World Journal of Social Sciences
Vol. 3. No. 1. January 2013 Issue. Pp. 11 – 26

CEO Confidence Index Development of Thailand*

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The focus of this study is two folds. One is to develop the framework of CEO confidence index survey and investigate its ability to signal economic growth for 4 consecutive quarters. The other is to study the business climate variable influencing the confidence, i.e. political stability, profitability and expectations of government. CEO confidence index is calculated from expectations on prospects of economic growth. Perceptions of profitability and opinions about political condition, expectations of government, and organizational management are evaluated. A panel sample of 200 top executives is drawn from leading private organizations in 9 industries in Thailand. Results find that, at that time of 2008-2009 with economics crisis and political instability in the nation, CEO confidence index is slightly low in the first quarter and higher in the next quarters. The index movement corresponds with changes in GDP, confirming its predictive ability generally expected. Such consistency between fluctuations of the index and economic growth is also found for the index and political stability as well as the index and profitability. Optimism about profitability outlook and domestic political stability tend to positively affect the confidence index. The influence of these determinants are supported by findings that stabilizing deomestic political situations is highly expected from the government while management tools focusing on external uncertainties are intensively used.

JEL Codes: M000

1. Introduction

Economic health of a country has long been the critical factor for public and private decision-makers. And Gross Domestic Product (GDP) is one of the most common and widely used economic indicators for signaling the overall economic growth of a nation. It represents the monetary value of all the finished goods and services produced within a country's borders in a specific time period, usually on quarterly and annual basis. Since this indicator is calculated from actual data collected from various parties such as manufacturing, service and foreign direct investment, it generally indicates the economic growth of the past rather than signals the future.

In search of indicators that can predict movements in GDP and provide decision-makers the early signals of the economic developments, there has been a growing interest in confidence indicators in recent years. As developed from the aggregation of qualitative series of expectations derived from business, confidence indicators can be theoretically justified by the fact that business executives' opinions and expectations influence economic activities such as business expansion, marketing and advertising activities. These economic activities accordingly contribute to economic growth (Carnazza & Parigi 2003). Confidence indicators are also

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vindicated by the findings of its relationship with its predictability of GDP (Taylor & McNabb 2007; Oral, Ece & Hamsiei 2005) and the probablility of turning points in cyclical GDP (Holmes & Silverstone 2010).

Given its ability to predict the short-term evolution of GDP, business confidence index has been developed and applied in countries with the similar concept under various names. Some exemplars include Business Leaders Confidence Index in Kenya (The Steadman Group, 2005), Business Confidence Index in Japan (Bank of Japan 2010), CBI Business Confidence Index in UK (CBI 2011), Economic Confidence Index of Tourism Industry of Arabian countries (PriceWaterhouseCoopers 2006), and Purchasing Managers Index (PMI) in US (Institute for Supply Management n.d.).

In Thailand, business expectation index (Bureau of Trade and Economic Indices n.d.) and business sentimental index (Bank of Thailand n.d.) are two major business confidence indicators. These two indices survey business executives' opinions on organizational operation status and economic condition including operating performance, cost forecast, employment forecast, business expansion forecast, purchasing power, for example.

The traditional approach of business confidence survey commonly employed to develop those confidence indices, however, exclusively focuses on firms' operation and economic condition. Recently there is a rising interest in incorporating influencing factors of confidence to shed light on confidence fluctuation. Factors found to have significant effect on confidence are social factors (Carnazza & Parugi 2003), socioeconomic interaction (Hohnischa, Pittnauerc, Solomond & Stauffere 2004), and fiscal policy (Konstantinou & Tagkalakis 2011).

The aim of this study thus is to develop the business confidence framework grounded on traditional aspects of overall confidence in economics and operating industry condition with the incorporation of business climate indicators, i.e. profitability, political stability, expectation of government and organization management. The addition of political stability is motivated by its influence on business confidence as an important social factor in Thailand. Expectation of government is included in light of its effect on confidence found in a recent study (Konstantinou & Tagkalakis 2011) while organization management can help give an insight into firms' management activities. The empirical finding of influence of political condition on business confidence can help add this factor to the present short list of determinants of confidence.

