. '[I] am satisfied with just picking the crumbs on the side to eat,' Zhi-Chun says. In particular, they regularly remind themselves to be humble and not to be greedy. They are like a person sitting on a walking 'giant's shoulder, taking advantage of his quick progress, but in danger of being injured if the giant makes an unpredictable move. Therefore, they shouldn't sit on the giant's shoulder for too long. Rou-Zhu says:

> '[*S]anhu* … have to ride on the right vehicle which is moving before the wind. Otherwise, [they] would *taolao* [be trapped up in the market] … When foreign institutional investors [start] to dump [sell shares], you start to be trapped … [If] you don't take the profit [right away] … don't flee, when others [institutional investors] start to sell, you are trapped up.

4.4.3 Reasons to trade

If lay investors agree institutional investors occupy an advantageous position in the market, why do they not invest mutual funds (a type of institutional investors) rather than trade by themselves? In finance, a number of efficient-market theorists have argued that passively managed index funds should be the best investment vehicles for individual investors (e.g., Malkiel 2003). On the other hand, some financial studies of market anomalies have suggested overperformance of some 'hot-hand' actively-managed mutual funds[69] (e.g., Carhart 1997; Wermers 2000). However, in the interviews, most lay investors are less interested in putting money into either

[69] From the interviewed lay investors' perspective, credits is not given to the managers' outstanding trading skills, but to the advantage of the huge amounts of funds.

actively managed stock mutual funds or passively managed stock index funds, though most of them think they are in a relatively disadvantageous position in the market.

Actively managed stock mutual funds are commonly abbreviated to '*gupaio jijin*' (股票基金; stock funds) or '*jijin*' (基金; funds). The first four actively managed stock mutual funds were launched in 1986 (Peng 2009: 127–8). On the other hand, passively managed stock index funds do not have a long history is in Taiwan, and many of them are exchange-traded funds (ETF) as well. In 2003, the first index fund (also the first ETF), 'Taiwan Top 50 Fund' (usually called '台灣 50; Taiwan 50'), was listed in the Taiwan Stock Exchange (http://www.p-shares.com/page2.htm). To the present day, the 'Taiwan 50' is the most well-known index fund in Taiwan. In January 2013, there were a total of 172 domestic actively managed stock mutual funds and 16 domestic passively managed stock index funds in Taiwan (http://www.sitca.org.tw).

High cost, slow return and the feeling of insecurity are the three main factors that impede the popularity of actively managed mutual stock funds. In Taiwan's stock market, trading costs are not high. Brokerage firms charge individual investors normally 0.07–0.1425 per cent of the value per trade and 0.1425 per cent is the maximum cap. In contrast, the cost is much higher in investing actively managed stock mutual funds. The purchase fees are normally 0.4–1.5 per cent of the value. Furthermore, the fund companies would charge approximately 1.5 per cent of the value as the annual management fees. In summary, the fees that mutual fund companies charge are normally several to ten times the cost of stock trading fees. Thus, the funds are not attractive to many lay investors. For example, Guang thinks trading stock is a more 'economic' means to invest:

> Funds … [The] administrative fee is [an additional cost] … It [the value] is possible to drop as well. Indeed, its investing objects [the stocks] are similar to your [portfolio]. [You should] invest by yourself rather than you give [money] to him [the fund manager] to invest … [I] don't say [the investment] controlled by myself [traded by myself] would be

> [surely] better. [I] just say [the fund] charges [you] an additional cost but it doesn't guarantee you a profit.

The slow return on stock funds is another concern. 'I feel [the values of] funds [grow] very slowly,' Rou-Zhu says. A diverse portfolio of stock funds could reduce risk but also reduces the potential return of investment. This is a reason Sheng-Ji declines to invest mutual funds:

> I just concentrate 'firepower' [money]. [The portfolio which is] too diverse can't make money. [An investor] should concentrate firepower on one to two [stocks]. Eggs [should] be put in one basket. However, you have to watch out. Don't let it fall down.

Emotional insecurity is the other factor. Lay investors tend to feel secure when they can 'fully control' trading. 'Fully control' means that they can decide the amount of capital and the objects (stocks) in each transaction. In particular, few individual investors have direct personal relations with the fund manager. For some individual investors, the manager is just an 'unknown stranger'. Cong-Ying says: '[The speed] of earning is too slow [mutual funds]. In addition, [I] don't feel secure giv[ing] money to a stranger to invest.'

Furthermore, the incomplete transparency also hinders some individual investors' trust of the stock funds. The portfolio of mutual funds are only fully disclosed in seasonal or annual reports. Mrs Kuo dislikes this feature of mutual funds:

> Because, funds, we don't know them. They, funds, [invented] by the American, are not good. Funds are always packages. The fund packs it, and packs that, and packs that … We don't know what are really purchased inside [the fund].

For the same reasons, some interviewees do not choose index funds as their investment vehicles. For example, Mr Liu is not interested in index funds, because 'the volatility is too small … the movement [growth] is too slow.' Similarly, Yi-

Hong, one of a few informants who ever invested in the 'Taiwan 50', has already shifted the capital back to stock investment. 'I think it [the growth] was a little slow,' he says, 'although its risk was really lower.'

Furthermore, insufficient knowledge of the concept and how the products probably is another crucial reason which hinders the popularity of index funds among lay investors. Compared to trading stock, to which lay investors are accustomed, investing index funds is a brand-new idea for most of them. The majority of the informants hesitate to invest in this kind of product due to that. '[I] don't know [it],' Zhi-Chun says, 'so [I] don't buy [it].'

4.5 Summary

Based on the *agencement* approach, this chapter aims to investigate the asymmetry of professional practitioners' and lay investors' calculative capabilities in the market. Advanced and specialist equipment, the latest information of listed companies transmitted through social connections and a large amount of managed capital strengthen professional practitioners' calculative capabilities and facilitate them in occupying an advantageous position in the market. However, their superior calculative power is restrained by the market system, the government's attitude, regulations and the market's efficiency. Thus, the gap between professional practitioners' and lay investors' calculative capabilities remains but does not expand any further. In lay investors' perceptions, the advantage of professional practitioners in the market is mainly drawn from the large amounts of investment capital available to them rather than superior analysis skills, which enable them to influence shares prices to some extent. Following this belief, a strategy popularly taken by lay investors is to 'track' professional practitioners' trades and follow the rising trend created by their trading. Though lay investors consider they are in an inferior position in the market, they are less interested in investing actively managed stock mutual funds (managed by professional practitioners) due to their high cost, slow return and emotional insecurity, and passively-managed indexes funds due to insufficient knowledge about them and slow return. Market devices are always in progress with technological development and rooted in psychical places. The shift in

the social meanings of financial places is somewhat associated with market technology. The socio-technical dynamics of brokerage offices, which are the most important financial places for lay investors, will be investigated in the next chapter.

Chapter 5

Brokerage Offices

5.1 Introduction

In Taiwan and China, where individual investors dominate the stock markets (see Chapter 1), brokerage offices are the key places designed for lay investors to trade stock. Symbolically, brokerage offices work as a node connecting 'virtual' financial markets and lay people's daily lives. Practically, they provide an exclusive and specialist financial space for lay investors. In some ways, they are arguably one of the most important financial market places.

Financial market activities are rooted in physical space and social context, whether in exchanges or securities companies. A number of anthropological and sociological studies focusing on trading floors and trading rooms have provided rich information regarding professional agents' understandings of finance, market actions, social norms and personal relations, which comprise parts of financial market activities (e.g., Baker 1984; Abolafia 1996; Knorr Cetina and Bruegger 2002; Preda 2012). Financial market activities are conducted by 'market actors', that is, the configuration of human beings and equipment, and the market actors are embodied in space and shaped by that space. Through ethnographic observation, the crucial links between financial practitioners, technological facilities and layouts of trading rooms have been recorded and reported in social studies of finance (e.g., Beunza and Stark 2004; Zaloom 2006; MacKenzie 2009: 10–12; MacKenzie and Hardie 2009).

Compared to the number of studies of trading floors and trading rooms (the professional practitioners' market spaces), as seen above, brokerage offices have received limited attention in social science. Gamble's (1997) and Hertz's (1998) ethnographies of the Shanghai Stock Market are two exceptions. Though the structural characteristics of China's stock markets are the focus of both studies, they record first-hand information of Shanghai's brokerage offices in the early 1990s. For the researchers, the crowded brokerage offices (full of lay investors) represent the unique stock market culture of China. Both Gamble's (1997) and Hertz's (1998)

reports provide plenty of data about how Chinese brokerage offices operated over twenty years ago and help us analyse the socio-technical changes of the markets.

Brokerage offices are one of the best fields to study the interplay between lay investors, market devices, activities and space in financial markets.[70] The reason for this is not only because brokerage offices are practically open to the public and thus it is feasible to make ethnographic observations there, but also because the offices' characteristic as a 'semi-public' space make these places a particular socio-technical constellation with blurred boundaries between social/financial spheres, a situation which is rarely observed in other financial spaces.

The intention of this study was to examine the blurred social/financial boundaries and the repeated shifts between social and market activities in contemporary Taiwanese and Chinese brokerage offices, and to discuss the connections between these phenomena and the dynamic configurations of market participants, devices and space. This study argues that the socio-technical configurations 'inside' brokerage offices are associated with the technological development of market devices 'outside' these places. In the past, the brokerage offices were the places exclusively equipped with superior information and order-placing systems, and almost all classes of lay investors were used to trading there. To date, the transmission of real-time market information and trading orders are no longer tied to brokerage offices. The lay investors who tend to trade in brokerage offices have been a specific social group. Blurred social/financial boundaries and repeated shifts between social/market activities have become a highlighted characteristic of brokerage offices.

The data mainly was drawn from observations and interviews (see below). An additional contribution of this study is to provide ethnographic data of contemporary Taiwanese and Chinese brokerage offices, including first-hand recordings of on-the-spot lay investors' market actions and social interactions, and brokers' work. To my knowledge, this is the first ethnographic study of Taiwanese brokerage offices and the most recent ethnographic work of Chinese brokerage offices within the past ten years.

[70] In addition, some social studies of lay investors with ethnographic observations have been conducted in investor clubs (Harrington 2008) and investor exhibitions (Roscoe 2013).

The structure of this chapter is as follows. The rest of this first section will summarize the concept of boundaries in social studies of finance, the Shanghai and Taiwanese brokerage offices of twenty years ago, and the fieldwork. The second section will then introduce the layouts, devices and facilities of contemporary brokerage offices. The following two sections will focus on the main actors in brokerage offices – brokers and lay investors – and analyse their work, activities, interactions and properties. The shifts and boundaries between social and market activities in this space will then be discussed in Section 5.

5.1.1 Social/financial boundaries

Is there any distinct boundary set between financial and social spheres? From a broader perspective, boundaries are often set and designed to segregate financial and social activities. For example, the boundaries between the stock exchanges and the outside world of society are though of as a means used by groups of professional financial practitioners to maintain the exclusivity of the market trading, according to Preda's (2009a) work. These boundaries occur in various aspects: geographical boundary – buildings whose purpose is exclusively for market exchanges; network boundary – closure status groups of exchange members; knowledge boundary – financial profession; information boundary – market information accessibility. Due to these boundaries, lay people are prevented by professional practitioners to directly access the markets to do deals. To engage in stock trading in the US in the early twentieth century, lay investors had to rely on both information mediators, such as tickers in brokerage offices, and human mediators, such as brokers (Preda 2009a). In other words, boundaries facilitate professional practitioners in strengthening their domination of the financial sphere.

Furthermore, the boundary between the economic space and the social space tends to be consistent with professional financial agents' mental separations between economic and social actions. In order to maintain their professionality, boundaries are often used by traders to exclude social activities (social life) from financial activities, e.g., trading (their jobs), through denoting each space. The strategic set

includes defining market space, setting boundaries and separating economic and social activities.

In Zaloom's (2006) study, she finds traders tend to define trading rooms or trading floors as a 'pure economic' space for market actions only. When traders enter this 'economic' space, their perspective demands that they transform themselves into 'economic men' or 'market animals', which means to devote themselves to maximizing profits in market transactions. Social interactions, social activities and personal relations among themselves would be suspended until they leave this 'economic' space. In their minds, the 'social' belongs to the outside world and should not be 'brought' there. The lines are clear. In this financial arena, they would fight each other in order to get the best prices, and social attachments might cause them to fail in the market.

Compared to professional traders, lay investors perhaps have another connotation of social/economic boundaries in brokerage offices, because they are not expected to act in the market with an idea of maintaining financial professionality. To observe lay investors' market and social actions in brokerage offices and to understand their definitions of the space would help us to give more detail to the concept of social/financial boundaries in this area.

5.1.2 Trading crowds in the twentieth century

In 1992, Hertz went to China and witnessed the early days of the Shanghai stock market. She was impressed by the groupings of individual stock investors there and applied the term 'trading crowd' to describe them. According to her, this 'crowd' mainly consisted of two categories of individual investors: *sanhu* (small players) and *dahu* (big players). The brokerage office lobbies are the main places where *sanhu* gather:

> Long lines of people waiting to buy and sell stocks spilled into the streets outside the many stockbroking offices scattered throughout the city … large crowds straining to catch a glimpse of computer screens in the brokerage lobbies, smaller crowds gathered in circles discussing the

> market's activities, and other even smaller groupings engaging in various forms of deal-market. (Hertz 1998: 71).

Gamble (1997) provides other ethnographic data about individual investors and *chao gupaio* (stock investment) in the 1990s Shanghai stock market. In his article, he gives a detailed description of the Shanghai brokerage office lobbies at that time:

> The crowded ground floor of each securities trading centre was where 'small hu' chao gupiao, unheated in the freezing winter, stifling in the hot, humid summers. The latest share prices were displayed on a large black electronic screen, the audience peering anxiously at the constantly changing red figures, making careful notes and computations. Shares were bought and sold over a counter. These places had all the noise, bustle and excitement (*re'nao*) of more traditional markets. (1997: 190).

Indeed, in 1980s Taiwan, a similar scene was to be witnessed in brokerage office lobbies. A contemporaneous Taiwanese newspaper reported:

> 'Share people' who come early can occupy seats. The latecomers have to stand up. Some carry their own chairs into the lobby. Some look at the screen through telescopes. Share people's facial expressions change with the figures on the market screen. When stocks hit the upper limit, they cheer and clap. Their happiness express apparently. Some concentrate on recording each market movement on their notebooks. Some use calculators with pout. (*United Daily News*, 14 September 1989b: 22)

In addition to lobbies, VIP rooms are another important space in brokerage offices where individual investors would gather. As the word 'VIP' indicates, this place was/is for *dahu* (big players). *Dahu* can 'watch market movements on computer terminals directly linked with the Exchange' and 'place their buy and sell orders directly with brokers assigned to the room' (Hertz 1998: 136). Gamble also described a typical VIP room having 'comfortable seating, air conditioning, individual

computer terminals loaded with systems to analyze and trace share movements, and a receptionist who used a "hot line" to phone direct to the SSE [Shanghai Stock Exchange] to buy and sell shares for members' (1997: 191).

