

International Paper Presentations (Break out room 4)

Delegation of Information Acquisition, Information Asymmetry, and Outside Option

Jin Hyuk Choi¹
Kookyong Han²

Abstract

We study how a principal with an outside option optimally delegates information acquisition to an agent in a parsimonious environment in which the principal can observe neither the agent's effort nor signal realizations. When the principal chooses an outside option, the true state is not revealed and thus not contractible. We find that delegation of information acquisition reduces the principal's payoffs in multiple dimensions, compared to cases that the true state is always contractible. First, there is a set of priors for which the principal does not propose a contract but she would have decided to collect information by herself if she had been able to do so. Second, the decision timing is hastened as the agent gathers a smaller amount of information. Third, the total surplus, which is the sum of the principal's payoff and the agent's payoff, is lower. Finally, the agent earns more than cost of collecting information.

Keywords Information Acquisition, Moral Hazard, Optimal Contract, Private Information

¹ Ulsan National Institute of Science and Technology, Mathematical Sciences.
50, Unist-gil, Ulsan 44919, KOREA.

E-mail: jchoi@unist.ac.kr

² Pusan National University, Department of Economics.
2, Busandaehak-ro 63beon-gil, Busan 46241, KOREA.

E-mail: kyhan@pusan.ac.kr

INFLATION: Challenges and Threats to Economic Growth in ASEAN

Paul I. Louangrath¹

Abstract

The purpose of this paper is to examine the threats and challenges of inflation faced by the ASEAN economies. The data used in this study included historical data of inflation rates, GDP growth, and exchange rates. The sample size came from 550 weeks of weekly exchange rate. This paper employed autoregressive model to obtain predictive functions of inflation and its effects under ERPT and the Prospect Theory. The average inflation for the group is 6.433 \square 3.98, as compared to the GDP growth rate of 4.144 \square 1.37. There is a short fall of 2.289 percent; this is a significant creeping inflation ($p = 0.047$). Among the ASEAN countries, only Philippines showed significant economic growth ($p = 0.043$). Inflation rates for the US and EU area are 8.6 percent and 8.98 percent. These major economies are expected to grow by 2.0 and 2.7 percent respectively. In contrast, the expected economic growth for ASEAN is 5.51 percent and the expected inflation is 10.41 percent. Inflation in the ASEAN exceeds economic growth by 4.10 percent. ASEAN's economic growth is threatened by inflation. Lacking unified policies, ASEAN countries are left to tackle these problems.

Keywords: ASEAN, ERPT, Exchange Rate, Growth Model, Inflation

¹ Bangkok University International

9/1 Moo 5 Phaholyothin Road, Klong Nueng, Klong Luang, Pathumthani 12120, THAILAND.

E-mail: Inpong.L@bu.ac.th

Introduction

The Association of Southeast Asian Nations (ASEAN) is a political and economic union of 10-member countries in Southeast Asia. These countries include: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. The specific goals of ASEAN are to promote intergovernmental cooperation and to facilitate economic, political, security, military, educational, and socio-cultural integration amongst its members. Other goals are to promote peace and stability based on the rule of law and the principle of the United Nations Charter. The ASEAN way for member countries is compromise, consensus, and consultation in the informal decision-making process (Goh, 2003). Due to diverse political systems among member states, consensus for collective action is not easy (Leviter, 2010). In 2007 at the 13th ASEAN Summit in Singapore, the ASEAN agreed to form an Economic Community (AEC) (ASEAN Economic Community Blueprint, 2008). The goals of the AEC are free movement of skilled labor, goods, services and investment. ASEAN wants to become a one global market with the hope of increasing its competitiveness and opportunities for development (Rising as One, 2013). In 2022, two years after COVID-19 pandemic and facing the current global economic downturn in post-pandemic period, the economic growth in ASEAN is now facing threats from inflation. The expected growth for ASEAN is 5.51 percent and maximum expected inflation is 10.41 percent; there is an inflationary threat of 4.10 percent to detract ASEAN's real economic growth.

The purpose of this paper is to examine the effects and challenges of inflation on ASEAN economies. The ASEAN market has a combined GDP of 3.2 trillion dollars; it is the fifth largest economic group in the world. This paper is a study of ASEAN economies as a group and individual countries. The study will assess how each member country had been affected by inflation. By mid-2022, the global economy is faced with inflation and possible global recession. In June 2022, the World Bank warned of possible global recession by stating that there is "a protracted period of feeble growth and elevated inflation," as it cut global growth forecasts by 1.2 percentage points to 2.9 percent for 2022. It had predicted growth of 4.1 percent in January of 2022. The Bank explains that COVID-19 pandemic and the Russian invasion of Ukraine are main factors for the looming global recession. According to the World Bank stated that: "The war in Ukraine, lockdowns in China, supply-chain disruptions, and the risk of stagflation are hammering growth. For many countries, recession will be hard to avoid." (The World Bank Press Release, 2022). The Bank further estimated that growth in the U.S. would only be 2.5 percent this year, down from 5.7 percent last year. Europe would see

growth of 2.5 percent compared to 5.4 percent last year. China is expected to grow 4.3 percent this year, down from 8.1 percent last year (VOA, 2022).

The COVID-19 pandemic and the war between Ukraine and Russia are significant causes for the rise in price level. Governments' measures against COVID-19, such as social distancing and restriction on travels, has led to the loss in economic activities. More recently in 2022, with the imposition of economic sanctions on Russian after the military conflict in Ukraine, fuel and food prices rose. The world today faces the threat of inflation. The ASEAN is presently dealing with the adverse effects of inflation. This paper examines the effects of inflation on economic growth in the ASEAN countries and explores monetary policy tools for stakeholders in the ASEAN to cope with inflation.

In the second quarter of 2022, the world faced inflation-led recession. The major economies, such as the US, EU area and Japan experienced the adverse effects of inflation. By June 2022, the US reported that it was facing 8.6 percent inflation. In less than 13 months, the fed raised interest rate 7 times. High inflation was also reported in the EU area where inflation is 8.98 percent. A third major economy is Japan. In June 2022, Japan reported inflation to be at 2.50 percent; although this number is low, it doubles its previous level of 1.20 percent. These major economies are major markets for the ASEAN countries. Another major market for ASEAN countries is China. China's inflation rate is under control at 2.10 percent.

High inflation is often associated with lower growth and financial crises (Mishkin 2008). Low inflation may be achieved, but this achievement is not permanent (Rogoff 2014). There is always a need to fight and keep inflation at bay. Public and private debt must be under control. The labor market must produce job opportunities for people. The rise of commodity prices, such as prices food and fuel, may contribute to inflation. With the market integration at regional level and expansive trade ties between major economies and the ASEAN, for instance, inflation became a global phenomenon (Carney 2015). This paper touches upon the issue of global inflation because the ASEAN's trading partners are major economies: US, EU area and Japan. Global inflation adversely affects economic growth in these major markets and, thus, directly affects economies in the ASEAN region.

Theories on economic growth—Solow (1956), Lucas (1988), Romer (1990), and Aghion and Howitt (1992)— suggest that there is a relationship between economic growth and inflation (Svensson, 2003, De Gregorio, 1993). Kormendi and McGuire (1985) studied a cross-section of 47 countries during the period 1950-1977 and found that there is a significant negative effect of inflation on growth. A study by Khan and Senhadji (2000) found that healthy inflation must be within certain

thresholds; for industrialized countries, inflation should be about 1% and for developing economies, inflation should not exceed 11%. For industrialized countries, inflation below 1% would have a positive effect on the economy. For developing economies, inflation below 11% has a positive effect on the economy. This finding was confirmed by Ghosh and Phillips (1998) who studied IMF member countries and found that inflation may threaten economic growth. High and fast growth may lead to inflation and in order to slow down inflation, interest rate becomes a tool to manipulate consumption and money supply in the economy. For example, the increase in money supply causes inflation and increasing interest rate helps to bring down that inflation. This relationship between inflation and economic growth may be found in the works of Sidrauski (1967), Brock (1974), or Lucas and Stokey (1987).

The research question presented in this paper is whether the ASEAN's economic growth is threatened by inflation. In answering this question, this paper tested the relationship between inflation, interest rate, and economic growth in the ASEAN region. The correlations between ASEAN's economic growth, exchange rates, and inflations rates were used to determine the effect of inflationary threats on ASEAN's economic growth. The exchange rate pass-through (ERPT) effect was also calculated to verify if domestic inflation among the ASEAN countries was caused by exchange rate fluctuation.

The intended contribution of this paper is to help policy makers and stakeholders to see that inflations threatens economic growth in the ASEAN. The relationship between inflation and economic growth could not be generalized for all countries. This paper shows that despite heavy reliance on export by ASEAN countries, exchange rate pass-through (ERPT) inflationary pressure has no significant risk for the group. However, other structural imbalance, such as trade deficits and domestic inflation, may bring more serious threats to economic growth among ASEAN countries.

Literature Review

The conceptual framework of this paper rests on the argument that inflation is caused by excessive money supply (Sims, 1980), exchange rate depreciation (Taylor, 2000), and balance of payment crisis. Inflation in the developed economies resulted from the growth of money supply (Sargent & Wallace, 1981). In developing economies, inflation may come from excessive money supply, exchange rate depreciation, and balance of payment crisis (Montiel, 1989). This paper is a study of the threat of inflation on ASEAN's economic growth. ASEAN countries are developing economies. This paper presents the literature review in two

subsections. Section 2.1 explored the relationship between inflation and GDP. Nominal and real GDP differ in that real GDP is adjusted for inflation. In general, a nominal GDP growth rate must exceed inflation rate in order to make real gain in economic growth. Section 2.2 puts the ASEAN international trade into perspective through the concept of exchange rate pass-through (ERPT) inflation which exerts influence on the domestic price level, especially among those ASEAN countries with negative balance of trade.

Inflation and its effect of GDP growth

Inflation is the increase of price and the corresponding reduction of purchasing power (Walgenbach, Dittrich and Hanson, 1973). It is measured as annual percentage change in price levels (Makiw, 2002). Inflation may be caused by excessive money supply (Barro and Grilli, 1994). Since inflation has the effect of reducing purchasing power, it is public policy to keep inflation under control. The rate of growth for money supply must be matched by the growth rate of the economy to avoid inflation (Sigranski, 1961). Economic growth may come from investment in market production, infrastructure, and education can all grow an economy (Henderson, 1999).

Inflation is one of many factors correlates to economic growth (Barro, 1995). Some studies showed that there is no relationship between inflation and economic growth (Sidrauski, 1967); others showed a negative relationship (Fisher, 1993) or positive relationship (Mallik and Chowdhury, 2001). It appears that the relationship is inconclusive; however, deeper analysis shows that the relationship depends on the level of inflation. Higher level of inflation may hinder the rate of return on investment Gultekin (1983). Lower rate of inflation may stimulate spending and economic growth. Ghosh and Phillips (1998), for instance, after studying 145 countries concluded that low inflation stimulates economic growth. Whether the relationship between inflation and economic growth is positive or negative depends on the level of inflation. Low inflation is good and high inflation is bad. High inflation reduces capital accumulation and total factor productivity (Cozier and Selody, 1992). Low inflation may stimulate growth (Mallik and Chowdhury, 2001).

The second issue of inflation and economic growth is the length of time that the economy sustained inflation (Umar and Zubariu, 2011). Datta and Chanda (2011) showed that there is causality between inflation and economic growth in the short run. In the short run low inflation stimulates economic growth; in the long run, sustained economic growth causes higher level of inflation and higher level of inflation reverses the direction of the causality.

Under these facts, one tool to reduce inflation may logically imply reduction of economic growth (David, 1999). For policy makers and stakeholders, controlling inflation means managing economic growth and managing inflation means controlling inflation.

From the above review, it is concluded that in general inflation has negative effects on economic growth (Orphanides and Solow, 1990; De Gregorio, 1993; and Roubini and Sala-i-Martin, 1995). Economic growth is measured by the growth of the GDP. GDP growth comes from the growth of capital investment. Inflation introduces uncertainties into decision on capital investment (Bruno, 1993; and Pindyck and Solimano, 1993). For example, inflation reduces capital accumulation and factor productivity (Fischer, 1991, 1993). In a study of the OECD countries, it was found that in the short-run inflation affects the level of productivity (Cozier and Selody, 1992). A study involving 120 countries found that higher level of inflation has a long-run negative effect on the economy (Barro, 1995). There is a consensus in the literature that inflation negatively affects economic growth (DeGregorio, 1992a, 1992b and 1994; see also Motley, 1994).

One way to fight inflation is monetary discipline; monetary policy may be used to limit the money supply of an economy (Melitz, 1987; Neyati and Ozgur, 2007; and Dalmazzo, 2014). Policy aiming to fight inflation is to prevent a condition where "too much money chasing too few goods" (Barth and Bennet, 1975). Central banks may constrain money supply and effectively monitor the velocity of money in order to keep inflation under control. Inflation may be internally created within the economy or passing through exchange rate via international trade.

A second source of inflation may come through international trade. One tool to control inflation pass-through exchange rate effect is by pegging the local currency to a foreign currency (Fielding and Bleaney, 2000). Countries with lower inflation will tend to experience lower ERPT (Taylor, 2000). Low inflation expectations produce credible monetary policy, the latter can play a role in shaping the ERPT (Gagnon and Ihrig, 2004; McCarthy, 2007; Ozyurt, 2016). Low ERPT may contribute to effective monetary policy to stabilize inflation and output (Mishkin 2008). Exchange rate pass-through (ERPT) is the degree to which a country's import, producer or consumer prices change in response to a change in its exchange rate.

Changing price level is not possible to control, but at least policy makers can help ease the effect of rising price level. Thus, the best thing to hope for is a low and steady rate of inflation, i.e. a healthy rate of inflation (Hummel, 2007). Some argued that low inflation may lessen the effect of recession (Svenson, 2003); although true, but inflation often goes hand in

hand with recession. Low inflation, by default generally promotes continuous economic growth because low inflation stimulates economic growth. However, it is high inflation that is prone to throw the economy into recession. The reason why economists like to see low and steady inflation is because such condition helps the economy to avoid recession.

Exchange rate pass-through effect inflation

One source of inflation that affects the ASEAN economy is Exchange-rate pass-through (ERPT). Ideally, countries would prefer to have low level of ERPT. Low inflation expectations produce credible monetary policy, the latter can play a role in shaping the ERPT (Gagnon and Ihrig, 2004; McCarthy, 2007; Ozyurt, 2016). Low ERPT may contribute to effective monetary policy to stabilize inflation and output (Mishkin 2008). Thus, monetary policy and ERPT are related to inflation. Some countries in the ASEAN (Cambodia, Laos, and Myanmar) traditionally are dependent on imports and often experienced trade deficits. McCarthy (2000) and Choudhri and Hakura (2006) found that countries with trade deficit generally are exposed to the risk of inflationary from ERPT. Fig. 1 illustrates trade volumes in the ASEAN countries; Philippines is a country with highest level of trade deficit.