This paper is organized as follows. Backgrounds on business confidence index and its formulation are introduced in Section 2. The methodology for constructing the confidence index and analysis framework are discussed in Section 3. The empirical findings are presented in Section 4. Finally, the conclusions of the study and suggestions for future research are provided in Section 5.

2. Literature Review

2.1 Background on Business Confidence Index

A number of economic indicators have been developed to reflect the health of a nation's economy in various perspectives and purposes. Such indicators can be categorized into two groups according to the nature of data used: quantitative and qualitative indicators. Quantitative indicators are constructed by quantitative economic data occurred in a time period, e.g. employment ratio, corporate expenditure, price index, and inflation ratio. This kind of indicators is usually produced and reported by governmental agencies who have access to data. These indices are significant to decision-makers in public and private sectors to formulate their business plans and develop policies.

However, as these quantitative indicators are derived from real economic data, they indicate what happened in the past periods of time, not the situations ahead. And due to the complicated and time-consuming data accumulation, some indices are generally published with a delay. This is also the case for Gross Domestic Product (GDP). By its definition of the value of all goods and services produced in a country in one year, GDP can be measured by adding up all of an economy's incomes such as wages, interest, profits, and rents, or expenditures such as consumption, investment, government purchases, and net exports. Since the data are drawn from numer of parties, GDP is usually reported about 3 to 4 weeks after the end of quarter.

In order to help public and private decision-makers foresee the economic short-term trend and develop appropriate plans, the qualitative indicators are used. Confidence indicators are built on the aggregation of perception of firms' situations and persepectives on economic status ahead. The indicators are typically derived from confidence surveys which are designed to signal macroeconomic movements (Oral, Ece & Hamsiei 2005). Higher consumer confidence index, for example, can lead to economics growth. By this context, confidence is defined as the beliefs of a particular agent or individual about the future prospects of the economy (Envick 2004). And, confidence of a business executive, inspite of management position, should be regarded as the individual confidence, not institutional confidence. This is because institutional confidence needs to incorporate all the sources of business stakeholders such as partners, customers, and suppliers (Zucker 1986).

Consumer and business confidence index are of the most common qualitative indicators and widely used. The predictive ability of consumer confidence index has intensively been found for household spending (Carroll et al. 1994), consumer expenditure in UK (Acemoglu and Scott 1994), GNP fluctuations in US (Matsusaka and Sbordone 1995), economic growth in US (Batchelor and Dua 1998), and manufacturing outputs trends in UK (Lee and Shields 2000). More recently the predictive power of business confidence index has examined and found for GDP in Italy (Carnazza & Parugi 2003), cyclical features of industrial production in Turkey (Oral, Ece & Hamsiei 2005), business cycles in UK, France, Italy, and the Netherlands (Taylor & McNabb 2007), and cyclical turning points in New Zealand (Holmes and Silverstone 2010).

For business confidence index, one of the highly recognized is Business Executive's Expectation Index initiated in 1976 by the Conference Board in US (Conference Board 2003). The survey of executives' perceptions of the economic situation, industry environment and profitability is designed to score the prospects of economy and formulate the index. Long-term statistics have shown its ability to suggest short-term movements of interest rate, inflation rate and GDP (Conference Board 2003). Business confidence index, hence, has been increasingly conducted in countries because of its predictive power to signal changes in economic situations before the related official quantitative indicators. European Commission (2006), for example, has been responsible for business surveys for all 27 member states.

In Thailand, there are two indices using this concept. One is Business Expectation Index developed by the Bureau of Trade and Economic Indices, the Ministry of Commerce since 1996. The focus is on private enterprises in Thailand in 6 industries, i.e. agriculture, industry, commerce, construction, finance and insurance, and services. The subjects of interest are perceptions of qualitative questions of the firms's operating performance, cost per unit, employment, and business expansion (Bureau of Trade and Economic Indices n.d.). This index, however, exclusively assesses perceptions on a current period of time without comparative assessment between current period with the past and future time periods which can help smooth variation of perspectives (Organisation for Economic Co-operation and Development 2003).

