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Keywords

M&A wave, Macroeconomic determinants, Restaurant industry

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Introduction

A merger and acquisition (M&A) is a strategic business activity that two organizations combine into one legal entity or one organization takes over the other organization. In business history, it has been repeatedly witnessed that M&A activities drastically increase during a certain period of time. A series of aggregate M&A activities with remarkably high volume and value are referred to as a M&A wave. There have been five major M&A waves in U.S. since 1890s (Martynova & Renneboog, 2008). Each wave had higher M&A volume and value than previous ones. The presence of repeated wave patterns suggests there are certain market conditions that trigger or facilitate M&As. Although M&A waves have been extensively studied; there are only a few studies that focus on the determinants of industry-level M&A waves. Given that industry-level merger and acquisition waves often set off the overall M&A waves (Corrao, 2012), it is important to know and understand the M&A wave determinants at the industry-level.

The restaurant industry has been one of the major contributors to U.S. M&A waves in the past three decades (Park & Jang, 2011). The data from Securities Data Corporation (SDC) platinum show that 1,198 M&A transactions with a total value of \$163.7 billion were completed in the period of 1981 through 2011 in the restaurant industry, which suggests that M&A has been an extensively used strategy in the restaurant industry for expansion and value creation.

Kiyamaz (2004) indicated that M&As help participating firms increase economies of scale, expand market power and share, lower financing costs, and increase financial stability by diversification. Restaurant firms involved in M&As experienced significant increase in short-term sales growth (Park & Jang, 2011) and market valuation (Chatfield, Dalbor, & Ramdeen, 2011). Given the drastic growth of aggregate M&A activities and the increasing importance of M&A as a strategic tool in the restaurant industry, it is surprising that the determinants of M&A waves in the restaurant industry have rarely been examined.

Through an extensive review of literature on M&A waves, this study summarized five M&A waves in U.S. and major scholarly works on the determinants of M&A waves, and further suggested future research directions in the restaurant industry.

Merger and Acquisition Waves

Wave behavior has constantly appeared in merger and acquisition activities (Finn & Hodgson, 2005). Finance literature has reported five M&A waves in the past century with increasing scale and geographical diversification. In 1890s, the Great Merger wave, the first M&A wave ever identified in the U.S., surged mainly for monopolies (Beckett, 1986). The primary purpose of this wave was to stabilize prices by eliminating competitors rather than achieving economies of scale (Lamoreaux, 1985). The second wave occurred in 1920s for oligopolies resulting in a few dominating firms that held the most market power in their respective industries (Stigler, 1950). Although both M&A waves were dominated by horizontal consolidations of firms within the same industry (Beckett, 1986), the second one was for economies of scale (Martynova & Renneboog, 2008).

In 1960s, the third M&A wave was triggered by antitrust laws and the corporate movements toward diversification (Shleifer & Vishny, 1991). Antitrust laws prevented firms from using a monopolistic competitive strategy which resulted in decreasing number of M&A activities in same industries and the increase of conglomerate M&A activities among different industries (Shleifer & Vishny, 1991). For growth purpose, firms in 1960s extensively used merger and acquisition strategy to enter new markets which were not related to their main business (Sudarsanam, 2003). Various revenue sources from diversification of business are expected to reduce risks of volatile cash-inflow and thereby increase firm value (Copeland, Weston, & Kuldeep, 2004; Montgomery, 1994). In addition, through merger and acquisition, firms create managerial synergy by gaining management know-how from target companies that is compatible to their own expertise (Matsusaka, 1993).

The underperformance of sub-divisions of conglomerate firms revealed management inefficiency under conglomerate structure mainly established during 1950's through 1970's (Shleifer & Vishny, 1991), which triggered the fourth M&A wave in 1980s. Corporate restructuring addressed excess capacity and led firms to refocus on their main businesses (Andrade, Mitchell, & Stafford, 2001; Bhagat, Shleifer, Vishny, Jarrel, & Summers, 1990). Meanwhile, deregulatory changes in antitrust policies allowed more firms to perform horizontal M&As (Martynova & Renneboog, 2008). Furthermore, the deregulation and progress in financial markets created new financing methods such as leverage buyout (LBO) and management buyout (MBO) which made it easier for acquiring entities to raise capital. A combination of these factors let firms to de-diversify through M&A (Bhide, 1990).