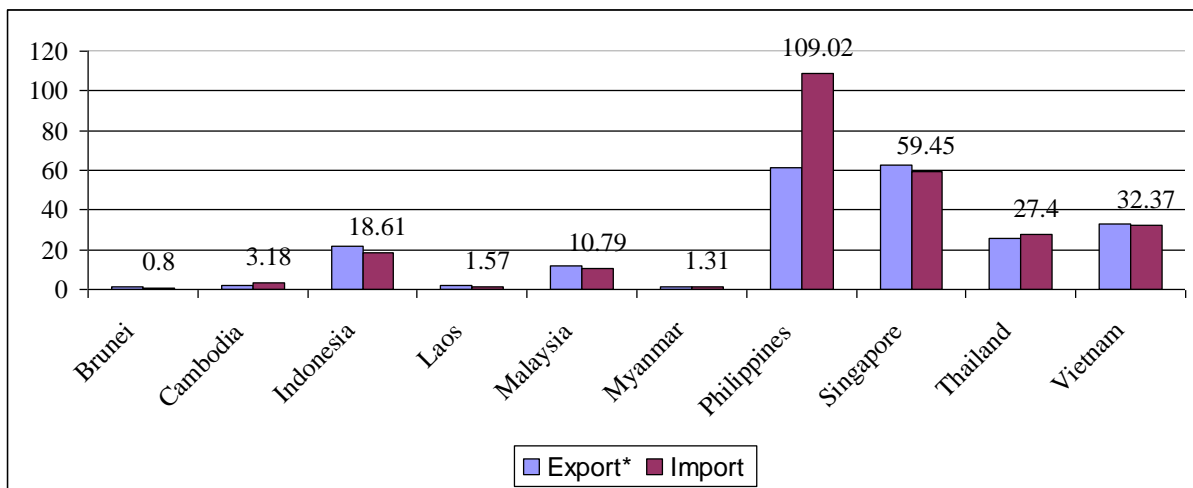


Figure 1 Trade balance of ASEAN countries (Billion US dollars, 2021)

ERPT is the elasticity of local-currency import prices with respect to the local-currency price of foreign currency. It is often measured as the percentage change, in the local currency, of import prices resulting from a one percent change in the exchange rate between the exporting and importing countries (Goldberg and Knetter, 1997). When exchange-rate pass-

through is greater, there is more transmission of inflation amongst countries (Campa and Goldberg, 2005). ERPT may differ from firm to firm in the same country. Studies of firm-level differences explain why exchange-rate pass-through is not equal to one (Berman, Martin and Mayer, 2012). Some studies suggest that increase globalization contributed to a decrease in exchange-rate pass-through (Cook, 2014). ERPT deals with imports. There is a connection between imports and domestic inflation. When the country's currency becomes weaker in relations to the currency of a country from which its imports, i.e. US dollar, domestic price level in the importing country will rise even though the price level in the exporting country does not change.

The use of local currency may also help reduce the effect of ERPT (Devereux and Engel, 2001; Bacchetta and van Wincoop, 2003). However, many ASEAN countries have used US dollar instead of local currency to pay for imports. Among the ASEAN countries, such as Cambodia, Laos, Myanmar and Vietnam allow USD, EUR or RMB in addition to the local currency as a medium of exchange to pay for imports. By so doing, the implementation of monetary policy for purposes of reducing ERPT may be ineffective. Since the ERPT effect is exerted from outside of the country, it must be tackled with monetary policy tools at a macro-level (Gagnon and Ihrig, 2004). The issue of controlling ERPT in the ASEAN is further complicated by the fact that economic development in the ASEAN is unequal. The new members (Cambodia, Laos, Myanmar and Vietnam) are still marked by under-developed markets (Dornbusch, 1987). Under-developed market is characterized by imperfect competition. Imperfect competition may result from the inability of the seller to optimize its position (Besanko, 2012). The use of foreign currencies in the local economy also reflects this market imperfection among the new ASEAN countries.

The ASEAN economy is export driven; as such, the region's exposure to ERPT is unavoidable. As the result, domestic price of goods and services is strongly influence by changes in foreign exchange rate (Taylor, 2000). Thus, a fluctuation in the US dollar, for instance, directly influences the price of imports. For example, the increase of the interest rate by the US Federal Reserve results in stronger US dollar in the international market. Strong US dollar makes imports in the ASEAN more expensive since the local ASEAN currencies become weaker against the US dollar. This ERPT inflation pressure is difficult to alleviate.

Among the ten ASEAN countries, Philippines has the largest trade deficit. The country runs a trade deficient of 47.73 billion US dollars in 2022. The seriousness of this deficit shows a significance level of $p = 0.0022$. This paper uses this information for estimating ERPT

vulnerability by defining ERPT exposure as: $\delta = (1 - F(Z)_{def})ERPT$ The ERPT model is given by:

$$CPI_{adj.} = \frac{1}{n} \sum_{i=1}^n CPI(1 - \delta) \quad (1)$$

F(Z) is the cumulative density function (CDF) of a group of observations (X: x_1, x_2, \dots, x_n). In this case, the observations are trade balance (export – import) for the ASEAN countries. A standard score (Z) is calculated from this series of observed trade balance: $Z = (x_i - S) / \sqrt{n}$. With known Z, the value of F(Z) or percentage probability of the event or F(Z) is obtained from the Z table. The pValue or the significance level is given by (1 – F(Z)). In equation (1) this significance level or pValue is used as an adjustment of the CPI to construct ERPT model. Equation (1) is the inflation caused by exchange rate pass-through (ERPT) effect.

Data and Methodology

In order to determine ERPT effect, we must know the trade balance status of the country. Table 1 below presents the trade status of ASEAN economies ending the fiscal year 2021. In the ten countries, three countries (Cambodia, Myanmar, and Philippines) experienced trade deficit in 2021. Philippines incurred the most serious trade deficit among the group with significance level of 0.0327. Among the trade surplus countries, no single country had significant trade surplus. Overall ASEAN had the total exports of 1,356,889.4 million dollars and imported 1,234,341.0 million dollars’ worth of goods. The ASEAN economies experienced a trade deficit of -122,548.4 billion dollars. As a region, ASEAN may be classified as a region with potential ERPT effects due to its overall trade deficit.

Table 1: ASEAN trade balance 2021

ASEAN Countries	Trade (million USD)		Trade Balance (million USD)			Significance Level	
	Export	Import	x_i	\bar{x}	$\pm s$	Z	Prob.
Brunei	6,607.7	5,343.2	1,264.5	12,254.8	23,061.4	(0.48)	0.3169
Cambodia	17,412.0	18,968.0	(1,556.0)	12,254.8	23,061.4	(0.60)	0.2747
Indonesia	163,191.8	141,568.8	21,623.0	12,254.8	23,061.4	0.41	0.3424
Laos	5,086.9	5,013.6	73.3	12,254.8	23,061.4	(0.53)	0.2987
Malaysia	233,931.2	189,730.6	44,200.6	12,254.8	23,061.4	1.39	0.0824
Myanmar	16,806.2	17,947.4	(1,141.2)	12,254.8	23,061.4	(0.58)	0.2807
Philippines	65,214.5	95,161.3	(29,946.8)	12,254.8	23,061.4	(1.83)	0.0327
Singapore	374,824.8	329,596.0	45,228.8	12,254.8	23,061.4	1.43	0.0757
Thailand	192,372.8	169,702.6	22,670.2	12,254.8	23,061.4	0.45	0.3258
Vietnam	281,441.5	261,309.5	20,132.0	12,254.8	23,061.4	0.34	0.3664
Total	1,356,889.4	1,234,341.0					
Max	374,824.8	329,596.0					
Min	5,086.9	5,013.6					
Mean	135,688.9	123,434.1					
SD	132,857.0	115,077.8					

Source: ASEAN Statistical Yearbook 2021, p. 54.

https://www.aseanstats.org/wp-content/uploads/2021/12/ASYB_2021_All_Final.pdf

Data on inflation, exchange rate and interest rate

The research question is whether inflation presents a threat to economic growth in the ASEAN. Economic growth is defined by GDP growth. If the GDP growth is smaller than inflation, it means that the economic did not experience real GDP growth or it means that the economy only grows nominally. In order to analyze GDP growth, it is necessary to examine domestic inflation. This paper used three sets of data for this paper. The first set of data consists of exchange rate over a period of 10 years. Weekly spot rate for 550 weeks was used to study the exchange rate pass through (ERPT) effect on domestic inflation and reflect on the type of challenges it presents to the ASEAN economies.

The second set of data consists of current and historical data of inflation rates for the ten countries in ASEAN. This paper examined inflation rates in a span of 30 years to understand the pattern of growth and retraction of the economies and to verify whether there is significant relationship between inflation and economic growth in ASEAN economies. Inflation rate was used because it has an effect on GDP growth. Real GDP growth is the GDP growth adjusted for inflation. If the GDP growth is less than domestic inflation, it means that the country does not experience real growth.

A third set of data consists of GDP growth rate over a period of 30 years for the ASEAN and proxy economies. Major economies included the US, EU area and Japan as a reference group was selected for study. China is also used as a proxy economy to contrast against Western major economies and may be used as a possible market for trade policy re-alignment.

Table 2 presents the inflation, interest, and GDP growth rates of ASEAN economies in a global context. These figures were compared to those of major economies: US, EU area and Japan. In addition, China was used as a proxy economy for purpose of pointing out that China is a regional economic powerhouse and, as such, by realigning ASEAN's trade direction, the region could reduce its risk exposure so often brought about by western major markets. The experience of the Asian financial crisis of 1997 and series of financial crisis that followed showed that the ASEAN economies are not immune to western economic shock. Despite significant trade and investment activities between China and ASEAN countries, China on had never brought any shocks with negative effects upon the ASEAN. This study looked at the exchange rate movement of RMB overtime to verify the stability of China's currency as it was traded against the US dollar. The stability of China's currency offers a potential buffer to economic shock if ASEAN re-align its trade flows to China and decrease its dependence on western market, such as US and EU area.

Table 2: ASEAN economic growth and inflation

Country & Region	Population (million)	Inflation***		Interest Rate (Percent)	GDP 2022* (Percent)
		2021	2022		
ASEAN:					
Brunei	0.463	2.500	3.20	5.50	3.70
Cambodia	15.993	2.475	7.20	1.02	4.50
Indonesia	274.859	1.551	3.55	3.50	5.01
Laos	7.481	4.900	12.80	3.10	3.80
Malaysia	33.782	2.500	2.80	2.00	5.00
Myanmar	53.886	4.128	13.82	7.00	2.00
Philippines	112.147	4.304	5.40	2.25	6.50
Singapore	5.743	1.560	5.60	0.64	3.70
Thailand	70.078	0.859	7.10	0.50	2.20
Vietnam	99.223	2.034	2.86	4.00	5.03
MAJOR ECONOMIES**					
US					
Euro area	329.500	8.30	8.60	1.75	2.0
Japan	447,007	8.10	8.98	0.00	2.7
	125.800	1.20	2.50	-0.10	1.70
China	1,402	2.20	2.20	3.45	4.30

*<https://www.imf.org/en/Publications/WEO/weo-database/2022/April/download-entire-database> (Accessed: June 28, 2022).

**<https://www.worldbank.org/en/news/press-release/2022/06/07/stagflation-risk-rises-amid-sharp-slowdown-in-growth-energy-markets> (Accessed: June 28, 2022).

***Inflation figures are for 2021 and Q1/2022. <https://tradingeconomics.com/japan/inflation-cpi> (Accessed: June 28, 2022).

In June 2022, the inflation rate in the ASEAN countries ranges from the low of 2.80 percent (Malaysia) to the high of 13.80 percent (Myanmar). The average in the group is 6.433 ± 3.98 . Meanwhile the percentage growth of the GDP forecasted for 2022 ranges from 2.00 percent (Myanmar) to the high of 6.50 percent (Philippines). The overall economic prospect for the ASEAN does not look promising. The average inflation for the group is 6.433 ± 3.98 compared to the GDP growth rate of 4.144 ± 1.37 . There is a short fall of 2.289 percent. When the economic growth rate cannot keep up with inflation rate, the economy does not have real growth.

ASEAN is faced with the challenge of how to sustain economic growth at a rate higher than inflation. GDP is stated at current or nominal prices. GDP from two periods cannot be

compared without adjustments for inflation. Inflation adjusted GDP is called real GDP. Therefore, GDP growth is looked at it in real term by adjusting the growth rate by inflation. GDP growth that is less than inflation rate tells us that there is no real growth. By taking inflation into account, the GDP growth in ASEAN is -2.289 percent because inflation is higher than GDP growth for the group by 2.289 points.

Methodology and hypothesis testing

Three types of testing were used. Firstly, the level of threats posed by inflation to economic growth in the ASEAN at country and regional levels was tested. Secondly, the impact of ERPT to the ASEAN economies was assessed. As a region depending on export and western market for growth, inflation pressure from weak exchange rate seems to be a potential cause for ERPT. Lastly, it is assumed that the ASEAN countries are exchange economies.

Granger-causality test was used to verify causal relationship between GDP, exchange rate, and inflation. Assume that there are three-time series data: X (inflation), Y (GDP growth), and Z (exchange rate). Variable X is Granger-caused Y if it helps forecasting Y. Variable X is not granger-caused Y if it fails to help forecasting Y. In this study, exchange rate and inflation are used to predict the GDP.

A variable fails to Granger-cause another variable if its lags are not statistically significant in the equation for another variable, and past values are not significant in predicting the future values of another. The null hypothesis is $b_1 = b_2 = 0$; there is no Granger-cause between X and Y. The alternative hypothesis is $b_1 \neq b_2 \neq 0$. Using VAR (2), the general structure of the modeling is written as:

$$x_t = c_1 + \sum_{i=1}^2 a_{1i} y_{t-i} + \sum_{i=1}^2 \beta_{1i} z_{t-i} + \sum_{i=1}^2 \gamma_{1i} x_{t-i} + \varepsilon_{x,t} \quad (2)$$

$$y_t = c_2 + \sum_{i=1}^2 a_{2i} y_{t-i} + \sum_{i=1}^2 \beta_{2i} z_{t-i} + \sum_{i=1}^2 \gamma_{2i} y_{t-i} + \varepsilon_{y,t} \quad (3)$$

$$z_t = c_3 + \sum_{i=1}^2 a_{3i} y_{t-i} + \sum_{i=1}^2 \beta_{3i} z_{t-i} + \sum_{i=1}^2 \gamma_{3i} z_{t-i} + \varepsilon_{z,t} \quad (4)$$

This paper tested the effect of inflation on economic growth by looking at the loss of purchasing power due to inflation. At any given economic growth level, in order to be meaningful that growth must exceed inflation. In ASEAN, the regional expected growth rate is 4.14 percent \pm 1.37 and the inflation rate is 6.43 \pm 3.98. There is a shortfall of 2.98 percent. With a Z score of 1.67, the significance is $p = 0.047$. Inflation may be a significant threat to economic growth in the ASEAN. At this point, it is necessary to redefine the "significance" level for purposes of inflationary threat to economic growth.

In conventional significance test in social science, 95 percent confidence interval is used; however, in economic policy studies, this might not be the case. For instance, in exchange rate management, the band that monetary policy officials follow in the ASEAN is a 10 percent band under managed float exchange rate regime. This allowance of ten percent fluctuation of exchange rate implies that monetary authorities in ASEAN countries are using 90 percent confidence interval. For this reason, a test for significance in exchange rate may adjust the confidence interval to 90 percent in order to be consistent with the managed float band of 10 percent exchange rate fluctuation.

This paper proposed to follow the 10 percent band used in exchange rate management. We proposed the following steps: (i) find the difference (d) between growth rate and inflation for the ASEAN countries, (ii) use these differences as d_i to calculate the percentage probability of short falls, and (iii) find the joint probability for the GDP growth and the difference between GDP growth and inflation (short fall) by using joint probability calculation: $P(A|B) = P(A) + P(B) - P(A)*P(B)$. Under this structure, threats from inflation can be defined as $(1 - P(A|B))$ for the individual ASEAN country. The result of $P(A|B)$ is used to calculate inflationary threats to economic growth to individual country and the ASEAN region.

The effect of ERPT on GDP growth was tested. Conventionally, ERPT is treated as a component of domestic inflation rate by using aggregate price indices (Goldberg and Kettner, 1997). However, this paper proposes to look at exchange rate pass through as an external even that comes through the domestic market through import. The cause for the price rise is not domestically created but resulted from the devaluation of the local currency or appreciation of the US dollar. For instance, in the intra-trade among ASEAN countries, while the price level inside Thailand for certain goods exported to Laos remains unchanged; however, the price of that same item increases from to due to the depreciation of the Lao currency (LAK). The consumer price index, in this case, may be misleading because the rise in price level is transferred from exchange rate devaluation. One effect of exchange rate is the

reduction of the purchasing power of the agent in the economy. Although the subject of this paper is to see how inflation affects GDP growth, inflationary pressure from ERPT at microeconomic level could be looked at by using the per capita GDP. The reduction of the purchasing power as the result of inflation is actually the decrease of individual consumer's purchasing power in the economy.