The other one is Business Sentimental Index of the Bank of Thailand. Surveyed participants are executives of medium and large enterprises with registered capital of more than 200 million Baht (US$6.7 million) in the nation in 9 industries, i.e. food, pulp and paper, textiles, chemicals, wood, metal and nonmetal, real estate, commerce, and services including restaurants and hospitals. The subjects of interest are the firm's business and economic status including profits/losses, purchasing power, investment, employment, operating costs, potential of export, inventory, market and price competition, and financial status (Bank of Thailand n.d.).

In sum, studies of business confidence index are in 3 areas, i.e. developing the index, examining its ability to signal changes in economic conditions, and investigating determinants of confidence. As the first two areas have intensively been researched, the latter one is an emerging interest aiming to gain insights into executives' expectations fluctuation. Among the few studies is the work of Carnazza and Parugi (2003) arguing that confidence can not be solely explained by economic variables as people uniquely interprete circumstances and information received. In this study, the manufacturing confidence index of the countries and the households confidence index are employed as factors related to general climate while the discount rate and the public debt are used as factors for economic policy decisions. These choices of social determinants may due to the use of hostorial data that limits the choices of factors to available quantitative economic statstics. The study reports the impact of those factors on the confidence index. Hohnischa et al. (2004) examine interactive formation of individual expectations regarding business climate and model for possible types of expectations. Konstantinou and Tagkalakis (2011) study the effect of fiscal policy on confidence in Greece and find that fiscal policies, i.e. cuts in direct taxes and higher non-wage government consumption have positive impact on business confidence. Higher government wage bills and government investment, on the other hand, lower business confidence.

As realted factors influencing business confidence usually vary across nations with different characteristics and environment, the major determinants of confidence hence, tend to differ across the regions and, additionally, times. Moreover, while survey of business confidence in conjunction with business climate variables can help give in-depth understanding of the confidence and provide policy implications managerial for public decision-makers, this research interest, however, has not been adquately addressed in present studies.

2.2 Business Confidence Index Formulation

As confidence level index is a qualitaive measure, questionnaires with reply options for each anwer are thus commonly used for data collection. According to Organisation for Economic Co-operation and Development (2003) and Conference Board (2003), alternative choices of answers for each subject are transformed into single time series. There are three approaches to confidence index calculation generally employed to construct confidence indices. They differ in alternative choices of anwers design and calculation formula. The first one uses 3 alternative answers of positive, unchanged, and negative with the scores of 1, -1, and 0 consecutively. The confidence level ranges between 0 to 100. Confidence level of below 50 suggests negative view on the subject while the level of above 50 shows positive view. This approach has usually been employed in studies of business tendency surveys in countries, Japan for example. It has also been commonly used to assess consumer confidence index of countries including the US and Thailand. The confidence level on each subject is calculated using diffusion indices concept as following.

$$\text{Confidence level} = 100\ (P + E/2)$$

where P = total of positive views
E = total of unchanged views

Another approach provides three alternative answers for each subject, i.e. increase (+), unchanged (=), and decrease (-). I focuses on percentage of participants choosing each alternative answer. For instance, for the sample of 200 participants, 40, 60, and 100 participants choose increase, unchanged, and decrease respectively, giving the percentage of 20, 30, and 50 consecutively. Using the formula below the confidence level in this case is 20-50=30.

$$\text{Confidence level} = 100\ (P - N)$$

where P = percentage of (+)
N = percentage of (-)

The third approach classify participants' persepectives on each subject into groups: substantially better, moderately better, same, moderately worse, and substantially worse with the scores of 100, 75, 50,25 and 0 respectively. The confidence level is calculated using the following formula. This approach is usually used when the focus is on the average level of confidence on a subject. Confidence indeces constructed using this approach such as those of the Conference Board and the Institute of

Supply Management have proved to be valid indicators for short-term economic growth, especially GDP.