In Taiwan, VIP rooms became popular towards the end of the 1980s. Originally, the provision of these rooms was a marketing promotion used by newly established brokerage companies to attract the clients with high trading volumes. VIP rooms were not always 'uncrowded' places. A VIP room with a reputation for great *fengshui* might attract dozens of *dahu* to sit in a tiny space (*Economy Daily News* 1988, 28 November: 9).

Why do Shanghai lay investors prefer to trade stock in brokerage offices rather than choosing alternative trading systems? Hertz does not directly discuss this issue in her book. However, she views in parallel crowded brokerage offices with other cases of lay investors' groupings, such as crowd clusters and informal groups (1998: 155–62). Following the theme of her study, cultural factors seem to be answer to this question. The Chinese characteristics, which stem from China's specific history, seem to be the best explanation. Hertz thinks that egalitarian ideology which grew from social and political movements in Communist China fosters the fever for stock trading. Furthermore, *guanxi*, which means 'relation' or 'connection' between people, is an important component of traditional Chinese society, and is a main channel for the flow of information (Hertz 1998). Following Hertz's thinking, the combination of these cultural factors is distinctly related to the phenomenon of the 'trading crowd'.

Gamble's idea is similar to Hertz's, but he thinks this phenomenon is mainly a result of the market's characteristics. He explicitly claims that Chinese characteristics are the main reason why individual investors are willing to crowd into brokerage offices (1997: 188–9). According to Gamble, China's stock market is a highly 'emotional' market. *Shiqi* (energy of market) and *renqi* (popularity) of the stock market are the two main components. To feel the market 'buzz', which is created by the participants, is very important for stock investors. Attending the brokerage offices and catching the 'talk of the masses' is vital for stock trading in China. A news report in 1980s Taiwan also stated a similar idea: that to collect information and to feel *renqi* in the stock market were the main reasons why individual investors

were willing to visit crowded brokerage offices on a daily basis (*Economy Daily News* 1988, 20 July: 9).

However, do Taiwanese and Chinese brokerage offices retain the same picture after the introduction of new communicative technology in recent years? (See Chapter 3 and Appendix 5.1.)? Technology has been noted as a key factor in the transformation of the financial markets' structures (e.g., Knorr Cetina and Preda 2007; MacKenzie and Pardo-Guerra 2013). To compare the contemporary 'trading crowds' in Taiwanese and Chinese brokerage offices with the depictions in the earlier literature would help us to understand the impact of technological development in Taiwan's and China's stock markets.

5.1.3 Entering the field

The X branch is the place where I did most of my observation work. The reason I chose the X branch as my main field was simple. I am a client of this brokerage office and am acquainted with some of the employees there. It seemed easier to explain why I was concentrating on writing notes in the brokerage lobby, if someone questioned my behaviour.

This branch is a major branch of a total of 49 branches of the S brokerage firm. The S brokerage firm and the bank I worked for both belong to the S holding. There is a close business relationship between the X branch and the bank branch where I was. Therefore, I knew two brokers and a manager of the X branch and I opened my stock account there.

Afterwards, I found out there are several advantages to make my detailed observations in the X branch. First, I was able to collect data about the activities in this place from both observations and interviews. The interviews with the broker and manager enriched my knowledge of the lay investors who are accustomed to spending time there and the social relations among them. Another advantage is that I could use the X branch as a model to compare with other brokerage offices. It helped refine my awareness of the subtle but substantial differences between each brokerage office.

When I informed my broker and the manager that I would sit in the investing lobby to make some observations, they immediately told me that this is not a problem and I could stay there as long as I needed. In their words, brokerage office lobbies are a kind of public space and almost everyone is welcome to visit. Normally, people are allowed to stay there during market hours, even if the person is not a client of the brokerage firm. They are not required to produce an identity or membership card, or any other document in order to come through the office door. This is consistent with my understanding of a brokerage lobby; that is, it is a quasi-public space.

Although I am a client of the X branch, I had never been to their offices before beginning my observations. The first time I entered the offices, my first impression was how small was the investment lobby. After several days' observations, I found the total number of lay investors there averaged around 15, and did not reach 20 during my fieldwork. As well as the X branch, I also visited other three brokerage offices in Taiwan (two in Taipei and one in Tainan, a city in southern Taiwan) and two in China (one in Shanghai and one in Hangzhou, a city 200 km south-east of Shanghai). Indeed, in another brokerage office in Taipei, I was also surprised by the narrow space of the investment lobby. The lobby size of the third brokerage office I visited in Taipei was a little larger, but like the other lobbies in Taipei, only several people were in attendance.

Mrs Kuo, a lay investor in Taipei, told me that only 'three, four, to five' people usually sit in the investing lobby of her brokerage office and she is one of them. Presently, the most crowded brokerage office in Taipei of which she knows is a major branch of a brokerage firm close to her home. Most of the time, there are around fifty people there.

In contrast, the sizes of the brokerage offices in Tainan (Taiwan), Shanghai and Hangzhou (China) are more spacious. The lobbies of these brokerage offices still retain a kind of hustle and bustle. However, there were no queues around the counters and the lobbies were not always full when I visited. In general, the scenes of brokerage offices in China now differ from Hertz's (1998) and Gamble's (1997) descriptions of earlier times.

During the fieldwork, whether in Taiwan or China, I seemed to be a stranger and attracted many other people's attentions in the brokerage offices, which are supposed to be open to all stock investors. However, I was apparently different from others. I am too young, compared to them. Most of the lay investors that I met in these brokerage offices were between 50 and 60 years old. The obvious age gap between us highlighted the difference between them and me. Most of the time, people just looked at me for a moment and then continued with their business. However, some people came very close to me, watched what I was doing and their facial expressions revealed their curiosity. According to their expressions, it seemed that someone like me was not expected to be in this place.

In Hangzhou, twice people directly asked me, 'Who are you?' and 'What are you doing here?' One was the security guard with a strong Mandarin accent. I told him that I had come here to visit the branch manager. The second time I was questioned by two female lay investors. While I was photographing the investing lobby's facilities (having received permission from the branch manager), the two women nervously asked me, 'Are you a journalist? Why are you taking photos? Will you put the photos on the newspaper?' It turned out that they were housewives and did not want their husbands to know that they frequented the brokerage office. Their anxiety eased after I explained the purpose of my photos: that they would be used only for academic purposes and people's faces on the photos would be covered.

In brief, my fieldwork experience went beyond my previous expectations. I had rarely visited brokerage offices before this study. Although I had not had extensive personal experience of them, the term 'brokerage offices' was a familiar one for me as it would be for most Taiwanese people. As a child, I didn't grow up in the brokerage office, but both of my parents are lay investors. My image of such a place was formed by dramas, news stories, books, people's talk and my limited experience, and in my mind was close to Hertz's (1998) and Gamble's (1997) description: a crowded, noisy large space.

Mrs Kuo remembered the scene in her brokerage office twenty years ago:

> [At that time], all [the brokerage offices] were full [of people]. [Many people] had to stand [in the lobbies] … Some people, because there were

> not enough chairs there, brought their own chairs … In the past there were many [people] in our place [the brokerage office she usually stays], crowded with people. Now all [the people] are gone.

The contrast between the contemporary situation and the description of previous brokerage offices suggests the essential transformation of this field.

5.2 Office layouts, devices and facilities

As many previous studies have emphasized (e.g., Beunza and Stark 2004; Zaloom 2006; MacKenzie and Hardie 2009), financial activities are strongly associated with the architecture of market places. Partitions and facilities of a market place determine the disposition of financial activities held there. The allocation of space and facilities in contemporary Taiwanese and Chinese brokerage offices can give us an impression of these places. During my fieldwork, I sketched the layouts of three brokerage offices. Here I only use the layout of the X branch as an example (see Image 5.1), because the principles of allocating partitions and setting facilities were similar in all three offices. The meaningful differences between each brokerage office will be discussed in the following section.

As will be seen, the configurations of brokerage offices are associated with lay investors' market actions and social interactions. Information devices allow lay investors to access real-time market information. Open-plan space designation facilitates the exchange of information and opinions among lay investors, and between lay investors and brokers;[71] row-seats and supplementary facilities favour lasting intensive social interactions among them (Beunza and Stark 2004); by observing, participating in and talking about the stock market spatiotemporally, the offices' occupants become a temporary community (Knorr Cetina and Bruegger 2002; Preda 2009a).

[71] It is not difficult to replace these two functions of the brokerage offices with communicative media, such as online trading systems and Internet forums (see Chapter 3). However, as will be seen, for some groups of lay investors, other communicative tools are no substitutes for the social functions of brokerage offices.

5.2.1 The X branch

The X branch is located on the first floor of a commercial building. As the office layout shows, the X branch does not have a large investment lobby. There are only six benches with 24 seats in the hall. The benches face a white wall upon which real-time market information is projected from 8:50 a.m. to 1:35 p.m. This covers all of TWSE's trading hours, which are from 9:00 a.m. to 1:30 p.m., and nearly all of TWSE's futures market's trading hours, which are from 8:45 a.m. to 1:45 p.m. During market hours, the lights in the lobby are dimmed. It feels as though you are in a theatre and watching a play on the screen (see Image 5.2). When the lights come on and the projection becomes blurry, it is similar to the end of a show. '*Shanchanghuijia*' (散場回家) means 'the show is over and the audience is ready to go home.' This term is used by some lay investors in the lobby to describe the feeling when the lights are switched back on and people are preparing to leave (see Image 5.3).

To prevent last-minute market manipulations, the TWSE stops delivering real-time trading information during the last five minutes of trading and collects all orders during the time to do call auction trading. The purpose and mechanism are similar to the call auction when the Paris Bourse closes (Muniesa 2007). The information on the screen is frozen from 1:25 p.m. to 1:30 p.m., and at 1:30 p.m., it shows the final market result. When the time is entering the fifth minute prior to the last five minutes, the branch begins to broadcast a talking-clock on loudspeakers in the office. This broadcast lasts five minutes, until 1:25 p.m. and is similar to hearing the time count-down on New Year's Eve. This countdown is to remind on-the-spot investors how much trading time they have left. '*Zuihouyipan*' (最後一盤) means 'the last game/round/bet', and is a popular phrase used by both lay investors and brokers during the count-down. '*Kaijiang*' (開獎) means 'the lottery result is announced.' This term is used by lay investors to describe the release of the closure market information, which is the result of the last five minutes of trading. Both metaphors are adopted from gambling terms, implying the similarities between gambling and trading stock in some individual investors' consciousness. Several interviewees

subsequently taught me similar phrases: the stock market is like a legal casino; the government, who charges stock trading tax, is like the casino owner.

Two other signals remind lay investors about the closure of that day's market. First, when the lights come on, the cleaner begins to sweep the lobby and empty the dustbin. During this cleaning process, the people seated on the benches are forced to move. The cleaner would have usually cleaned up other areas in the brokerage office earlier, and now he pauses to give his attention to the final minutes of the market, like the other investors. Afterwards, he goes back to continue cleaning.

Another signal is the loud hum from the printers. After the market closes, brokers need to print records of all their clients' transactions, which will be edited and reported to the headquarters. The noise from several printers simultaneously lasts for minutes and can be heard in every corner of the office. The lights-on, the clean-up and the noise are the three signs which indicate the close of the day's stock market trading in the brokerage office.

The information on the projection screen includes share dealing prices, dealing volumes, bid prices, bid volumes, ask prices and ask volumes. It also displays the points of stock-index futures, TWSE levels, overall market trading volume, the current largest dealings, and the chart of index level and volume that day. The information rotates by in seconds.

In contrast to many Western stock markets, in Taiwan and China, rising share prices are shown in red and falling share prices in green. This is because red in Chinese culture is considered a lucky colour and a symbol of good fortune. At Chinese New Year and in wedding ceremonies, red decorations are used in people's houses, in order to bring fortune and luck to the home. On the other hand, a person whose face has a greenish tinge is usually considered a person with an unhealthy condition or in a bad mood. Therefore, a sentence such as 'all *sanhu*' faces turn iron-green after the whole stock market becomes green' is often heard from the television when the market drops.

There are ten open-access computers in the X branch's lobby for individual investors to access market information. Two computers are close to the door, three to the right of the south-facing counter, and the other five to the left of the counter. Only three colours – black, green and red – are displayed on the monitors (see Image

5.4). These computers' programmes are fixed and the content is provided by an information service company. The computers only supply information about Taiwan's stock market. As well as real-time market information (which is also shown on the projection screen), the computer user can also search for information about each listed company. The data include company backgrounds, finances, related news, share price histories and the proportion of main shareholders of listed companies. As for information about the TWSE, historical indexes prices, trading volumes, breaking market news and prices charts are available on the computers.

This information is also easily accessible outside the brokerage offices. Two financial channels on cable TV provide real-time information about Taiwan's stock market. The televised market information is similar to the information shown on the projector screen in the investing lobby, but much more detailed. There is not only the silent rotation of share prices on the screen, the television anchors narrate breaking news and highlight significant changes in share prices or indices during live broadcasts. In addition, the television channels invite different stock analysts to comment on contemporary market trends, provide immediate trading suggestions and report their recommendations of listed-companies shares for that day's market. This type of market analyses, due to during trading hours, are called '*panzhongjiepan*' (盤中解盤), or '*panzhongfenxi*' (盤中分析). There are many televised *panzhongjiepan* during the limited 4½-hour market time. As well as the mid-market analyses, the television channels also provide pre-market and post-market analyses.

On the other hand, the data which is accessible from the brokerage office computers can be accessed through the client's online stock account as well. After the clients open their online stock accounts and sign in, the same data is accessible on the brokerage firm websites. Furthermore, *yahoo.tw*. and other financial websites provide the same data and information. People can access them without any difficulty even if they have never opened a stock account.

As well as the main service – that is, the delivery of real-time market information – the brokerage office also provides many other facilities for its clients. Two financial newspapers, several of the latest investment magazines and some vouchers are available, displayed on a rack. Next to the rack sits a drinking water dispenser, with free tea bags and disposable cups on top. The toilet is open to the

public in every brokerage office. Moreover, at the X branch, the kitchen is open not only to the staff, but also to clients. Everyone is allowed to store their lunch boxes in the refrigerator and to use the microwave oven, a service which is very convenient for lay investors, especially after the extension of trading hours in 2001.

On 2 January 2001, the TWSE extended its market hours, which had been 9 a.m.–12 p.m., to 9 a.m.–1:30 p.m., due to the implementation of 'two-day weekend' system in Taiwan. The additional trading hours on weekdays were used to compensate for the cancelled Saturday trading hours (*Economy Daily News*, 3 January 2001: 3). After this institutional change, the market hours overlap with Taiwanese people's conventional lunch hour, which means the brokerage companies' employees and lay investors now have lunch together inside the brokerage offices.

Starting at 11 a.m., some employees and lay investors begin to leave the office to buy lunch to bring back to the office. The market can fluctuate very rapidly, so these people usually spend very little time buying lunch. Others queue in front of the microwave oven to heat their lunch. Some lay investors leave the office, while others stay put and probably have lunch after the market closes.

