

The Reality of Technical Analysis Tools of DFM for the Period (2009 - 2018)

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Technical analysis tools provide an opportunity for the investor to find out the future movement of the share price; accordingly, the investment decision is made in either buying and selling the share which allows the investor to hedge against the risks of price fluctuations. This is because investing in stocks is fraught with many risks, and what increases these risks is the diversity of options for the investor, the wrong investment decision leads to losses, and accumulation causes bankruptcy, so the investor resorts to the use of different approaches to predict the future of stock prices. One of the most important of these approaches is technical analysis and tools to find out the extent of the investor's reliance on these tools in making the investment decision or not.

Key words: *Share-Price, Analysis Tools, Financial Markets, DFM*

Introduction

The interest in the financial markets was the result of the role it plays in providing liquidity by combining the surplus holders with the need for these funds, as well as the role of markets in the efficient allocation of available resources, that is, it directs the resources available to the most profitable areas, the need for capital to set up development projects necessary to build a strong economy has led to the need to look for alternative financing alongside banks. The technical analyst focuses on the internal factors of the financial market, this helps to detect the market supply and demand conditions, the importance of the analysis is that it enables the investor to know the demand for stocks through various technical indicators and price trends over a period of time, as it requires a price adjustment over a period of time during which a change in supply and demand occurs.



Importance of Research

Technical analysis tools are important because they give a scientific character to the investment decisions taken by investors, as well as being less complex compared to basic analysis tools, it is the opposite of what was traded in approaches based on qualitative data such as experience and intuition, which involves a lot of subjectivity, which exposes investors to many risks.

Problem of Research

The identification of the tools that the investor should know is the first stage in the investment process, as it remains for investors to determine the right timing for them. The research had led to the following questions are raised:

- What are the technical analysis tools? What are the criticisms directed hereof?
- What is the ability of technical analysis tools predictive?
- What issues should the investor know about the technical analysis tools in the financial markets?

Research hypothesis

The research is based on the premise that investor reliance on technical analysis tools can yield good results, in the form required for technical analysis reached by investors.

Research Objective

The research aims to identify the technical analysis tools and the possibility of using them in the decision to invest in DFM by determining the right time to buy and sell, which allows the investor to achieve the maximum return possible.

Research Methodology

The researcher adopted the technical analysis methodology based on the annual reports of DFM for the period (2009 - 2018).

Moreover, in adopting the method of descriptive approach to order to identify the reality of the tools of technical analysis it allows us to know the flaws that exist and the development of proposals and ways to address them.

Research Structure

The research was divided into two axes, the first dealt with the theoretical framework of technical analysis tools, and the second focused on the indicators of technical analysis in DFM.

The First Axis: The Theoretical Framework for Technical Analysis

1- The concept of technical analysis

Technical analysis is the process of compiling and examining information gathered from financial markets, such as volume, current stock prices, short-term interest, to predict future stock prices. (76: 2002: Mcdonald)

It has also been defined as a study of past price movements to predict future prices (history repeats itself) by analysing market information such as charts, price trends and trading volume. (Dhu al-Ghani, 2007: 19)

There are basic assumptions made by (Robert D. Edwards and John Magee) for technical analysis of stock trends: (Charles, 2007: 3, Julie)

- 1- Value is determined during the interaction between supply and demand.
- 2 - The supply and demand are governed by logical factors (financial information related to the company) and illogical (reflect the tendencies and desires of investors).
3. Shifts in demand and supply are changing the direction of the market, and this shift will be detected through market movements.
4. Except for minor changes in prices from time to time, stock prices tend to move in a specific direction and remain so for a long period.
5. Graph patterns tend to repeat themselves.

The Importance of Technical Analysis in Making Investment Decisions

Technical analysis helps the investment decision-maker in knowing several aspects, including:

(Alwan, 2012: 262)

- 1- Determine the trends of securities prices during the coming periods.
- 3 - Study the psychological behaviours of the contradicting, which have an impact on the performance of financial markets.
- 4 - Assist in the timing of making the appropriate investment decision.