Average score of each question = Total score of the question / Total participants

Over all confidence index = (Average score of question 1 + Average score of question 2 + Average score of question 3 +… + Average score of question *i*) / Total no. of questions; *i = 1, 2, 3,…,n*

Table 1 summarizes three approaches to confidence index development with existing studies using these methods.

Table 1: Three approaches to confidence index development

Approach	3 alternative answers of positive, unchanged, and negative with the scores of 1, -1, and 0 consecutively	3 alternative answers increase (+), unchanged (=), and decrease (-).	5 alternative answers of substantially better, moderately better, same, moderately worse, and substantially worse with the scores of 100, 75, 50,25 and 0 respectively.
Index calculation	Confidence level=100 (P + E/2); P = total of positive views E = total of unchanged views	Confidence level=100 (P – N); P = percentage of (+) N = percentage of (-)	Average score of each question = Total score of the question / Total participants Confidence level=(Average score of question1 +Average score of question 2 +Average score of question 3 +…+Average score of question i) / Total no. of questions; i = 1, 2, 3,…,n
Existing study	Business Expectation Index by the Bureau of Trade and Economic Indices, the Ministry of Commerce	Business Confidence Index by Oregon University	Business Sentimental Index by Bank of Thailand
Objective	• To signal short-term economic condition. • To be one of warning measures of the nation's economics.	• To be used for business planning. • To help asssess current operating environment.	• To be used for overall assessment of the nation's economics situation. • To analyze business condition for development of macro and micro economics policies. • To assess the effect of real sector and economic factors on banking and financial sectors.
Sample	Private enterprises in Thailand in 6 industries, i.e. agriculture, industry, commerce, construction, finance and insurance, and services using random stratified sampling method	Private organizations in Oregon, the US in 4 industries, i.e. manufactoring, construction, retail and wholesale, and services using Non-random sampling	Medium and large enterprises with registered capital of more than 200 million Baht (US$6.7 million) in Thailand in 9 industries, i.e. food, pulp and paper, textiles, chemicals, wood, metal and nonmetal, real estate, commerce, and services including restaurants and hospitals, using fixed sample
Questionnaire structure	Qualitative questions of the firms's operating performance, cost per unit, employment, and business expansion	Web-based questionnaire using multitude of questions of qualitative questions of volume of stock, volume of production, business expectation, and oreder book volume	Qualitative questions of the firm's business and economic status including profits/losses, purchasing power, investment, employment, operating costs, potential of export, inventory, market and price competition, and financial status

3. Methodology

The CEO Confidence Index framework in this study is developed based on the Measure of Business Confidence of the Conference Board (2003) which is widely used in countries for the advantage of comparability with the ones in other nations. The model consists of five aspects of assessment. The first two ones are traditional prospects of economic condition and organizational performance. i.e. overall confidence and profitability. This study also additionally initiates the latter three aspects to incorporate determinants of the confidence focusing on the country's present circumstance with an intention to provide policy implications to the government. The determinants include political stability, expectation of the government, and organization management. Figure 1 depicts five aspects of assessement of the study.

Figure 1: Conceptual Framework

The questionnaire structure consists of 3 parts. The first one contains questions on overall confidence that used to formulate confidence index. For the index calculation, rating scale of five confidence levels is employed for each question/statement with the score from 0 to 100. Based on the concept of diffusion indices, the scores are 0, 25, 50, 75, and 100 for the lowest to the highest confidence levels. The index interpretation details are shown in Table 2

Table 2: Interpretation of Confidence Index

Level of Confidence	Index
Substantially Better	100
Moderately Better	75
Same	50
Moderately worse	25
Substantially worse	0

The confidence index can range 0 to 100 as calculated:

$$\text{Over all confidence index} = (\text{Average score of question 1} + \text{Average score of question 2} + \text{Average score of question 3} + \text{Average score of question 4}) / 4$$

$$\text{Average score of each question} = \text{Total score of the question} / \text{Total participants}$$

The second part contains questions for expectations of profitability with four reply options for each question: increase substantially, increase moderately, remain the same, and decrease. Proportion of each reply option will show a trend towards profitability. The third part focuses on questions for perceptions and opinions on political stability with four reply options for each question: very stable, stable, unstable, and very unstable. The final part places questions for expectations of government actions as well as organizations' management plans. Lists of choices regarding the subjects are provided and data is analyzed using frequency analysis.