Most Taiwanese people are used to having hot rice or noodles for lunch. Rice, noodles, soup, dumplings, bread and other snacks can be found on the staff tables, the counter and the benches. At noon, the brokerage office is full of mixed food smells. Some brokers answer clients' phone calls, while eating rice. Some clients stare at the screen with a bowl of noodles in their hand. During these moments, the investing lobby seems more like a canteen than a financial market space.

In Taiwan and China, most brokerage offices have special VIP rooms. However, the form and size of the VIP rooms in each brokerage office are hugely divergent. In the X branch, there are only three separate VIP rooms. Each room is only allocated to one *dahu* (big player). My broker told me that one of the three is not only a substantial individual investor, but also a professional investment consultant. He uses the VIP room as his office and runs his business from there. In fact, these VIP rooms are just like ordinary partition rooms in an office. Inside the VIP room, there is only a table, some office chairs, a computer and a phone. The programmes of the computers in the VIP rooms are the same as those in the lobby, though there is an exception in the *dahu*'s VIP room at X branch: he has cable TV

where he can watch other investment consultants' and analysts' mid-market comments. This television is inaudible in the investing lobby.

The staff space in the brokerage office is separated into three small areas. The staff area located on the south side of the investing lobby is the 'broker area'. Brokers and order clerks sit in this area. Another staff area on the west side of the investing lobby is the 'administrative area'. The clerks here are in charge of clients' account opening, changing and closing. The employees who handle accounting and general services also sit in this area. The northern staff area, which is next to 'VIP room 1', is allocated for the brokers who are stationed in the cooperative bank branches. Usually, they only stay in the office for the morning meeting, so this area is quite often empty.

Although the distance between these staff areas is only several metres, the atmosphere of each area is visibly different. The 'broker area' and the investing lobby seem to belong to the same space. During market hours, investors and brokers in these two areas frequently interact and share the market atmosphere together. When the market closes, most brokers leave the office only a quarter of an hour after their clients. The lights in these two areas are usually switched off at the same time, and by 2:30 p.m., both areas have fallen into darkness.

In contrast, the employees belonging to the 'administrative area' seem to be insulated from the market. They deal with paperwork steadily through the office hours, and their calm attitudes never seemed to be influenced by the market participants' emotions, no matter how excited or depressed.

5.2.2 The differences between the brokerage offices

Including the X branch, I visited six brokerage offices for my fieldwork. These offices share many similarities in their designated layouts and their facilities. However, some of the differences are obvious and worth discussing.

The devices used to display real-time stock market information are the focus of investing lobbies. Compared to the projector screen in the X branch, in the brokerage offices in Tainan, a combination of tens of CRT monitors comprise a large screen to show market information. Some of the monitors display live broadcasts of stock

television channels. In another brokerage office in Taipei, information display is mixed, with both a projector screen and CRT monitors (see Images 5.5 and 5.6). In Shanghai and Hangzhou, large electronic display panels are erected in the investing lobbies (see Images 5.7 and 5.8). The panels make them looks like the brokerage offices in Taiwan decades ago (see Chapter 3).

When I visited the brokerage investing lobbies in Shanghai and Hangzhou, a device there really drew my attention. They looked like ATMs and a large number of them were located in the corners of investing lobbies (Image 5.9). I had never seen these machines in Taiwan, and had never come across any mention of them in books and articles which I'd read. Liu-Ji, a client manager of a Shanghai brokerage branch, was surprised that I had not known what these machines were. They are called '*zizhuweituoji*' (自助委託機, self-service order-placing machines) or 'P.O.S.' (Point of Sale). They are designed so that lay investors can place on-the-spot trading orders. A client inserts/swipes their magnetic account card into the machine, enters their account pin number and types on the keyboard to place an order. According to Hertz's (1998: 71) and Gamble's (1997: 190) descriptions, in the 1990s, long queues in front of the counter were common in Chinese brokerage offices. Lay investors had to wait in the investing lobby to hand their stock trading orders. However, in current Chinese brokerage offices, there are only a few people to be found leaning against the counter. After the introduction of *zizhuweituoji* into the brokerage offices, lay investors would receive their magnetic account card when they opened a stock account. The invention of this automatic order-placing machine is an example of the technological development of market devices in China's stock markets.

In general, the number of lay investors in each Taiwanese brokerage office is obviously less than the number in each Chinese brokerage office. For example, only 10–15 people at any one time would be in the X branch during my fieldwork period. Even in the brokerage office in Tainan, the most crowded investing lobby I have witnessed in Taiwan, the number of people was still not as many as in any of the Chinese brokerage offices. The size and number of VIP rooms in China is also much more than in Taiwan. In Chinese brokerage offices, there are 'super' VIP rooms for the *dahu* (those individual investors who bring in the highest monthly income for the branch) and 'middle' VIP rooms for the *zhonghu* (those individual investors who

bring in the next highest monthly income). The brokerage offices I visited have many *dahu* rooms and a large *zhonghu* room. A *dahu* room is shared by several people. The equipment there is similar to the equipment of a VIP room in the X branch, that is, they are furnished with desks, office chairs and computers. The *zhonghu* room looks more like a university computer laboratory. Dozens of people sit one by one and each person has a computer which is allocated to him or her. Each seat is separated by a low board on the desk (see Image 5.10). On the other hand, in a brokerage office I visited in Taipei, there is no independent VIP room; instead, there is a VIP area in a corner of the office. The allocation is like the allocation of a *zhonghu* room in China, but there are no borders between seats (see Image 5.11).

The affiliated facilities in each brokerage office are also slightly different. For example, in the Hangzhou brokerage office, the branch set up a large open cupboard in the investing lobby for their clients. Lay investors put their tea cups and shopping bags in the cupboard (see Image 5.12). In a Taipei brokerage office, a multi-functional slow cooker is provided (see Image 5.13). I saw a *dahu* cooking her lunch, some soup, at the cooker and then sharing with other *dahu*. In China, the brokerage offices do not provide a microwave oven or a steamer to lay investors. The trading hours in China's stock markets are divided into two sections. The first section runs 9:30–11:30 a.m. and the second runs 1–3 p.m. The break in the middle is lunchtime, and people are used to going out or going back home for lunch. During the break, the staff turns off the screens and lights in the investing lobbies. However, many *dahu* still stay in the VIP rooms, because the brokerage companies offer free lunch to these substantial individual investors.

5.3 Brokers

In Taiwanese brokerage offices, brokers and lay investors are the main actors. The interactions among lay investors and between investors and brokers compose crucial market and social activities in investing lobbies. The data about Taiwanese stock brokers' daily work is not too difficult to collect. First, the interviews with brokers are a substantial source of my data. In addition, the observation data of brokers' work in brokerage offices is approachable. No matter which Taiwanese brokerage office,

the ‘broker area’ is always next to the investing lobby, so it is easy to observe the situation inside the broker area from the investing lobby. Furthermore, my own personal experience of being inside the broker area, helps me to depict a vivid picture of the brokers’ work. In 2006, I got a job interview for a stockbroker’s position. The brokerage firm required me to do a whole-day internship in a brokerage office. On that day, I was asked assist brokers when they were very busy. For example, I represented them in answering their clients’ phone calls when they were on other clients’ calls. The branch manager and brokers had clearly explained to me the details, requirements and challenges of a stockbroker’s work. That day, I sat in the broker area with all the brokers and observed/experienced a stockbroker’s working day. This unusual experience provided me with a fundamental understanding of a stockbroker’s job and the operation inside the broker area. It is very useful when I later did the fieldwork.

5.3.1 Brokerage industry

In order to trade securities in Taiwan’s stock market, an investor (whether the investor is an individual or an institution) must open an account in a brokerage firm. According to TWSE requirements, all trading orders into the market must be placed through the investor’s broker (TWSE FAQs)[72]. In other words, each stock investor has to ‘contract’ with a specific broker belonging to a brokerage firm. However, the investor can easily change their broker or brokerage company, or open an additional account in another brokerage company.

In the brokerage industry, the client’s trading fees are calculated into their broker’s sales performance, whether the investor uses an on-the-spot, telephone, or online trading system to place orders. Therefore, to maintain good relations with clients is vital for a stockbroker, especially their relationships with important investors. For example, during market hours, brokers actively give information and investing suggestions to clients and patiently respond to clients’ enquiries. As lunchtime draws near, when some brokers order a meal delivery or go out to buy something for themselves, they will ask their clients if they’d need something to eat

[72] Available at: http://www.twse.com.tw/en/investor/faq.php.

as well. After the market closes, brokers often visit important clients. This kind of socialising is not directly related to business, which is almost all conducted on the phone or the Internet. The purpose of brokers' visiting is to send a message to their clients: that they are very important people and their brokers really care about them. The combination of the characteristics of Taiwan's stock market, the huge number of lay investors, and the legacy of small-and-medium size enterprises (SMEs) – that is, business relationships mixed with social relationships (see Chapter 1) – easily fosters strong personal relationships between brokers and their clients.

The securities brokerage industry is very competitive. In 2010, there were 125 brokerage firms with around a thousand brokerage offices (Taiwan Securities Association Annual Report 2010: 37, http://www.sfb.gov.tw). However, the service provided by each firm is almost the same. The '54 per cent discount' of the standard broker's fee (the standard fee is 0.1425 per cent of trading value) has been common in this industry. In other words, the charge of brokerage firms is usually around 0.07 per cent of the trading value. To attract clients, every brokerage firm offers similarly low fees and attempts to provide extra services, such as a daily free analysis newsletter or a monthly report.

The competition among brokers is also fierce. In December 2100, there were nearly 40,000 employees in this industry, the majority of them brokers (http://www.sfb.gov.tw). In addition, a substantial number of new brokers are recruited every year which only intensifies the competitive pressure in this field. For example, in 2005, nearly 9,000 people passed the qualification examination and received a broker's licence (http://www.csa.org.tw/A02/A026.asp). Although not all those who qualified would take up brokerage positions, the figure gives an idea of the size of the supply of broker labour.

Thus, if a broker could not provide 100 per cent correct trading information (which almost no broker could do), why are clients willing to retain their contract with this person? For many lay investors, having a good personal relationship with their broker is a main reason. Sheng-Ji, an experienced individual investor, told me that the reason he continued to deal with his current broker was that this young person gave him a good impression, even though Sheng-Ji is more experienced in investing stock. He claimed that he does not need any investment advice from his

broker nor does he think that his broker's information will be useful. However, he appreciates his broker's attitude and manner.

Thus to maintain good social relations with clients is the main strategy for survival in this industry. My broker, Chun-Shen, told me that usually there are two types of brokers who survive. The first type has a 'small-quantity-but-good-quality' group of clients. For example, a top broker in Chun-Shen's branch has less than thirty clients, but his clients are all 'good-quality' clients, whose daily trading value is high enough to cover his sales performance goal. This type of broker is able to give a lot of attention to their limited number of clients and make them feel they are valuable friends.

On the other hand, the second type of broker is like Chun-Shen, whose clients are all retail investors but there is a great number of them, over hundreds. It is impossible for him to visit most of his clients frequently, or even remember their faces and names. However, he still attempts to give his clients a warm greeting when they come to the office. He was going to build a profile file which included important information for each client, such as their photo, name, phone number, etc., and would help him recognize each client's face. He would make the clients surprisingly happy when he directly greeted them before they identified themselves, because many retail investors do not expect their brokers to remember their names and account details.

The number of male and female brokers seems roughly equal. In the field, I did not observe any substantial gender disparity between brokers in a brokerage branch. Sometimes, female brokers are more popular among clients, because they are expected to be more 'soft' and sociable and usually know better than their male colleagues how to maintain good relationship with clients. For example, in the late 1980s, there were four famous female brokers, called '*sidajinchai*' (四大金釵, the Four Ladies). '*Jinchai*' is used to refer to girls from rich families in classical Chinese literature, though none of the four female brokers were reported to be from rich families. The Four Ladies are a legend in the brokerage industry. At the height of their fame, the sum of each 'Lady's' daily trading value from their clients often reached US$30,000,000 (*China Times* 2008, 7 July).

Having more opportunities to access first-hand profitable information is a crucial incentive for brokers to be successful. Many employees in the Taiwanese securities industry trade stock as well. My broker, Chun-Shen, frankly told me that the main reason for working in the brokerage industry is to catch beneficial opportunities for his own stock investment. Furthermore, this job can help sharpen his investing skills. As a broker, he is 'inside' the securities industry and must give his time and attention to the market. 'If you need to spend many hours per day in analysing the stock market and predicting the market trend, why not just to be a stock broker?' he says. In addition, the data of his hundreds of clients' trades have been a large 'data set' that helps him to rethink the advantages and disadvantages of different trading strategies. 'Why do some specific clients often make profit but others often lose? To learn experience from the clients' trades,' he says, 'they are like a "living textbook".' One day, when he has enough confidence in his trading skills and the profit is enough to be a reliable income, he will quit the job and become a professional individual investor.

5.3.2 A broker's workday

Typically, brokers come to the office at 8 a.m. to attend the morning meeting in the branch's meeting rooms. At the beginning of the meeting, all the brokers concentrate on listening to the daily analysis which is transmitted from the headquarters by telephone and relayed over loudspeakers. The broadcast is edited by the company's analysts, and its structure is always the same. Contents includes selected crucial economic and financial news, predictions about that day's market trend, the list of stocks that are worth the brokers' attention and other market information. After the broadcast, the branch manager may discuss branch operations and sales goals, and sometimes review each broker's performance.

Around 8:30 a.m., some futures-market clients start to call into the office to place trading orders or ask about the latest market information. At 8:45 a.m., the Taiwanese Futures Exchange opens. Brokers begin to take their seats, watching real-time market information from their desktops while waiting for clients to phone. Close to 9 a.m., lay investors begin to enter the office one after another, some

bringing breakfast with them. Many lay investors are acquainted with one another and greet each other ‘good morning’. In Taiwan, clients need to place orders to the stock exchange through their brokers, either by phone or on the spot. After brokers receive their clients’ orders, the broker passes the order to the clerk in the brokers’ area. Then, the clerk types the client’s order into the computer, which is connected to the TWSE’s electronic trading system.

The first half-hour of market time is often very busy. Brokers receive many orders and respond to clients’ enquiries over the phone or in person. Last night’s international and national news strongly influences the market’s opening trend. The situations of the US and European stock markets, oil and gold prices, and the TW$/US$ [Taiwan new dollar/US dollar] currency rates are popular topics for discussion among lay investors, and sometimes between brokers and investors. The many and frequently ringing telephones provide the ‘background music’ for the brokerage offices at that time of the morning.

After the first thirty minutes, the market usually has reacted to last night’s information and brokers can be more relaxed. However, they still stay at their seats most of the time, because it is better for them to speak personally with their clients’ calls, as this implies that they are hard-working people, which gives a good impression. This is especially so, in case any huge change of the market suddenly occurs. Clients can get angry if the market quickly plunges or rises but they cannot find their brokers. ‘Remember the market is always unpredictable’ is the brokers’ first rule. Therefore, during market hours, brokers go to the toilet or go out to buy lunch in a hurry, as they are afraid of missing any client’s call. This is another reason why some brokers bring lunch boxes to work, or order meals to be delivered, as it reduces the time away from their desks.