The M&A activities between 1993 and 2001 were identified as the fifth M&A wave (Martynova & Renneboog, 2008). It was noticeable that this wave was much more geographically dispersed than previous ones. The integration of global market in terms of product, service, and capital drove cross-border M&As of firms outstanding in capacity utilization (Andrade et al., 2001). Although not commonly recognized, the easy access to abundant capital during 2003 and 2007 triggered another M&A wave (Alexandridis, Mavrovitis, & Travlos, 2012). In this period, European and Asian firms continued to increase their investment in foreign market through M&A as in 1990s. Especially, Chinese firms' enthusiasm in cross-border M&A increased the volume of cross-border M&A transactions from \$ 3billion in 2002 to \$19billion in the first half of 2005 (Martynova & Renneboog, 2008). However, as managers of acquiring firms became less confident in creating synergetic gains, the M&A market became less competitive and the premiums paid by acquirers were lower than in previous waves (Alexandridis et al., 2011).

Existing Literature in M&A Waves

Wave Behaviors

The literature in M&A wave can be classified into two general categories: wave patterns modeling and determinants identifying. Since Nelson (1959) suggested the wave patterns of M&A activities, a number of researchers have attempted to prove whether M&As take place in waves. Shughart and Tollison (1984) examined the cyclical U.S. M&A patterns during the period of 1895 to 1977 and could not reject the hypothesis that aggregate M&A activity was attributed to a random walk process. Golbe and White (1993) found aggregate M&A activities had consistent patterns in the shape of a wave during 95 years (1895-1989). Using a two regime Markov switching model, Town (1992), and Linn and Zhu (1997) reported that aggregate M&A behavior could be described by the repeated alternation of high and low M&A activities. Aforementioned studies suggested that aggregate M&A behavior had cyclical wave patterns.

Determinants of M&A Waves

Industry/Firm-level Determinants

The second category of M&A wave research focuses on M&A wave determinants on both industry/firm-level and macroeconomic level. Gort (1969) indicated that M&As clustered not only in a certain period but also at industry-level. When M&A activities clustered simultaneously in several industries, M&A wave was initiated. Neoclassical researchers argue that industrial shock caused by rapid change in technology, regulation, and economic system leads to excess in productivity capacity within an industry and firms in the particular industry primarily employ M&A to attain asset reallocation to remove the overcapacity (Komlenovic, Mamun, & Mishra, 2011). Harford (2005) proposed that sufficient liquidity in capital markets is more essential in generating M&A wave than industry shock.

While neoclassical theory is based on efficient capital market assumption and shareholders' wealth maximization assumption, the behavioral theory is based only on shareholder wealth maximization assumption (Shleifer & Vishny, 2003). The behavioral theory suggests that managers are well aware of the irrational move of stock market due to imperfect information. When stocks are overvalued, managers are likely to take advantage of the overvaluation by using their stocks for payment of M&A transactions (Golbe & White, 1988; Gugler, Mueller, & Yurtoglu, 2006; Shleifer & Vishny, 2003). This also explained why strong bull market is closely associated with aggregate M&A activity. While overvaluation of stock markets leads firms to frequently use stock payment for their M&As, cash payment was popular when stocks are undervalued (Komlenovic et al., 2011). As a result, stock financing was the dominant payment method in M&A transactions during M&A waves (Harford, 2005).

Macroeconomic Determinants

Another prominent stream of research on determinants of M&A wave has focused on macroeconomic factors (Komlenovic et al., 2011). Macroeconomic indicators have been developed to measure comprehensive economic activity. Researchers have extensively used the macroeconomic indicators to explain various business activities and outcomes, such as stock returns, corporate credit rating, and M&A activity (Antelo & Mangin, 2010; Figlewski, Frydman, & Liang, 2012; Haque, Harnhirun, & Shapiro, 1995). Nelson (1959) was among the first researchers who investigated the effects of stock prices and industrial production on the level of aggregate M&A activity using correlation analysis and found that wave behavior in aggregate M&A activity was positively correlated with the level of the U.S. stock market between 1895 and 1956. Nelson's paper triggered a number of studies on macroeconomic factors on M&A waves. Table 1 summarizes twenty-five related studies identified in current literature.