The Bases and Rules of Technical Analysis

Many technical analysts in the financial markets acknowledge that technical analysis is rooted in Dow's theories that have been the cornerstone of technical analysis*.

The technical analysis is based on studying the movement of the share price in the market during the previous period and adopting it as a basis in determining the future trends of prices in the financial market; it means studying the performance of the financial market in the past and identifying the investment tools available in the market through analysis of prices and trading volume, this means that technical analysis focuses on price trends and deviations that occur in prices or in the volume of trading of common stocks and the likelihood that the same factors in the price in the past will affect the behaviour of future stock prices. (Al Shabib, 2012: 265)

The theory refers that three basic price movements occur to the stock prices in the market at the same time: (Moses, 2016: 155)

First, price changes occur from day to day.

Second: medium price changes called secondary price movements and the occurrence of between two weeks and a month or more.

Third: price changes over a period of time of up to four years or more, as the change, lasts for a few years until there is a change in the opposite direction, and this type of change is called the fundamental or fundamental trend, as it is called the bull market or the bear market. The theory does not give weight to daily fluctuations.

(*) Technical analysis also based on the theory of Elliot waves to explain the movement of stock prices Elliot built the theory based on his observation about the movement of prices in the stock market, as he noted that price movements are moving according to certain models and that these models are repeated periodically, concluding that the movements of stock prices In financial markets, they take certain patterns that are repeated and reliable to predict them. He set rules for these movements, and Elliot believes that prices in the stock market are moving in a series of waves. See: Adib Qasim Shendi, Financial Markets: Opportunities and Risks, 2013: 200.

(*) Dow theory is one of the oldest and most famous tools of technical analysis, and the theory is attributed to Charles Dow, which is also attributed to the Dow Jones average of industry, but the reputation and fame of the theory is because it predicted the crisis of the capital market that occurred in the 1930s, which About them the Great Depression. See:



Mounir Ibrahim Hindi, Fundamentals of Investment and Securities Analysis (Stocks and Bonds), 2010: 192.

Second Axis: Technical Analysis Indicators in the Dubai Financial Market (DFM)

1- A brief overview of Dubai Financial Market (DFM):

Dubai Financial Market (DFM) has succeeded in achieving a distinguished position on the regional level, as it has adopted some practices that meet the growing needs of local and international investors.

The market was established on 2000 as a secondary market dealing in securities issued by public shareholding companies, government bonds, public institutions in the country, investment fund issuance units as well as financial instruments approved by the market.

It was decided to transform a public shareholding company on 2005 with a capital of 8 billion dirhams as the first stock market to be offered for public subscription in the Middle East, as well as trading of stocks, bonds, investment funds and Islamic products. (Ahmad, 109: 2017)

2- Indicators of technical analysis in the Dubai Financial Market (DFM)

The technical analyst relied on historical data from within the financial market and recorded them in the form of charts and analysed through the use of technical indicators to discover future patterns, the most important of these indicators are:

*** - Oscillators**

There are many ways to build oscillators, as most oscillators look very similar so they are drawn along the bottom of the price chart and resemble a flat horizontal band and the oscillation range is flat while prices go up or down.

Some oscillators have upper and lower limits ranging from (0-100), as oscillators help us look for the strongest trends that have strong momentum.

As Charles Dow interprets it as the tendency of markets to regular " Oscillators " between periods or cycles, there are two points are the saturation in buying and selling, which are points where the market is subject to correct the trend or reversal in the short, medium or long term. (Stevens, 2002: 243-244)

The Most Important Oscillators

Momentum

Momentum measures the rate at which prices change. As the share price increases, the momentum increases and the faster the share price increases, the longer the price changes from one period to the next. Technical analysts have developed several indicators to measure momentum, and these measures have become signal generators indicating whether the price trend is changing or not,