The last half-hour of the day is usually like the first half-hour: brokers are again busy answering phone calls or receiving the on-the-spot clients’ orders. The intensive work continues till the start of the last five minute, when the real-time market information is frozen. Most investors stop trading then, because no one can really know the market situation. When the final market information is disclosed, brokers fall busy yet again. Out-of-office clients are calling in to ask the result of their orders, such as ‘have their orders been dealt or not’. Several minutes later, the

lay investors begin to leave. Brokers say goodbye to the clients who've been in the office that day, and review the records of the day's transactions. Many brokers leave the office around 2:30 p.m. and might visit clients, or contact new clients, or go back home – they are free, after the market closes.

5.3.3 Brokers in China's stock markets

In the past, in the Chinese securities industry, there was no position which was the equivalent of a broker's job in Taiwan. According to Ms Yuan, a branch manager in Hangzhou, when Chinese people began to trade stock in the 1990s, they just came to the brokerage offices and the offices' administrative clerks would handle the stock account opening. When investors wanted to place trading orders, they just came to the brokerage offices and handed their orders to the clerks. Today, investors use the on-the-spot automatic order-placing machines in the brokerage offices, or alternatively place orders through the online trading systems or by calling the service centre. The interactions between the clients and the staff tend to be less intensive.

Ms Yuan explained to me the probable reason for this. The securities brokerage industry was a less competitive industry in China. The number of branches was restricted by regulations, but the number of investors was not controlled by the government and was rising quickly. Thus, the brokerage industry was a demand-over-supply market. The companies were not as focused on attracting new clients or maintaining old clients as the companies in Taiwan.

However, after several stock market crashes and the liberalization of the brokerage industry, the market has become more competitive. Recently, a new job position, the 'client manager', has been introduced into most Chinese brokerage firms. Like brokers in Taiwan, client managers aim to bring new clients into the company, though there is still a subtle difference between these two areas. In Taiwan, brokers have a duty to receive clients' trading orders and respond to clients' enquiries either at the office or by phone. It is a part of their work. By contrast, client managers are not obliged to deal with this work. A client manager's salary is totally linked to how many new clients they bring into the company and how much money their clients invest. They actively give investing advice to clients in order to

encourage them to trade and endeavour to maintain good personal relation with them. Like brokers in Taiwan, social capital is the key for them to survive.

5.4 Lay investors

Lay investors are the soul of the brokerage offices. Both Hertz (1998) and Gamble (1997) emphasize their important role in China's stock markets. In the past, a group of lay investors in a brokerage office probably represented the characteristics of the majority of lay investors. However, the situation perhaps is different now. As seen in Chapter 3 and Appendix 5.1, the technological development of market devices is thought to have reshaped many lay investors' trading behaviours in Taiwan and China. To date, the lay investors who are accustomed to trading in brokerage offices probably have been a 'specific' social group rather than a random sample of lay investors. They have many properties and behaviours in common.

5.4.1 Age

In all the brokerage offices I have visited, the ages of the lay investors there were similar, in their fifties or above. When I did my participant observation in the X brokerage office, I found a female client who looked much younger than the others. However, my broker told me that in fact she was nearly 50 years old as well, but that she had an age-defying face. Young clients seemingly have seldom 'showed up' in brokerage offices. Mrs Kuo ever told me:

> I have spent time in the brokerage office so many years. In the past, while some old people were 'graduating' [meaning 'leaving both the market and the brokerage office'], some young people were entering at the same time. However, in recent years, I only saw old people leaving but rarely saw young people entering.

In contrast, the majority of employees in brokerage offices, including brokers and clerks, are obviously younger than their clients. Even the two branch managers,

whom I interviewed, are only in their forties and thirties, which could indicate that a lay investor could possibly be more familiar with the brokerage office than the staff. Sheng-Ji told me that he has traded stock in his brokerage office since this branch was launched. Over the years, he has become the most seasoned broker in the place, watching while newcomer employees have been promoted to managers and the clients have come and gone.

It is possible that some lay investors are more experienced in investment rather than their brokers. Some lay investors consider the 'experts'' (the brokers') suggestions and regularly query them about the best trading timing, but some lay investors have never asked for their brokers' opinions. Several lay investors told me that they do not think brokers' advice is useful and will help them make a profit: 'How old was he when I started to invest stock? He might have just entered elementary school.' This attitude is very popular among lay investors. Some brokers also admitted that some lay investors' trading strategies are quite good. Brokers will clear all clients' daily transactions after the market closes, so they know their clients' investing results. Brokers and clerks usually know who are the 'masters' of trading among their clients.

The age gap between clients and staff in brokerage offices implies two facts about this field. The first is that the brokerage industry is highly competitive and novice brokers possibly leave this industry before gaining seniority. The other is that young lay investors have become 'extinct' in brokerage offices.

The age gap somewhat influences the model of interaction between brokers and lay investors in brokerage offices. In East Asian societies, due to Confucianism, people's social status would be somewhat determined by their age. Older people normally have more life experiences and convention says that the juniors should respect their elders (Fei 1992). This traditional thought is strengthened by a part of brokers' work – maintaining good personal relation with clients – and further shapes the interaction between lay investors and brokers.

Thus, financial professionality sometimes does not effectively underpin brokers' status in front of their clients. According to the regulations, brokers must take financial courses, pass qualified exams and receive professional training. Most lay investors have never achieved one of these. However, the interaction between

them in brokerage offices is not like the interaction between experts and laymen, such as that between lawyers and clients in legal offices.

5.4.2 Gender

In brokerage lobbies, the numbers of male and female are almost equal. Sometimes, the there are more female lay investors than male. This impression is consistent with the statistical data of gender distribution of stock accounts in Taiwan (Barber et al. 2007). The term, '*cailanzu*' (菜籃族), became a popular slang phrase in Taiwan's stock market in the 1990s. '*Cailanzu*' literally means the 'vegetable-basket group', and is used to refer to lay investors who are housewives. Typically, *cailanzu* go to the morning markets with their baskets to buy vegetable and meat; on the way there or back home, *cailanzu* stop at the brokerage lobbies with their baskets.

During the fieldwork period, I saw many lay investors, both male and female, bring bags containing vegetables, meat, cooked food, or groceries into the brokerage offices. Some stayed for hours; some stayed for only a few minutes; some of them came, left and came back again several times. In China, some housewives tend to keep their stock trading a secret. My fieldwork experience, mentioned above, is an example.

Gender stereotypes, like masculinity and femininity, seem less important in Taiwanese lay investors' consciousness. Lay investors face an anonymous stock market. When I asked lay investors and professional practitioners about their opinions of the necessary characteristics of successful stock investors, masculinity or femininity was never mentioned.

This is different from the research findings about US stock markets. According to Levin's description (2001), masculinity is considered by traders to be an important requirement for success in the trading pits. The difference may be caused by the form of trading. In the pits, traders must use their height, gestures and loud voices to attract counterparts to trade with them (Zaloom 2006). Though lay investors do not physically struggle in the pits to get better prices, Harrington (2008) finds gender stereotype is observable as evidenced by the smaller number of female investors and also in lay investors' stock choices and conversations in the investment clubs.

5.4.3 Dress

People's dress in the brokerage offices somewhat reflects their ideas about these places. The dress code for the employees is almost the same in each brokerage firm. Usually, they wear suits, shirts and ties, or company uniforms during the market hours, as maintaining a professional image is considered important by the companies and staff. However, after the market closes, some brokers would take off their uniform or suit, and change to their private clothes, even if 'officially' they are still 'working'.

On the other hand, the lay investors' dress is varied, and slight differences exist between areas. Most lay investors wear very casual clothes. Wearing a suit or tie is rare. Street-wear is very popular in Tainan brokerage offices. Many people wear only tank tops, shorts and flip-flops, though this is perhaps influenced by the tropical weather. Generally, what lay investors wear in brokerage offices is similar to what they wear in the food markets or night markets. In short, dress is informal. This informal dress code in the brokerage offices implies that this financial space is included, not excluded, in the investors' daily-life space. They do not intentionally dress up, like businesspeople, to enter this space. In other words, they seem not strongly aware of the financial 'professionality' of brokerage offices. As mentioned in Chapter 1, this is consistent with Taiwanese SMEs culture. The border between factories and homes/private and public spaces remain blurred.

Furthermore, there is no obvious difference between *dahu*'s and *sanhu*'s dress in general. Their dress styles are similar. The difference in size of their investment portfolios cannot be discerned from their 'appearances' (that is, their clothes and behaviour). For example, a woman whom I often met in the X branch during my fieldwork always wears normal street dress. Chun-Shen, my broker, told me that she is a rich *dahu* and her son is the head of a large hospital. However, her dress just looks the same as other old female investors' in the lobby. This phenomenon is consistent with a convention in Taiwan: 'You cannot distinguish how rich a person is by their dress and manner.' There are two possible reasons of this phenomenon. First, the rapid economic growth of Taiwanese and Chinese societies only started in recent

decades. The speed of accumulation of cultural capital, following Pierre Bourdieu's idea (1994), is possibly slower than accumulation of economic capital. In other words, many new rich are still used to their original habitus of dress and manner. Secondly, many *dahu* perhaps believe a traditional proverb: 'to flaunt your fortune is to attract danger.'

5.4.4 Language

The languages which lay investors choose to communicate in brokerage offices also reveal their perceptions of the degree of formality of these places. Both the Taiwanese and Chinese governments adopted the same language, Mandarin, as their official language sixty years ago. Most people in these two areas are familiar with Mandarin. In China, Mandarin is called '*Putonghua*' (普通話 Standard Chinese). In Taiwan, it is called '*Guoyu*' (國語 National Language). However, there are dozens of popular regional dialects in China and two main local dialects in Taiwan. Usually, the type of occasion determines whether people choose Mandarin or one of the dialects to communicate. In general, people prefer to talk in dialect with their family, relatives and friends. On the other hand, Mandarin is usually used in formal occasions.[73]

In the brokerage offices in Taipei, most of the time I heard people using Mandarin. On the other hand, in the brokerage office in Tainan, the majority of people used Taiwanese to communicate, though. Mandarin was still sometimes heard there. In the brokerage office in Shanghai, I felt myself to be an outsider. Everyone spoke only the Shanghai dialect and I could not understand a word. The situation was similar in the brokerage office in Hangzhou, where people spoke the Hangzhou dialect all the time. They only used Mandarin when I spoke to them in Mandarin. This suggests that some lay investors probably consider brokerage offices are a type of public place for the local community.

5.4.5 Seats

[73] I am used to speaking Mandarin in daily life. I also can understand both major Taiwanese dialects: Taiwanese and Hakka, although I cannot speak them well.

During the fieldwork in the X brokerage office, the numbers of lay investors in the lobby remained stable, usually around ten. These people became familiar faces, as they appeared there almost every day. Interestingly, their seats were almost fixed. The computers on the counter were always occupied by the same people for the whole market opening time. These investors who sat on the stools traded large-size portfolios. Two other computers which are close to the door were 'open' to other investors.

5.4.6 Status

The seating allocation implies the unequal status among lay investors in the brokerage lobby. A person's status in the lobby is built on two elements: one is the amount of trading capital; the other is their investing skill. In the X branch, one man who always sits on his stool is called '*Shifu*' (師傅 Master) by other investors and the staff. According to the size of his portfolio, he would be eligible to occupy a VIP room. However, he has refused this benefit and insists on sitting in the lobby. As well as his large amount of investment capital, his trading skill is appreciated by other investors and staff. He is one of the most profitable clients in the X branch, and he does not rely on insider information or complicated analysis skills. 'Strict self-discipline is the reason why *Shifu* can earn money', Chun-Shen says. 'It sounds easy, but it is difficult to achieve.' *Shifu* only buys the shares which almost hit the up-price limit, because the growing tendency of share prices usually lasts only one to two days in the market. If the price tendency converts to the other direction after he's made a purchase, he would stop loss instantly. By contrast, most lay investors, even some professional investors, cannot stop loss as quickly as him. Chun-Shen explains *Shifu*'s strength:

> It is against human nature. When the market trend is opposite to your expectation and you are losing money, most people tend to wait a period of time, at least a short period of time, and wish the market will go back to their previous expectation. His strong self-control is his weapon.

Shifu gains a lot of respect in this brokerage office. He usually talks loudly (his voice is loud enough that every one in the lobby can clearly hear him) to other investors in the lobby about his current trading orders, and they pick up on what trades they should make. His followers always place the same trading orders immediately. He also mocks brokers sometimes, when he knows they have made incorrect trading decisions. Chun-Shen guesses why *Shifu* insists on staying in the lobby. 'He seems to really enjoy the bustling atmosphere in the lobby and the ability to influence other people's decisions.'

5.4.7 Losing Face

To avoid 'losing face' is another view of keeping the status in brokerage offices. Mrs Kuo has experience of shifting between the investing lobby and the VIP room. In the beginning, she traded stock in the investing lobby like most lay investors. In her brokerage office, three people were allocated to a VIP room. One day, her friend, who had been a member of a VIP room, invited her to accompany her because there was a seat available. She knew this friend in this brokerage office. First Mrs Kuo refused, because she had not wanted to go through the pressure of reaching the monthly minimum trading volume required for VIP room membership. But her friend told her that she really needed an acquaintance to help her manage her portfolio, which was very complicated and at the same time, she was also trading through another stock account in a different brokerage firm. Finally, Mrs Kuo was persuaded by her friend and she joined the VIP room. Due to several serious failures, her friend 'graduated' and left the VIP room. Mrs Kuo lost contact with her friend at this time, because her friend seemed to feel that she had 'lost face' and wanted to avoid her 'investing friends' finding her. After a while, Mrs Kuo decided to go back to the investing lobby, citing mental pressure as the main reason:

> In the same room, every time you did a decision, other two people knew [about it] very clearly. It was fine when you made a smart deal. However,

> when you had the wrong strategies and lost money, [those] other two people were watching you.

Making a mistake or being a loser in front of other people is very stressful for her. Therefore, she asked the brokerage office to allocate a computer to her in the investing lobby and she left the VIP room. When she's in the investing lobby, she can keep a low profile while trading. Her belief is that no one always 'wins money' in the stock market and she does not have to be seen to 'fail' in front of other people. She is also afraid that other investors will follow her trading orders and then lose money. For her, that is another kind of 'losing face'. Her experience is very different to *Shifu*'s story. However, 'to avoid losing face' and 'to gain respect' are linked ideas.

5.5 Economic/social space

Although brokerage offices are not the exchange floor of Taiwan's stock market, they are the main places where lay investors experience the atmosphere of the stock market. The shouting, the phones ringing constantly and people's emotional expressions are the elements that make up the thrilling market atmosphere in the investing lobbies. However, this feverish market atmosphere is not always sustained through all of the market's opening hours.