In Table 3, three sets of inflation rates were studied to find the coefficient of determination between ASEAN exchange rates and the corresponding US and global inflation rates. Each country in the ASEAN is designated as the output inflation (Y), the US and world inflation rates are designated as explanatory factors (X1 and X2). The percentage probability for each variable is used as a coefficient to obtain the adjusted value. The final value is defined as ERPT. Table 4 used the coefficient of determination (R²) as an indicator of the level of correlation between ASEAN and the US and world inflation rates. The adjusted R-squares were highest among Brunei (0.6285) and Malaysia (0.5182) while the figures for Indonesia and Laos were less than 0.01.

Table 3: ERPT indication for ASEAN

ASEAN Countries	Intercept		US Inflation (X1)		World Inflation (X2)		Adj. R ²
	Value	Prob.	Value	Prob.	Value	Prob.	
Brunei	1.8036	0.0001	0.3976	0.0015	0.3808	0.0007	0.6285
Cambodia	-1.6842	0.2312	0.2774	0.3873	1.4190	0.3873	0.2523
Indonesia	5.6649	0.0244	-0.4147	0.3243	0.8420	0.1168	0.0007
Laos	7.9878	0.2487	2.2463	0.3243	0.6466	0.3949	0.0000
Malaysia	0.3302	0.2250	0.2324	0.0528	0.3124	0.0031	0.5182
Myanmar	14.7708	0.0011	-3.1855	0.0175	2.0430	0.0399	0.0670
Philippines	0.2878	0.4517	0.0971	0.4511	1.4312	0.0117	0.2636
Singapore	-0.7568	0.0488	0.5069	0.0006	0.1908	0.0475	0.5903
Thailand	-1.5536	0.0058	0.8904	0.0000	0.4038	0.0044	0.7476
Vietnam	-1.1358	0.2984	-0.7806	0.2006	2.4110	0.0002	0.4117

The argument based on results in Table 4 is that if there is no statistical significance or lack of coefficient of determination between domestic inflation and US and world inflations, ERPT effect is does not exists for ASEAN countries. The rationale for this argument is that domestic inflation consists of two components: internal and external price levels increase. If

there is no significant correlation between domestic and international inflation rates, then domestic inflation is a result from economic or monetary policies within the country.

The general ERPT literature used the following as factors affecting ERPT: (i) log of import price index; (ii) log of consumer price index (excluding food and energy); (iii) log of commodity price index; (iv) log of domestic weighted average selling exchange rate against the US dollar; (vi) log of foreign prices; and (vii) output gap calculated by a filter on real GDP. Under this complex structure of multi-factors modeling, ERPT model may be represented as:

$$\Delta p_t^m = a_{0t} \Delta_{p_{t-1}}^m + a_{1t}(L) \Delta e_t + a_{2t}(L) \Delta p_t^* + a_{3t}(L) \Delta p_t^{com} + a_{4t}(L) \bar{y}_t + a_{5t} + \varepsilon_t \quad (5)$$

According to equation (5) import price index, commodity price index, and foreign prices constitute external prices; they are indexed in the inflation rate: US and world inflation rates. The model above would have been used if these two external inflation rates have not been available.

Instead of using the above ERPT algorithm in equation (5), this paper proposed to use domestic inflation against US and world inflation rates and use the coefficient of determination (R^2) as the adjusting factor. For example, if R^2 between domestic and external inflation is 0.75, the result of the equation $Y = a + b_1x_1 + b_2x_2$ is multiplied by 0.75 to obtain the expected ERPT effect. This may be an external factor that caused domestic inflation. Under this proposed simplified ERPT calculation, the significance level may be tested by the following string of arguments; it is noted that R square in multiple regressions model is given by:

$$R^2 = \frac{\sum (\hat{Y}_t - \bar{Y})^2 / T - 1}{\sum (Y_t - \bar{Y})^2 / T - 1} \quad (6)$$

The significance test is verified by the F test given by:

$$F = \frac{R^2}{1 - R^2} \times \frac{df_2}{df_1} \quad (7)$$

From these simplified steps, it can be verified which country in the ASEAN group has significant ERPT in its inflation and which economy has inflation rate that was solely resulted from domestic economic policy.

Findings and Discussion

The findings are presented in two parts. Section 4.1 presented preliminary testing of relationships between GDP growth, inflation and interest rate. Section 4.2 presented the result of ERPT analysis under the modified version of regression domestic inflation against the US and world inflation rates. Since ASEAN's economic growth is heavily influenced by export-oriented policy, inflation rate relates more with exchange rate pass-through (ERPT) effect than by direct connection to the GDP growth.

Granger-Causality test for GDP, inflation, and interest rate

The null hypothesis of Granger test states that $b_1 = b_2 = 0$: there is no causality. Table 4 below lists the coefficient b_1 and b_2 for US and global inflation as potential negative effect GDP growth in ASEAN. This causality will show as $b_i \neq 0$.

Table 4: Granger causality test

ASEAN Countries	b_1 Domestic interest Rate	b_2 Global inflation	b_3 Exchange Rate	Null hypothesis $b_1 = b_2 = b_3 = 0$
Brunei	5.50	0.38	0.02	Granger-caused
Cambodia	1.02	1.42	0.02	Granger-caused
Indonesia	3.50	0.84	0.11	Granger-caused
Laos	3.10	0.65	0.11	Granger-caused
Malaysia	2.00	0.31	0.08	Granger-caused
Myanmar	7.00	2.04	0.08	Granger-caused
Philippines	2.25	1.43	0.06	Granger-caused
Singapore	0.64	0.19	0.02	Granger-caused
Thailand	0.50	0.40	0.01	Granger-caused
Vietnam	4.00	2.41	0.05	Granger-caused

By using the data from ten ASEAN countries, the relationship between GDP growth and inflation was tested. By running simple regression between GDP growth rate (X) and inflation (Y), it was found that there is a negative relationship between GDP growth and inflation: $Y(\text{inflation}) = 13.44 - 1.69X(\text{GDP})$ with the significance level of $p = 0.0392$. Although this relationship is significant, the corresponding R square is 0.3372. This means that the growth in GDP contributed to the rise in inflation in the ASEAN by 33.72 percent and the remaining 66.28

is explained by other factors, i.e., investment, accumulation of capital, savings, etc. The result of this testing for the ASEAN countries is consistent with the literature that economic growth may contribute to the rise in inflation (McCallum, 1987). In this testing of ASEAN economies, the average GDP growth was 4.144 percent and average inflation was 6.433 percent. The intercept of the regression in this case tells a story worthy of noting. Where $a = 13.44$ with a statistical significance level of $p = 0.0031$, it means that absent GDP growth the expected inflation in the ASEAN economies is 13.44 percent. ASEAN has a total population of about 673.655 million people who consume goods and services in 10 economies. If inflation is defined as price increase with corresponding willingness of buyers to buy, it is no surprising that a regional market of 673.655 million people has an expected inflation rate of 13.44 percent which is balanced by a negative effect from GDP growth by a factor of -1.69 points for every point gain in GDP growth. The adverse relationship between economic growth and inflation with a negative sign by a factor of -1.69 for the slope of the regression tell us that for every one percent change in GDP there is a reduction in the inflation by a factor of -1.69 points. This finding is consistent with the literature attesting a negative relationship between economic growth and inflation (Stockman, 1981; Kormendi and Meguire, 1985; Fischer, 1993).

A relationship between inflation and interest rate in ASEAN economies was examined. The purpose of this test is to see if we can infer by proxy that interest rate is used as a monetary policy tool in the ASEAN to control inflation. By regressing interest rate (X) against inflation (Y), it was found that the $Y(\text{inflation}) = 4.9661 + 0.4971X(\text{interest})$. There is a positive relationship between in interest rate and inflation. The general assertions that high interest rate causes contradictory money supply and reduced inflation seem not to be true in ASEAN. From our findings, the positive relationship between interest rate and inflation means that high inflation actually contributes to high inflation. With the intercept of 4.9661, it means that without interest rate as an explanatory factor, ASEAN economies have a base level of 4.9661 percent for inflation. With an increase one percent in interest, there is a corresponding factor of 0.49661 times plus 4.9661 in inflation. This finding contradicts the literature and intuition about the relationship between interest rate and inflation. Interest rate is a policy tool for controlling inflation (Berumont et al., 1999). According to our finding, with the reading of R square of 0.0707 or 7.07 percent, ASEAN policy makers may not depend on interest rate as a tool for controlling inflation.

There is a long line of literature on the relationship between inflation and interest rate. Darby (1975), Feldstein (1976), Mundel (1963), Tobin (1965), Nelson & Schewert (1977), Mishkin

(1981, 1988) and Gibson (1982) have verified positive relationship between inflation rate and interest rate. However, some researchers found that this relationship is not strong (Barsky (1987), Huizinga & Mishkin (1986), Mishkin (1992) and Ghazali (2003)). Our finding confirms the former assertion of the existence of the relationship and the latter's finding of weak relationship (significance level of the slope is 0.2289). Lardic and Mignon (2003) found that the relationship is long-run; our testing involves a point-wise testing of 10 economies in the ASEAN. This point-wise approach to the testing may explain our result. Most studies of the relationship between interest rate and inflation were long-run analysis (Brazoza and Brzezina, 2001; and Fave and Auray, 2002).

Egilsson (2020) summarized the assumption of contemporary economic theory by stating that the increase in saving reduces the supply of money in circulation, curbs inflation, and increases the value of the currency. This explanation is known as the demand-pull effect. However, there are also publications which contend that the opposite may happen. An increase in interest rate may contribute to the rise in inflation; this is known as the cost-push effect (Shiller and Siegel, 1977; Friedman and Schwartz, 1982).

Tillmann (2009a, 2009b) explained that the cost-push effect occurs when firms' working capital relied on borrowing. As demand for working capital rises, so does interest. This rise in the cost of capital is passed on to the market with a corresponding rise in price level. Another study explained that the cost-push effect is caused by monetary policy (Barth and Ramey, 2001). This monetary policy argument was confirmed by Ravenna and Walsh (2006) who showed that a cost-push effect may be generated endogenously when a cost-push channel for monetary policy is introduced into the new Keynesian model. New Keynesian economics argues that price and wages do not adjust instantaneously to changes in economic conditions. This may help explain the positive relationship between inflation and interest rates in the ASEAN countries. Among the ten countries in ASEAN, economic development differs from country-to-country. Singapore, for instance is highly developed compared to the new members, such as Cambodia, Laos, Myanmar and Vietnam. Market imperfection may still exist in these less developed economies. Hence, the cost-push effect may explain the finding of positive relationship between interest rate and inflation in this study. This finding is not surprising. Prior studies by Chowdhury, Hoffmann, and Schabert (2006) also found cost-push effect in some G7 countries. In fact, cost-push phenomenon is common in the eurozone (Adolfson, Laséen, Lindé, and Villani, 2005). Dedola and Lippi (2005) explained that cost-push effect may come from monetary policy of the state.

The collinearity between inflation and interest rate was tested using detection-tolerance and variance inflation factor (VIF). A tolerance of less than 0.20 or 0.10 or a VIF of 5 or 10 and above indicates a multicollinearity problem. The value for R square among the supposed relationship between inflation and interest rate is 0.07. The result of the detection-tolerance test shows 0.93. In a second test for collinearity, the result shows VIF is 1.07 compared to the standard of $VIF > 5$ for collinearity problem (O'Brien, 2007). Under both detection tolerance and VIF, there is no problem with collinearity between inflation and interest rate in the ASEAN.

A third test verified the relationship between GDP growth (Y), inflation (X1) and interest rate (X2). The results show that $Y = 5.227 - 0.1928X1 - 0.0469X2$. With these two independent variables, the expected GDP growth in the ASEAN is 5.277 with the significance level of $p = 0.0002$. It was found that both inflation (X1) and interest rate (X2) have negative effect on GDP growth. Assume that inflation rate is allowed to approach zero, the effect of inflation on GDP growth is nil; however, if the inflation is raised, the higher the inflation rate the result shows that the GDP growth rate will be lowered. This effect is consistent with the argument that inflation has negative relationship with economic growth. For the second factor analysis, it was found that there is also negative effect of interest rate on the GDP growth. Assume again that if interest rate is allowed to approach zero, the effect of interest rate on GDP growth will disappear. This is the case of Singapore; the only country in ASEAN maintaining zero near zero interest rate. In the obverse, if interest rate is slowed to increase, the result will be a reduction of the GDP by a factor of -0.0469. This is a small effect from interest rate; the significance level of interest rate effect on GDP growth in ASEAN is $p = 0.4125$. This means that the effect could account for only 0.5875 or 58.75 percent of the time. The overall adjusted R square reading for this model is 0.1541 or 15.41 percent. This low reading of the coefficient of determination (R square) means that interest rate is relevant to economic growth in the ASEAN economies only 15.41 percent.

Inflationary pressure under exchange rate pass-through (ERPT) effect

As a regional market, ASEAN's imports constitute 47 percent of total trade (export + import). The probability for trade deficit for the group is 0.33 with significance level of 0.5987 under the Laplace-DeMoivre Theorem. The probability that ASEAN economies will run trade deficit is 59.87 percent. Assume that export is a function of import in a case where imports are used as inputs to produce exports, this relationship is $Y(ex) = 5.2862 + 0.639X(im)$ with R square of 0.8571; this relationship is significant at $p = 0.0001$. Under the Prospect Theory (Kahneman and Tversky, 1979;

Tversky and Kahneman, 1986), ASEAN will most likely run trade deficit. Individual countries that has slim prospect for positive trade balance are Cambodia ($v = -0.14$), Philippines ($v = -50.28$) and Thailand ($v = -0.61$). These two pieces of information were used to assess ERPT for the ASEAN region.

The relationship between inflation and balance of trade are studied. The regression equation shows that $Y(\text{inf}) = 7.32 - 1.06X(\text{bal})$ with significance level of $p = 0.1749$ and coefficient of determination (R^2) of 0.1097 or trade balance explains 10.97 percent of inflation in ASEAN economy. It is noted that an expected inflation in the ASEAN is 7.32; with one unit of trade deficit, there is a contribution to increase inflation by a factor of -1.06 times. For example, with -1 point of trade deficit will result in 8.38 points in inflation and vice versa if there is a +1 point in trade surplus, the expected inflation is 6.32. It is found that ERPT partially contributed to inflation in the ASEAN. ERPT may capture up to 10.79 percent of inflation rate.

Table 5 provides the overall ERPT reading for the ASEAN countries. Only one country shows statistical significance for ERPT effect: Thailand ($p = 0.0140$). The new ASEAN members (Cambodia, Laos, Myanmar and Vietnam) showed the low significance level of ERPT effect. Laos' low ERPT effect may be due to its insular economy. The insignificant ERPT effect in Cambodia, Myanmar and Vietnam may be due to their better trade terms at balance or near balance. The RPT effect for the ASEAN as a group is about 0.71 ($p = 0.54$) which means that ERPT effect on domestic inflation in the ASEAN economies is not significant.

Table 5: Significance level of ERPT

Country	ERPT(obs) (1)	$R^2(\text{obs})$ (2)	ERPT(adj) (1x2)	Significance	
				F	Prob.
Brunei	1.8633	0.6285	1.17	1.69	0.1920
Cambodia	(1.5653)	0.2523	(0.39)	0.34	0.7422
Indonesia	5.6856	0.0007	0.00	0.00	0.8289
Laos	8.2243	-	-	-	0.8289
Malaysia	0.3711	0.5182	0.19	1.08	0.4130
Myanmar	14.6337	0.0670	0.98	0.07	0.8023
Philippines	(0.1836)	0.2636	(0.05)	0.36	0.7088
Singapore	(0.7004)	0.5903	(0.41)	1.44	0.2710
Thailand	(1.4500)	0.7476	(1.08)	2.96	0.0140
Vietnam	(1.0414)	0.4117	(0.43)	0.70	0.5987
ASEAN Mean \pmSD	2.58	0.39	(0.00)	0.96	0.54
	\pm 5.35	\pm 0.26	\pm 0.71	\pm 0.96	\pm0.30

Table 6, summarizes inflationary threat for each country in the ASEAN. The results for some countries are worth noting. Myanmar faces 93 percent threat ($p = 0.0230$). This level of threat is the highest in the group. Where the group average threat level is 0.33 ± 0.30 with mean probability $p = 0.54 \pm 0.31$ which is not statistically significant. The moderate level of threat is between significance level of 0.10 and 0.20; two countries fall within this range: Laos ($p = 0.189$) and Thailand ($p = 0.136$). Three countries stood out as inflation resistant economies; these countries were Indonesia, Malaysia, and Vietnam where the significance level was 0.8289 for all three countries.