When momentum confirms, price direction occurs (convergence) and when momentum fails to confirm price direction occurs (divergence), so the technical analyst often looks for divergence as a sign of price direction. (Dahlquist, Kirkpatrick, 2007: 433)

The DFM momentum can be calculated by recording year-end prices

As in the following equation:

Momentum = last closing price for the current year - closing price for previous year

The momentum equation can also be applied in DFM by the difference between the closing price on 31/12 of the current year - the closing price of 31/12 of the previous year

Rate of Change

The rate of change is another measure of price momentum; momentum and rate of change are similar oscillators subject to one explanation that the reading of oscillators gives an early warning of a change in price direction. (Al-Muhaimli, 2007: 173)

It is Calculated According to the Following Formula

Rate of Change = the Last price for current year / Price for the previous year

The momentum on the DFM reached (0.18) AED at the end of 2012, and subsequently rose to (1.45) AED at the end of 2013, which means that there is an increase in the rate of change for the same year by (2.42) AED, that is, the price movement was accelerating at the end of 2013, and at the end of 2014 momentum index dropped to (0.46) AED and the rate of change decreased by (0.81) AED meaning that the price range trading at the end of 2014 was below its trading range at the end of 2013 which indicates a slowing of price action at the end of 2014, at the end of 2015, the momentum index remained low by -0.78 AED, and the rate of change also remained low by -0.61 AED, the price movement remained slow at the end of the year, later the momentum index rose to (0.02) AED at the end of 2016 and the rate of change increased by (1.01) AED, which indicates the acceleration of the price movement at the end of 2016, but the momentum index returned and fell until the end of 2018, it reached (-0.32)

AED. The rate of change also decreased by (0.71) AED, because the trading range at the end of 2018 is lower than the trading range at the end of previous years, which slowed the price movement at the end of 2018.

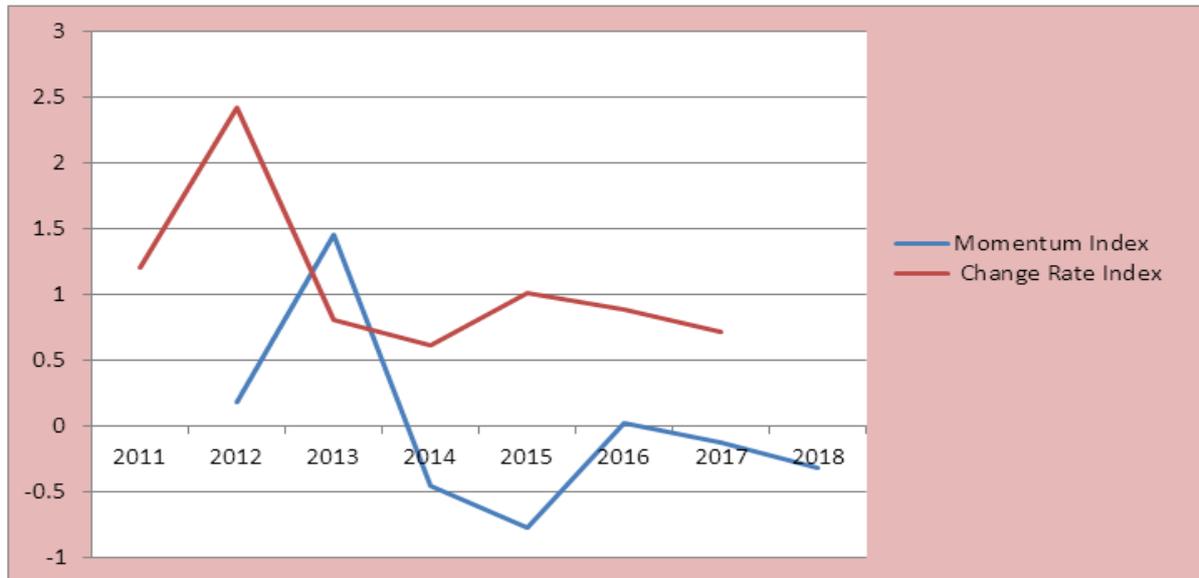
* DFM momentum and rate of change were calculated from 2011 due to the lack of data on closing prices and the lowest and highest prices for the years 2009 and 2010 in the annual reports of the market.