The panel sample of 200 CEOs from 200 leading companies in 9 industries in Thailand who have accepted to be a respondent of the survey. These enterprises are classified as Top100 companies and 100 outstanding firms in the country by the NationMultimedia. The sample is designed with respect to that the validity and reliability of the index results from quality of the sample who needs to be good representative of the population, are knowledgable in the subjects as well as information efficient (Institute for Supply Management n.d.).

Notedly, to fulfil the shortage of study on how business climate variables can help explain business confidence fluctuation, this study survey both qualitative expectations on economic confidence (overall confidence) and determinants, i.e. profitability, political stability and expectation of government for the next 4 consecutive quarters. The data drawn forward from the same respondents at the same time will, therefore, ensure explanatory ability of the determinants to the confidence movements.

4. Results

Table 3 presents descriptive statistics of the panel sample. 50% of the sample are large organizations with the registered capital of above 300 million Baht (US$10million). Small and medium enterprises(SME) with the registered capital between 50-300 million Baht (US$1.6-10million) as well as small firms with the registered capital below 50 million Baht (US$1.6 million) account for 25.5% and 24.5% of the sample respectively.

Table 3: Descriptives statistics of the panel sample

Industry	Small Firm		SME Firm		Large Firm		Total	
	Qty	%	Qty	%	Qty	%	Qty	%
Food & argriculture	4	8.1	5	8.0	8	8.0	17	8.5
Natural resources	2	4.1	1	7.0	7	7.0	10	5.0
Technology	3	6.1	2	5.0	5	5.0	10	5.0
Banking & Finance	-	-	10	30.0	30	30.0	40	20.0
Services	26	53.1	13	16.0	16	16.0	55	27.5
Industrial products	5	10.2	4	5.0	5	5.0	14	7.0
Consumer products	4	8.2	6	7.0	7	7.0	17	8.5
Real estate & construction	4	8.2	7	19.0	19	19.0	30	15.0
Other	1	2.0	3	3.0	3	3.0	7	3.5
Total	49	24.5	51	25.5	100.0	50.0	200.0	100.0

Results in Figure 2 show that movements of the overall confidence index correspond with chnages in GDP obtained from the Office of the National Economic and Social Development Board (n.d.). The overall confidence index moves from 43.25, 55.75, and 66.00 in quarter 1, 2 and 3 respectively compared with changes in GDP at the same period of -7.10 -4.90 and -2.8. Considering the relatively unchanged of the business expectation index of the Bureau of Trade and Economic Indices (2009) with an increase in GDP in qaurter 2, the overall confidence of quarter 4 not being in accord with the change in GDP may be acceptable. This variation of the relationship between confidence and economic growth can partially be smoothed down by long-term data. The overall confidence index of this study thus tends to have ability to signal GDP of the same quarter as expected.

Figure 2: Comparison among overall confidence index, GDP and Business Expectation Index of Ministry of Commerce, Thailand