The “Merger Activity-Economic Prosperity” Theory

This theory was introduced by Reid (1968) and advanced by Melicher, Ledolter, and D’Antonio (1983). It suggests that M&A wave is associated with expectations of economic growth and capital market conditions. Using stock prices and interest rate as proxies for growth expectation and cost of capital, this theory indicates that when overall stock prices are high and interest rate is low, aggregate M&A activity is likely to increase leading to a M&A wave. High stock prices indicate the expectation of a buoyant economy which leads to deficiency in supply by increasing demand (Fama, 1981). Accordingly, firms are willing to obtain additional capacity through M&A to take advantage of short supply in market. Low interest rate enables firms to reduce their financing cost of investment activities including M&A. Also, lower interest rate less discount the future cash inflows from investment and in turn increase the expected rate of return from M&As. Reduction in financing cost and increase in return on investment by low interest rate encourage more M&A transactions. The effect of cost of capital on M&A wave has been consistently supported by a number of empirical studies (Benzing, 1991; Kamaly, 2007; Shleifer & Vishny, 2003). However, the direction of the effect was inconclusive. According to Choi and Jeon (2011) and Benzing (1991), cost of capital was negatively related to M&A wave, which match the general expectation of the relationship between capital market conditions and M&A transactions. On the contrary, Steiner (1975) and Beckenstein (1979) found the positive effect of cost of capital on M&A wave.

Table 1**Merger Wave Studies on Macroeconomic Determinants**

Study	Study Period	Country	Method	Macro Explanatory Variables	Identified Significant Factor
Nelson (1959)	1895-1956	US	Correlation analysis	Stock price, Industrial production	Stock price
Weston (1961)	1919-1947	US	Regression	Stock price, Industrial production, Wholesale commodity prices	Stock price
Steiner (1975)	1949-1971	US	Regression	GNP, Interest rate, Stock price	GNP, Interest rate, Stock price,
Beckenstein (1979)	1949-1975	US	Regression	GNP, Interest rate, Stock price,	Interest rate, Stock price
Chung & Weston (1982)	1957-1977	US	Regression	GNP, Interest rate,	GNP, Interest rate
Melicher, Ledolter & D'Antonio (1983)	1947-1977	US	Regression, ARIMA	Interest rate, Stock price, Industrial production, Bankruptcy	Interest rate, Stock price
Gueroski (1984)	1895-1979	US / UK	Granger causality test	Stock price	None
Becketti (1986)	1960-1985	US	Regression	GNP, Interest rate, Money supply, Stock price, Domestic debt, Capacity utilization	GNP, Interest rate, Stock prices, Domestic debt, Capacity utilization
Polonchek & Sushka (1987)	1948-1979	US	Regression	Interest rate, Money supply, Unemployment rate, Oil price, Bankruptcy, Real expenditure on housing,	Interest rate, Unemployment rate, Oil price
Clark, Chkrabarti, & Chiang (1988)	1919-1979	US	AR, Granger Causality test	Stock price, Industrial production	Stock price
Golbe & White (1988)	1940-1979	US	Regression, ARIMA	GNP, Interest rate, Producer Price Index (PPI)	GNP
Guerard (1989)	1895-1979	US	ARMA, Granger causality test	Stock price, Industrial production	None