Table 1: DFM Momentum and Change Rate Index for the period 2011-2018 AED

| Year | Momentum | Change Rate |
|------|----------|-------------|
| 2011 | - | - |
| 2012 | 0.18 | 1.21 |
| 2013 | 1.45 | 2.42 |
| 2014 | -0.46 | 0.81 |
| 2015 | -0.78 | 0.61 |
| 2016 | 0.02 | 1.01 |
| 2017 | -0.13 | 0.89 |
| 2018 | -0.32 | 0.71 |

Source: The work of the researcher based on the annual reports of the market.

Figure 1. Momentum and Rate of Change for DFM for the Period (2011 - 2018)



Source: The work of the researcher based on table (1).

Stochastic Random Pattern

The idea of this indicator depends on it; The closer the closing price to the upper limit of the trading range, the higher the price goes up and vice versa, developed by George Lane (Representative of Investment Teachers at the Watsika Foundation),

As two lines are used in this indicator, the line K% and D% and the second line is the most important because it gives signals to enter the market, the goal of using this indicator is to determine where the relationship between the recent closing prices and the range of trading price for a specific period of time, the most common period in calculating this indicator is the equivalent of 14 days, a week or a month. To determine the K% line, which is the most sensitive we use the following equation:

$$K\% = 100 \{(C - L12) / (H12 - L12)\}$$

K% = stochastic index (randomness index)

C = last closing price.

L12 = the lowest price recorded by the price during the time period.

H12 = the highest price recorded during the period of time.

This equation is measured based on a percentage ranging from (0-100) if the result of this equation is high above the level of 80, this indicates that the close price is close to the upper limit of the range trading price, but if it is below the 20 level indicates that the closing price is close to the lower limit of the price range trading.

The second line; D%, which represents the moving average of the line K% throughout 3 units, this equation is called (Stochastic Fast) and is called the moving average of the line D% for 3 units (Slow Stochastic), as most investors use Slow Stochastic because These equations produce two linear curves that fluctuate between (0-100), where the K line is the fastest and the slower D line is the market's peak levels on both sides at level 80 and level 20. (John Murphy, 1999: 173--175)

This formula will be applied to the DFM in years, i.e. the amount of time that will be used is (12) months for each year.

$$K\% = 100 \{(C - L12) / (H12 - L12)\}$$

The Stochastic Fast Index reached (3%) and (0%) of the Slow Stochastic in 2011, as the result of the index is low (below the level of 20), the closing price is closer to the bottom border of the trading range of the price, and the market is in oversold condition, it is likely that the stock prices will change its direction upwards which means that there was an opportunity to buy. The Stochastic Fast Index reached (52%) and the slow (49%) means that

the market was in a neutral zone where there is no overbought or oversold but in 2013 the Fast stochastic index (96%) and slow (93%),

As the result of the index is high (above the level of 80), the closing price is close to the upper limit of the trading range, and the market was in an overbought zone, and that the stock prices will change its direction downwards, which means that there was an opportunity to sell. On 2014, The Stochastic Fast Index reached (19%) and Slow (16%), As the result of the index is low (below the level of 20), the closing price is closer to the bottom border of the trading range price, and the market was in oversold condition, and it is likely that the stock prices will change its direction upwards, which means that there was an opportunity to buy, and on 2015 The Stochastic fast Index (15%) and slow (12%). The result is low (below the 20 levels), meaning that the closing price is closer to the lower bound of the price range, although the market is oversold. Stock prices are likely to turn higher, meaning there was an opportunity to buy. In 2016, the Stochastic Fast Index (44%) and the Slow (41%), were in neutral territory with no overbought or oversold. In 2017, the Stochastic Fast Index (15%) and Slow (12%), The index reached in 2018 (3%) and (0%) for the stochastic fast and slow, as the result of the index during 2017 and 2018 is low (below the level of 20), which means that the closing price is closer to the bottom border of the price range trading and the market was in a peak phase Sell, it is likely that the stock price will change its direction upwards which means that there was an opportunity to buy.