Table 6: Determination of inflationary threats to economic growth

Country	P(A)*	P(B)**	P(A) + P(B)	P(A*B)	P(AB)	Threats	
						Level	Prob.
Brunei	0.3632	0.7160	1.08	0.26	0.82	0.18	0.7088
Cambodia	0.6030	0.4404	1.04	0.27	0.78	0.22	0.6736
Indonesia	0.7360	0.7760	1.51	0.57	0.94	0.06	0.8289
Laos	0.3632	0.0735	0.44	0.03	0.41	0.59	0.1890
Malaysia	0.7360	0.8210	1.56	0.60	0.95	0.05	0.8289
Myanmar	0.0495	0.0256	0.08	0.00	0.07	0.93	0.0230
Philippines	0.0430	0.7550	0.80	0.03	0.77	0.23	0.6368
Singapore	0.3632	0.5320	0.90	0.19	0.70	0.30	0.5596
Thailand	0.0735	0.2912	0.36	0.02	0.34	0.66	0.1360
Vietnam	0.7420	0.8190	1.56	0.61	0.95	0.05	0.8289

*P(A) = probability of growth; P(B) = probability of the difference between expected growth and inflation.

Limitation of the study

There are two limitations in this study. Firstly, this paper presents a case study of ASEAN countries on the relationship between inflation and economic growth with the argument that inflation threatens economic growth. Secondly, the data used in this study came from several sources. The GDP growth came from annual reports of the IMF. Other data, such as exchange rates and inflation came from other secondary sources.

Macroeconomic data may not be available at the same time. For example, GDP data is made available on annual basis and is made available in the following year. Inflation and interest rate may be available on a monthly or quarterly basis. The timing of the release of these economic data presents challenges and limitations for making the study reflective of

the current situation in the economy. Nevertheless, this study made effective use of the available data to test whether inflation poses any threats to economic growth in the ASEAN countries. During the study period, global inflation, effects of COVID-19 pandemic and the war in Ukraine, are still on-going; therefore, it is not possible to see a complete picture of how these events affect economic growth in the ASEAN countries. Despite these limitations, this paper charts a course for further research on how inflation effects economic growth among ASEAN countries.

Conclusion

This paper examined inflation and its potential threats and challenges on the ASEAN economy. As the region gains momentum after the COVID-19 pandemic, two new shock were touching the region: global inflation and military conflict in Europe. The ASEAN economy still depends on trading with major economies: US, EU area and Japan; more recently, China also plays a significant role in regional trade with the ASEAN countries. The ASEAN economy, with ten currencies, may be exposed to ERPT inflationary effect as international trade is denominated in US dollar. Inflation in the global market may pass through the local economies; this ERPT is difficult for ASEAN to address since each country has its own currency and exchange rate. The lack of unified monetary policy in the ASEAN makes inflation risk exposure difficult to manage. The different effect of ERPT has policy implication for the ASEAN; lacking unified monetary policy, member countries are exposed to exchange rate pass-through inflationary effect as the result of local currencies become weaker against the US dollar. As long as the ASEAN countries still lack uniform monetary policies, each member state should be equipped with effective monetary policy and adequate reserves in order to carry out contractionary monetary policies in order to control inflation. This paper pointed out that inflation presents a real threat. GDP growth will be subtracted by inflation rate; inflation reduces real GDP growth rate. In order to see real growth, each country in the ASEAN must push itself to produce GDP growth rate higher than inflation.

Reference

- Adolfson, M., Laséen, S., Lindé, J., & Villani, M. (2005). The role of sticky prices in an open economy DSGE model: A bayesian investigation. *Journal of the European Economic Association*, 3(2-3), 444-457.
- Aghion, P. & Howitt, P., (1992). A model of growth through creative destruction. *Econometrica*, 60(2), 323-351.
- ASEAN Economic Community Blueprint (PDF). *Jakarta: Association of Southeast Asian Nations*. January 2008. p. 56. Retrieved on 5 February 2015 from <http://www.asean.org/archive/5187-10.pdf> Accessed: June 28, 2022.
- Bacchetta, P., & Van Wincoop, E. (2003). Why do Consumer Prices React Less than Import Prices to Exchange Rates?. *Journal of European Economic Association*, 1, 662-670.
- Barro, R.J. (1996). Inflation and growth. *Federal Reserve Bank of St. Louis Review*, 78, 153-169.
- Barro R. J., (1997). *Determinants of Economic Growth? a Cross-Country Empirical Study*. NBER Working Paper 5698.
- Barro, R. J., & Lee, J. W. (1993). International comparisons of educational attainment. *Journal of Monetary Economics* 32, 363-394.
- Barro, R.J., & Grilli, V. (1994). *European Macroeconomics*, Ch. 8, p. 139, Fig. 8.1. Macmillan.
- Barsky, R. B. (1987). The fisher hypothesis and the forecast ability and persistence of inflation. *Journal of Monetary Economics*, (19), 3-24
- Barth, M. J., & Ramey, V. A. (2001). The cost channel of monetary transmission. *NBER Macroeconomics Annual 2001*, 16, 199-240.
- Barth, J. R., & Bennett, J. T. (1975). Cost-push versus Demand-pull Inflation: Some Empirical Evidence. *Journal of money, credit & banking (Ohio State University Press)*, 7(3), 391.
- Berman, N., Martin, P., & Mayer, T. (2012). "How do Different Exporters React to Exchange Rate Changes?". *Quarterly Journal of Economics*, 127(1), 437-492.
- Besanko, D. (2012). *Economics of Strategy*. (6th Edition). The United States of America: Hoboken, NJ: John Wiley & Sons. pp. 171-172.
- Brazozoa, H., & Brzezina, M. (2001). *The relationship between real rate interest rate and inflation*, Research department, National Bank of Poland and Chair of Monetary Policy. pp. 1-26.
- Brock, William A. (1974). *Money and Growth: The Case of Long-Run Perfect Foresight*. *International Economic Review*, 15, 750-777.
- Bruno, M. (1993). *Inflation and Growth in an integrated approach*. NBER Working Paper, No. 4422.

- Bruno, M. & Easterly, W. (1998). Inflation crises and long-run growth. *Journal of Monetary Economics*, 41, 3-26.
- Campa, J. M., & Goldberg, L. S. (2005). "Exchange Rate Pass-Through into Import Prices". *Review of Economics and Statistics*, 87(4), 679-690.
- Carney, M. (2015). *Inflation in a Globalised World*. Remarks at the Economic Policy Symposium, Federal Reserve Bank of Kansas City, Jackson Hole, WY, August 29.
- Chowdhury, I., Hoffmann, M., & Schabert, A. (2006). Inflation dynamics and the cost channel of monetary transmission. *European Economic Review*, 50(4), 995-1016.
- Choudhri, E. & Hakura, D. (2006), Exchange Rate Pass-Through to Domestic Prices: Does the Inflationary Environment Matter? *Journal of International Money and Finance*, 25, 614-639.
- Cook, J. A. (2014). The Effect of Firm-Level Productivity on Exchange Rate Pass-Through. *Economics Letters*, 122(1), 27-30.
- Cozier, B. and J. Selody (1992). *Inflation and Macroeconomic Performance: Some Cross-Country Evidence*. Department of Monetary and Financial Analysis, Bank of Canada.
- Dalmazzo, Alberto (2014). Monetary Discipline as a Substitute for Fiscal Reforms and Market Liberalisations. *Economic Notes*, 43(3), 193-210.
- Darby, M. R. (1975). The financial and tax Effect of Monetary Policy on interest rates. *Economic Enquiry*, (13), 266-76.
- Datta, K. (2011). *Relationship between Inflation and Economic Growth in Malaysia*. International Proceedings of Economics Development and Research, 4, 415-419.
- De Gregorio, J. (1992a). Economic Growth in Latin America. *Journal of Development Economics*, 39, 59-84.
- De Gregorio, J. (1992b): The effects of inflation on economic growth: Lessons from Latin America. *European Economic Review*, 36, 417-425.
- De Gregorio, J. (1993). Inflation, Taxation, and Long-run Growth. *Journal of Monetary Economics*, 31, 271-298.
- Devereux, M. & Engel, C. (2001). *Endogenous Currency of Price Setting in a Dynamic Open Economy Model*, (NBER Working Paper No. 8559).
- Devereux, M., & Engel, C. (2001). *Endogenous Currency of Price Setting in a Dynamic Open Economy Model*. (NBER Working Paper No. 8559).
- Dornbusch, R. & Reynoso, A. (1989). Financial factors in economic development. *American Economic Review*, 79, 204-209.

- Egilsson, J.H. (2020). How raising interest rates can cause inflation and currency depreciation. *Journal of Applied Economics*, 23(1), 450-468.
- Fave, P., & Auray, S. (2002). Interest rate and inflation in Monetary models with ingenious money growth rate. *Economic Bulletin*, 5(1), 1-10.
- Feldstein, M. (1976). Inflation, taxes and the rate of interest: A theoretical analysis. *American Economic Review*, 66(1976), 809-820.
- Fielding, D. & Bleaney, M. (2000). Monetary Discipline and Inflation in Developing Countries: The Role of the Exchange Rate Regime. *Oxford Economic Papers*, 52(3), 521-538.
- Fischer, S. (1993). The Role of Macroeconomic Factors in Growth. *Journal of Monetary Economics*, 32, 485-512.
- Fischer, S. (1991). *Growth, Macroeconomics, and Development*. (NBER Working Paper, No. 3702).
- Fischer, S. (1993). The Role of Macroeconomic Factors in Growth. *J. Monet. Econ.*, 32, 485-512.
- Friedman, M., & Schwartz, A. J. (1982). *Monetary trends in the United States and the United Kingdom: Their relation to income, prices, and interest rates, 1867-1975*. National Bureau of Economic Research, Inc.
- Gagnon, J., & Ihrig, J. (2004). Monetary Policy and Exchange Rate Pass-Through. *Int. J. Finance Econ.*, 9(4), 315-338.
- Ghazali, N. (2003). A long money test of the long-run fisher effect in the G7 Countries, *Appl. Financial Econ.* (13), 763-769.
- Ghosh, A., & S, Phillips. (1998). Warning: Inflation may be harmful to your Growth. *IMF working Papers* 45(4), 674-710.
- Goh, G. (Spring 2003). The 'ASEAN Way'; Non-Intervention and ASEAN's Role in Conflict Management. *Stanford Journal of East Asian Affairs*, 3(1), 113-18.
- Goldberg, P. K., & Knetter, M. M. (1997). Goods prices and exchange rates: What have we learned?. *Journal of Economic Literature*, 35(3), 1243-1272.
- Gultekin, N. B. (1983). Stock Market Returns and Inflation: Evidence from Other Countries. *The Journal of Finance*, 38(1), 49-65.
- Ghosh, A. & Steven P. (1998). *Inflation, Disinflation, and Growth*. (IMF Working Paper, May, No. Wp/98/68).
- Houser, T. V. (1958, July). *The Cruellest Tax*, *Committee for Economic Development*, 711 Fifth Avenue, New York 22, New York, 3-4.
- Huizinga J., & Mishkin F. S. (1984), inflation and real interest rates on assets with different risk characteristics". *Journal of Finance*, (43), 699-714.

- Hummel, J.R (2007). Death and Taxes, Including Inflation: the Public versus Economists, *Econ. Journal Watch*, 4(1), 46-59.
- Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*. 47(2), 263–291.
- Kormendi, R. & Meguire, P. (1985). Macroeconomic Determinants of Growth: Cross-Country Evidence, *Journal of Monetary Economics*, 16(2): 141-63.
- Levine, R. & Zervos, S. (1993). What have we learned about policy and growth from cross-country regressions? *American Economic Review*, 83, 426-430.
- Levine, R. & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *American Economic Review*, 82, 942-963.
- Leviter, L. (2010). The ASEAN Charter: ASEAN Failure or Member Failure? New York University. *Journal of International Law and Politics*. 43, 159–210.
- Lucas, R.E. (1988). On the mechanics of economic development. *J. Monet. Econ.* 22(1), 3–42.
- Lucas, R. E. & Stokey, N.L. (1987). *Money and Interest in a Cash-in-Advance Economy*. *Econometrica*, 55, 491-513.
- Mallik, G. & Chowdhury, A. (2001). Inflation and economic growth: evidence from four South Asian countries. *Asia-Pacific Development Journal*, 8(1), 123-135.
- Mankiw, N. G. (2002). *Macroeconomics*. (5th ed.). Worth. Measurement of inflation is discussed in Ch. 2, pp. 22–32; Money growth & Inflation in Ch. 4,
- Melitz, Jacques (1987-02-17). *Monetary Discipline, Germany, and the European Monetary System*. Rochester, NY. SSRN 884539.
- McCallum, T. (1987). Inflation: Theory and Evidence, New York, The American National Bureau of Economic Research, (Working Paper No. 2312). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=227272
- McCarthy, J. (2000). *Pass-Through of Exchange Rates and Import Prices to Domestic Inflation in Some Industrialised Economies*. Federal Reserve Bank of New York Staff Report No. 111.
- McCarthy, J. (2007). Pass-through of Exchange Rates and Import Prices to Domestic Inflation in Some Industrialized Economies. *Eastern Economic Journal*, 33(4), 511-537.
- Mishkin, F. (2008). *Does Stabilizing Inflation Contribute to Stabilizing Economic Activity?* (NBER Working Paper No. 13970), National Bureau of Economic Research, Cambridge, MA.
- Mishkin, F. (2008). *Exchange Rate Pass-Through and Monetary Policy*. NBER Working Paper 13889.
- Montiel, P. (1989). Empirical Analysis of High-Inflation Episodes in Argentina and Brazil, Washington. D. C, International Monetary Fund (IMF), *Staff Papers*, 36(3), 527–549.

- Motley, B. (1994): Growth and Inflation: A Cross-Country Study. *Federal Reserve Bank of San Francisco*, (Working Paper, No. 94-108).
- Mundell, R. (1963). Inflation and Real Interest. *The Journal of Political Economy*, 71(3), 280-283.
- Nelson, C., & Schwert, G. (1977). Short-Term Interest Rates as Predictors of Inflation: On Testing the Hypothesis That the Real Rate of Interest is Constant. *American Economic Review*, 1977, 67(3), 478-86.
- Neyapti, B. & Ozigur, S. (2007). The Effects of Fiscal and Monetary Discipline on Budgetary Outcomes. *Contemporary Economic Policy*, 25(2), 146-155.
- O'Brien, R. M. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality & Quantity*, 41(5), 673-690.
- Orphanides, A., & R. Solow (1990). *Money, inflation and growth*, in B. M. Friedman and F. H. Hahn (eds.), *Handbook of Monetary*, 1, 223-261.
- Ozyurt, S. (2016). *Has the exchange rate pass through recently declined in the euro area?* (ECB Working Paper No. 1955).
- Ravenna, F., & Walsh, C. E. (2006). Optimal monetary policy with the cost channel. *Journal of Monetary Economics*, 53(2), 199-216.
- Rising as One: The Filipino Nation Towards the ASEAN Economic Integration (2013). *Local Government Academy of the Philippines*. p. 23.
- Rogoff, K. (2003). Globalization and Global Disinflation. *Federal Reserve Bank of Kansas City Economic Review*, 88(4), 45-78.
- Romer, P.M., 1990. Endogenous technological change. *J. Polit. Econ.* 98(5), S71-S102.
- Roubini, N., & Sala-i-Martin, X. (1995). A growth model of inflation, tax evasion and financial repression. *J. Monet. Econ.*, 35, 275-301.
- Sargent, T. & Wallace, N. (1981). Some Unpleasant Monetarist Arithmetic, Minneapolis, Federal Reserve Bank of Minneapolis. *Journal of Quarterly Review*, 5, 1-17.
- Shiller, R. J., & Siegel, J. J. (1977). The Gibson Paradox and historical movements in real interest rates. *Journal of Political Economy*, 85(5), 891-908.
- Sidrauski, M. (1967). Rational Choice and Patterns of Growth in a Monetary Economy. *American Economic Review* 57(2), pp 534-544.
- Sims, C. (1980). A Comparison of Interwar and Postwar Business Cycles: Monetarism Reconsidered, Amsterdam, Elsevier Science, and *Journal of Economic Review, Annual Papers and Proceedings*, 70, 250-257.
- Solow, R.M., 1956. A contribution to the theory of economic growth. *Q. J. Econ.* 70(1), 65-94.