Study	Study Period	Country	Method	Macro Explanatory Variables	Identified Significant Factor
Argus & Finn (1991)	1972-1990	AUS	ARIMA, Regression	Interest rate, Stock price, Industrial production, Capital expenditure	Stock price
Benzing (1991)	1919-1979	US	Regression	Interest rate, Stock price, Unemployment rate	Interest rate, Stock price
Benzing (1993)	1963-1986	US	Regression	Interest rate, Stock price, Industrial production, Capacity Utilization, Unemployment rate	Stock price, Unemployment rate
Haque, Harnhirun & Shapiro (1995)	1960-1989	CAN	ARMA, Granger causality test	Interest rate, stock price	Interest rate, Stock price
Clarke & Ioannidis (1996)	1969-1994	UK	VAR, Granger causality test	Stock price / GDP	Stock price / GDP
Yagil (1996)	1954-1979	US	Regression	Interest rate, Total value of investment	Interest rate, Investment
Finn & Hodgson (2005)	1972-1996	AUS	Vector error correction model	Interest rate, Stock price, Industrial production, Capital expenditure	Stock price, Industrial production
Cook (2007)	1975-2005	UK	GARCH, Granger causality test	Industrial production	Industrial production
Kamaly (2007)	1990-1999	Six Asians countries	Regression	Interest rate, Stock price, Export/Import	Interest rate, Stock price, Export/Import
Resenade (2008)	1969-2004	UK	Two state Markov switching model	GDP, Money supply , Inflation, Stock price	GDP, Money supply, Stock price
Choi & Jeon (2011)	1980-2004	US	VAR, Granger causality test	GNP, Interest rate, Money supply, Stock price, Corporate cash flow	GDP, Interest rate
Komlenovic, Mamun, & Mishra (2011)	1981-2006	US	Regression	Chicago Fed National Activity Index, Interest rate, Stock price, Capacity utilization	CFNAI, Interest rate, Stock price, Capacity utilization
Corrao (2012)	1997-2011	US	Time-series Econometrics	Real GDP, Interest rate, Stock price, Industrial production	Interest rate, Stock price

The Economic Disturbance Theory

Another prominent theory that explains the relationship between economic conditions and M&A wave is the economic disturbance theory. According to Gort (1969), the discrepancy in valuation of a business between major shareholders and potential investors determines movements in aggregate M&A activity. When economic conditions improve, the variation in estimation of future cash flows from the business increases. The increased variation in the expected rate of return results in valuation discrepancies. Especially, when the valuation of investors is higher than that of current shareholders, M&A transactions are likely to occur. Based on the economic disturbance theory, a number of studies reported the significance of economic conditions on M&A wave using stock prices and Gross National Product (GNP) or Gross Domestic Product (GDP) to measure current macroeconomic conditions (Golbe & White, 1988; Gort, 1969; Resende, 2008).

Variables Examined

Macroeconomic factors investigated in M&A wave studies have been diversified. Stock price and interest rate have been the most frequently investigated variables followed by industrial production and GNP or GDP. The effect of industrial production on aggregate movement in M&A activity was not obvious. While Cook (2007) and Finn and Hodgson (2005) found it has a significant positive impact on M&A wave, Corro (2012) and Guerard (1989) did not find significant relationship. On the other hand, most studies found GNP or GDP significant (Golbe & White, 1988; Resende, 2008). It was noticeable that GNP was mainly used until 1990's and then, GDP attracted most attention.

Becketti (1986) and Komlenovic et al. (2011) related wave patterns in aggregate M&A activity to business cycles. Using financial market conditions and real economic activities as proxy for business cycle, Becketti (1986) developed regression model to capture one-thirds of wave behavior in aggregate M&A activity between 1960 and 1979 and reported significant comovements of aggregate M&A activity

and business cycle. Komlenovic et al. (2011) constructed one synthetic macroeconomic index developed by Stock and Watson (2002) using 85 economic indicators to measure the overall economic trends. 12-month moving average of this index known as Chicago Fed National Activity Index (CFNAI), was significantly correlated with industry-level M&A waves.

In addition, bankruptcy, unemployment rate, money supply, and inflation measured by Consumer Price Index (CPI) or Producer Price Index (PPI) were investigated. While bankruptcy and unemployment rate had a significant relationship with M&A wave (Benzing, 1993; Melicher et al., 1983), money supply and inflation did not (Choi & Jeon, 2010; Resende, 2008). Steiner (1975) and Beckenstein (1979) added government policy factors regarding anti-trust to their models, but regression analysis showed inconsistent results.