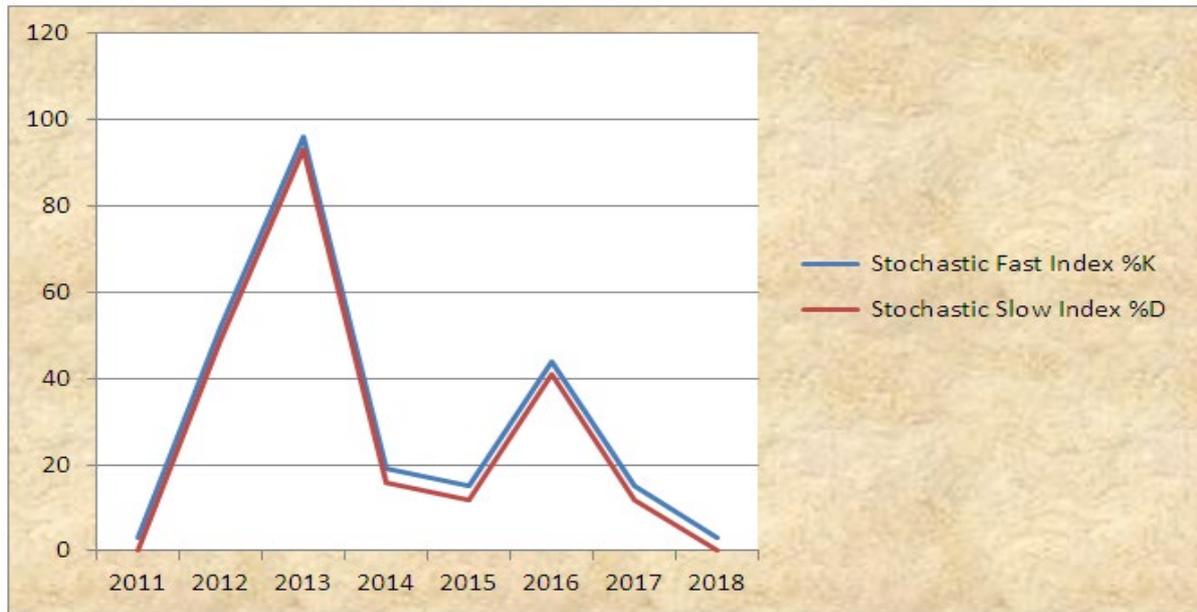
Table 2. Stochastic Index of Dubai Financial Market (DFM) for the period (2011 - 2018)

| Year | Stochastic Fast Index %K | Stochastic Slow Index %D |
|------|--------------------------|--------------------------|
| 2011 | 3 | 0 |
| 2012 | 52 | 49 |
| 2013 | 96 | 93 |
| 2014 | 19 | 16 |
| 2015 | 15 | 12 |
| 2016 | 44 | 41 |
| 2017 | 15 | 12 |
| 2018 | 3 | 0 |

Source: Table of work of the researcher based on the annual reports of the market.

* Stochastic index for DFM was calculated from 2011 due to the lack of data on closing prices and the lowest and highest price for the years 2009 and 2010 in the annual reports of the market.

Figure 2. Stochastic Index of Dubai Financial Market (DFM) for the period (2011 - 2018)



Source: The work of the researcher based on table (2).

Net Profit Index

The net profit for the Dubai Financial Market in 2009 was AED 347 million as shown in Table (1), after which net profit dropped to AED 79 million at a negative change rate (77%) in 2010 due to lower profits due to lower volumes Trading, as a general characteristic of the financial markets globally, as well as losses of subsidiaries (NASDAQ Dubai) from the date of the actual acquisition until the end of the year by AED 11 million, investment income decreased due to lower profit rates on deposits and decreased the balance of investments due to payment of cash dividends For the previous year profit, which had a clear impact on the decline in revenues in general, as well as the increase in market expenses in 2010, due to the increase in expenses of subsidiaries, which included the market in the expenses of 2010 and did not appear in the expenses of 2009.