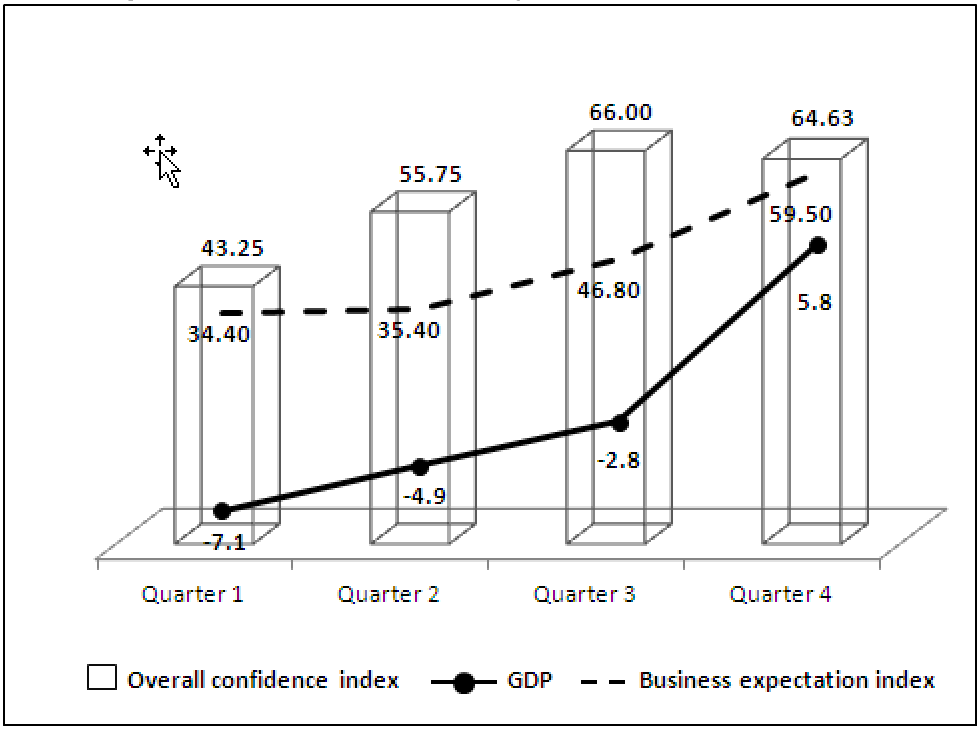


Figure 3 reports results of CEO overall confidence indices of 4 quarters on the row and the index is lowest at 43.25 in quarter 1. The overall confidence levels are however increased to 55.75 and 66.00 in quarter 2 and 3 respectively. Although the low overall confidence index in the first quarter may partially due to the effect of the subprime crisis originated in western regions a year before, domestic political conditions seems to be an important factor affecting confidence. Table 4 shows that as high as 71.71% and 8.08 of the respondents rate political stability as unstable and very unstable respectively. In addition, results of the executives' expectation of government support reported in Table 5 restate their concern about political uncertainty in the nation. 80.81% of executives expect the government to stabilize internal political condition in quarter 1. This seems to be related to the fact that, at that time, there was political chaos with protests against the governments held in Bangkok, the capital of Thailand (Harvey 2010). Political stability thus possibly appears to be a determinant of confidence in this circumstance.

The overall confidence indices also slightly increase to 55.75 and 66.00 in quarter 2 and 3 respectively. These movements positively correspond to the improvements on the perceptions on political situation in quarter 2 (Unstable 60.2%, Very unstable 3.06%) and 3 (Unstable 54.55%, Very unstable 8.08%). It should also be noted that an increase in overall confidence may be due to a stimulus package of US$3.28 billion to counter the economic slowdown luanched in quarter 2 (Ministry of Finance 2009). Similarly, the expectations on political stability are lower to 77.78% and 53.13% for quarter 2 and 3 respectively.

For quarter 4, the overall confidence index seems to remain at the same level of the previous quarter at 64.63. As the survey of expectations on political stability, unfortunately, is absent for this time period due to technical problems, results presented in Table 5, however, indicate a shift in concern from political condition (Develop unity of the nation 28.44%) to the governmental management, e.g increasing public expenditures (18.35), solving problems fast (12.84), and strengthening government teamwork (7.34). In sum, according to the consistency between the fluctuations of overall confidence and perceptions on political condition, political stability may be considered as business climate factor influencing the confidence.