When the share prices are changing rapidly, lay investors and brokers not only stare at the screens. Some lay investors shout and reveal strong emotional expressions, depending on whether they are gaining or losing money. Some are quiet and concentrate on recording the quick changes of the market on investment notes. At the same time, the non-stop ringing phones strengthen this intense atmosphere. Brokers are hurrying to finish the calls on hand, because other callers are waiting on the lines. The constant noisy phone traffic 'reminds' the on-the-spot investors of the 'existence' of lay investors outside the brokerage offices.

If the market trends stabilize for a while, then people shift their attention from the market to other affairs. They start to chat. Discussions between lay investors and brokers are also common. Some lay investors may walk around the lobby, read newspaper, have tea, go out to buy breakfast, or leave. In other brokerage offices, I

saw some investors lying on the bench for a quick nap while some women were knitting. Usually the phones become quieter. The 'economic' space temporarily transforms into a 'social' space.

When the market starts to change again, people's attentions are attracted back to the market. People concentrate on the volatility of their investment portfolios and quickly place the orders to the brokers. The swings between 'economic' space and 'social' space usually take place several times a day in the brokerage offices, and I have mapped them out as part of my field notes in Appendix 5.2. The notes records the detailed timeline of a day in the brokerage offices which clearly displays these swings.

5.5.1 Discussion topics

To chat with other lay investors is the most popular social activity during the market's opening hours. Although the topics are various, they can be roughly categorized into two groups. The first group is related to the stock market. Many lay investors like to exchange comments about the day's market trend and the changes in share prices, and to discuss the 'real-life' factors which influence current market changes. Personal investing experiences and their familiars' stories are often used to support their opinions.

Exchanging market information is common as well. The information includes 'publicly available information', which can be read and seen on newspaper and television, and 'non-publicly available information', which is not easy or impossible to confirm. Sometimes the information they talk about is closer to 'rumour' rather than 'information'; for example, advice from 'secret' experts, the leaked information of listed companies, etc. The sources of this kind of information are usually from their acquaintances or their acquaintances' acquaintances.[74].

Family affairs are another group of popular topics to chat about, possibly because many of the lay investors are around the same age, i.e. in their fifties and sixties. Both males and females are very involved in talking about their children: their children's education and career developments, and how to get along well with

[74] A detailed discussion of the information which lay investors are used to exchanging is in Chapter 2.

them are hot topics. In addition, sometimes female investors are eager to discuss their relationships with their husbands and mothers-in-law. Men don't seem to be interested in this kind of topic.

5.5.2 Playing games

In the Chinese brokerage lobby which I visited in Shanghai, a group of people were sitting in a circle and playing poker in front of the projection screen. I asked the client manager: is it normal to play games in the investing lobby? He told me that as long as they didn't bet cash, in general, the securities guards would not stop them. Indeed, these people play poker frequently and the other people in the brokerage office have become used to them. 'You, know, the markets are not always changing quickly', the client manager says, 'sometimes it is very boring and investors need some activities to kill time.' In another Chinese brokerage office in Hangzhou, I saw lay investors playing poker, PC games and majiang/mahjong (麻將) in the VIP rooms. The branch manager also told me that it is very normal here. All the brokerage staff and lay investors whom I interviewed in China agreed that doing these kinds of social activities, such as playing poker, is very normal here, and seems to have been so ever since China first opened up its stock markets. Hertz (1998) mentions similar scenes in her ethnography.

5.5.3 Boundaries

Playing games, like poker or mahjong, has not been seen and heard of in Taiwanese brokerage offices. When I told Taiwanese interviewees (both lay investors and brokers) about the games played in Chinese brokerage offices, they were very surprised. Although most of them agree that the brokerage offices are a kind of public social space, they still consider that brokerage offices are purpose-built financial places and different to the 'completely' public social places, like public parks or community centres. According to their words, these 'purely' social activities, such as poker games, should not be played in this professionally financial space. In general, all these Taiwanese market participants think that playing games in

brokerage offices is a ‘profane’ behaviour that betrays the ‘professionality’ of this space. The line between ‘accepted’ and ‘unaccepted’ social activities in brokerage offices demarcates the maximum degree of ‘socialization’ of these places.

The consensus is generally shared by both the investors and staff: the social activities in a brokerage office should be seen as somewhat inconsistent with the purpose of the place. The layouts of brokerage offices perhaps facilitate this consensus. Take the X branch as an example. The offices are an open-plan space. The investing lobby, the brokers’ working area and the clerks’ working area are proximate and set apart by partition walls about 1 metre high. In practical terms, these areas compose a common space (see Image 5.1). Thus, investors and brokers are able to have intensive interactions and talks (see Appendix 5.2). The investors in the lobby probably feel that they share the same space with the staff, and therefore they should somewhat respect the working code of this financial place. Lay investors, even as they sit in the brokerage offices, are probably aware that the brokers and clerks are working. Although the investors are chatting, joking, cursing, eating their lunch and drinking tea or coffee in the lobby, they are also exchanging information, watching the real-time share prices and trading stock. What the lay investors do there is somewhat similar to what some clerks do in a relaxed office. In other words, they seem to consider themselves as much ‘members’ of the office as are the staff.

The basic principles of the other brokerage offices’ layouts in Taiwan are similar. The investors, brokers and clerks share a joint open-plan space, there are low partition walls between the investing lobby and the staff area, and the independent VIP rooms (if there are any) are next to the staff area.

In contrast, the two Chinese brokerage offices’ layouts are different from the Taiwanese ones. In China, the staff areas and the investor areas are completely separate. The investor lobby, the VIP rooms and the staff areas are independent and usually located on different floors. Because the lay investors do not share the space with the staff, they rarely see clerks or customer managers in the investing lobbies and VIP rooms. In other words, during market hours, the lobbies and VIP rooms belong to the investors only, and they do not need to concern themselves about the working codes in these financial offices.

In brief, the different social standards of what are ‘acceptable activities’ in the brokerage offices in Taiwan and in China are conjectured to be partially shaped by the layouts of the brokerage offices. The standards also refer the different boundaries between social/market spheres in these places are socio-technical constructions.

5.5.4 Social activities outside brokerage offices

Ever since the TWSE’s market hours were extended to 1:30 p.m., most lay investors have been used to having lunch in the brokerage offices. Sometimes, the lay investors in the same brokerage office still have a late lunch or dinner together. It is also the usual practice for brokers to have dinner with their important clients in the end of the year. Sheng-Ji told me, social activities in the VIP area of his brokerage office are held frequently. In the VIP area, there are dozens of people, whose ages and economic conditions are similar, and relationships amongst them are close. Every two or three months, they have dinner together in a restaurant. Several months ago, they went on a trip together. He emphasized that these social activities are not related to brokers and the brokerage firm, and that these ‘business-relation people’ are not included in these activities. Mrs Kuo’s situation is similar: after the market opening time was extended, she and other investors in the investing lobby have meals together sometimes.

5.5.5 Meanings for contemporary brokerage offices

The lay investors who are used to trading in brokerage offices presently make up a specific social group. As mentioned above, most are in their fifties or sixties. Sheng-Ji told me about his perception of this group of people: ‘I believe most people whom you’ve seen here [in the brokerage offices] have the same idea as me. The brokerage office is a kind of nursing home for the elderly or an office for the retired.’

In his view, there is no huge difference between brokerage offices and nursing homes. Like nursing homes, brokerage offices also provide facilities (chairs, newspapers, tea, air-conditioning), meal delivery (like the staff, investors can order lunch to be delivered), an engaging activity/work (stock investment), social

interactions and similar-age companions (other lay investors). However, compared to nursing homes, these services are almost free (excluding the trading fee). For many lay investors, this place is the focus of their daily life. The activity (stock investment) is considered a proper way to kill time (see Chapter 3). One investor says: ‘Stock investment pushes the elderly, like me, to continue using our brains. As you know, if the brain stops being used, it will degenerate very quickly. To continue trading stock is a useful way to protect against Alzheimer’s disease.’

Some investors are used to trading stock in brokerage offices and are unable to adjust to trading at home. Mrs Kuo is an example:

> I only know how to trade in the investing lobby. Of course, I also have a computer in my home like the ones in the brokerage offices. However, when I stay at home, I do not have any intuition and do not know how to trade.

On the other hand, the branch managers also claim that providing investing lobbies is a kind of responsibility to their long-standing clients, and not for profit. Ms Yuan, the Hangzhou branch manager, frankly admits:

> The trading fees from the clients on the spot (in the investing lobby) only make up 15 per cent of the income of this branch. However, the cost of maintaining this large space and the facilities is much higher. Especially, the rent is going up every year. For the company, this is almost a ‘pure’ service for our old clients.

In her words, the company is waiting these long-standing clients to ‘gradually retire from brokerage offices’.

Indeed, when the manager first introduced the brokerage office to me, she had emphasized that the recently opened branches of the brokerage company have much smaller investing lobbies. Because this branch was established at the early stage, it was equipped with an unusually large investing lobby. A Chinese news report in 2007 also reports on this phenomenon:

> During the recent years, China's stock markets were booming, but the scene of crowded lay investors in brokerage offices has not existed as in the past. Conversely, some brokerage branches have removed their lobbies completely. [In] some others, only several screens are retained in the passageways. An investing lobby full of lay investors has become a memory. (*Qianjiang Evening News* 2007, 1 September: B1).

Similarly, Mr. Lee, the brokerage branch manager in Taipei, told me that the investing lobby of this branch has been downsized three times that he knows of. He predicts that the investing lobby and VIP rooms will become a part of history in the next few years.

According to the observation, interviews and newspaper report, the phenomenon of the group trading crowd is gradually fading away in both Taiwanese and Chinese brokerage offices. In Hertz's and Gamble's studies, the trading crowd is a characteristic of China's stock markets and represents the culture of contemporary China. Both of them tend to attribute this phenomenon to cultural and historical factors of Chinese society. The technological development of market devices and its impact are not emphasized in their studies.

However, in social studies of finance, a number of studies have pointed out the importance of technology in shaping market participants' behaviours (e.g., Beunza and Stark 2004; Zaloom 2006; Preda 2009a). In particular, Zaloom's study (2006) has described the transformations of the trading pits and the traders' behaviours which occurred when electronic trading systems were introduced into the exchanges. In this aspect, lay investors are not that different to the traders and the brokerage offices are not that different to the pits: all these configurations of people and places are strongly influenced by technology.

As Chapter 3 and Appendix 5.1 elucidate, in 1990s China and 1980s Taiwan, brokerage offices nearly monopolized real-time market information and the order placing mechanism. The situation is somewhat similar to Western brokerage offices which monopolized real-time stock market information as it was transmitted by the ticker-tapes in the first half of the twenty century. To access the latest shares price is

very helpful for making trading decision. Thus, many lay investors tended to spend time in brokerage offices to trade stock (Preda 2009a).

To date, the ways of taking part in the stock markets and receiving real-time market information in Taiwan and China have evolved and become diverse with technological development. Some lay investors have altered their trading behaviours with the transformation and some have not. Image 5.14 and 5.15 displays the transformation in Taiwan's and China's stock markets. Trading crowds continue to congregate in contemporary Taiwanese and Chinese brokerage offices, but their motivations for staying in these places cannot be explained by financial reasons only. For many investors, stock trading, brokerage offices and trading companies have become interwoven and compose a crucial part of their daily life.

5.6 Summary

This chapter aims to investigate the interlocking of devices, actors and space in contemporary Taiwanese and Chinese brokerage offices. Through observations and interviews, this study records the market actions, social activities, interactions, works and properties of lay investors and brokers in brokerage offices. The layouts, market devices and facilities of brokerage offices are also reported. With the development of market technology, brokerage offices have lost their monopoly on providing superior information and trading systems. To date, these places have been a particular socio-economic space for a specific group of lay investors, and the configurations of people, activities, devices and space there have comprised a main part of these investors' daily life. During the market hours, social and market activities continuously alternate and the social/economic boundaries remain blurred in brokerage offices. The types of social activities in these places are thought to be influenced by the structures of the offices themselves.

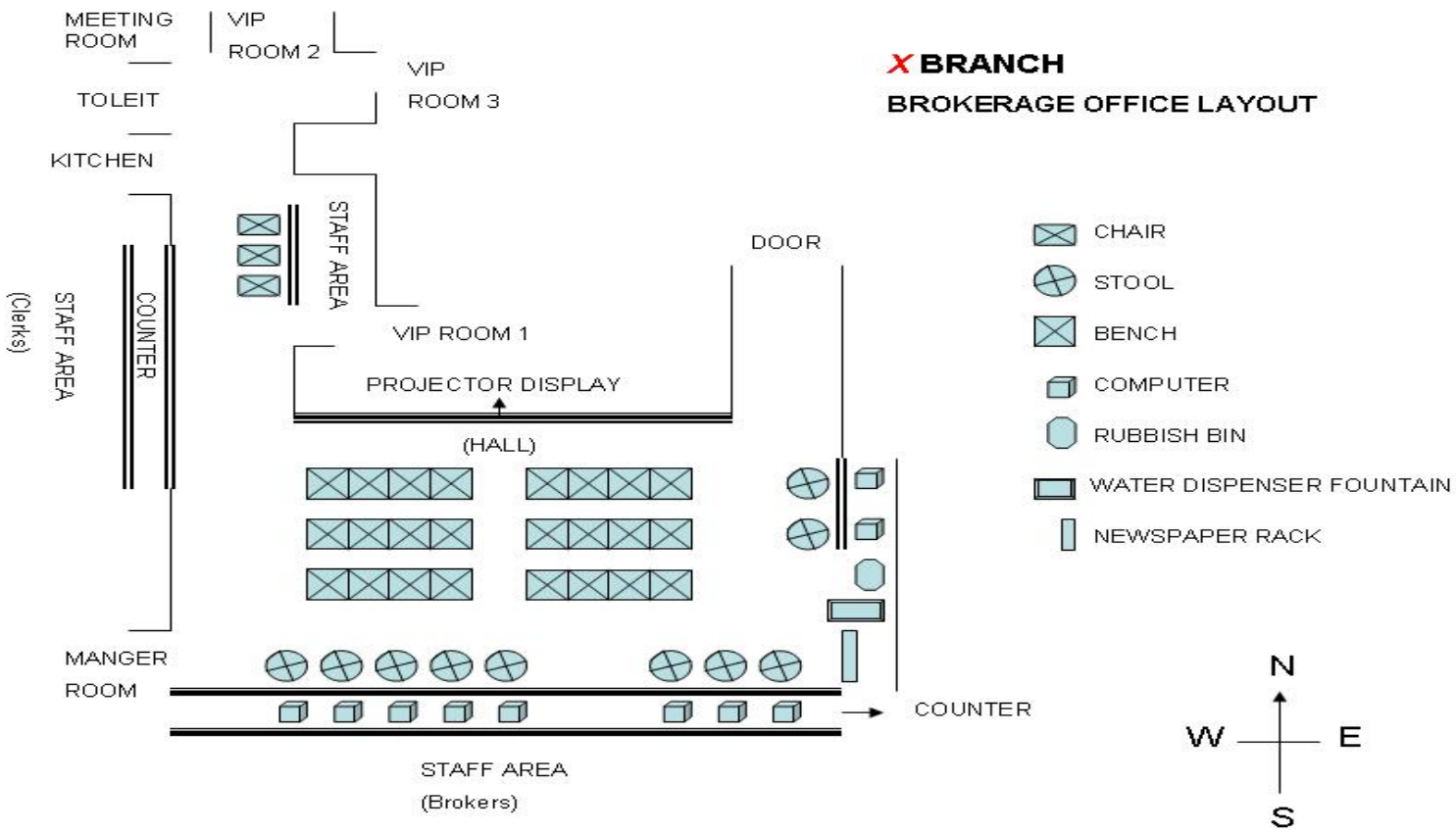
MEETING ROOM
VIP ROOM 2
VIP ROOM 3
TOLEIT
KITCHEN
STAFF AREA
DOOR
STAFF AREA (Clerks)
COUNTER
VIP ROOM 1
PROJECTOR DISPLAY
(HALL)
MANGER ROOM
COUNTER
STAFF AREA (Brokers)
X BRANCH
BROKERAGE OFFICE LAYOUT
CHAIR
STOOL
BENCH
COMPUTER
RUBBISH BIN
WATER DISPENSER FOUNTAIN
NEWSPAPER RACK
N
W
E
S