- Stockman, A. C. (1981). Anticipated Inflation and the Capital Stock in a Cash-in-Advance Economy, *Journal of Monetary Economics*, 8(3), 387-93.
- Svensson, L. (2003). Escaping from a Liquidity Trap and Deflation: The Foolproof Way and Others. *Journal of Economic Perspectives*, 17(4), 145–166.
- Taylor, J. (2000). Low Inflation, Pass-Through and the Pricing Power of Firms, *European Economic Review*, 44, 1389-1408.
- Tillmann, P. (2009a). Optimal Monetary Policy with an Uncertain Cost Channel. *Journal of Money, Credit and Banking*, 41(5), 885–906.
- Tillmann, P. (2009b). The time-varying cost channel of monetary transmission. *Journal of International Money and Finance*, 28(6), 941–953.
- Tobin, J. (1965), “Money and Economic Growth”, *Econometrica*, (33), 671-684.
- Tversky, A. & Kahneman, D. (1986). Rational Choice and the Framing of Decisions. *The Journal of Business*, 59(4), 251–278.
- Umar A., & Zubairu A. A., (2012). *Effect of inflation on the growth and development of the Nigerian economy; An empirical analysis*. *Int. J. Soc. Sci. Bus.*, 3,10.
- VOA (2022, Jun. 28). *World Bank Warns of Global Economic Slowdown, More Inflation*. Retrieved from <https://www.voanews.com/>
- Walgenbach, P.H., Dittrich, N.E., and Hanson, E.I. (1973). *Financial Accounting*, 429. New York: Harcourt Brace Javonovich, Inc.
- World Bank Press Release (2022, Jun. 28). *Stagflation Risk Rises Amid Sharp Slowdown in Growth*. Retrieved from <https://www.worldbank.org/en/news>

An Analysis of Motivations and Behaviors of Thailand Inbound Tourists from China

Meidan Liu¹

Udomsak Seenprachawong²

Abstract

The COVID-19 pandemic has caused a heavy blow to Thailand's economy, particularly the tourism industry. Although Thailand has lifted almost all entry controls, there is still a long road to tourism recovery. As the largest source market before the pandemic, China has reduced its quarantine length and the times of COVID tests prior to boarding and granted permission to operate Thai flights between the countries. Therefore, Thailand is upbeat about Chinese tourist arrivals. Thailand needed to learn more about the Chinese so that the challenges and opportunities could be identified by analyzing the motivations and behaviors of Thailand inbound tourists. In order to study motivation, behaviors, and satisfaction, and the relationships among them, processing the data with descriptive analysis, factor analysis, and correlation analysis. The results presented three push factors (relaxation, novel experience, and companionship) and three pull factors (humanistic resources, social environment, and natural resources). It should be noted that it was the first time to Thailand for most of Chinese, and the Internet was a powerful tool to help them collect information and then make plans. They planned two to six months ahead of traveling, enjoyed independent tours with five to eight-day trips, went with two to eight family members

¹ Graduate School of Development Economics, National Institute of Development Administration (NIDA).
148 Serithai Road, Klong Chan, Bangkok, Thailand 10240, THAILAND.
E-mail: liumeidan66@gmail.com

² Graduate School of Development Economics, National Institute of Development Administration (NIDA).
148 Serithai Road, Klong Chan, Bangkok, Thailand 10240, THAILAND.
E-mail: sudomsak@yahoo.com

or friends, and rested at hotels. The relationships among motivations, behaviors, and satisfaction. The recommendations in this study will make Thailand become a preferred destination for Chinese tourists to visit, which will accelerate the recovery of tourism.

Keywords: Thailand, Inbound Tourists, Motivations, Behaviors, Push and Pull Factors

Introduction

Thailand is widely known for its tourism, and the tourism sector has become a significant contributor to the economy. Ministry of Tourism and Sports (MOTS) (2019) reported that the tourism industry in 2016 contributed 2.52 trillion baht, up 11% from 2015. Tourism revenue for 2017 was 2.78 trillion baht, for 2018 it was 2.94 trillion baht, and for 2019 it was 3.08 trillion baht. Furthermore, the number of international tourist arrivals to Thailand in 2017 was 35.59 million, in 2018 it was 38.18 million, and in 2019 it was 39.92 million. In addition, tourism in 2019 accounted for around 11% of Thailand's GDP and 20% of employment (Bank of Thailand (BOT), 2021). Unfortunately, there has been a heavy blow to Thailand's tourism since the COVID-19 outbreak, and then the Russia-Ukraine war caused inflation, which is a big challenge for Thailand's economy. In order to stimulate tourism, Thailand has eased almost all entry controls (Tourism Authority of Thailand (TAT), 2022). According to Bangkok Post (2022), Thailand had 2.03 million international arrivals between January 1 and June 26, 2022, and India has become the largest source market. Before the pandemic, China provided the largest number of tourists to Thailand. The total number of inbound tourists from China reached more than 11 million and accounted for approximately 30% of all tourists coming to Thailand in 2019. It should be noted that Thailand's tourism is still far below pre-pandemic levels, so there is a long road to economic recovery. The good news from National Bureau of Disease Control and Prevention (2022) was that China has reduced its quarantine length and the times of COVID tests prior to boarding and granted permission to operate Thai flights between the countries as a major step toward relaxing regulations. Therefore, China is still a potential and profitable market for Thailand. Furthermore, taking account of the fierce competition from Asian countries, such as Singapore, Malaysia, and Philippines, Thailand needed to learn more about the Chinese so that the challenges and opportunities could be identified by analyzing the motivations and behaviors of Thailand inbound tourists from China.

Research Objectives

1. Study the motivations of Thailand inbound tourists from China.
2. Study the behaviors of Thailand inbound tourists from China.
3. Evaluate the satisfaction of Thailand inbound tourists from China.
4. Study the relationships among motivations, behaviors, and satisfaction.

Literature Review

This section provided an overview of the previous relevant publications. It involved the images of Thailand, motivations, behaviors, and satisfaction.

Destination Image

Destination image has been defined as expressing all knowledge, impressions, prejudices, and emotional thoughts about a given object or place (Baud Bovy & Lawson, 1977). According to Bigne, Sanchez, and Sanchez (2001), image played two crucial functions in behaviors. First, before travel behaviors, the image affected destination selection; second, after travel behaviors, it impacted evaluation (satisfaction, repeat travel, repurchase, and recommendation).

Changorn (2003) discovered that Thailand was one of the world's most popular vacation destinations due to its high food image. Thailand was also viewed as a brand image of exotic, fun, and friendly people (Davies, 2003). Natural beauty was considered Thailand's most important image by domestic and international tourists (McDowall & Choi, 2010). However, Rittichainuwat, Qu, and Brown (2001) noted that its negative images related to prostitution, traffic, and pollution. It was especially noteworthy that once the destination image was strong enough, people may overlook or even ignore some positive or negative information (Vysekalová, 2009). Thailand's strongest image was exotic, which served as a form of travel motivation (Prideaux*, Agrusa, Donlon, & Curran, 2004).

Travel Motivations

Motivations were the subjective conditions for an individual to participate in activities, as well as when, where, and what types of activities they participated in (Bhattacharya & Kumar, 2017). Maslow's hierarchy of needs (Maslow, 1943) was one of the most highly discussed theories of motivation, and it has often been used in the field of tourism. Physiology, safety, emotions, self-esteem, and self-actualization were five sets of goals, which were arranged from most basic to most complex. Yousaf, Amin, and C Santos (2018) found that at the highest level of self-actualization, tourism was regarded as an activity that tourists were able to complete and become the best at.

Push and pull theory was inspired by Maslow's hierarchy of needs. (Gray, 1970) described push motives as wanderlust and pull motives as sunlust. Wanderlust was the basic trait in human nature that drove some people to leave their familiar things and go and see diverse cultures and places. Sunlust referred to these trips that were motivated by a desire to do

something different or better amenities for a given purpose than what was available in the normal environment. Dann (1977) believed that push factors could be explained as internal powers, such as relaxation, recreation, nostalgia, and escape, that encouraged people to leave their place of residence. These were associated with the social-psychological needs of humans. Pull factors could be explained as external powers, such as sunshine and sea, that attract people to visit a specific place; these forces originated within the destinations. A given place may have many attractions for the potential travelers who come to visit due to prior travel needs.

Uysal and Jurowski (1994) found that there was a relationship between push and pull factors. He emphasized that push factors antecedent to pull factors. For example, once people desire to travel abroad to experience something new and exciting (push factors-internal motives), they would consider where to go or what to see, such as Asia, Australia, Europe, or North America (pull factors-destinations attractions). Mehmetoglu (2011) did the same conclusion, and he pointed out that pull factors both respond to and reinforce push factors. Yuan and McDonald (1990) claimed that people from four different countries sought the same unmet wants (push factors), but it seemed to be different destinations to be chosen (pull factors). Another result was that the level of importance of factors differed between individuals and countries. Push factors and pull factors were viewed as separate stages in travel decision-making. However, more and more studies indicated that they are not acting in isolation from one another. An investigation conducted by Klenosky (2002) studied the links between the pull factors of a destination (the means) and the higher-level motivational factors for each tourist (the ends). The means-end approach, which demonstrated the pull factor (beach) created the opportunity to escape, socialize, meet people, have fun and enjoy, and then felt refreshed and recharged. Actually, the push and pull factors relationship was interrelated (Kim, Lee, & Klenosky, 2003).

China is in the east of Asia, and Asian countries are popular destinations for Chinese tourists. Millions of Chinese people lived in those countries, particularly in Southeast Asia (Arlt, 2006). As one of the notable emerging market economies, Puah, Huan, and Thien (2018) found that China provided a stable source of visitors that generated Malaysia's tourism. Increasing real income and the appreciation of the Chinese yuan encouraged Chinese tourists to travel abroad. Malaysia had a competitive advantage over other countries as a result of its openness to trade, shared language, and culture. According to Rosyidi (2018), the majority of Chinese visitors to Indonesia were young individuals. These tourists were attracted by the

beautiful natural and cultural attractions of Indonesia. Two peak periods occurred in February due to the Chinese New Year and June and July due to school summer holidays. Leisure time was the push factor, and nature and culture were the pull factors. The destination image of Japan had a direct impact on Chinese students' attitude towards visiting Japan. Historical problems such as the Diaoyu Islands dispute, potential radiation contamination, and the Nanjing Massacre caused anti-Japanese sentiment (Park, Hsieh, & Lee, 2017). Nevertheless, Chinese people regarded Japan as an affordable destination both economically and in terms of time concerns. Thus, maintaining a stable relationship between China and Japan decreased individual nationalist sentiment (Lin, Qiu Zhang, Gu, & Peng, 2017).

Travel Behaviors

Travel behaviors were how tourists act according to their attitudes before, during, and after the trip. From the travelers' attitudes, they took action before, during, and after traveling (Ajzen, 1987). The theory of planned behavior (TPB) (Ajzen, 1991) was often mentioned in the field of tourism. This theory comprised three core components: attitudes, subjective norms, and perceived behavioral controls, which together formed an individual's behavioral intentions. Attitudes and subjective norms arose from normative beliefs and motivations. However, behavioral intentions did not always lead to actual behaviors. One can choose to engage in behavior that did not exactly match their current attitude, but then tried to change that belief to match the current behavior. Five phases were involved in tourist activities developed by Davis and Knetsch (1966). These phases were anticipation or pre-purchase, journey to the site, on-site experience, return travel, and extended memory and recollection. Manrai and Manrai (2011) showed that the applicability and process were significantly different in behaviors of the before-travel, during-travel, and after-travel periods. Three categories of behavioral patterns also to be stated, namely, collectivity orientation driven travel behaviors (COD), risk tendencies driven travel behaviors (RTD), and social interaction driven travel behaviors (SID). These three categories were associated with the formation of preferences in the before-travel period, the consumption of goods and services in the during-travel period, and the evaluation of experiences in the after-travel period, respectively. Which highlighted the fact that behavior was a crucial discipline that played a role in the formulation of strategies and the enhancement of products.

Traveling habits differed across different categories of travelers. Cohen (1972) classified tourists into four types, based on the degree to which they sought familiarity and novelty.

They were drifters, explorers, individual mass-tourists, and organized mass-tourists. The drifters had no planned itinerary and attempted to stay in the local community. The explorers traveled alone and sought comfortable accommodations and reliable transportation. Individual mass-tourists preferred to be less restricted by a group and an organized time and itinerary. Most organized mass-tourism was in the form of package tours with a tour guide and a set schedule. A study by Inagaki (2000) indicated that individualist tourists were more likely to seek novelty, while collectivist tourists were primarily motivated by family.

Tourists' Satisfaction

Satisfaction is the evaluation of a given experience. Satisfaction has employed models based on theories, such as equity theory, normative theory, perceived performance theory, and expectation theory. According to Adams (1963), there were two points of equity theory: people wanted to maximize results and minimize their cost during a deal; and people thought they could maximize results by acting equitably. Equity theory explained that satisfaction was the trade-off between sacrifice and harvest. When tourists gained more value or costed less, the level of satisfaction increased (Oliver & Swan, 1989). Inequity caused dissatisfaction and decreased intentions for future use (Fisk & Young, 1985). The normative theory was related to a norm that worked as a reference point while evaluating or making judgments on behaviors. In addition, it was generally acknowledged that tourists would compare current experiences with past experiences (Yoon & Uysal, 2005). According to Severt, Wang, Chen, and Breiter (2007), satisfaction was defined as goods or service performance that meets tourists' desires, expectations, and wants during the trip. It was the result of comparing pre-travel expectations and during-travel experiences. In the Internet era, (Lee & Kim, 2020) defined expectations as being affected by the posting of online reviews by those who had actual experiences. Also, expectations were created by previous experience and a promise from the service provider, and satisfaction occurred once the performance was higher than expectations. Satisfaction was thought to be the most important area of tourism research because it was linked to things like recommending a place to other tourists, purchasing goods and services, and wanting to go back (Armario, 2008; Kozak & Rimmington, 2000).

Research Methodology

The literature review presented a comprehensive summary. Firstly, the destination image provided an overall perception of Thailand. The positive images of Thailand were its food, exoticism, natural beauty, nightlife, entertainment, and people; the negative images were prostitutes, traffic, pollution, and low quality or imitation products. Secondly, some prominent conceptual schemes, such as Maslow's hierarchy of needs and push and pull theory, were explained in terms of travelers' reasons for going on vacation. In this study, the push and pull theory was adopted, showing some push and pull factors from previous studies that helped to develop its own push and pull factors. Thirdly, different categories of behavioral patterns were used to understand travel behaviors, and this study related to three stages of travel: before-travel, during-travel, and after-travel. Finally, satisfaction evaluation was next to after-travel behaviors, and it was the basis of customer loyalty. Satisfaction was explained by equity theory, comparison, and expectation. Based on the above, the literature-based hypotheses would be used as a conceptual framework for this study.