Figure 3: CEO overall confidence index

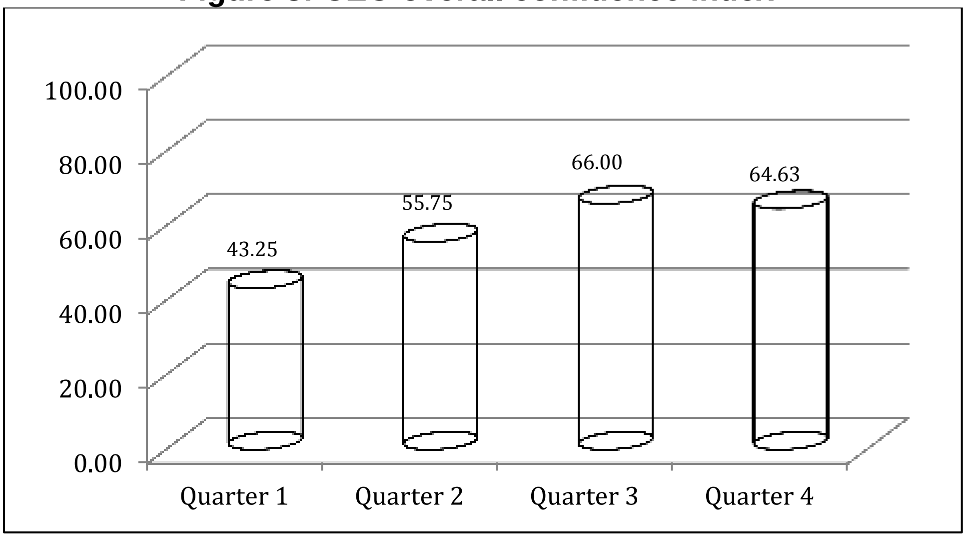


Table 4: Political condition perspective

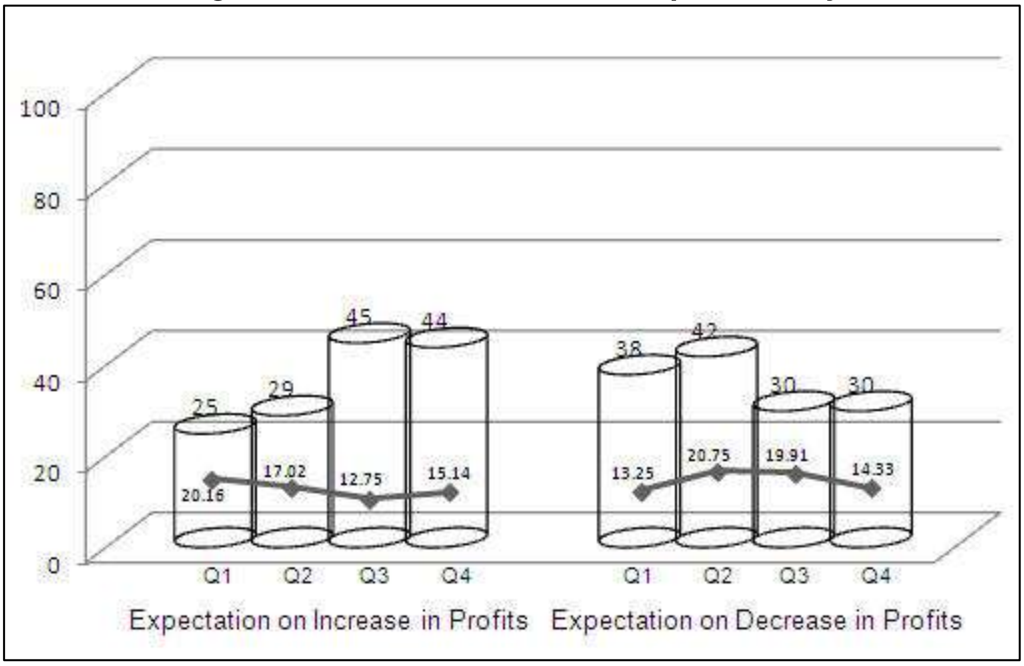
Political perspective	Quarter		
	1	2	3
Very stable	0.00	0.00	0.00
Stable	20.20	36.73	37.37
Unstable	71.72	60.20	54.55
Very unstable	8.08	3.06	8.08