A number of studies investigated not only macroeconomic factors on M&A wave, but also additional variables which might change the effect size of macroeconomic factors. Those studies attempted to look at whether macroeconomic determinants of M&A wave vary by M&A type, time period, or industry. Chung and Weston (1982) and Yagil (1996) categorized M&As into two groups: conglomerate and non-conglomerate (vertical and horizontal) mergers, based on industries of acquiring and acquired firms. Benzing (1991) and Yagil (1996) divided study periods into a few sub-periods. These studies discovered that M&A waves responded differently to changes in macroeconomic conditions according to core business relatedness and M&A periods. Komlenovic et al. (2011) and Corrao (2012) explored the effect of macroeconomic conditions on M&A waves in individual industries and found the types of industries significant in identifying important macroeconomic factors and determining their effect size. However, no known study has been identified that focuses on the effects of macroeconomic variables on M&A waves in the restaurant industry.

Methods Used

Statistical methods have been extended to advanced methods such as Markov two state switching model and Vector Autoregressive (VAR) model from simple ordinary least squares (OLS), to explain the correlation between macroeconomic factors and M&A wave. Early studies between 1950's and 1970's estimated coefficients of macroeconomic factors dominantly with multiple regression analysis (Steiner, 1975; Weston, 1961). From 1980's, researchers started to investigate M&A patterns using time series data. Since the inclusion of the autoregressive terms could prevent endogeneity problem by autocorrelated error (Resende, 2008), Benzing (1993) addressed autocorrelation problem by adding autoregressive terms to his regression model and found that the autoregressive term had a significant coefficient. In order to achieve a better fit to the dataset examined, time series models were developed using autoregressive (AR) and autoregressive integrated moving average (ARMA) (Clark, Chkrabarti, & Chiang, 1988; Guerard, 1989; Haque, et al., 1995). In addition, the use of time series econometrics models allowed investigation of bi-directional relationships among variables. Melicher et al. (1983) conducted autoregressive integrated moving-average (ARIMA) analysis to estimate cross correlations of M&A wave and four macroeconomic variables and found that stock prices and interest rate significantly affected M&A wave and in turn, M&A wave affected industrial production and bankruptcy rate. Other time series econometrics models, such as vector autoregressive (VAR) model and vector error correction model (VECM), were also employed for bi-directional relationships (Choi & Jeon, 2011; Finn & Hodgson, 2005). These time series econometrics models mainly accompanied Granger causality test to determine whether individual macroeconomic factors could predict or "Granger cause" M&A wave. Resende (2008) employed non-linear time series technique called two-state Markov switching model to analyze dynamic behavior of M&A wave and test the possibility of comovement of M&A wave and macroeconomic factors, and established a significant association between stock prices, money supply, GDP, and wave behavior in aggregate M&A activity.

M&A Studies in the Restaurant Industry

In spite of the increasing use of M&A as a type of investment in the restaurant industry, M&A have not drawn much attention from researchers. Extant M&A literature has mainly focused on the value created by M&A activity. Park and Jang (2011) found that acquiring restaurant firms experienced a significantly higher growth in sales volume than non-acquiring restaurant firms in a year, but the M&A effect was not persistent after one year after the acquisition. The study of Chatfield et al. (2011) reported acquiring restaurant firms had positive, but insignificant cumulative abnormal returns (CARs) for one day before the announcement day and the announcement day. However, CARs of target restaurant firms during the same period were significantly positive.