H1₀: There is no significant relationship between the push and pull factors for Chinese tourists.

H2₀: There is no significant relationship between motivations and behaviors for Chinese tourists.

H3₀: There is no significant relationship between motivations and satisfaction levels for Chinese tourists.

H4₀: There is no significant relationship between behaviors and satisfaction levels for Chinese tourists.

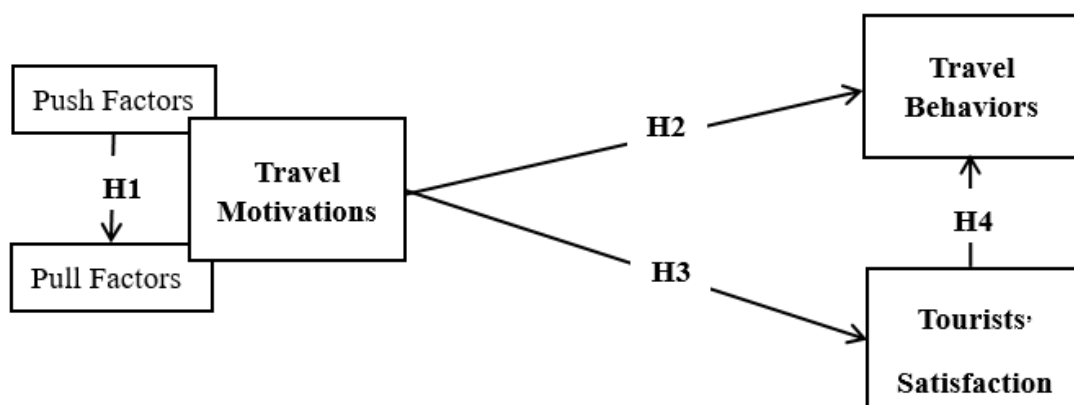


Figure 1 Conceptual Framework

A larger sample size normally results in higher accuracy. However, if it is a super large population, increasing the sample size does little or even nothing for accuracy. The research objects are Chinese tourists who have been to Thailand. According to Statista (2021), the total number of Chinese tourists to Thailand was 4.64 million in 2014 and more than 11 million in 2019, which was an upward tendency. Based on the formula by Krejcie and Morgan (1970), the minimum recommended sample size for this study was 384. The instrument was an online questionnaire that was divided into four sections. There were seven questions in the section of demographic characteristics, including gender, age, marital status, education, occupation, income, and geographic location. There were 17 questions in the section on behaviors. The majority of those questions had one answer, but some may have more than one answer. Two questions about behaviors were based on the 5-point Likert scale (1 = totally disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = fully agree), and the questions about motivations also used this method. In the section of motivations, 13 items fall into the category of the push forces and 13 items fall into the category of the pull forces. The answers to the section of satisfaction were also based on the same technique (1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied).

Firstly, descriptive statistics were employed to summarize, organize, and simplify data (Zikmund, Babin, Carr, & Griffin, 2003). Therefore, frequency and percentage were used in this study, illustrating the distribution of demographic characteristics. The mean score ranking was used to identify the important push factors, pull factors, and satisfaction items. Secondly, factor analysis helped to find hidden representative push and pull factors among those variables to generalize and explain the largest observational facts. There were main requirements in factor analysis: KMO values of less than 0.5 were unacceptable; a factor can be considered when eigenvalues were greater than 1 based on Kaiser's criterion (Kaiser, 1974); the absolute loading of less than 0.4 was unacceptable based on Stevens' guidelines (Pituch & Stevens, 2015). Thirdly, reliability analysis was to establish whether a questionnaire was stable and reliable, which required the load of each factor to be larger than 0.5, p to be less than 0.05, and Cronbach's α and the overall reliability to be greater than 0.7. Once all requirements have been satisfied, the numbers and names of factors can be finally determined. Afterwards, correlation analysis was another technique for determining the correlation between two variables, which acquired the representative factors to explore the relationships among motivations, behaviors, and satisfaction. Mindrila and Balentyne (2017) said that the p -value is used to determine whether or not there is a statistically significant

relationship between the two variables. Typically, if the p-value is less than 0.05, a correlation is considered statistically significant, and Moore, Notz, and Flinger (2013) proposed a rule of the strength of a relationship (see Table 1).

Table 1: Rule of the Strength of Relationship

Value of r	Strength of Relationship
$r < 0.3$	Very weak positive
$0.3 (-0.3) \leq r < 0.5$	Weak positive
$0.5 (-0.5) \leq r < 0.7$	Moderate positive
$r \geq 0.7$	Strong positive

Results

SPSS statistical software was used to summarize, analyze, and discuss 384 samples. The methods included descriptive analysis, factor analysis, and correlation analysis.

Respondent Profile

Table 2: Demographic Characteristics of Respondents (N=384)

	Characteristics	Frequency	%	Cumulative %
Gender	Male	167	43.5	43.5
	Female	217	56.5	100.0
Age	< 18	19	4.9	4.9
	18-30	114	29.7	34.6
	31-40	108	28.1	62.8
	41-50	60	15.6	78.4
	51-60	50	13.0	91.4
	>60	33	8.6	100.0
Marital status	Single	109	28.4	28.4
	Relationship	75	19.5	47.9
	Married	200	52.1	100

Table 2: Continue

	Characteristics	Frequency	%	Cumulative %
Education	Elementary	42	10.9	10.9
	Secondary	79	20.6	31.5
	Bachelor’s degree	208	54.2	85.7
	Master’s or higher degree	55	14.3	100.0
Occupation	Company employee	181	47.1	47.1
	Self-employed	54	14.1	61.2
	Government officer	10	2.6	63.8
	Business owner	10	2.6	66.4
	Student	48	12.5	78.9
	Retired	38	9.9	88.8
	Unemployed	36	9.4	98.2
	Others	7	1.8	100.0
Income after tax (CNY)	0	59	15.4	15.4
	< 5,000	48	12.5	27.9
	5,001-8,000	89	23.2	51.0
	8,001-10,000	90	23.4	74.5
	10,001-20,000	47	12.2	86.7
	> 20,000	51	13.3	100.0
Hometown	South	209	54.4	54.4
	North	175	45.6	100.0

Table 2 showed 167 males and 217 females among the 384 valid samples, accounting for 43.5 and 56.5%, respectively. 29.7% of the respondents in the age group of 18-30 and 28.1% of the respondents in the age group of 31-40 have been together for approximately 60% in the age group of 18-40. More than half of the respondents were married, while 28.4% were single and 19.5% were in a relationship. The proportion of respondents with higher education was large, including 54.2% with bachelor’s degrees and 14.3% with master’s or higher degrees. Almost half of them came from company employees; the second was self-employed with 14.1%; and the third was students with 12.5%. Around half of the respondents earned a monthly income (CNY) after tax of between 5,001 and 10,000. More specifically, no income took up 15.4%, in the range of 5,001-8,000 was 23.2%, 8,001-10,000 was 23.4%,

10,001-20,000 was 12.2%, and higher than 20,000 was 13.3%. The hometown for 54.4% of the respondents was the south of China, and the rest came from the north.

As stated above, most of them were young, married, well educated, and had a moderate-paying job in the company. Female respondents slightly outnumbered their male counterparts, and over half of the respondents came from the south of China.

Table 3: Travel Behavioral Characteristics of Respondents (N=384)

Characteristics	Frequency	%	Cumulative %
8. How many times have you visited Thailand ?			
1	236	61.5	61.5
2	85	22.1	83.6
3	34	8.9	92.4
≥ 4	29	7.6	100.0
9. Where did you obtain sources of information about Thailand ?			
Paper media (e.g., magazines, newspaper)	6	1.6	1.6
Internet	254	66.1	67.7
Friends/family	57	14.8	82.6
Travel agent/company	55	14.3	96.9
Others	12	3.1	100.0
10. How far in advance did you begin planning ?			
≥1 month	49	12.8	12.8
2- 3 months	130	33.9	46.6
4-6 months	151	39.3	85.9
>6 months	54	14.1	100.0
11. Travel model :			
Escorted tour	138	35.9	35.9
Independent tour	246	64.1	100.0
12. How many days did you stay in Thailand ?			
<5	9	2.3	2.3
5-8	226	58.9	61.2
9-12	85	22.1	83.3
13-15	31	8.1	91.4
>15	33	8.6	100.0

Table 3: Continue

Characteristics	Frequency	%	Cumulative %
13. Where have you been in Thailand? (Check-all-that-apply)			
Northern (e.g., Chiangmai, Chiangrai)	159	41.4	-
Northeastern (e.g., Khon Kaen)	46	12.0	-
Eastern (e.g., Pattaya, Ko Chang)	146	38.0	-
Central (e.g., Bangkok, Ayutthaya, Hua Hin)	323	84.1	-
Southern (e.g., Phuket, Koh Samui, HatYai)	158	41.1	-
14. What activities did you participate in? (Check-all-that-apply)			
Watching ladyboy show	188	49.0	-
Watching Muay Thai fights	60	15.6	-
Water Sports	184	47.9	-
Thai massage	300	78.1	-
Jungle adventure	24	6.3	-
Riding elephants	80	20.8	-
Others	111	28.9	-
15. Who traveled with you on this trip ?			
Alone	32	8.3	8.3
Friends	129	33.6	41.9
Lover	63	16.4	58.3
Family	160	41.7	100.0
16. How many travel companions including yourself ?			
Alone	32	8.3	8.3
2	111	28.9	37.2
3	90	23.4	60.7
4	66	17.2	77.9
5-8	66	17.2	95.1
>8	19	4.9	100.0
17. What type of accommodation did you stay ?			
Hotel	277	72.1	72.1
Hostel	6	1.6	73.7
Villa	13	3.4	77.1
Apartment Hotel	13	3.4	80.5
Guesthouse	62	16.1	96.6
Friend/relative's house	13	3.4	100.0

Table 3: Continue

Characteristics	Frequency	%	Cumulative %
18. What kind of transportation did you usually choose? (Check-all-that-apply)			
BTS/MRT/ARL	82	21.4	-
Tuk Tuk/songthaew	154	40.1	-
Private/rental car	91	23.7	-
Taxi	243	63.3	-
Bus	15	3.9	-
Tour bus or van	227	59.1	-
Boat	139	36.2	-
19. What was the major activity did you do in Thailand? (Check-all-that-apply)			
Sightseeing	348	90.6	-
Eating	216	56.3	-
Shopping	160	41.7	-
Taking pictures	160	41.7	-
Others	29	7.6	-
20. Which part of the expenditure was the most?			
Accommodation	33	8.6	8.6
Shopping	147	38.3	46.9
Food	18	4.7	51.6
Transportation	100	26.0	77.6
Package	82	21.4	99.0
Others	4	1.0	100.0
21. Please estimate your expenditure for your major activity (Q20). (CNY)			
<2,000	83	21.6	21.6
2,000-4,000	152	39.6	61.2
4,001-6,000	86	22.4	83.6
6,001-8,000	31	8.1	91.7
>8,000	32	8.3	100.0
22. Please estimate your total expenditure. (CNY)			
<5,000	104	27.1	27.1
5,000-8,000	137	35.7	62.8
8,001-10,000	69	18.0	80.7
10,001-15,000	36	9.4	90.1
>15,000	38	9.9	100.0

Table 3 demonstrated the result of a questionnaire in which 384 respondents answered questions about their travel behaviors. It was the first trip to Thailand for most respondents, occupying a ratio of 61.5%. Respondents who have been to Thailand twice accounted for approximately 22%. However, almost 9% have been to Thailand three times, and the rest have been four times or more. Two-thirds of respondents learned about Thailand from the Internet. The share of friends or relatives was 14.8%, followed closely by travel agents or companies at 14.3%. Almost 40% planned four to six months ahead of their trip, and over a third planned two to three months in advance, which stood at almost three-quarters of the total. There were roughly 86% who made plans within six months. Independent tours were about twice the number of escorted tours. Regarding the length of stay, most of them stayed 5-8 days with 59%, some stayed 9-12 days with 22%, followed by 13-15 days and then more than 15 days, each with roughly 8%. 41.7% traveled with their family, 33.6% with friends, 16.4% with lovers, and only 8.3% traveled alone. A group of two people was the most selected item regarding travel companions, making up 28.9%. A group of three people came next with 23.4%, followed by a group of four people and a group of five to eight people, each with 17.2%. Nearly three-quarters chose hotels, and 16.1% chose guest houses. With 38.3% of respondents, shopping was the biggest cost. Transportation and packages came in at 26.0% and 21.4%, respectively. In terms of the spending on main activities, 39.6% spent 2,000–4,000 CNY, 22.4% spent 4,001–6,000 CNY, and 21.6% spent less than 2,000 CNY. While 8.1% spent 6,001–8,000 CNY and 8.3% spent more than 8,000 CNY. In total expenditure, 35.7% spent 5,000–8,000 CNY, 27.1% spent less than 5,000 CNY and 18.0% spent 8,001–10,000 CNY. However, 9.4% spent 10,001–15,000 CNY, and 9.9% spent more than 15,000 CNY.

Most respondents, 84.1%, have been to the central region, and the northern, southern, and eastern regions were also popular among them, making up approximately 40% of each region, but only 12.0% have visited the northeastern. Unique Thai experiences included Thai massages with 49.0%, watching ladyboy shows with 49.0%, water sports with 47.9%, riding elephants with 20.8%, others with 28.9%. In terms of transportation, most of them chose taxis (63.3%), tour buses or vans (59.1%), and local transportation such as Tuk Tuks and songthaews (40.1%), and boats (36.2%). Some used a private or rental car (23.7%), some used BTS, MRT, or ARL (21.4%), but only a few used buses (3.9%). The major activities were sorted by sightseeing, eating, shopping, taking pictures, and others in the ratio of 90.6, 56.3, 41.7, 41.7, and 7.6, respectively.

Most respondents said it was their first time to visit Thailand, and the Internet was a powerful tool to help them make plans. They planned two to six months ahead of traveling, enjoyed independent tours with five to eight-day trips, went with two to eight family members or friends,

and rested at hotels. The most spending part was shopping, the expenditure for their major activities was 2,000–4,000 CNY, and the total was 5,000–8,000 CNY. Most of them preferred the central region, Thai massages, taxis, and tour buses or vans, and the major activities were sightseeing, eating, shopping, and taking pictures.

Factors Analysis

The analysis of motivations in this study conducted exploratory factor analysis (EFA) to identify the representative factors from 13 push items and 13 pull items. Later, those representative factors which expressed multiple-item information were used to explore the relationships among motivations, behaviors, and satisfaction.

Table 4: Matrix of Push Factors by Factors Analysis

	Component				Cronbach α
	1	2	3	4	
KMO	0.775				
Bartlett's	3181.906				
Sig.	0.000				
Eigenvalues after rotation	3.271	3.077	1.634	1.123	
Cumulative % after rotation	25.162	23.669	12.571	8.637	
Total Variance Explained	25.162	48.831	61.401	70.038	
28. Escape from routine everyday life	0.961				0.917
32. Photo shooting	0.943				
34. Release pressure	0.935				
30. Shopping	0.676				
26. Experience different cultures		0.924			0.819
36. Seek novelty		0.908			
27. Meet different people		0.737			
29. Gain a broader view of understanding or a sense of value		0.605			
25. Travel to a new country or city		0.605			
31. Conformity			0.891		0.741
35. Spend time with friends or family			0.880		
33. Visit family or friends				0.822	0.126
37. Working and learning				0.578	
Overall Cronbach α	0.792				

Table 4 clearly demonstrated that the KMO was 0.775, which was greater than 0.5, and the value of significance was 0.000, which was less than 0.05, so it was suitable for EFA. All eigenvalues were larger than 1 showing that four push factor dimensions were extracted from 13 push items. Factor 1 explained 25.162% of the variance out of the total, factor 2 was 23.669%, factor 3 was 12.571%, and factor 4 was 8.637%. The total variance explained was 70.038%, which indicated the results were good.

