

# Investment Appeal Assessment of International Corporations

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## Abstract

The objective of this article is to investigate the application of Elliott Wave Theory to the modern international business environment and more specifically the growth potential assessment of international companies. The special framework is developed to assess the investment attractiveness and growth potential of international stocks. The global companies from the hospitality industry were selected for the proposed framework application in order to determine the stocks with the highest investment attractiveness appeal and growth potential. The obtained results are presented. The proposed framework could further be used for investment attractiveness and potential growth assessment of different asset classes.

## Keywords

Investment appeal, growth potential, global companies, international hotel chains.

## Introduction

The examples of economic forecasting can be found in the very early stages of history. For instance, ancient Egyptians tried to make their harvest predictions already 3000 years BC ago. The general concept of strategic planning can be later seen in the first Chinese military strategy during the spring-autumn period of China (722-481 BC). This shows that forecasting has been used within the history in many ways and not just in the field of economics, as how it is mostly used now (Aimar, Bismans, & Diebolt, 2016). In the seventeenth century, Sir William Petty, a Londoner, identified a seven-year economic cycle, suggesting other bases for economic forecasting. The history of the forecasting industry however really starts after the 1900's. The first forecasting industry was developed in the USA between 1910 and 1930. Many of these efforts were concerned with developing "leading barometers". Standard errors and multiple correlation coefficients were later used as indicators of forecasting validity. This industry was almost destroyed by the Great Depression of 1929-1939. These efforts can be considered as the foundation for systematic

forecasts; afterwards foresight activities were also performed, but the latter were already part of the second phase of globalization. The term forecasting was used for the first time in 1930 by Wells, who also have used the term "professors of Foresight" for the first time. Hence, the terms forecasting and foresight were introduced and used in the same meaning until about the 1980s (Freeman & Louçã, 2002).

However, when one looks further into the foresight methodology it is important to note that relevant methods could be used more than once. Repeated foresight efforts could be seen in China, the USA and Japan around the 1950s and these were followed by similar efforts in France, The Netherlands, Germany and the UK in the late 1980s. Initially, South Korea, France and partly the UK oriented foresight projects in a more self-organized manner. They applied foresight data from the strategic planning of companies, and afterwards set priorities for different research programs. Such limited attitudes were less risky financially, but more appropriate for smaller countries. The fast diffusion of foresight to smaller and developing countries can be seen in the late 1990s. Within this time period foresight

was distinguished into strategic planning and forecasting itself. Foresight activities became the responsibility of experts in futurology and technology. Participation was limited to small teams of experts and futurologists. The new methods, e.g., Delphi, Scenarios, Brainstorming and Expert Panels were established (Kostin, 2018b, 2018a).

As it has been already mentioned, in the 1970s, there was a general rise in the importance of forecasting and strategic business planning due to the 1970 oil shocks. After the first initiatives in China and the USA, Japan had been performing wide-ranging foresight. In Japan the foresight methods were evolving over a long period of time which have reached new levels in the current economic environment. Most foresight activities after this period have often been developed or put into practice in the Netherlands and France. A higher diversity of foresights that were used to express a wider frame of future pictures in terms of considering different alternatives and creating actions to achieve a desirable future could be seen at the beginning of this century. Afterwards, stakeholder participation and networking were regarded as the new dimension of foresight activity for wiring up the multilayered innovation systems in the public and private sectors. The key issues in the first foresight generation were accuracy of prediction and the spread of results to non-experts.

In today's world, there are a multitude of decisions, actions, and transactions that are occurring simultaneously and globally (Grubor, Đokić, & Milićević, 2018). The ability to be one, two, or multiple steps ahead is quite possible now that enterprises have sufficient advancements in technology to be able to forecast and increase the probability for success. Yet, some enterprises still manage to fail, to declare bankruptcy, to dissolve. In order to stay afloat and still make considerable profits, countries and enterprises must be aware of the concept of global business and economic cycles and where they stand within them. Forecasting can be effectively used to predict the future and hence help global as well as local economies as well as companies perform better and earn the returns higher than the opportunity cost of capital. Understanding the nature of economic cycles is crucial for that (Glasner, 1997; Nordhaus, 1975). When one looks at the industrialized capitalistic economy one can easily see cyclical movements within economic activities. The economic cycle thus represents a

wave-like movement having a regularity and recognized patterns. That is to say, it is repetitive in character (Silvia, Iqbal, Swankoski, Watt, & Bullard, 2014). Thus, most of the sectors of the economy of businesses are directly affected by the economic cycle and its wave-like movement. It is important to mention that quite often different sectors are negatively affected by the economic cycle. These sectors often move within the same wavelength. During prosperity, most of the sectors or industries experience an increase in output and during recession they experience a fall in output (Umstead, 1977). The purpose of this article is to propose an investment attractiveness forecasting framework based on the Elliott Wave Cycle Theory and apply it in order to determine the stocks with the highest investment attractiveness appeal and growth potential.