Table 5: Executives' expectation of government

Expectation	Quarter			
	1	2	3	4
Provide financial support	2.02	-	4.38	-
Attract foreign investment	-	-	9.38	5.50
Open overseas markets	7.07	8.33	14.38	0.92
Increase public expenditures	-	-	-	18.35
Stabilize political condition	80.81	77.78	53.13	-
Solve problems fast	-	-	-	12.84
Develop clear guideline on laws & regulations	-	-	-	7.34
Strengthen government teamwork	-	-	-	7.34
Develop unity of the nation	-	-	-	28.44
Include private sectors in policy development	7.07	13.89	13.75	-
Other	3.03	-	5.00	19.27

Expectations on firms' profitability presented in Figure 4 show the proportion of respondents expecting an increase in profits rises from 23%, 29% to 45% for quarter 1, 2 and 3 respectively. These improvements are consistent with changes in overall confidence index. Though the percentage of expected increase in profits decreases from 20.16%, 17.02% to 12.75% in the same period, perception of firm' s profitability tends to positively related to confidence. On the other side, the percentage of executives who are pessimistic about their profitability for the 4 quarters (38%, 42%, 30%, 30%) does not move in line with overall confidence index. Based on such results, optimism about profitability appears to be better determinant of confidence than pessimism.

Figure 4: Level of confidence in profitability



Management tools expected to be implemented within a year are surveyed in order to provide understanding of firms' management focus related to confidence. Table 6 presents management tools that are of importance and stated in the firms' year plan. Results show that risk management and customer relationship management are highly rated compared with the others. As the focus of these two subjects is to cope with volatile external environment, it likely supports the results of low confidence in quarter 1 and 2 caused by concern about economic and business outlook. Although the survey of this area is unavailable in quarter 3, a shift from risk management (13.39) to corporate culture (23.66) in quarter 4 may help indicate that businesses have absorbed external uncertainties and hence, pay more attention on internal operations.

Table 6: Management Tools

Management Tool	Quarter		
	1	2	4
Risk management	21.45	21.28	13.39
Customer relationship management	23.66	20.95	20.09
Performance management system	14.83	17.57	10.71
Corporate culture	9.46	9.80	23.66
Compensation management	5.99	8.45	6.25
Corporate communication	12.93	12.84	14.73
Corporate social responsibility (CSR)	10.41	7.77	11.16
Other	1.26	1.35	0.00

5. Conclusion

With regard to a need for better understanding of business confidence fluctuations, this study develops a framework comprising assessment on of business confidence and its influencing factors. The confidence index is grounded on the traditional approach for comparative advantage as determinants of business confidence are constructed with respect to environment and characteristics of the country. The business climate variables influencing the confidence are initiated, surveyed, and analyzed in conjunction with traditional business confidence in a forward basis rather than relying on historical data. This, therefore, allows adding these related qualitative factors on the survey to help explain confidence variations.

The empirical analysis reveals that business confidence indicator, or CEO confidence index in this study, has the ability to signal changes in GDP as generally expected for confidence indicators. Factors influencing the confidence index are perceptions of profitability and political condition. The percentage of executives' being positive about the firms' profitability is a better determinant for economic growth than pessimitic ones. The concern about domestic political atmosphere appears to be an important variable affecting the confidence. Its influence on confidence is confirmed by that stabilizing political situaton is ranked highest among the others of expectations of government. Findings of the high usage of risk management and customer relationship management also address the focus on external uncertainties, possibly economic condition and political instability.

To better analyze the explanatory power of the determinants, further researches are needed to be done in a longer term period so that quantitative analysis techniques can be employed to investigate the relationship. Future studies on new influencing variables of business confidence will also be beneficial to fully understanding of confidence variations.

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