Subsequently, the market achieved a net loss of AED 6 million in 2011 with a negative change rate of 92% due to lower trading income and investment income as a result of very low-profit rates on deposits, in addition to the increase in market expenses as a result of the consolidated budget covering all expenses of the subsidiary in 2011, while the expenses of 2010 included (7) months only, after that, the net profit of DFM rose to AED 759 million, with a change of 166%, mainly due to higher trading income and other income as the subsidiary improved. Market expenditures were also high as a result of higher annual salaries and higher general and administrative expenses due to inflation.

The net profit of the market decreased to AED 126 million on 2018, with a negative change rate of 46% as a result of lower trading revenues, clearing and settlement revenues and lower revenues of the subsidiary. As well as the increase in market expenses, including the expenses of the subsidiary due to the increase in annual salaries of employees and administrative and general expenses as a result of the development of new services have been reflected in the results of revenue in the income of brokers and increased spending on improvements networking and electronic control of trading operations and market data, as well as increased expenses Rent as a result of renting new spaces at the Dubai World Trade Center.

Table 3: Net profit for Dubai Financial Market (DFM) for the period (2009 - 2018) AED million

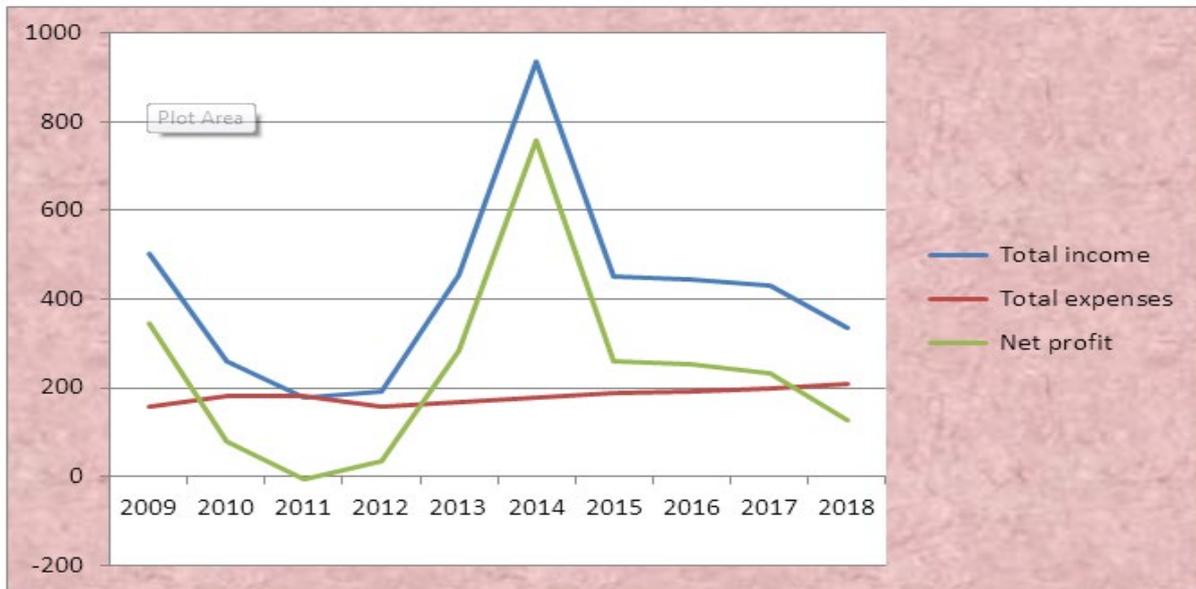
| Year | Total income AED Million (2) | Total expenses AED million (2) | Net profit AED Million (3) | Rate of change %(4) |
|------|---------------------------------|-----------------------------------|-------------------------------|------------------------|
| 2009 | 503 | 156 | 347 | - |
| 2010 | 261 | 182 | 79 | (77) |
| 2011 | 177 | 183 | (6) | (92) |
| 2012 | 191 | 156 | 35 | (483) |
| 2013 | 453 | 168 | 285 | 714 |
| 2014 | 936 | 177 | 759 | 166 |
| 2015 | 451 | 190 | 261 | (66) |
| 2016 | 445 | 191 | 254 | (3) |
| 2017 | 431 | 197 | 234 | (8) |
| 2018 | 334 | 208 | 126 | (46) |