After varimax rotation, all items were used to define the following four factors since all factor loadings were greater than 0.4. Four items, including escaping from routine everyday life, photo shooting, releasing pressure, and shopping, were loaded onto factor 1, defining it as relaxation. Five items, including experiencing different cultures, seeking novelty, meeting new people, getting a broader understanding or a sense of value, and traveling to a new country or city, were loaded onto factor 2, defining it as a new experience. Two items, including conformity and spending time with family or friends, were loaded onto factor 3, defining it as companionship. Two items, including visiting family or friends, and working and learning, were loaded onto factor 4, which was defined as socialization.

In reliability analysis, Cronbach α for each factor was 0.917, 0.819, 0.741, and 0.126, respectively, and the overall Cronbach α was 0.792. However, Cronbach α for push factor 4 (socialization) was 0.126. Push factor 4 should be deleted as it was under the minimum value of 0.7.

Table 5: Matrix of Push Factors by Factors Analysis after Deletion

	Component			Cronbach α
	1	2	3	
KMO	0.773			
Bartlett's	3129.634			
Sig.	0.000			
Eigenvalues after rotation	3.257	3.050	1.635	
Cumulative % after rotation	29.608	27.724	14.865	
Total Variance Explained	29.608	57.333	72.198	
28. Escape from routine everyday life	0.961			0.917
32. Photo shooting	0.943			
34. Release pressure	0.935			
30. Shopping	0.676			
26. Experience different cultures	0.924			0.819
36. Seek novelty	0.908			
27. Meet different people	0.737			
29. Gain a broader view of understanding or a sense of value	0.605			
25. Travel to a new country or city	0.605			
31. Conformity			0.889	0.741
35. Spend time with friends or family			0.879	
Overall Cronbach α	0.817			

After deletion (see Table 5), KMO was 0.773, which was greater than 0.5, and the value of significance was 0.000, which was less than 0.05, indicating that it was still good to do EFA. But there were three factors left, namely factor 1 (relaxation), factor 2 (novel experience), and factor 3 (companionship). Factor 1 explained 29.608%, factor 2 explained 27.724%, and factor 3 explained 14.865%. Additionally, the total variance explained was 72.198%. The Cronbach α for each factor was 0.917, 0.819, and 0.741, respectively, and the overall Cronbach α was 0.817. On the whole, the result can be accepted.

Table 6: Matrix of Pull Factors by Factors Analysis

	Component			Cronbach α
	1	2	3	
KMO	0.803			
Bartlett's	2454.577			
Sig.	0.000			
Eigenvalues after rotation	3.180	2.935	2.081	
Cumulative % after rotation	24.461	22.576	16.010	
Total Variance Explained	24.461	47.037	63.047	
42. Thai culture	0.800			0.794
38. Exotic	0.792			
44. Diffident markets	0.775			
43. Thai food	0.742			
45. A variety of shopping places	0.677			
50. Festivals and Events	0.505			
48. Quality goods and service		0.951		0.869
49. Safety and security		0.939		
47. Low cost of goods and service		0.896		
46. An availability of travel information		0.440		
40. Beaches			0.835	0.727
41. Climate and weather			0.763	
39. Natural attractions			0.746	
Overall Cronbach α	0.788			

Table 6 demonstrated that KMO was 0.803 and the value of significance was 0.000, so the above indicators revealed that this study was suitable for EFA. Three factors out of 13 pull items were retained. Factor 1 explained 24.461%, factor 2 was 22.576%, and factor 3 was 16.010%. The total variance explained was 63.047% by the three pull factors. Factor 1 included six pull items defined as humanistic resources. Factor 2 included four pull items defined as social environment. Factor 3 included three pull items defined as natural resources. In reliability analysis, Cronbach α for each factor was 0.794, 0.869, and 0.727, respectively, and the overall Cronbach α was 0.788. As a result, it had a good degree of reliability, indicating its conclusions could be accepted.

Descriptive Analysis

The mean is a popular and well-known technique in descriptive analysis. Calculating the mean score was a good method to make sense of scale questions and identify the important push, pull, and satisfaction items.

Table 7: Mean Ranking of Push Items

Push Items	Std. Deviation	Mean	Rank
35. Spend time with families or friends	1.360	4.18	1
26. Experience different cultures	1.303	4.07	2
36. Seek novelty	1.352	4.01	3
25. Travel to a new country or city	1.499	3.82	4
29. Gain a broader view of understanding or a sense of value	1.484	3.54	5
27. Meet different people	1.643	3.51	6
31. Conformity	1.681	3.49	7
30. Shopping	1.525	2.97	8
34. Release pressure	1.599	2.93	9
28. Escape from routine everyday life	1.607	2.90	10
32. Photo shooting	1.574	2.89	11
Overall mean		3.48	

Based on a 5-point scale, the minimum value of 1 stood for least important, and the maximum value of 5 stood for most important. According to Table 7, the mean score of all items was in the range of 2.89 to 4.18, and the overall mean score was 3.48. More and more Chinese people were becoming full-time workers, so they did not have much time with their family and friends. Travel was a great option to accompany family and friends, and the mean score of spending time with family or friends was 4.18, which was the most important push item, followed by the items of experience of different cultures ($M = 4.07$) and seeking novelty ($M = 4.01$). In truth, the minds are designed to be drawn to novelty, so there was a desire for culture and new things. If Thailand wanted to focus its marketing efforts on Chinese tourists, those who traveled with family and friends were their primary target market. Tourists who would like to experience culture were the target two, and tourists who were interested in seeking novelty were the third target. Nowadays, online shopping and purchasing agents have made shopping easy and convenient, and people can easily purchase what they like

anywhere, and they may also use this way or other ways to release pressure and escape from routine everyday life. Although photographs have been an important element of vacation, the real meaning of travel was to enjoy or gain something. Thus, shopping ($M = 2.97$), releasing pressure ($M = 2.93$), escaping from routine everyday life ($M = 2.90$), and photo shooting ($M = 2.89$) were of less importance.

Table 8: Mean Ranking of Pull Items

Pull Items	Std. Deviation	Mean	Rank
38. Exotic	1.052	4.11	1
42. Thai culture	0.993	4.08	2
44. Different markets	1.174	3.88	3
43. Thai food	1.104	3.84	4
39. Natural attractions	1.429	3.51	5
40. Beaches	1.437	3.46	6
47. Low cost of goods and service	1.519	3.40	7
45. A variety of shopping places	1.370	3.39	8
46. An availability of travel information	1.367	3.37	9
48. Quality goods and service	1.489	3.13	10
49. Safety and security	1.493	3.11	11
50. Festivals and Events	1.495	3.10	12
41. Climate and weather	1.632	2.69	13
Overall mean		3.47	

According to Table 8, all items scored between 2.69 and 4.11, and the overall mean score was 3.47. The most important pull factor was exoticism ($M = 4.11$), which was the charm or fascination of Thailand. Followed by Thai culture ($M = 4.08$) that included Buddhism, architecture, music, dance, sports, and holidays such as Thai New Year and Loi Krathong. The government and tourism operators should develop a policy that emphasizes the resources and the culture. Only one item was less than 3.0, which was climate and weather with 2.69. Thailand's climate did not always appeal to Chinese tourists, as Thailand is hot all year round. The ideal time to visit Thailand is during the cool season from November to February, and at that time most of China's areas enter a cold winter. Most of the remaining time is too hot or rainy, that is why the climate and weather were less important pull factors.

Table 9: Mean Ranking of Satisfaction Items

Satisfaction Items	Std. Deviation	Mean	Rank
61. Nightlife	1.051	4.04	1
51. Quality of attractions	0.943	3.94	2
54. Shopping places	1.246	3.88	3
53. Facilities	0.940	3.85	4
55. Goods and service	1.216	3.81	5
63. Safety and security	1.111	3.80	6
65. Overall value	1.040	3.76	7
59. Thai food	1.253	3.74	8
62. Thai people	1.112	3.68	9
52. Prices of souvenirs and gifts	1.289	3.66	10
57. Accommodation	1.045	3.60	11
56. Packages	1.225	3.59	12
60. Hygiene	1.352	3.47	13
58. Transportation	1.338	3.32	14
64. Climate and weather	1.461	2.88	15
Overall Mean		3.67	

According to Table 9, all items scored between 2.88 and 4.04, and the overall mean score was 3.67. The highest level of satisfaction was nightlife ($M = 4.04$). In fact, Thailand is a country that is hot all year round, and the night is the beginning of all happiness. The nightlife of Thailand catered to different types of tourists with river cruises, night clubs, markets, and shows. Therefore, Chinese tourists were satisfied with the atmosphere of celebration and endless entertainment possibilities during the night. In China, most people were afraid of tanning. The hot season was more likely to make people tired and irritable, and the rainy season caused inconvenience, especially for island trips. This was why Chinese tourists were not satisfied with the climate and weather ($M = 2.88$). Moreover, the mean score of the overall value was 3.76 which was higher than the overall mean score.

Table 10: Mean Ranking of after Travel Behaviors Items

	Std. Deviation	Mean	Rank
24. Recommend to others	1.294	4.14	1
25. Revisit in the future	1.401	3.83	2

Recommendations and revisits were related to after-travel behavioral characteristics. According to Table 10, the mean score of recommendations was 4.14, the mean score of revisits was 3.83. Clearly, the recommendations’ score was higher than the revisits’ score. The logical relationship between recommendation and revisit may be Chinese tourists who recommended Thailand as a travel destination but would not necessarily return in the future.

Correlation Analysis

This study wondered whether there were possible connections between variables. The correlation analysis of Pearson was an effective technique for exploring relationships.

Table 11: Relationship between Push and Pull Factors

		Push factors		
		Relaxation	Novel experience	Companionship
Pull factors	Humanistic resources	0.178**	0.037	0.084
	Social environment	0.500**	0.261**	0.187**
	Natural resources	0.231**	0.244**	0.118*

* $p < 0.05$, ** $p < 0.01$

Table 11 found that the pull factor of humanistic resources had no statistically significant relationship with the push factors of novel experience and companionship. The remaining factors, including both push and pull factors, were significantly related. It should be clear that only the coefficient between the push factor of relaxation and the pull factor of social environment got the highest value ($r = 0.500$), which was considered a moderately positive relationship, but the other relationships with values of less than 0.3 were very weak. If Chinese tourists wanted to relax, the social environment of Thailand may provide a great opportunity to relax, and Chinese tourists can also achieve their goal of relaxation through the humanistic and natural resources. If Chinese tourists were looking for a novel experience and companionship, they could come to Thailand to visit the social environment and natural resources. Based on the above analysis, it can be concluded that there was a significant relationship between push factors and pull factors for Chinese tourists.

Table 12: Relationship between Motivation and Satisfaction

	Push factors			Pull factors		
	Relaxation	Novel experience	Companionship	Humanistic resources	Social environment	Natural resources
Satisfaction	0.189**	0.054	0.095	0.823**	0.256**	0.201**

* $p < 0.05$, ** $p < 0.01$

Table 12 presented that satisfaction had a statistically significant relationship with the pull factors of humanistic resources, social environment, and natural resources, and the push factor of relaxation, but it had no significant relationship with the push factors of novel experience and companionship. It was further stated that the coefficient between satisfaction and each pull factor was higher than the push factor. In particular, there was a strong and positive relationship ($r > 0.7$) between satisfaction and the pull factor of humanistic resources, but the rest was very weak ($r > 0.3$). The Chinese were happy when they came to Thailand if their main push factor was relaxation, and they also expressed satisfaction with Thailand's social environment and natural resources, especially its humanistic resources. More attention should be paid to pull factors, which the Thai government and tourism operators were able to do. It should be noted that the top importance of four pull items were exoticism, Thai culture, different markets, and Thai food, and those were in the dimension of humanistic resources. Thailand should come up with policies that emphasize markets, culture, Thai food, shopping areas, festivals, and events. The conclusion was that there was a significant relationship between motivations and satisfaction.

Table 13: Relationships among after Travel Behaviors, Motivations, Satisfaction

		Recommend to others	Revisit in the future
Push factors	Relaxation	0.074	0.215**
	Novel experience	0.104*	0.112*
	Companionship	0.094	0.001
	Humanistic resources	0.444**	0.425**
Pull factors	Social environment	0.153**	0.171**
	Natural resources	0.107*	0.187**
Satisfaction		0.499**	0.472**

* $p < 0.05$, ** $p < 0.01$

Table 13 found that "recommend to others" had a significant relationship with the push factor of novel experience, the pull factors of humanistic resources, social environment, and natural resources, and satisfaction, but it had no significant association with the push factors of relaxation and companionship. In more detail, recommendations and satisfaction had an approximately moderate relationship, and they were positively correlated. Recommendations and the pull factor of humanistic resources also had an approximately moderate relationship. Correlations between "revisit in the future" and the push factors except for companionship, pull factors, and satisfaction, were typically considered statistically significant. The same with "recommend to others", revisit also had an approximately moderate and positive relationship with satisfaction and the pull factor of humanistic resources. However, the rest of the relationships were very weak ($r < 0.3$). As a matter of fact, Thailand is a good destination to offer a unique experience, and Chinese tourists were pleased to recommend and return there. If the level of satisfaction increased, more and more Chinese tourists would like to recommend Thailand as a travel destination to other people and come back to Thailand in the future. In general, there was a significant relationship between motivations and behaviors, and there was also a significant relationship between satisfaction and behavioral intentions, such as recommendation and revisit.

Hypotheses Testing

H1₀: There is no significant relationship between the push and pull factors for Chinese tourists.

H1_a: There is a significant relationship between the push and pull factors for Chinese tourists.

The push factors and pull factors were significantly related, but no statistically significant relationship between the pull factor of humanistic resources and the push factors of novel experience and companionship. More specifically, there was moderate and positive relationship between the push factor of relaxation and the pull factor of social environment, and the other relationships were very weak. Based on the above analysis, it can be concluded that a significant relationship existed between push factors and pull factors for Chinese tourists, which supported the alternative Hypothesis (H1a).

H2₀: There is no significant relationship between motivations and behaviors for Chinese tourists.

H2_a: There is a significant relationship between motivations and behaviors for Chinese tourists.

"Recommend to others" had a statistically significant relationship with the push factor of novel experience, the pull factors of humanistic resources, social environment, and natural resources, and satisfaction, but it had no significant association with the push factors of

relaxation and companionship. In more detail, recommendations and satisfaction had an approximately moderate relationship, and they were positively correlated. Recommendations and the pull factor of humanistic resources also had an approximately moderate relationship. Correlations between "revisit in the future" and push factors except for companionship, pull factors, and satisfaction were typically considered statistically significant. The same with "recommend to others", revisit also had an approximately moderate and positive relationship with satisfaction and the pull factor of humanistic resources. However, the rest of the relationships were very weak. In general, there was a relationship between motivations and behaviors which supported the alternative Hypothesis (H2a).

H3₀: There is no significant relationship between motivations and satisfaction levels for Chinese tourists.

H3₁: There is a significant relationship between motivations and satisfaction levels for Chinese tourists.

Satisfaction had a significant relationship with the pull factors of humanistic resources, social environment, and natural resources and the push factor of relaxation, but it had no significant relationship with the push factors of novel experience and companionship. Especially, the coefficient between satisfaction and each pull factor was much higher than the push factor. In particular, there was a strong and positive relationship between satisfaction and the pull factor of humanistic resources, but the rest was very weak. The conclusion was a significant relationship between motivations and satisfaction which supports the alternative Hypothesis (H3a).

H4₀: There is no significant relationship between behaviors and satisfaction levels for Chinese tourists.

H4₁: There is a significant relationship between behaviors and satisfaction levels for Chinese tourists.

Both "Recommend to others" and "Revisit in the future" had a significant and positive relationship with satisfaction, and their strength of the relationships were approximately moderate. Therefore, the findings were supportive of alternative hypothesis (H4a).