Image 5.1

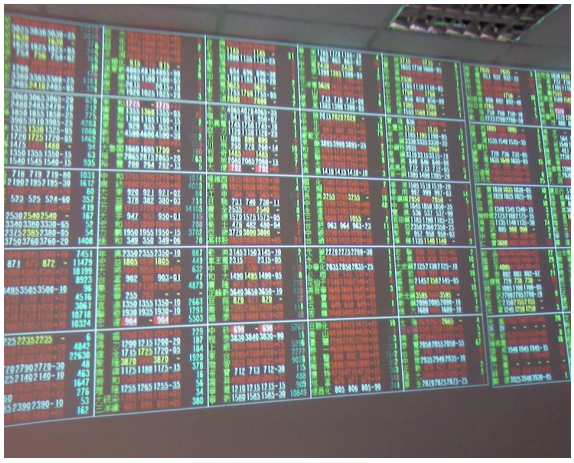

Image 5.2

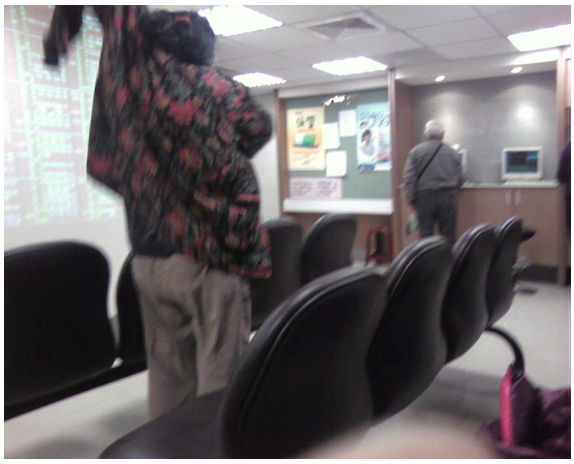

Image 5.3

Image 5.4

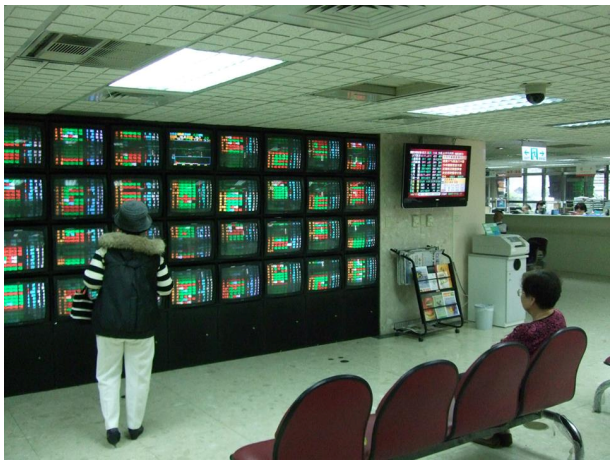

Image 5.5

Image 5.6

Image 5.7

Image 5.8

Image 5.9

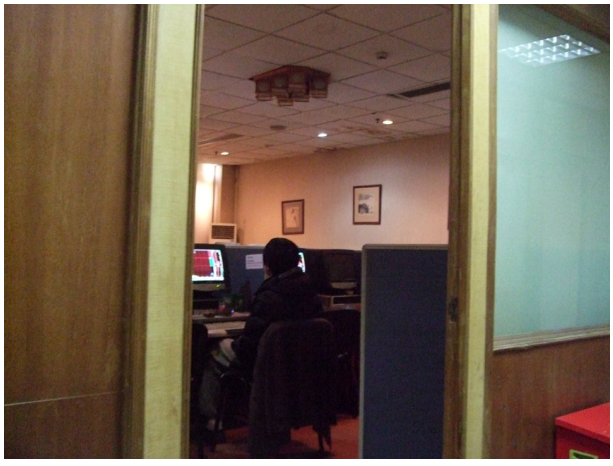

Image 5.10

Image 5.11

Image 5.12

Image 5.13

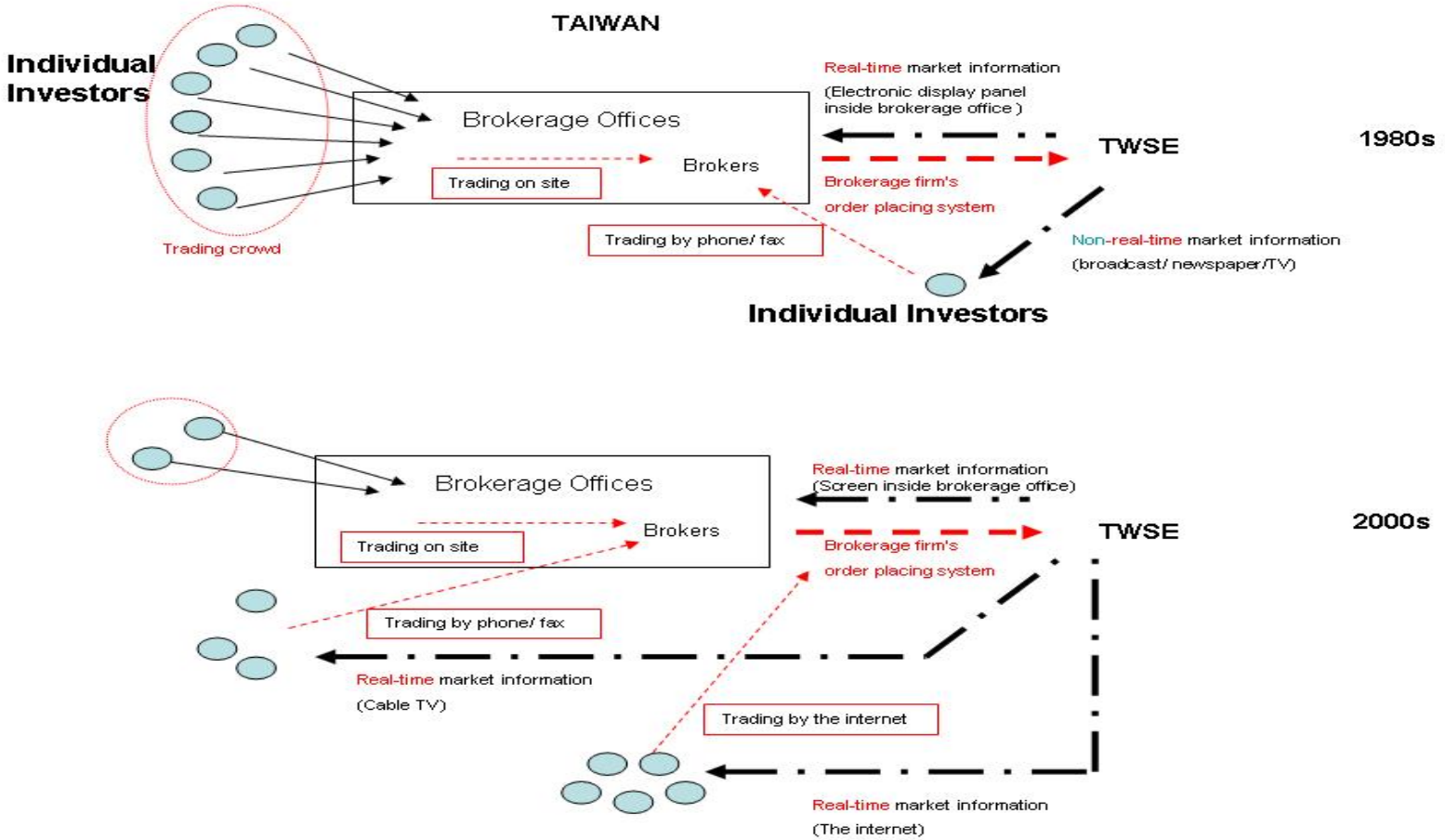
TAIWAN
Individual Investors
Trading crowd
Brokerage Offices
Brokers
Trading on site
Trading by phone/ fax
Real-time market information
(Electronic display panel inside brokerage office)
TWSE
Brokerage firm's order placing system
Non-real-time market information
(broadcast/ newspaper/TV)
Individual Investors
1980s
Brokerage Offices
Brokers
Trading on site
Real-time market information
(Screen inside brokerage office)
TWSE
Brokerage firm's order placing system
Trading by phone/ fax
Real-time market information
(Cable TV)
Trading by the internet
Real-time market information
(The internet)
2000s

Image 5.14

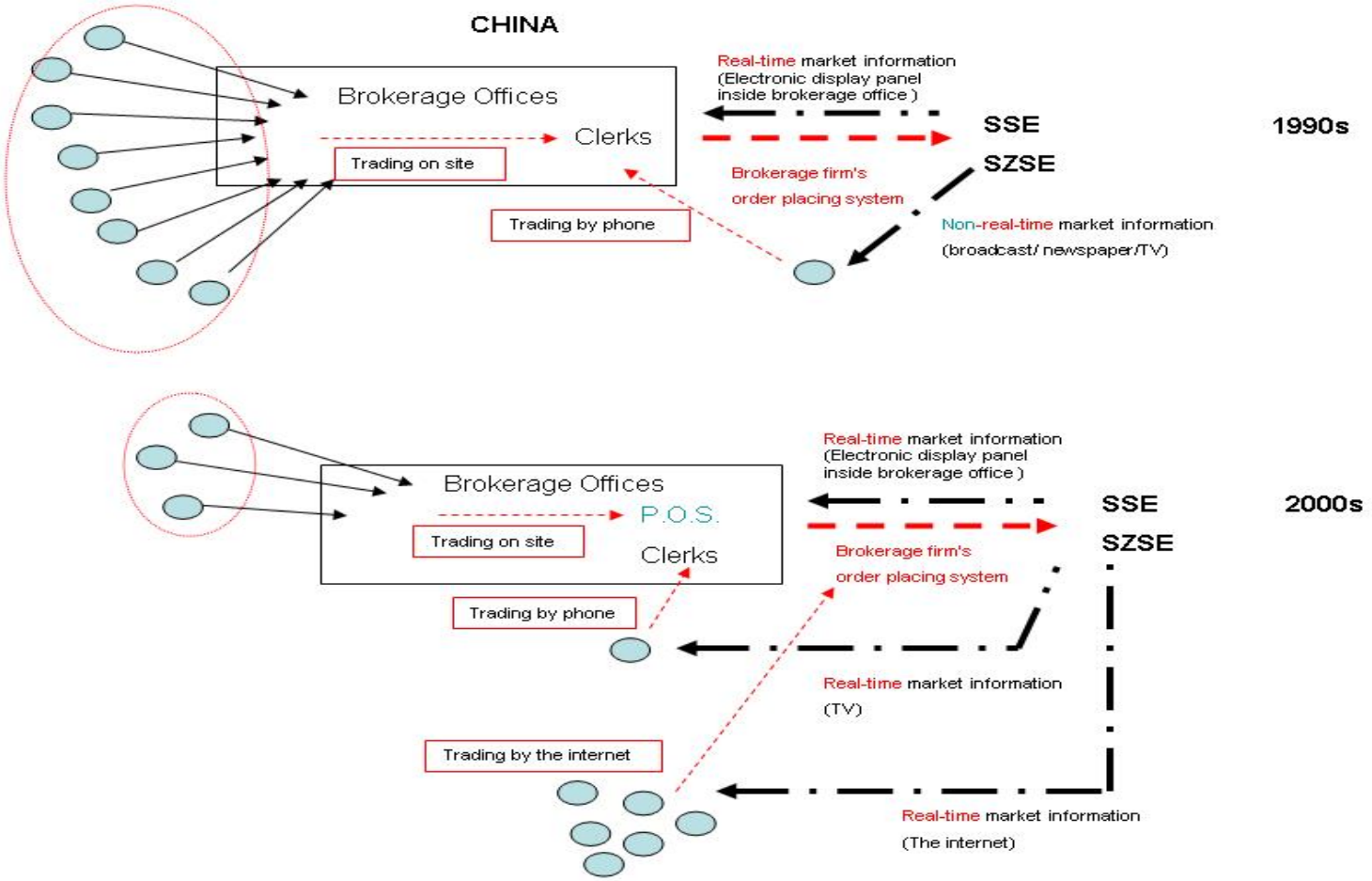
CHINA
Brokerage Offices
Clerks
Trading on site
Trading by phone
Real-time market information
(Electronic display panel
inside brokerage office)
SSE
SZSE
1990s
Brokerage firm's
order placing system
Non-real-time market information
(broadcast/ newspaper/TV)
Brokerage Offices
P.O.S.
Clerks
Trading on site
Trading by phone
Real-time market information
(Electronic display panel
inside brokerage office)
SSE
SZSE
2000s
Brokerage firm's
order placing system
Real-time market information
(TV)
Trading by the internet
Real-time market information
(The internet)

Image 5.15

Appendix 5.1 Changes in communicative media in China's stock markets

Compared to the technological development of Taiwan's stock market (see Chapter 3), the change in China's stock markets seems an intensive process. In 1990 and 1991, the Shanghai Stock Exchange and the Shenzhen Stock Exchange were built and China's stock markets began to operate (Liu et al. 2010: 315). In the beginning, real-time market information was transmitted only to local brokerage offices and several neighbouring regions. The area which was covered by the transmission of real-time market information was extended gradually. With the improvement of equipment, the situation was improving very quickly (Liu et al. 2010: 194–5). In 1997, a national transmitting and trading system was in operation. Real-time market information could be transmitted to all brokerage offices around China and trading orders could be sent to the stock exchanges immediately from each brokerage firm (Liu et al. 2010: 257). Besides brokerage offices, some local radio stations broadcast hourly latest share prices on an hourly basis and other radio stations and television channels reported closing share prices daily (Gamble 1997: 197; Hertz 1998: 154).