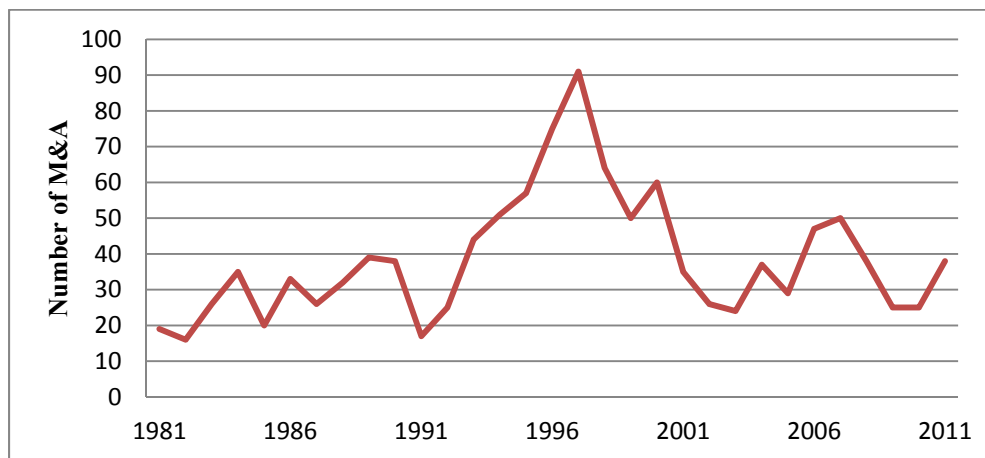
Due to the limited availability of data, Sheel & Nagpal (2000) investigated whether there were the long- and short-term effects of M&A on wealth gains using mixed restaurant and hotel data between 1980 and 2000, but no significant relations have been identified. On the other hand, Yang, Qu, and Kim (2009) found hospitality acquirers had higher abnormal returns compared with the hospitality sector market index twelve months after their acquisitions were completed. The M&A effects, however, before twelve months are not significant.

Payment types of M&A have been often examined. Oak, Andrew, and Bryant (2008) identified the importance of debt ratio, capital expenditure ratio, and firm size in determining a financing method. They found cash financing were preferred in hospitality M&A deals. Chatfield, Chatfield, and Dalbor (2012) investigated the effect of payment methods on abnormal returns to acquiring hospitality bidders including lodging, restaurant, and gaming firms. They reported abnormal returns of bidders using cash financing were positive and significant, but bidder returns were insignificant when stock financing or a mix of cash and stock financing was used. In addition, Kim and Arbel (1998) used a binomial logistic analysis approach to develop an M&A target prediction model in the hospitality industry.

However, no study has been identified that investigates the macroeconomic determinants of M&A wave in the restaurant industry. Figure 1 shows three M&A waves in the U.S. restaurant industry between 1981

and 2011. These three waves appear to be in line with the overall U.S. M&A waves previously discussed, which suggests these industry-level M&A waves may be driven by same market conditions that drove the overall M&A waves. Thus, understanding the significant drivers of overall M&A wave studies as well as their various methodological and theoretical approaches can provide guidance for future research on determinants of M&A waves in the restaurant industry.

Figure 1
M&A Activities in the U.S. Restaurant Industry, 1981-2011



Note: A total of 1,196 restaurant M&A transactions is drawn from SDC platinum. The value of each transaction is more than \$1million.

Future Research in the Restaurant Industry

Studies have identified important macroeconomic factors that have triggered M&A waves to help managers make informative M&A decision. However, significant determining factors vary between overall M&A waves and industrial M&A waves and among different industries. Therefore, to understand the idiosyncratic behaviors of M&A waves in the restaurant industry, based on existing literature, this study proposes the following future research directions.

Although the effects of M&A on synergistic gains for the acquiring firms has been inconclusive in finance literature; findings in current literature are consistent on that the wealth gains from M&A transactions vary because of the different stages of M&A wave during which the M&A transactions occur

(Harford, 2005). M&A transactions that occur during the upward stage of M&A wave are likely to be value-added, and wealth-destroying M&A transactions mostly occur during the peak and downward stages. In other words, the timing of M&A transactions is critical to determine their wealth gains. Since economic conditions are closely related to M&A wave movements (Yagil, 1996), a good understanding of the relationship between economic conditions and M&A waves in the restaurant industry will help restaurant firms forecast M&A waves and identify the optimal point of time for value-added M&A. The review of M&A wave studies provides several suggestions for future research to explore the relationship.

