A novel financial model of long term growing stocks for the Taiwan stock market

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Abstract

Adopting the investment concepts of Rule#1 used by Phil Town and the formula for identifying and evaluating the stocks of tomorrow used by Michael Moe, this paper constructs a novel financial model of long term growing stocks for the Taiwan stock market. The investment themes are derived from the intersection of the emerging industry, megatrends, and hot areas for future growth. Then, the candidates of good companies are selected by using the three circle method. To evaluate the candidature of excellent companies, this paper uses both Town's four Ms method (Meaning, Moat, Management, and Margin of safety) and the Big Five number (Return on Invest Capital (ROIC), Sale growth rate, Earning per share (EPS) growth rate, Equity or Book Value per share (BVPS) growth rate, and Free Cash Flow (FCF) growth rate) and Moe's four Ps (People, Product, Potential, and Predictability). Also, the EPS growth rate is used to rank the companies. Furthermore, this paper finds the sticker price by estimating the future earnings growth and price/earnings ratio, checks the sticker price by the discounted cash flow method, the Price Earning to Growth Ratio (P/E/G) method and the Price to Sales Ratio (P/S) method, and then calculates the price of the Margin of Safety (MOS). Finally, the Taiwan long-term stock investment is studied by using this simple and step-by-step financial model. This paper aims to present a useful model that individual investors can apply easily.

Keywords: financial model, long term, growing stocks, Taiwan, 4Ms, 4Ps.

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1 Introduction

Taiwan is moving forward to be a developed country, and its financial circumstance is becoming more and more liberal, global, and diversified. Because of the complexity of the financial merchandise, people think that investment is an extremely specialized subject. There is much literature about investments, but these focus on either inferring theory or providing technical analysis. This literature often confuses the investors and the very result of this literature is so hard to understand that the investors do not know how to use it. In Taiwan, individual investors occupy a large number in the stock market. Although there is plenty of stock market information, individual investors usually do not know which stock to invest in. A simple, direct, and step-by-step investment model is needed for individual investors to make the investment decisions correctly and independently.

In 2006, Phil Town developed a successful investment strategy using the first rule of investment (Rule#1), which was pioneered by Columbia University's Benjamin Graham and strictly followed by famed investor Warren Buffett – Don't Lose Money (Town [1]). Rule#1 is a sensible and pragmatic step-by-step guide – methodically researched and terrifically accessible. To be financially secure after retirement, investors need something more effective – something guaranteed to protect investors' principles and earn investors a solid rate of return. By an intriguing process to prevent them from losing money, this results in the investors making more money than they had ever imagined. It essentially comes down to buying shares of companies only when the numbers – and the intangibles – are on investors' side. The basic formula behind Rule#1 is simple – much more like shopping: 1. Finding a good business that the investor understands. 2. Knowing what it is worth – exactly what it is worth – by predicting its future stock prices. 3. Buying the stock at 50% off and selling it at full price when the market corrects its value. 4. Repeat until very rich. In Rule#1 Phil Town offered investors something as easy to read as roadmaps to: 1. Set up a brokerage account. 2. Utilize the Internet to access the same market data that the big guys on Wall Street use. 3. Set up a "watch list" of what good businesses investors want to buy. 4. Read signals that say "buy" and "sell". 5. Achieve a guaranteed 15% or better rate of return on investors' investments.

Back in 1992, stock analyst Michael Moe predicted that a humble Seattle coffee company would become a long-term superstar. Since then he's made similar great calls in high technology and other sectors, earning a reputation as one of today's most insightful market experts (Moe [2]). Michael Moe, now co-founder and CEO of ThinkEquity Partners, shows how winners like Dell, eBay, and Home Depot could have been spotted in their start-up phase and how an investor can find Wall Street's future giants. For Wall Street insiders and individual investors alike, Moe's book, Finding The Next Starbucks: How to Identify and Invest in the Hot Stocks of Tomorrow in 2007, is an indispensable guide to spotting growth opportunities. Moe's objective is to identify and invest in the small companies that can become big companies – what Moe calls the stars of tomorrow – the fastest growing, most innovative companies in the world.