Source: 1- Columns (1) and (2) of the researcher work based on the annual reports of the Dubai Financial Market (DFM).

2- Columns (3) and (4) extracted by the researcher.

Changes in net profit that a technical analyst can follow are important indicators of the activity of companies, sectors, and the market. This will be illustrated in the chart.

Figure 3. Total Revenues, Total Expenses, Net Profit for DFM for the period (2009-2018)



Source: The work of the researcher based on table (3)

When tracking the DFM net profit chart, it was noted that the highest point of net profit for the DFM was on 2009, later, the graph dropped to achieve a loss of AED 6 million on 2011, after which the chart started to rise from 2012, where it was the highest point after 2009 achieved net profit on 2014, where the net profit reached 759 However, it started declining to reach AED 126 million on 2018.

Working Capital Index (*)

The Working Capital Index is an important indicator, as it measures the liquidity position in the market. The working capital reached (1352) thousand dirhams on 2009 and then decreased to reach (534) thousand dirhams in 2011 due to the decrease in cash and cash balances of the market and other financial assets, in addition to the decline in investment deposits due to the impact of the market on global economic developments and weak confidence in the global economy and the growing fears of a deeper financial crisis than the previous one in addition to the decline in stock prices and lack of liquidity, which affected the liquidity of the market and therefore working capital during that period.

Later, the working capital index rose to reach (1727) thousand dirhams on 2014 as a result of improved economic conditions and the return of liquidity to the market as a result of the increasing demand by investors and the rise in cash and banking market balances and increase investment deposits as a result of improved market investments, which reflected positively on the index Working Capital of Dubai Financial Market (DFM), however, this index returned and fell again until it reached on 2018 (1210) thousand dirhams due to the decline in international oil prices and the volatility of financial markets, which reflected on

the global economy, which affected the movement of trading in the market and the lack of liquidity directed towards it.

Table 4: Net Working Capital of Dubai Financial Market for the period from (2009 - 2018)
AED Thousands