## 1. The Elliott Wave Theory

The Elliott Wave is a theory established by Ralph Nelson Elliott (1871 – 1948), an American financial accountant, in the 1930s. It is a form of technical analysis which can be used to analyze financial market cycles and forecast market trends (Atsalakis, Dimitrakakis, & Zopounidis, 2011; Chen, Cheng, & Jong Teoh, 2007; Frost & Prechter, 2005). Elliott postulated that stock markets do not behave randomly, instead claiming that they move in repeating cycles which reflect the emotions and actions of humans that are the results of mass psychology (Chen et al., 2007). These patterns that Elliott coined “waves” are “[...] repetitive in form but not necessarily in time or amplitude” (Kotick, 1996). These waves connect with each other to establish bigger versions of the pattern with this cycle repeating itself.

Ralph Nelson Elliott developed the Elliott Wave Theory by discovering that stock markets which are thought to behave in a somewhat chaotic manner, in fact are traded in repetitive cycles. Elliott discovered that these market cycles resulted from investors' reactions to outside influences, or predominant psychology of the masses at the time. He found that the upward and downward swings of the mass psychology always showed up in the same repetitive patterns which were then divided further into patterns; he termed “waves” (Investopedia, 2018; Rummyantseva, 2004).

Elliott's theory is based on the Dow theory in that stock prices move in waves. Because of the “fractal” nature of markets, however, Elliott was

able to break down and analyze them in much greater details. Fractals are mathematical structures, which on an ever-smaller scale, infinitely repeat themselves. Elliott discovered that stock-trading patterns were structured in the same way.

## 2. Market predictions based on wave patterns

Elliott made detailed stock market predictions based on unique characteristics he discovered in the wave patterns. An impulsive wave which goes with the main trend always shows five waves in its pattern. On a smaller scale, within each of the impulsive waves, five waves can again be found. In this smaller pattern, the same pattern repeats itself ad infinitum. These ever-smaller patterns are labeled as different wave degrees in the Elliott Wave Principle. Only much later were fractals recognized by scientists. We know that in international financial markets "every action creates an equal and opposite reaction" as a price movement up or down must be followed by a contrary movement. Price action is divided into trends and corrections or sideways movements. Trends show the main direction of prices while corrections move against the trend. Elliott labeled these; "impulsive" and "corrective" waves.

The Elliott Wave Theory is interpreted as follows:

- Every action is followed by a reaction.
- Five waves move in the direction of the main trend followed by three corrective waves (a 5-3 move).
- A 5-3 move completes a cycle.
- This 5-3 move then becomes two subdivisions of the next higher 5-3 wave.
- The underlying 5-3 pattern remains constant, though the time span of each may vary (Investopedia, 2018).

To conclude this section, it is important to mention that Elliott Wave Theory has its devotees and its detractors like many of the other technical analysis theories out there. After analyzing the patterns of the Elliott Wave, it is clear through technical analysis that there is a fairly predictable pattern in this theory. The difficult part is in deciphering which part of the Elliott Wave one is experiencing. The best rule of thumb is to follow the previously-detailed principles. If one deduces the current phase of the Elliott Wave correctly, then one can invest during the rise of waves 1, 3, and 5 and divest when it is clear that the individual stock or index price fails to breach the resistance level set by wave 5 and begins to fall

below the support level set by wave A. One of the key weaknesses is that the practitioners can always blame their reading of the charts rather than weaknesses in the theory or vice versa. Failing in that, there is the open-ended interpretation of how long a cycle takes to complete. That said, the traders who commit to Elliott Wave Theory passionately defend it, so there could be more to the waves upon waves once you immerse yourself in the topic (Investopedia, 2018). We shall apply the Elliott Wave Theory principles in order to design and apply the framework for investment attractiveness assessment of international companies based on their stock price dynamics.

## 3. Research Methodology and Investigation framework

The Elliott Wave Theory was selected to determine the international company's stocks from the hospitality industry with the highest investment appeal from the following array of International Hotel Chains (IHC): Accor Hotels; Choice Hotels; Hyatt; Starwood, Wyndham Worldwide.