Examining Macroeconomic Determinants

Komlenovic et al. (2011) found that, only in certain industries, the fluctuations of aggregate M&A activities were significantly related to macroeconomic conditions; and Corrao (2012) further indicated that different macroeconomic factors had different impact on M&A waves in different industries. The heterogeneous impact of macroeconomic variables on industry-level M&A waves may be attributed to the uniqueness of an industry. It is therefore necessary to identify the macroeconomic forces that drive M&A waves in the restaurant industry and examine how they influence the M&A wave patterns. Several numbers of typical economic indicators used in previous studies may fail to capture the overall economic activity. Consequently, models based on only those variables may have a very poor fit and the significant explanation power of the models over M&A wave may be minimal. A comprehensive set of macroeconomic data needs to be explored to determine their real, idiosyncratic effect on M&A waves in the restaurant industry and further to accurately identify significant drivers of restaurant M&A waves. The macroeconomic data may include stock prices, short- and long-term interest rates, GDP, CPI, PPI, balance of payment, export, import, money supply, unemployment rate, gas price, bankruptcy rate, industrial production, and capacity utilization.

Macroeconomic variables represent a broad range of economic conditions, but the range covered by individual variables cannot be mutually exclusive (Cheng, 1995). Thus, the more variables are

included in a study, the more likely multicollinearity among indicators will be observed. Using Exploratory Factor Analysis (EFA) technique, the potential multicollinearity problem can be avoided and explanatory macroeconomic variables can be used to generate latent factors with no priori hypothesis reducing dimensions.

Identifying Industry Specific Determinants

Market valuation and cost of capital have been identified as the primary determinants of M&A waves (Kamaly, 2007; Komlenovic et al., 2011). Current economic state mainly measured by industrial production and GDP plays an important role in determining M&A wave. In addition, money supply, capacity utilization, unemployment rate, and capital expenditure have been considerably examined as possible factors on M&A wave. However, industry-level M&A wave studies should take into account additional economic conditions unique to the industry. For example, the number of foreign tourists is an important macroeconomic factor used as a proxy for tourism expansion in hospitality literature (Chen, 2007). Tourism expansion can directly impact on the financial performance of restaurant firms close to popular tourist destinations. Household disposable income may be another macroeconomic factor that should be examined. When household income decreases, households are likely to reorganize their spending priority. Travel and dining-out are the least priorities so that households reduce spending for those activities (Denizci, 2007). Accordingly, movements in disposable income are expected to be positively associated with the restaurant industry.

In addition to these factors, global economic conditions may need to be investigated as plausible determinants of M&A wave. Given the facts that multinational market leaders such as McDonald and Starbucks have appeared and global markets are becoming integrated over time, the influence of domestic economy on corporate business activities including M&A may be limited. The global economy may be a more influential predictor of M&A wave than the domestic economy. The indicators of the global economy may include World Consumer Prices, World Exports, and World GDP from the International

Financial Statistics database of International Monetary Fund (IMF). The data of Organization for Economic Co-operation and Development (OECD) statistics such as CPI, GDP, industrial production, and international trade can be also used as the proxy for global economic conditions. In this line of thinking, the comparison of the effects of regional and domestic economic conditions on M&A wave and the difference in determinants between geographically-diverse firms and non-diverse firms would be interesting research topics in restaurant academia

Macroeconomic factors are used as proxies for a variety of economic conditions. Their relationships with M&A wave have been supported by a number of theoretical models. In M&A wave studies, 'economic prosperity' theory provides rationale for the use of market valuation and cost of capital. Economic disturbance theory by Gort (1969) describes the possible correlation of current economic status and M&A wave. However, the effects of other macroeconomic factors on M&A wave still do not have obvious theoretical support. Theoretical framework is conceptual foundation researchers take in order to construct and analyze the relationship of variables. Although it makes the range of research limited, theoretical framework can help researchers to understand the relationship by clearly mapping out relevance of key variables and to build knowledge by testing theoretical assumptions. Accordingly, it would be worthwhile to formulate theories that can reasonably explain the influence of macroeconomic indicators on M&A wave.

To examine how aggregate M&A activity is related to economic conditions during different time periods, Benzing (1991) broke down the study period into two sub-periods: the pre-1950 (1919-1950) and the post-1950 (1951-1979) and found that stock prices and interest rate were significant factors for all periods. Benzing (1991) also found that interest rate was positively related to pre-1950 M&A waves, but it had a negative relationship with M&A waves during other time periods. The study supported that the time period in which M&A transactions occur significantly affects the relationship between economic

conditions and M&A wave. However, only a few studies focused on the effect of M&A periods (Benzing 1991; Yagil, 1996) and M&A waves after 1980's were not covered in even those studies.