The online trading system was gradually adopted by brokerage firms towards the end of the 1990s (*Shanghai Securities News*, 27 May 1999). For most Chinese brokerage firms, the company website, the online trading system and the online real-time market information system were constructed simultaneously. The online stock-trading population is growing very quickly with a rapidly growing number of individual investors. As the majority of individual investors entered the stock markets, the online trading system has become very popular. To date, the brokerage fees from the online trading systems is the main source of income for most Chinese brokerage firms. For example, a brokerage branch manager in Hangzhou told me that the brokerage fees from online trading usually accounts for around 85 per cent of a company's gross income in this industry. Another informant, an IT worker of a brokerage firm, also provided me with a similar figure.

The income from on-the-spot trading fees is the second most important source of income. At present, each brokerage office still seems full of people. According to the branch manager's knowledge, strict government control regarding the number of brokerage offices in each area is the main reason that there remains a kind of bustling

atmosphere in the brokerage offices. The regulations freeze the number of brokerage offices in each area and prevents any new offices to open in the 'saturated areas'.[75]

On the other hand, telephone trading doesn't seem very popular in China. The branch manager told me that under 3 per cent of their customers use telephone trading. The reason might be that the telephone trading usually has to pair with the delivery of real-time market information. However, the broadcast of real-time market information on the national television channel started almost simultaneously with the launch of the online trading system and online real-time market information broadcasts (*Shanghai Securities News*, 27 May 1999; Li 2011: 138–9).

Appendix 5.2 A day at the brokerage offices (field note)

Brokerage office lobby, X Branch, Taipei, 22 February 2011

Time	Note	Footnote
8:58	I enter the brokerage office. Eleven individual investors have been there. Two women sit on a bench. A man and a woman are using east-side computers. Another man and five women are using the computer on the south-side counter. Some of them discuss the trend of today's market and express their nervousness.	
9:00	I sit on the bench and have breakfast. The stock market starts. At the same time, the futures market, which opened 15 minutes before, continues to go down. A broker shouts: 'The arrow of the futures market [technical analysis] tends to fall.' Phones in the office are busy ringing. Many calls seem to be for cancelling orders. A woman eats her breakfast [rice ball]. A woman says: '*Zhiyuan* [a listed company] is hitting the down limit.' Another woman replies: 'Just keep it'. A woman and man talk about *Yitong* [a listed company].	
9:05	Calls are less than earlier but the phones still ring very often. The purpose of most calls is to ask brokers about share prices. A female investor walks into the office. Two women talk about solar energy stocks. The futures market is still going down.	

[75] The list of 'saturated areas' is available on the website of the Securities Association of China (http://www.sac.net.cn/newcn/home/forward.jsp?cateid=1256874459100).

9:15		
	Phones ring only a few times. *Shifu* (a well-known male individual investor in this brokerage office) asks a broker whether he makes money for himself. One man curses a stock. Some other people regret why they didn't buy a stock which has been growing for several days. Since the market opened, the stock market is declining. All investors seem in sombre mood and talk less. Two men walk into the office and a man walks back and forth inside the hall. A woman calls a broker's nickname (an indication of how familiar they are). Two women chat on the bench. A man and a woman on the left-side counter chat as well. Two women on the east-side counter talk about the 1997 Asian financial crisis.	So far, all investors on the spot seem over 50 years old.
9:27		
	A woman shakes her head several times. *Shifu* says: '*XX* [a listed company] is hitting down limit, great! When the foreign capital [foreign institutional investors] continues buying a stock, it must be dead.' One person says: 'IC design stocks stop declining.' Two women discuss about whether or not they should invest in solar energy stocks now. A broker says: 'The futures market is breaking [the support] (technical analysis). Many people are forced into liquidation now.' A person says: '*Zhongmeijing* [a listed company] is reaching the highest price. Due to the Middle East, oil stocks are growing so much.' A man says: '*XX* [a listed company] is changing to hit upper limit. Is it tricking us?' A woman says: 'An analyst is saying *Zhongmeijing* is going up to 150. It's almost this price. Can we invest now?'	There are more investors here than yesterday. When a person continues talking about a stock for a while, other people start to pay attention to this stock and respond to what this person has said.
9:30		
	A person went to buy breakfast and comes back to the office. A person talks to a broker: '*Zhongmeijing*'. (It means a call-order).	
9:45		
	Shifu shouts: 'Yeah, I knew *Hejiang* [a listed company] would hit the upper limit.' A person talks to a broker: 'Buy 2 *XX* (a listed company) without margin.' A woman walks out from a VIP room and talks to a broker: 'OO (broker's name), I'm going to the United States tonight. Please pay attention to *Guotaijin* [a listed company] for me.' Another woman says 'Goodbye' to her. A broker complains and says: 'The futures market is falling again.' One person starts to eat breakfast.	
9:48		
	Someone takes a newspaper from the rack. Phone calls increase again.	*Zhongmeijing* (a

9:55	Some people talk about the Jasmine Revolution in Middle East. *Shifu* says: 'Wa, there are 188 units short of *XX* [a listed company].' One woman always goes out of the office to talk on her cell phone. One person says: 'The Central Bank [TW] can't resist the growth of oil cost [it refers to airline stocks].' Two women talk about industries. Someone calls into the office to ask a broker about the index pattern [technical analysis]. One man says: 'Wa, the Hong Kong market is falling 400 points.' A man who came here yesterday as well uses the east-side computer (I have never seen him talk to other people).	solar energy stock) seems very hot today. It is frequently discussed in the lobby and there are many phone calls asking its price as well.
10:07	A man and woman discuss 'Why has *Changlong* [a listed company] hit the down limit?' Personal income tax becomes a discussion topic on the right-hand seats of the south-side counter.	The market seems much calmer now. The projector screen also shows the trading volumes remain stable.
10:12	Most people start to walk around and chit-chat (the topics are irrelevant to the market).	
10:16	A cleaner sweeps the west-side corridor. Some people chat about their children. *Shifu* jokes: 'Financial stocks don't go up. Electric stocks don't go up. Everyone should make an appointment to jump from a building together.' A broker laughingly replies: 'Oh, everyone needs to take a number' (meaning that there are too many people and the people have to queue to jump). A man and woman are reading newspapers. Some people complain about the decline of IC design stocks.	These eleven people are sitting since the market opened and they also were here yesterday.
10:30	*Shifu* speaks to a woman: 'Tell your sister to keep *XX* [a listed company].' A broker says: 'That's a 50,000 short order in the futures market. Wa, even if facing a financial crisis, you still have time to refinance.' A man laughingly replies: 'And have time to escape.' Another says: '*XX* is hitting the down limit.' A woman tells another person: 'The security of our building also invests in *XX*.' That person replies: 'It doesn't work [to gain information] by reading newspapers, because other people read the same information as well.'	
10:35	People still chit-chat and curse the stock analysts. A broker says 'Be careful of the futures market!' One person says: 'The Korean stock	

	market is breaking the last lowest point.'	
10:38		
	I start to read a newspaper.	
10:50		
	There are less people (eight women and one man) and less talk in the lobby.	
11:00		
	A broker says: 'The futures market is going up! *Zhongxinjin* [a listed company] is going up!'	
11:12		
	Some people chat. A broker shouts: 'Shanghai [stock market] is plunging. Oh, classmates [fellows], how do I play!?'	
11:15		
	Some brokers start to eat their lunch. The hall is full of food smells. One woman starts to eat her lunch which she prepared and brought in herself. Her lunch box was heated in a microwave oven, which is a facility in the brokerage office for staff and clients.	
11:25		
	I go to buy coffee.	
11:35		
	People continue doing the same things. They chat a lot and the topics are not related to the market. In general, they pay less attention to the market. There's no phones ringing either. One man always watches the computer and murmurs to himself.	The market situation is stable (no huge change). People concentrate on chatting.
11:46		
	One person goes back to the VIP room with their lunch box. *Shifu* asks a broker: 'Have you had your lunch?' 'Not yet,' the broker replies. 'Could you please buy something for my lunch?' *Shifu* says. 'What do you want?' the broker asks. 'Don't buy the same food as last time. – Ok! Dumplings and a cup of corn soup.' *Shifu* replies. Another broker jokes: 'Remember buy eight dumplings [eight is a lucky number in Chinese culture], not ten.' The broker laughingly replies: 'Should I buy the corn soup with eighty-eight corns?'	
12:00		
	A woman walks in the office. Another woman jokes to her: 'So late, have you come here for lunch?' Another woman talks to a broker: 'I need to leave now to see a doctor. Bye.' The broker who went to buy lunch for *Shifu* comes back. *Shifu* asks him: 'How much money?	

	Including your meal. Let me pay you.'	
12:05		
	The phones start ringing more again.	The brokerage office offers a water dispenser, tea bags and disposable cups. Two people bring their own cups to brew tea.
12:08		
	A man walks into the hall and watches the screen as he murmurs to himself.	
12:10		
	Many people shout: '[The market's] stopped dropping! Stop dropping! It's time to get the rebound!'	
12:13		
	On-the-spot orders and talk increase. The atmosphere of the hall becomes busy again.	
12:15		
	The number of people increases. An old woman accompanied by a foreign domestic help enters the lobby. This old woman starts to talk to two other women (it seems that they are very familiar to each other). She asks them: 'Do you hear any information of *Lianfake* [a listed company]?' A woman curses the CEO of *Lianfake* and complains: 'How could he allow the price to fall so much?' Another says: 'Have you had your lunch? *Lianfake* is not good. Each IC design stock hit the down limit yesterday.'	
12:23		
	Some women chat. *Shifu* talks on his cell phone about the result of his son's university joint exam. A broker makes a joke about it. One woman talks to another woman about their female acquaintance who's made hundreds of thousands profit in *Dalikuang* [a listed company].	
12:30		
	A woman asks a man: 'Why do the game stocks plunge?' Another woman replies: 'Because of Mainland China … .'	There are more people in the lobby than yesterday at noon.
12:31		
	A man walks into the hall with bread.	
12:33		
	Everyone becomes involves in a discussion of an interesting news story about how a person under 18 is not allowed to collect their lottery winnings. A broker says: 'Oh my god! There is still an hour more for plunging.'	
12:42		
	One person shouts: '*Nanchang* [a listed company] really is starting to	

	go up.' A broker replies: 'Someone is taking [some people are buying].'	
12:48		
	Shifu jokes: '*XX* company [a listed company] is afraid that individual investors are stranded. This is so nice.'	
12:49		
	Shifu says: '*XX* changes to rise. Do you see? I told you to purchase. Why you didn't buy?' A woman went to buy a cup of soup and comes back. A man calls out a woman's name and chats about her children.	
12:55		
	Someone shouts: 'The market goes back to today's starting point.' A broker says: 'Every time it's like this.'	
12:57		
	The phone calls increase.	
13:04		
	The phones are busy ringing. One person shouts: 'Change to red! [meaning the market changes from down to up] Change to red!' A broker says: 'F**k you!'	
13:05		
	Someone says: 'Almost faint! [the index almost goes back to the original level when the market opened] *XX* hits the upper limit.' Another says: 'The market is rising in the end.' A broker says: 'Raise *Diyijin* [a listed company]!' Another broker replies: 'Yeah. It's going to hold an institutional investors conference.' Another person shouts: 'The futures market is going up.' The phones never stop ringing.	
13:15		
	The atmosphere suddenly goes calm for a while.	
13:16		
	Two women chat about how to get along with their husbands and mothers-in-law. Another woman leaves.	
13:17		
	The phone calls increase again.	
13:18		
	Three women talk about *Aizhiwei* [a listed company]. One woman says: 'So exciting. It goes up.' Another woman says: 'Calm down. Don't get too excited.'	
13:20		
	A woman walks into the hall and uses a east-side computer. A cleaner	The people who

	starts to clean the counter and watches the [market] projector screen at the same time.	sit in front of computers on the south-side counter have been there all day. The broadcast gives me a strong feeling about the final countdown of today's market.
13:22	A woman says: 'Faint! Faint! *Shengyangke* [a listed company] hits the upper limit.'	
13:23	One person says: 'The futures market's gone up by 100 points.' The loudspeaker in the lobby starts to broadcast the current time (The last five minutes' market information will not display until the end of the market trading day, a result from when the government worried that someone could trick investors by manipulating the last minutes of market trading.). A male cleaner starts to empty the rubbish bin, but he also keeps his eye on the market projector screen (This man also watched the market in the morning).	
13:24	A woman says: 'Hurry up! Hurry up! Earning 100 dollars is also nice.'	
13:25	The broadcast ends. A broker says: 'Now is the last round of the game [trading]!'	
13:26	There are some phone calls. One man curses the institutional investors. People start to move and throw away the used cups.	
13:28	Phone calls increase. Everyone starts to put their stuff back into their bags and walk around. A broker says: 'Help! Have lost money again.'	
13:30	People talk more. *Shifu* says: 'Lost money!' A woman replies: 'Me too!'	
13:31	The last trading result is showed on the screen. The cleaner changes the rubbish bag. Phone calls increase. Most of them are about asking brokers whether their orders have been dealt or not.	
13:32	The light is turned on in the hall. You can't see the projector screen clearly. People start to collect their jackets, talk on their cell phones and leave. People on the counter fill their orders.	
13:33	One person says: 'The show is over.' People ask each other: 'What	

	will you do later?' People get their bags and leave.	
13:34	*Shifu* says: 'Really unreasonable.' People say 'Goodbye' to each other. A cleaner replenishes the disposable cups.	
13:35	The cleaner starts to clean the counter. All the investors leave the brokerage office.	

Chapter 6

Conclusion

This thesis has shown how stock trading is interconnected with lay investors' social relations, what are the features of lay investors' socio-technical configurations and the key market devices used by them, and which factors cause the asymmetry of calculative capabilities between professional and lay market actors in Taiwan's stock market and which conditions constrain the extension of this gap. This thesis has also explored the interiors of Taiwanese and Chinese brokerage offices and elucidated the interlinks between technology, financial markets, social life and these offices. The findings of these investigations have been outlined in the previous chapters. Two issues are nevertheless raised by my focus on the relation between stock trading and daily life: the relationships between social relations and economic action and the frames of market actors.

6.1 Social relations and economic action

Since Granovetter's theory of embeddedness was first proposed in the 1980s, a number of social approaches have been developed to investigate the subtle relationship between social relations and economic action (Smelser and Swedberg 2005). In terms of financial markets, three major approaches for this purpose can be generalized from the literature: the embeddedness approach, the relational-work approach and the socio-technical approach, all of which have been applied in this study. Due to these powerful theoretical tools, different aspects of the relationships found in Taiwan's stock market have been illuminated, which help us to gain a better understanding of lay investors' socio-economic life. However, the findings of this study also imply the limitations of these approaches.

The first approach originates from Granovetter's concept of embeddedness. As noted, the core idea of this approach is that economic action is 'embedded in concrete, ongoing systems of social relations' (Granovetter 1985: 481, 487). A number of sociological and anthropological studies of financial markets have

elucidated the effects of social relations on the participants' economic performances and the operations of the market systems (e.g., Baker 1984; Abolafia 1996).