Based on the conducted analysis, the Elliott Wave Cycle Theory application was chosen for the stated problem. Based on the extensive analysis of the Elliott Wave Theory, it was concluded that it provides more gain for the risk given the stated problem we are to solve. Furthermore, based on our investigation, the argument that market cycles could be traced back to outside influences put forth in the Elliott Wave Theory along with the predominant psychology of market participants would allow us to get the most accurate results for assessing the market attractiveness and growth potential of the hospitality market investment classes over the 5-year period. According to our analysis, the shifts in mass psychology which result in repetitive patterns are best mathematically categorized into the impulsive and corrective waves by the Elliott Wave Theory. Hence, the Elliott Wave Theory allows making detailed stock market predictions based on unique characteristics in the wave patterns. After analyzing the patterns using this wave theory, given that the investigation timeframe is long enough (5 years), it is possible to forecast the potential stock price growth with a high degree of certainty.

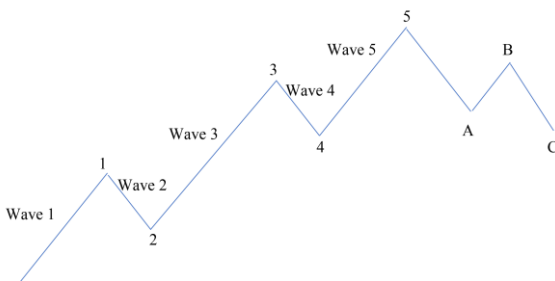
Table 1 presents the assessment framework for the stock price trends within the framework of the wave theory (Kostin, 2018b).

**Table 1** The assessment framework

Current wave of the cycle	Rating
1 wave	5/5
2 wave	4/5
3 wave	3/5
4 wave	2/5
5 wave	1/5
corrective wave A	1/5
impulsive wave B	1/5
corrective wave C	1/5

Source: Created by author based on the analysis of the Elliott Wave Theory

The mechanism of assessment interpretation presented in table 1 could be formulated as follows. An impulsive wave, which goes with the main trend, always shows five waves in its pattern. On a smaller scale, within each of the impulsive waves, five waves can again be found. In this smaller pattern, the same pattern repeats itself ad infinitum. Price action is divided into trends and corrections or sideways movements. Trends show the main direction of prices while corrections move against the trend: "impulsive" and "corrective" waves. Waves 1, 3, and 5 are the "impulsive waves", and waves 2 and 4 – the "corrective waves". The stock price increases with each "impulsive wave" and decrease with each "corrective wave", however in such a pattern that for each new wave the peak is higher than the previous peak (please refer to Figure 1).



**Figure 1** The cycle model within the framework of the Elliott Wave Theory

Source: Created by author based on the analysis of the Elliott Wave Theory

The maximum at the end of the 5<sup>th</sup> wave is considered the peak price indicator for the cycle. At the end of the 5<sup>th</sup> wave, the corrective phase begins. The correction disintegrates into three subsequent waves: two corrective waves (A and C) and one impulse wave (B). After that, the new cycle begins. Hence, we observe four impulsive waves and four corrective waves in one cycle.

The overall investment attractiveness evaluation is performed in accordance with the framework presented in table 2.

**Table 2** Comprehensive criteria for investment attractiveness evaluation

Indicator	Valuation		
	-1	0	+1
	Reference values		

**Cycle analysis (Elliott wave theory application)**

Elliot wave assessment framework, table 1	end of wave 5, corrective wave A, C, impulsive wave B in the corrective sequence (rating 1/5)	wave 4 (rating 2/5)	waves 1-3, detected end of wave C (rating from 3/5 to 5/5)
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Source: Created by author

In the next section, relevant investigation will be conducted, and in the subsequent section the overall outcomes will be presented. The most promising investments will be selected and the choice would be justified.

#### 4. Results

The results of our investigation of the International Hotel Chains stock performance will be presented in this section. The stock performance of the following companies within this investment class over a 5-year period will be investigated based on the proposed framework for the investment attractiveness evaluation: Accor Hotels; Choice Hotels; Hyatt; Starwood, Wyndham Worldwide. As was already mentioned earlier, the proposed cycle model within the framework of the Elliott Wave Theory will be applied.

Let us begin with the evaluation of the stock performance for this investment class from Accor Hotels over the 5-year period from January 2010 to January 2015. The relevant stock price performance is presented in Figure 2.



**Figure 2** Evaluation of the stock price performance of the Accor Hotels over the period from January 2010 to January 2015.  
Source: NYSE.