This review of M&A wave studies reveals that wave behavior in aggregate M&A activity is bi-directionally correlated with macroeconomic factors (Finn & Hodgson, 2005) and that it takes some time for changes in aggregate M&A activity to affect the macroeconomic factors and vice versa, which is called lagged effect (Choi & Jeon, 2011). These empirical results suggest that M&A wave and macro-economy are circularly interrelated in the long term. In other words, certain macroeconomic conditions make it easier for M&A transactions to occur and in turn, the upward M&A wave strengthens the overall economy resulting in improvement in macroeconomic factors. Also, these circular impacts last for a while. It would be interesting to examine whether the bi-directional relationship is applied to the restaurant industry and how long the relationship will be continued.

The economic benefits of M&As vary during different stages of an M&A wave. M&A transactions occur in the early stage of an M&A wave tend to generate more benefit for the acquiring firms than those in the later stages (Carow, Heron, & Saxton, 2004). The herding model proposed by Scharfstein and Stein (1990) indicates that some managers observe successful M&A transactions in the early stage and mimic the activities without analytical decision procedures and create M&A waves. However, M&A transactions without careful planning tend to result in significant losses and in turn prevent other M&A transactions from happening. These findings suggest the possibility that successful M&A can be achieved using a prediction model of transaction timing. Therefore, it is worth examining whether the herding model is applicable to the restaurant industry and whether a prediction model can be developed based on the relationship between macro-economy and M&A wave to help managers identify the optimal transaction time.

Macroeconomic factors affect the results of M&A transactions differently in different stages of an M&A wave, which suggests that the value-adding transactions in early stage and wealth-destroying

transactions in later stages might have different macroeconomic determinants. Investigating the differences in macroeconomic determinants of early and late M&A transactions would provide primary macroeconomic factors that should be concerned for better returns. Also, it would be worthwhile to compare deal characteristics and firm-specific characteristics in early and late stages of an M&A wave to identify the factors that lead to successful M&A transactions. Payment type, firm size, and business relatedness are considered as deal characteristics. The market-to-book ratio, leverage, free cash flow, sales growth, and return on assets are firm characteristics. Understanding the difference in these characteristics can help restaurant firms to increase the possibility of creating synergistic gains through M&A.

Conclusion

The investigation of relationship between macroeconomic factors and restaurant M&A wave, and the development of theoretical frameworks were posed for future research. Broaden understanding of M&A wave in the restaurant industry will help practitioners successfully use M&A as a strategic tool for expansion and value creation. Although a large body of research has identified M&A waves and investigated their determinants, there is still a gap in the literature on macroeconomic determinants of industry-level M&A wave. This thorough review of literature revealed the lack of restaurant industry related research on M&A waves, particularly on the macroeconomic determinants of restaurant M&A waves. Given that the selection of macroeconomic variables in previous studies has been arbitrary, a comprehensive set of macroeconomic factors including both global and industry-specific variables should be examined. Appendix A lists the variables identified for future study. In addition, to cope with possible multicollinearity due to large number of variables in a model, Exploratory Factor Analysis was recommended. Finally, several future research directions were identified to investigate the effect of M&A timing on macroeconomic determinants and model the prediction of M&A timing using the determinants for increasing economic gains generated by M&As.

Appendix A. Macroeconomic Variables

Appendix A. Macroeconomic Variables

Variables used in previous studies		Variables recommended for future research	
Domestic	Bankruptcy Rate	Domestic	Balance of Payment
	Capacity Utilization		Household Disposable
	CPI		Tourist (Total Number)
	Employees (Total Number)		
	Export	Global	IMF World Consumer Prices
	Gas Price		IMF World Exports
	GDP		IMF World GDP
	Income		OECD CPI
	Import		OECD GDP
	Industrial Production		OECD Industrial Production
	Interest Rate (Long and Short Term)		OECD International Trade
	Money Supply (M1, M2)		
	PPI		
	Stock Price (S&P 500)		
	Unemployment Rate		
	Yield Spread		

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