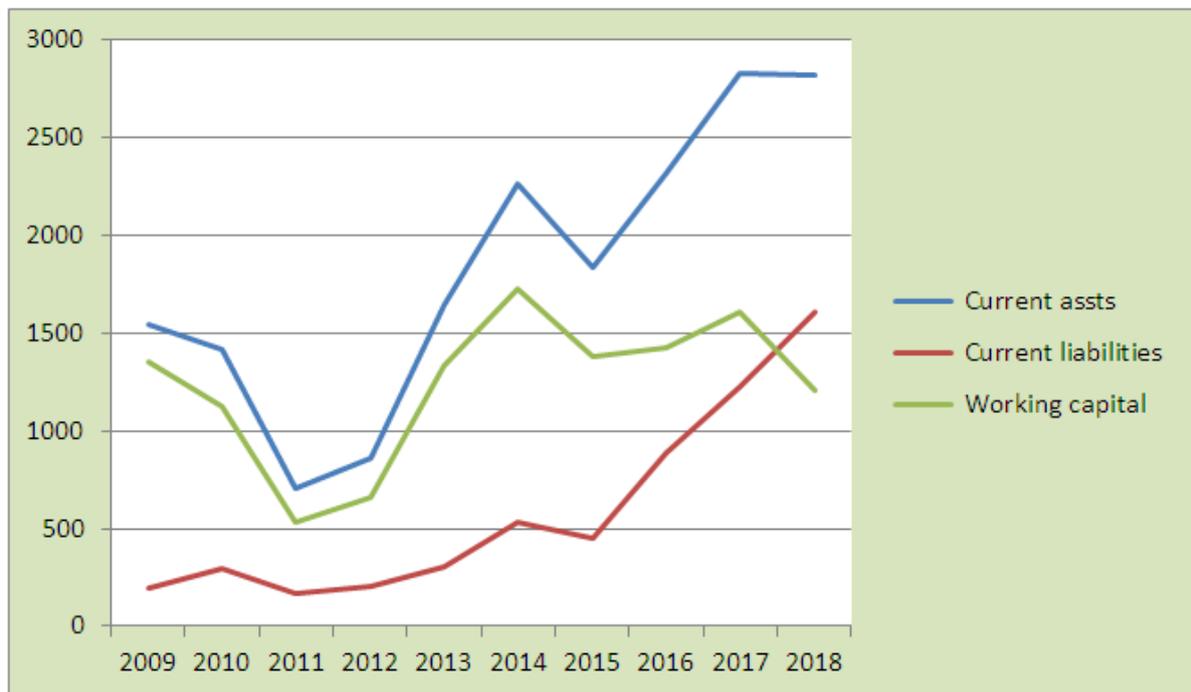
| Year | Current assets AED thousand (1) | Current liabilities AED thousand (2) | Working capital AED thousand (3) |
|------|------------------------------------|---|-------------------------------------|
| 2009 | 1546 | 194 | 1352 |
| 2010 | 1417 | 295 | 1122 |
| 2011 | 702 | 168 | 534 |
| 2012 | 864 | 203 | 661 |
| 2013 | 1641 | 308 | 1333 |
| 2014 | 2263 | 536 | 1727 |
| 2015 | 1832 | 450 | 1382 |
| 2016 | 2318 | 889 | 1429 |
| 2017 | 2826 | 1221 | 1605 |
| 2018 | 2820 | 1610 | 1210 |

Source: 1- Columns (1) and (2) of the researcher work based on the annual reports of the market.

2 - Column (3) extracted by the researcher.

This indicator aims to know the liquidity position in the market, as it shows the extent to which the current assets may decline before the market becomes unable to pay its obligations on its maturity date, therefore, the technical analyst follows this indicator to know the liquidity situation of the market investing his money if the trend of the chart upward and vice versa as the trend of the downward trend.

Figure 4. Working Capital of Dubai Financial Market (DFM) (2009 - 2018) AED thousand



Source: The work of the researcher based on table (4)

(*) Working Capital = Current Assets - Current Liabilities

Conclusions and Recommendations

- 1- The data reflected by the technical analysis tools from the investor's point of view will help him in making his investment decision.
- 2 - The perception and understanding of the investor of the tools of technical analysis positively affect his investment decision.
- 3 - The investor's reliance on the tools of technical investment gives him an advantage over other investors in improving his investment capacity in the market.
- 4 - Technical analysis tools are important in making the investment decision or not, because the decision of the investor is positively affected by those decisions.
- 5 - Charts in the technical analysis is a timing tool for the process of buying and selling by knowing the future market trends by studying prices and trading volume.
- 6 - The technical analyst is tracking the oscillators of the market, investing his money if the trend of the graph upward, and reluctance to invest if the index tends to decline.

Recommendations

- 1- It is assumed that the investor relies on the analysis of technical analysis tools through his personal experience rather than relying on forecasting only.



- 2- The investor should use more than one tool in the technical analysis to know the direction of future market indicators.
- 3 - Participation of investors in courses and seminars held on how to analyse technical tools to increase its ability to analyse and predict the future market situation.
- 4- The technical analyst should follow the trend of the charts movement indicators for the companies belonging to the financial market before investing his money.



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