As reported in Chapters 2 and 4, social relations are found to be an essential element of Taiwan's stock market, even though this market is an electronic, anonymous stock market with millions of participants. Through social ties, lay investors in Taiwan are able to collect trading capital, learn analytical skills and receive market information and trading advice. On the other side, for professional practitioners, the social connections with, for example, the managers of listed companies are a useful 'tool' to update the information concerning companies' current operations. Furthermore, personal ties are thought by these two groups of market participants to be the main (and often also the only) channel to access *neixain* (referring to different types of insider information), though the accuracy of this *neixain* is always a problem.

The second approach is Zelizer's 'relational-work' theory (Zelizer 2005, 2012). In general, this approach argues that all economic activities are constituted of 'negotiated and meaningful interpersonal relations' (Zelizer 2012: 149):

> [I]n all economic action, I argue, people engage in the process of differentiating meaningful social relations. For each distinct category of social relations, people erect a boundary, mark the boundary by means of names and practices, establish a set of distinctive understandings that operate within that boundary, designate certain sorts of economic transactions as appropriate for the relation, bar other transactions as inappropriate, and adopt certain media for reckoning and facilitating economic transactions within the relation. (Zelizer 2012: 148)

One difficulty in applying Zelizer's approach to Taiwan's stock market and to other electronic, anonymous financial markets is the absence of direct interaction between the parties undertaking transactions,[76] which also poses a problem when the

[76] It has been argued that the form of social interactions in financial markets are linked to technology and the structure of the market (e.g., Knorr Cetina and Bruegger 2002: 912–14; Clark and Thrift 2005). Indeed, the importance of the market's structure has been emphasized in sociological studies of the markets (e.g., White 1981; Baker 1984; Podolny 1993; Zuckerman 1999; Fligstein 2001; also see Preda's review 2009: 58–96).

embeddedness approach is used (noted in Chapter 2). However, the insight of Zelizer's approach had implied the importance of lay investors' ideas about trading influencing their market behaviours.

As shown in Chapter 3, lay investors in Taiwan tend to define trading stock as 'doing a sideline business' and 'playing a game'. In practice, they usually use their spare money for trading, relying on the income from another job for living expenses and taking a relatively relaxed attitude toward trading. That is, they deliberately restrict their involvement in the market and are more concerned about the emotional rewards of trading. These ideas about the market (and the sets of operations that stem from these ideas) form the principles of lay investors' market behaviours and their everyday models for managing market risk.

Furthermore, this approach has also elucidated the social aspect of brokerage offices in Taiwan. As reported in Chapter 5, for lay investors accustomed to trading in brokerage offices, these places are not only a financial space, but also an important social space. Those investors tend to give social meanings, incorporated with the office's original economic connotations, to the space and the combined meanings shape the interactions, relations and activities there.

The third approach centres on the socio-technical relations in economic action. This approach is drawn from social studies of finance (and social research on science and technology) and has been shared by a number of recent sociological studies concerning markets and economy (Pinch and Swedberg 2008). Compared to mainstream economic sociology (namely, the Granovetterian embeddedness approach), which emphasizes human relations in economic actions, this approach tend to view each economic action as a dynamic configuration of connected human individuals and 'objects', where the connections among individuals and between them and 'objects' are equally important (Callon 1998; Preda 2009: 137–67; MacKenzie 2009). This approach argues that dynamic socio-technical relations would shape and reshape the social relations within economic actions. Thus, the examination of the socio-technical relations within economic activity is a key to elucidate the subtle relationship between social relations and economic action.[77]

[77] The 'objects' could include various non-human entities within economic activities, for example, communication devices, price recorders, trading systems, information and economic theories (Knorr Cetina and Bruegger 2002; MacKenzie and Millo 2003; Zaloom 2006; Muniesa 2008; Preda 2008;

Presently, online social media (such as the Internet forums) has facilitated and changed the form of social interactions among lay investors in Taiwan, as reported in Chapter 3. This finding is mainly consistent with other studies utilizing this approach, such as Roscoe's (2013) studies of UK lay investors.

In addition, the social interactions and market activities in Taiwanese and Chinese brokerage offices are influenced by the relations between the people and the trading devices, and the supplemental facilities, furniture and layouts of the offices, as shown in Chapter 5. Strong links between the social, the economic and the technical have been observed within these places.

Using these three approaches, different aspects of the relationships between social relations and trading activities in Taiwan's stock market have been explored, and social relations have been demonstrated by this study to be a crucial element of lay investors' trading activities, as are the roles of social relations in other economic activities.

Table 6.1 Analytical Approaches to Socio-economic Relationship

Key concept	**Relationship**	**Focus**
Embeddedness	Economic action is embedded in social relations.	Effect
Relational work	Economic action is constituted of social relations.	Meaning
Socio-technical	Economic action is practised by the connected human agents and objects.	Human-object relation
Weaving	Economic activities and social life are woven together to form a seamless whole.	Interweaving

Despite their differences (as illustrated in Table 6.1), the three approaches discussed above share a similar model. They tend to focus on an economic activity and then reveal different aspects of social relations within this economic activity. However, as emphasized, a large proportion of the socio-economic relationships in Taiwan's stock market can be easily overlooked by this common model: the role of stock trading in, and its impact on, wider social interactions.

For lay investors in Taiwan, stock trading is not only a popular financial activity but also an important social one. Social relations are as crucial to their stock

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Roscoe 2013). Knorr Cetina and Bruegger's (2002) study of foreign currency traders is a manifest example of this approach. The study suggests that the electronic communication device, which is designed for dealing transactions in the global foreign currency markets, facilitates traders around the world in building social connections and forming a global 'virtual' community.

trading as stock trading is crucial to their social life. As suggested in Chapter 2, engaging in stock trading, following the market news, and sharing information and opinions about the market have been social activities frequently engaged in with immediate family, friends and relatives, even though the actual trading transaction is made on an individual basis. When the stock market has been a major issue in society, taking part in trading tends to facilitate lay investors in maintaining and expanding their social ties. However, on the other hand, providing incorrect information or inappropriate suggestions to other people may impair a lay investor's social ties. Likewise, social relations, rather than economic reasons, have been found to motivate those lay investors who continue to visit and trade in actual brokerage offices (as opposed to online trading), as reported in Chapter 5.

In brief, my findings have suggested that stock trading and social relations are woven together to form a largely seamless whole, and comprise a major part of lay investors' daily lives. In order to emphasize this aspect of socio-economic relationships, an additional approach is offered by the author here to complement the conceptual toolkits used to analyse these relationships: that is, to expose the interwoven relationship between economic activities and social life. As the social ties outside the markets have impacts on people's market activities, so is the role of economic actions not restricted to merely the relationships between the parties engaging in transactions. These economic actions always interact with the market agents' relations with other people as well. The boundaries, operations and meanings of economic transactions sometimes are defined by the agents' social life.

The economic and the social have never been discrete in human society (Polanyi 2001). Presently, any economic action, even carried out in complete anonymity, is a constituent of an agent's social life, as social relations are an intrinsic element of economic activities. The four approaches in Table 6.1 are mainly compatible, and all are useful to enhance the sociological explanation of market activities, even though each approach has its own focus and standpoint.

6.2 The frames of market actors

In Taiwan's stock market, stock trading is not only interwoven with lay investors' social relations but also with their jobs, schedules, devices and workplaces, and also with the appliances, people and events occur in the various contexts. As reported in Chapters 3 and 5, during the TWSE's (Taiwan Stock Exchange's) trading hours, some homemakers may be doing their housework while listening to analysts' reports about the day's stock market as they are broadcast from cable TV channels; some university students will be sitting in their classrooms but paying more attention to the real-time share prices on their laptop screens than to their lecturers; in the corners of the brokerage offices, some retirees will be chatting with each other while drinking cups of tea and watching a large projection screen displaying market information; in some company offices, clerks are furtively using mobile devices to check the price changes of their portfolios.

This picture suggests that the *agencements* of lay market actors are varied, bricolaged and also intertwined with these individuals' daily lives. These characteristics of Taiwanese lay investors' socio-technical configurations raise another theoretical issue: the frames of market actors.

In Callon's theory (1998; with Muniesa 2005), the construction of the market is based on the process of framing agents and goods within the market mechanism. By removing social relations from market agents' calculation (that is, becoming *homo economicus*) and assembling the agents with market devices (generating calculative capabilities), the actors are made up in the market fields. In other words, the market actors are constructed by disengaging the agents from non-market relations, devices, activities and mentalities, and simultaneously integrating them into the material, mental and institutional structures of the market. Although this 'framing' is usually not for a prolonged period of time, in specific times and spaces at least, the market agents, according to Callon's theory, are described as being detached from the other activities, relations and settings in their daily lives.

Professional traders in financial markets largely exemplify Callon's concept of market actors, though the inseparable relationship between social relations and financial-market activities has been demonstrated, as noted above. A professional trader is a configuration of an individual with a financial job, a trading room with specifically designed proportions, advanced and specialist market devices, supportive

colleagues, a systematic knowledge of the market system, self-identification as a *homo economicus*, and regular interactions with other professional market practitioners (e.g., Knorr Cetina and Bruegger 2002; Beunza and Stark 2004; Zaloom 2006; Lepinay 2007; MacKenzie and Hardie 2009; Preda 2012).

From an actor-network theory perspective, an actor is a heterogeneous network (integrated with both human agents and non-human entities), and its scale (the extension of the network) is not fixed (Callon and Latour 1981). This idea implies that the boundary between the actor and the environment (as the boundary between the contents and the context) is sometimes blurred and movable. MacKenzie and Pardo-Guerra (2013) have illustrated this idea in financial markets with their case study of Island (a new electronic trading platform). The analysis elucidates the development from the peculiarly material cultures of Island (a 'micro') to the common features of North American and western European stock markets (a 'macro').

Callon's notion of framing refers to the demarcation and formulation of the actors (the heterogeneous networks) in the market field by the market's laws and structures. Those entities which are irrelevant to the market mechanisms are eliminated, at least provisionally, from the networks. The boundary of the market is not impervious to change, according to Callon's argument (1998). Due to the 'impossibility of total framing', the 'externalities' (what *should* be taken into account according to the market's principles but *are not* integrated into the existing market mechanism – e.g., pollution is sometimes not calculated into the cost of production) would create overflow and the outset of 'reframing'.

However, as emphasized, lay investors in Taiwan have never been disengaged from daily life; instead, parts of daily life are always worked into the assemblages of lay market actors. This is not a case of overflow, because it is not possible for those parts of daily life, which have been the essential elements of lay market actors, to be fully formulated by the principles and structures of the market. In other words, the socio-technical configurations of lay investors are shaped not only by the framework of 'market', but also the structures of 'daily life'. This characteristic distinguishes lay market actors from professional market actors, whose assemblages are mainly led by the framework of the market, as noted above.

Conventionally, the dichotomy between professional and non-professional traders is mainly based on their occupations, capitals and organizations (e.g., Mayall 2006; Harrington 2008; Roscoe and Howorth 2009; Roscoe 2013). However, the different frames of these two groups of financial-market participants, as analysed in this thesis, suggest that the two assembling models also include other factors, such as the differences between their values, dispositions, identities, ideas about trading, expectations, views of the market, workplaces, devices, time commitments, information sources, colleagues and social connections.

An additional factor perhaps facilitates the differences between these two assembling models: the environments where the market actors assemble. The term 'environment' here refers to the long, steady and slowly changing context (including the social settings and materiality[78]). If the professional environments are analogous to laboratories, that is, a 'well-designed' environment for financial-market activities (though this is of course only a limited analogy), the daily-life environments would be more like a 'wild' environment, which contains a plenty of non-market entities, activities and relations.

6.3 Contributions and limitations

In showing how stock trading is integrated into lay investors' daily life, this study contributes to illuminating the effect of micro social factors such as social relations, meanings and frameworks of everyday life on the growth of lay investors in financial markets. As mentioned above, economic, institutional and technological factors have been used to account for this phenomenon (e.g. Barber and Odean 2001b, 2002; Wu 2005; Harrington 2008), but those reasons cannot fully explain why nearly half of the adult population in Taiwan are engaging in the stock market. This analysis suggests that individuals' behaviours in financial markets are not only decided by economic

[78] For example, the materiality of the environment can refer to the appliances which are often found in the environment. Telephones, cable TV channels, smart phones, laptops and Wi-Fi connections have become popular electronic devices in many people's everyday lives. These products are no longer cutting-edge technology, specialist trading tools, or unaffordable equipment for a great number of people. However, due to these ordinary devices, lay financial-market actors are able to assemble in daily-life places such as homes, offices and classrooms.

rationale and psychology, as the studies in finance and in behavioural economics have illuminated, but also are affected by micro-level social factors.

This research responds to a number of calls for more focused attention to the activities of lay investors in financial markets (e.g. Harrington 2008, Roscoe 2013). The majorities of studies within mainstream finance research and social studies of finance focus on professional investors with limited exceptions (see Chapter 1). Through a systematic examination, this study indicates the distinctions between lay investors and professional practitioners in a number of aspects. The characteristics of lay investors are elucidated and the construction of lay market actors is illustrated.

This study also suggests the compatibility of the three important social science approaches to economic agents: Granovetter's embeddedness, Zelizer's relational work and Callon's *agencement*. As shown in Chapter 2 and 3, in Taiwan's stock market, lay market actors are human-technology networks, as Callon argues, but they are constructed in the existing social networks, as the embeddedness theory suggests. Stock trading has been integrated into lay people's existing webs of meanings and social connections, and the integration is important for their market actions; that is consistent with Zelizer's theory. However, technology plays an essential role in the integration, as Callon's and MacKenzie's studies suggest, and the strong interaction between the categories of the market and the social has been illustrated by Granovetter's embeddedness. Lay investors consider stock-market activities as social activities, as Krippner's and Zelizer's critiques of embeddedness approach, but both they and professional practitioners believe and perform economics in the market to some extent, as performativity theory indicates. The findings suggest a dualism in those economic agents' mind: the market is a 'social sphere' but also a distinct and autonomous 'economic sphere'. This research offers a way of rethinking what an 'economic actor' and an 'economic action' in the market are.

Lay investors in Taiwan are a large social group, but the number of the interviewees was limited and the sample was not selected randomly from the population. Some household demographics might not be represented in this work, and thus the findings may not be generalized to the entire group.

The government's polices are expected to play an important role in lay investors' activities, but this study did not explore this further. Taiwan's government

often intervenes in the stock market and lay investors tend to expect the interventions. *Hupan* (to raise the market index level when the market plunges) is considered an obligation of the government, because lay investors popularly think the government should be responsible for their losses in the market to some extent. Where does the expectation come from? The relationship between politics and lay investors' activities should be explored by future studies.

In addition, trading in financial investments (such as mutual funds and foreign currencies) as a daily-life activity has also been reported by the interviewees in China and Hong Kong. This possibly implies some common characteristics are shared by these societies, although unfortunately, due to the limitation of the data, my investigation of lay investors in these other Chinese regions is not comprehensive. Furthermore, studies of lay investors in Britain and North America have partly mentioned the connections between trading and daily life as well (Harrington 2008; Roscoe 2013). A cross-country study of lay investors will further help us to elucidate the roles of the 'daily-life framework' and 'cultural factors' in financial markets. I hope this work will be fulfilled in future sociological studies of financial markets.

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