Based on the analysis of stock price performance for Accor we could conclude that the stock price entered the 5<sup>th</sup> impulsive Elliott wave. In the short run the corrective wave A is to follow, hence the stock price will go down. Therefore, we assign the 1/5 rating for Accor in accordance with our assessment model.

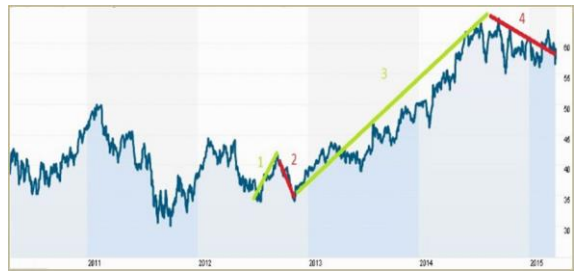
The stock price dynamics for Choice Hotels, presented in Figure 3 demonstrates presence in the 3<sup>rd</sup> Elliott wave phase.



**Figure 3** Evaluation of the stock price performance of the Choice Hotels over the period from January 2010 to January 2015.  
Source: NYSE.

According to the analysis the cycle had started in 2012. It is important to note that the wave length is rather long (50%, from 45.03 dollars per share to 65.11 dollars per share) and the correction (wave 2) is rather short. Hence, despite insignificant correction with the 4<sup>th</sup> wave we could expect the stock price to peak. Therefore, we assign the 3/5 rating for Choice Hotels in accordance with our assessment model.

The Hyatt Hotels stock price performance presented in Figure 4 is indicative of the 4<sup>th</sup> Elliott wave phase.



**Figure 4** Evaluation of the stock price performance of the Hyatt Hotels over the period from January 2010 to January 2015.  
Source: NYSE.

The cycle for the company had started in October of 2012. The next, fifth wave will reach the potential peak according to our model, hence the stock price will rise. Hence, we rate Hyatt at 2/5 in accordance with our assessment model.

The cycle for Starwood, as presented in Figure 5 had started in July of 2012.



**Figure 5** Evaluation of the stock price performance of the Starwood over the period from January 2010 to January 2015.  
Source: NYSE.

In January 2015 the presence of the 5<sup>th</sup> Elliott wave could be observed. During this phase the stock price must peak, afterwards, however the corrective wave A is expected. Hence, the stock price will fall. Therefore, we assign the 1/5 rating for Starwood in accordance with our assessment model.

According to Figure 6, the first Elliott wave for Wyndham stock price picks up in October 2012.



**Figure 6** Evaluation of the stock price performance of the Wyndham Worldwide over the period from January 2010 to January 2015. Source: NYSE

In January 2015 the company’s stock price enters the 3<sup>rd</sup> Elliott wave phase, which is the longest phase of the cycle. Hence, the stock price potentially faces being at the beginning of the corrective 4<sup>th</sup> wave, which nevertheless is rather short and will be followed by the 5<sup>th</sup> wave which is expected to reach the cycle peak. Hence, we assign the 3/5 rating for Wyndham Worldwide.

The overall evaluation results for the International Hotel Chains based on the proposed cycle model within the framework of the Elliott Wave Theory are presented in table 3.

**Table 3** Evaluation results for the International Hotel Chains based on the proposed cycle model within the framework of the Elliott Wave Theory

	Accor Hotels	Choice Hotels	Hyatt	Starwood	Wyndham Worldwide
Elliott wave phase detection	0,20 (=1/5)	0,60 (=3/5)	0,40 (=2/5)	0,20 (=1/5)	0,60 (=3/5)
Valuation	-1	1	0	-1	1

Source: The author

Based on the analysis performed it could be concluded that the most attractive International Hotel Chains to invest in are the Choice Hotels and Wyndham Worldwide. Their stock price is expected to rise within the framework of the proposed model of cyclical development.

### Conclusions

Based on the conducted analysis, the Elliott Wave Theory application was chosen for the stated problem of determining the stocks with the highest investment appeal from the International Hotel Chain asset class. The Elliott Wave Theory allows making detailed stock market predictions based on unique characteristics in the wave patterns. After analyzing the patterns using this

wave theory, given that the investigation timeframe is long enough (5 years), it is possible to forecast the potential stock price growth with a high degree of certainty. Hence, after the evaluation via the suggested assessment framework, the investment attractiveness for selected group of international companies was obtained. The evaluation in accordance with the criteria, described in the article have shown that among the International Hotel Chains – Choice Hotels and Wyndham Worldwide have the highest investment appeal. The suggested framework could further be used for investment attractiveness and potential growth assessment of different asset classes. **SM**

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