The hunt for these companies has the greatest potential for reward, but can also be very dangerous for the unprepared. In reality, finding the best stocks is really finding the best companies – over time a stock's performance will be aligned with how the company does. Great companies and investors are both systematic and strategic to achieve their objectives. So, earning growth that drives stock price is a philosophy in this paper and the core principles, the 10 Commandments, guided the investment process. Therefore, Moe has a framework for looking at industries that are benefiting from secular tailwinds – megatrend analysis. A discipline – the 4Ps (people, product, potential, predictability) – is used for analyzing the core fundamentals of a giant growth company. Then, the valuation methodology gives an investor a perspective on the relative value of a company – Price Earning Ratio (P/E) to grow and Price to Sales Ratio (P/S) versus margins and growth. According to Moe's philosophy, earning growth is what drives stock price over time, and it seems that a simple solution would be to find companies with high earnings growth and hang on for the ride. While that's true, investing in high-growth enterprises is even better than that due to the way in which compound interest works, giving an understanding s to why growth investing has such huge potential rewards.

In 2007, Malkiel's concept, a random walk down Wall Street (Malkiel [3]), provided a guided tour of the complex world of finance and practical advice on investment opportunities and strategies. Malkiel examines some popular investing techniques, including technical analysis and fundamental analysis in light of academic research studies of these methods. Through detailed analysis, Malkiel notes significant flaws in both techniques, concluding that, for most investors, following these methods would produce inferior results over passive strategies. Basically, Town's methodology about the simple strategy for successful investing and Moe's methodology about how to identify and invest in the hot stocks of tomorrow, are primarily based on fundamental analysis and assisted by technical analysis.

This paper adopts the investment concepts of Rule#1 used by Town and the formula for identifying and evaluating the stocks of tomorrow used by Moe to establish a simple and easy model for investors to apply. The candidate of excellent stock has to be found first. Then this paper uses the Big Five numbers to predict the candidate of excellent stock's long-term future. This paper also combines both Town's and Moe's concepts to identify the giant growth companies, then calculates their intrinsic values and finds a margin of safety. Finally this paper uses technical analysis tools including MACD, STOCHASTICS, and MOVING AVERAGE to decide when to buy and sell the stock. This paper may provide a useful reference for individual investors investing in the Taiwan Stock Market.

2 Financial model construction

This paper constructs a simple successive and strategic model for long-term stock investment that is quite suitable for the Taiwan Stock Market based on Town's modified Rule#1. This paper adopts Town's first priority in the Rule#1 concept, which is to help investors find excellent companies of certitude that

have a proven track record of producing strong growth and investment returns. This paper uses Town's "4M" which uses four tests to determine whether a company is in a good financial condition and will produce strong long-term growth. The first M is Meaning: finding a company that an investor understands and believes in is essential. In this paper, the 3-circle analysis method coupled with Moe's megatrend, six emerging industries and 16 hot areas for future growth, are used to choose the candidate of an excellent company. The second M is Moat: companies with strong competitive advantages achieve the most predictable returns. If competition is so fierce that a company is struggling to keep ahead, then an investor could not reasonably trust long-term growth estimates. Town's method can be used to recognize what Warren Buffett calls a company's "Moat" and use financial statistics such as Return on Capital, Earnings growth and Revenue Growth to build evidence of a strong competitive advantage. Once excellent company characteristics have been identified, confirm that the Big Five numbers (ROIC (Return on investment capital), Equity Growth Rate, EPS Growth Rate, Sales Growth Rate, and Cash Growth Rate) are all over 10% and not going down. The third M is Management: this M focuses on the executive board of the company. The CEO of the company must be carefully reviewed by reading articles and letters to shareholders, and the company's annual and quarterly reports must be analyzed to determine whether the company is open and honest with its owners. Town covers what to look for and what to avoid. In addition, Moe's 4P's method – People, Product, Potential, and Predictability – is used to estimate the potential of the hot stocks of tomorrow. The fourth M is Margin of Safety: Town offers a simple method for determining a stock's true "sticker price" by estimating the future earnings growth and price/earnings ratio. If a company is selling for 50% of this computed price, it may be time to buy, but only if it passes the final M. Then, determine the growth rate of the business, determine the multiple earnings that are historically accurate (the Price Earning Ratio (P/E)), and determine the current trailing twelve months EPS. Grow the EPS at that growth rate for ten years. Multiply the future EPS by the Price Earning Ratio (P/E) to get the Future Price. The minimum acceptable rate of return of 15% is adopted and the sticker price can be created from the future price divided by four to get the current value. According to Town's idea, never buy retail but buy at 50% below retail. The Margin of Safety price is the sticker price divided by two and Moe's Discounted Cash Flow Approach, P/E to Growth Ratio (P/E/G), and P/S are also adopted to be the valuation methodology of a growing company. The 4Ms get investors to a wonderful business at an attractive price. From that point, this paper refers to technical tools such as Group signals, Insider Trading, MACD, and Stochastic and Moving Averages to help investors decide when to get in and out.