Conclusions and Recommendations

The research came to the following conclusions on the motivations and behaviors of Thailand inbound tourists from China:

Spending time with family or friends, experiencing diverse cultures, and seeking novelty were the primary reasons that led the majority of Chinese tourists abroad. Thai culture and its exoticism were significant elements in Thailand's rise to prominence as a tourist destination for Chinese tourists. As a matter of fact, travel motivations were divided into push factors and pull factors. There were three push factors, which were relaxation, novel experience, and companionship, and three pull factors, which were humanistic resources, social environment, and natural resources. It can be noted that there was a correlation between the push and pull factors. More specifically, the strongest relationship among them was the push factor of relaxation and the pull factor of social environment.

It was the first time for most Chinese tourists visiting Thailand. Many respondents would like to choose independent tours, obtain information from the Internet, plan two to six months in advance, stay in Thailand for five to eight days, visit the central region, have Thai massages and water sports, and watch ladyboy shows as well. They liked to travel with their friends and family. Hotels, taxis, tour buses or vans were popular among them. One of the major activities was sightseeing; the main spending was shopping; they may spend around 2,000–4,000 CNY on the major part and 5,000–8,000 CNY in total. Meanwhile, most of them were willing to recommend Thailand as a destination to friends and family and come back again in the future.

The majority of them were most satisfied with the nightlife of Thailand, followed by the quality of attractions, the next they were most satisfied with shopping places, while they were not much satisfied with hygiene, transportation, especially the weather.

The relationships among motivations, behaviors, and satisfaction were statistically significant, and all were positive relationships. Specifically, the strong relationship was between satisfaction and the pull factor of humanistic resources, and strength of the relationship between the push factor of relaxation and the pull factor of social environment was moderate. "Recommend to others" and "Revisit in the future" had an approximately moderate relationship with the pull factor of humanistic resources and satisfaction. However, the rest had relationships of very weak strength.

Based on the findings of this study, the following recommendations can help Thailand's tourism industry achieve a brighter future. It was found that experiencing different cultures was one of the important push items, and Thai culture was one of the important pull factors. For this reason, it is extremely important to maintain cultural beliefs, cultural practices, and heritage conservation. Thailand may also place an emphasis on cultural tourism through direct experience and interaction with a local community and engagement with their way of life. There were three push factors, suggesting dividing Chinese tourists into three target groups, namely the group of people who want to relax, the group of people who want novel experience, and the group of people who want to accompany. Additionally, there was a relationship between push and pull factors, and the strongest one is the relationship between relaxation and social environment. For the group of people who want to relax, Thailand can reinforce their scientific and technological capacity to develop high-quality products at a reasonable price, build confidence in public health services, and improve safety standards. Beyond this, they need to be proficient in using popular social media platforms in China, such as Weibo, WeChat, and Bilibili to share accurate and true information regularly, which are convenient for Chinese tourists to obtain information. Among the relationships between motivations and behaviors, the pull factor of humanistic resources had the strongest relationship with recommendation and revisit, and the success of Thailand's tourism lies in the fact that tourists who have visited Thailand are willing to recommend Thailand as a travel destination and come back in the future. Furthermore, there was a strong relationship between the pull factor of humanistic resources and satisfaction. Thailand can focus on area-based development, including a focus on improving traffic, food safety inspections, and shopping facilities in Bangkok; a focus on protecting and restoring cultural heritage in Ayutthaya; paying attention to guaranteeing safety during sky lantern activities and other activities in Chiang Mai; and an aim to minimize island-related activities that have a harmful impact on the environment.

Most tourists were visiting Thailand for the first time, and they would recommend Thailand as a travel destination but may not return in the future. For this reason, Thailand should keep them coming back for more. To keep tourists happy, a fast response and a good feedback mechanism can show that they truly care about tourists' experiences. When tourists are happy with their trip, they may recommend Thailand as a travel destination to their family, friends, or talk it up on social media, which makes millions of people easily accessible. With the popularization of the Internet, the government, as an authoritative official, can develop a

website and register accounts of popular applications among Chinese people. To keep a steady stream of subscribers, they can offer some gifts or coupons. The most important thing is to ensure subscribers enjoy and learn something about Thailand. While they decide to travel abroad, Thailand may be at the top of those people's lists. These websites and accounts also enable Chinese tourists, especially those who prefer independent tours to obtain comprehensive information. Thailand's tourism activities are concentrated in the central region, especially Bangkok, so other regions should also be gradually developed to encourage tourists to stay longer. The more time tourists spend, the more income Thailand receives. In order to encourage Chinese tourists to spend more, the emphasis can be on activities involving family and friends and product diversification and the creation of value-added premium products, which make it possible to respond to the group-specific needs, including individual trip itineraries, preferred activities, and budget. The market surveys help to find the target group easy and efficient, and these surveys can be done through ways of social media. After all, the Internet has become a powerful tool, and it is a good tool for Thailand's tourism as well.

Chinese tourists seem to be more satisfied with the nightlife and quality of attractions. Normally, the weather is more pleasant at night, so dinner cruises, night markets, and nightclubs were extremely welcome among them, requiring a greater level of safety and security standards. For example, police increase their degree of alertness by conducting regular patrols in crowded areas. However, low-satisfaction items such as hygiene, transportation, climate, and weather should be the focus of attention. Every Thai person and every tourism practitioner ought to work together to guarantee the cleanliness of food and attractions, and strict quality controls by the Thai government can be the mechanism to reduce illnesses, which improves the level of satisfaction. Due to the traffic situation, Thailand should call on Bangkok citizens to reduce the use of private cars and increase MRT and BTS construction. Outside of Bangkok, it is urgent to strengthen the development of fixed-route transportation especially from downtown areas to scenic spots. With year-round hot weather, only few months are more suitable for traveling due to winter in China or the cold season in Thailand. Within these months, Thailand can develop more outdoor activities. During the hot and rainy seasons, the activities can be related to nighttime or indoor activities. Generally, Thailand should offer a wider range of activities and boost fun to attract to appeal to a broader range of Chinese tourists. Importantly, Thailand can produce or introduce more portable mini-air conditioners that are of excellent quality but at an affordable price. Thus, travelers are always

able to enjoy their journey. The overall value and competitiveness will be ramped up after the low-satisfaction items are upgraded and the high-satisfaction items are maintained. Satisfaction had a relationship with recommendation and revisit, so another suggestion is that travel companies, airline companies, and hotels provide coupons or establish a gamified points system to achieve loyalty programs. Loyal tourists may stick with visiting Thailand year after year, and they are willing to share their positive experiences with others, which is a wonderful marketing strategy to bring in potential tourists.

Contribution

There were two main areas of contribution. First was the theoretical significance. Although relevant research has been explored, the growth of relevant knowledge still depends on tests and supplements of cases in various situations to discover the laws in specific cases. This study focused mostly on Chinese tourists traveling to Thailand as its research object, aiming to collect relevant information regarding Chinese tourists to Thailand. The study established a theoretical framework for exploring the relationships between travel motivations and behavioral intentions. As a direct consequence, it contributed and complemented the theoretical results in the field of tourism research, particularly the related laws of tourism motivations and behaviors. The second was the practical significance. Thailand's tourism market enjoyed the most benefit. Specifically, the findings provided helpful information for the Thai government to formulate tangible solutions, innovative methods, and policy extensions (e.g., infrastructure and mobility systems improvement in the tourism areas and cultural and natural heritage restoration) that attract more Chinese tourists. The findings also helped private sectors in the advancement of tourism management. Thai tourism operators improved quality standards of tourism products or developed new tourism products (e.g., theme and festival activities) to keep repeat tourists and seek more potential tourists. They can also avoid allocating resources to insignificant motivation factors. It helped Thailand's tourism grow, making it ready to compete with other countries in the future.

Limitation

First, the data came from the convenient sampling and respondents from China, so it only applied to some Chinese tourists, not all. This study chose Thailand as the destination, suggesting Thailand can conduct other backgrounds to examine the travel motivations and behaviors of others and that tourists from different countries would be more beneficial to verify the current model implemented in this study. Next, in the questionnaire survey, this study mainly distributed the questionnaire on the Internet. It was not easy to collect answers online, which was why the sample size was small. There were many questions; the memory of travel has faded for some respondents; the ability of the researcher team, budget, and time constraints as well, which would inevitably have somewhat limitations, although the responses have been filtered at least twice. In future studies, collecting data on site is recommended to expand the sample size. Finally, due to the limited academic level, the study did not profoundly explore motivations and behaviors. Therefore, it is proposed that the study should be conducted with more analytical methods.

Reference

- Adams, J. S. (1963). Towards an understanding of inequity. *The journal of abnormal and social psychology, 67*(5), 422.
- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. *Advances in experimental social psychology, 20*, 1-63.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes, 50*(2), 179-211.
- Ajzen, I. (2002) Perceived behavioural control, self-efficacy, locus of control and the theory of planned behaviour. *Journal of Applied Social Psychology, 32*(4), 665-683.
- Arlt, W. (2006). China's outbound tourism. Routledge.
- Armario, E. M. (2008). *Tourist satisfaction: an analysis of its antecedents. Paper presented at the Universidad, Sociedad y Mercados Globales. Asociación Española de Dirección y Economía de la Empresa (AEDEM): 367-382.*
- Bangkok Post. (2022). *Thailand sees 2m foreign visitors from Jan 1-June 26.* Retrieved from <https://www.bangkokpost.com/business/2334808/thailand-sees-2m-foreign-visitors-from-jan-1-june-26>

- Bank of Thailand (BOT). (2021). Revitalising Thailand's tourism sector. Retrieved from https://www.bot.or.th/Thai/MonetaryPolicy/EconomicConditions/AAA/250624_WhitepaperVISA.pdf
- Bhattacharya, S., & Kumar, R. V. (2017). Modeling tourists' opinions using RIDIT analysis. In handbook of research on holistic optimization techniques in the hospitality, tourism, and travel industry (pp. 423-443). IGI Global.
- Bigne, J. E., Sanchez, M. I., & Sanchez, J. (2001). Tourism image, evaluation variables and after purchase behaviour: inter-relationship. *Tourism management*, 22(6), 607-616.
- Changsorn, P. (2003). *Tourism sites, food rank high in survey*. The Nation, 21.
- Cohen, E. (1972). Toward a sociology of international tourism. *Social research*, 164-182.
- Dann, G. M. (1977). Anomie, ego-enhancement and tourism. *Annals of tourism research*, 4(4), 184-194.
- Davies, R. (2003). *Branding Asian tourist destinations– A series*. Retrieved from <http://www.asiamarketresearch.com/columns/tourism-branding.htm>
- Davis, R. K., & Knetsch, J. (1966). *Comparisons of methods for recreation evaluation*. Water Research. Resources for the Future, John Hopkins University Press. Baltimore Maryland: 507-521.
- Fisk, R. P., & Young, C. E. (1985). *Disconfirmation of equity expectations: Effects on consumer satisfaction with services*. in: E.C. Hirschman and M.B. Holbrook (eds.), *Advances in Consumer Research* Vol. 12, Association for Consumer Research, Provo, UT, 340-345.
- Gray, H. P. (1970). *International travel–international trade*. Heath Lexington Books.
- Inagaki, T. (2000). *Japanese tourists: socio-economic, marketing, and psychological analysis*. (Vol. 9). Psychology Press.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.
- Kim, S. S., Lee, C.-K., & Klenosky, D. B. (2003). The influence of push and pull factors at Korean national parks. *Tourism management*, 24(2), 169-180.
- Klenosky, D. B. (2002). The “pull” of tourism destinations: A means-end investigation. *Journal of travel research*, 40(4), 396-403.
- Kozak, M., & Rimmington, M. (2000). Tourist satisfaction with Mallorca, Spain, as an off-season holiday destination. *Journal of travel research*, 38(3), 260-269.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.

- Lawson, F., & Baud-Bovy, M. (1977). *Tourism and recreation development, a handbook of physical planning*. Architectural Press.
- Lee, J., & Kim, Y.-K. (2020). Online reviews of restaurants: expectation-confirmation theory. *Journal of Quality Assurance in Hospitality & Tourism*, 21(5), 582-599.
- Lin, P. M., Qiu Zhang, H., Gu, Q., & Peng, K.-L. (2017). To go or not to go: Travel constraints and attractiveness of travel affecting outbound Chinese tourists to Japan. *Journal of Travel & Tourism Marketing*, 34(9), 1184-1197.
- Manrai, L. A., & Manrai, A. (2011). Hofstede's cultural dimensions and tourist behaviors: A review and conceptual framework. *Journal of Economics, Finance & Administrative Science*, 16(31), 23.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological review*, 50(4), 370.
- McDowall, S., & Choi, Y. (2010). Thailand's destination image through the eyes of its citizens. *International Journal of Hospitality & Tourism Administration*, 11(3), 255-274.
- Mehmetoglu, M. (2011). *Examining the relationship between push and pull factors through partial least-squares path modeling*. In Advances in hospitality and leisure: Emerald Group Publishing Limited.
- Mindrila, D., & Balentyne, P. (2017). *Scatterplots and correlation*. Retrieved from.
- Ministry of Tourism and Sports (MOTS). (2019). *Tourism indicators 2015-2019*. Retrieved from https://www.mots.go.th/mots_en/
- Moore, D., Notz, W., & Flinger, M. (2013). *The basic practice of statistics*. WH Freeman and Company. New York, 138.
- National Bureau of Disease Control and Prevention. (2022). *The ninth edition of the new crown pneumonia prevention and control plan*. Retrieved from <http://www.nhc.gov.cn/jkj/s3577/202206/b3dab9197a4e440f91f5573de1d26cc7.shtml>
- Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach. *Journal of marketing*, 53(2), 21-35.
- Park, S. H., Hsieh, C.-M., & Lee, C.-K. (2017). Examining Chinese college students' intention to travel to Japan using the extended theory of planned behavior: Testing destination image and the mediating role of travel constraints. *Journal of Travel & Tourism Marketing*, 34(1), 113-131.
- Pituch, K. A., & Stevens, J. P. (2015). *Applied multivariate statistics for the social sciences: Analyses with SAS and IBM's SPSS*. Routledge.

- Prideaux*, B., Agrusa, J., Donlon, J. G., & Curran, C. (2004). Exotic or erotic–contrasting images for defining destinations. *Asia Pacific Journal of Tourism Research*, 9(1), 5-17.
- Puah, C.-H., Huan, S.-H., & Thien, F.-T. (2018). Determinants of Chinese demand for tourism in Malaysia. *Business and Economic Horizons (BEH)*, 14(1232-2019-852), 501-512.
- Rittichainuwat, B. N., Qu, H., & Brown, T. J. (2001). Thailand’s international travel image: Mostly favorable. *Cornell hotel and restaurant administration quarterly*, 42(2), 82-95.
- Rosyidi, M. I. (2018). The characteristics of Chinese tourists in Indonesia and its performance in 2013– 2017. *Binus Business Review*, 9(2), 145-152.
- Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007). Examining the motivation, perceived performance, and behavioral intentions of convention attendees: Evidence from a regional conference. *Tourism management*, 28(2), 399-408.
- Statista. (2021). *Total number of tourist arrivals from China to Thailand from 2014 to 2019 (in millions)*. Retrieved from <https://www.statista.com/statistics/1048386/thailand-tourist-arrivals-from-china/>
- Tourism Authority of Thailand (TAT). (2022). *Entry measures for Thai and foreign nationals*. Retrieved July 1, 2022 from <https://tp.consular.go.th/>
- Uysal, M., & Jurowski, C. (1994). Testing the push and pull factors. *Annals of tourism research*, 21(4), 844-846.
- Vysekalová, J. (2009). *Image a firemní identita*. Grada Publishing.
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: a structural model. *Tourism management*, 26(1), 45-56.
- Yousaf, A., Amin, I., & C Santos, J. A. (2018). Tourist's motivations to travel: A theoretical perspective on the existing literature. *Tourism and hospitality management*, 24(1), 197-211.
- Yuan, S., & McDonald, C. (1990). Motivational determinates of international pleasure time. *Journal of travel research*, 29(1), 42-44.
- Zikmund, W. G., Babin, B., Carr, J., & Griffin, M. (2003). *Business research methods*. 7th. Oklahoma, EUA: Thomson.