In this paper, a systematic and strategic financial model is constructed in detail on how to identify and invest in the fastest-growing companies in the world. It starts with the first M (Meaning) and then proceeds to the second M (Moat), the third M (Management and a disciplined valuation approach), and finally the fourth M (Margin of safety). This is integrated in the process to identify the long-term growing stocks as shown in Figure 1.

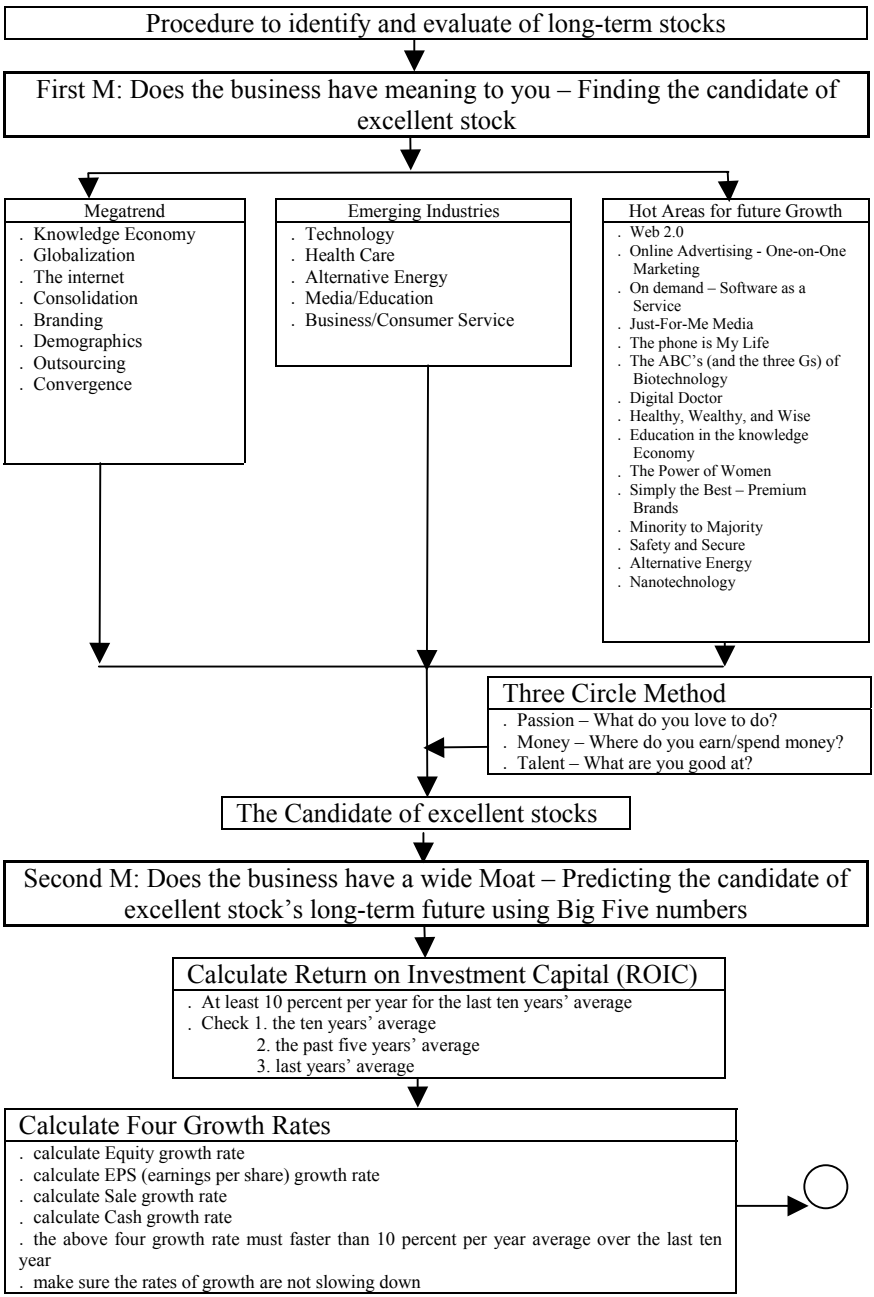

Figure 1: Procedure to identify and evaluate long-term stocks.

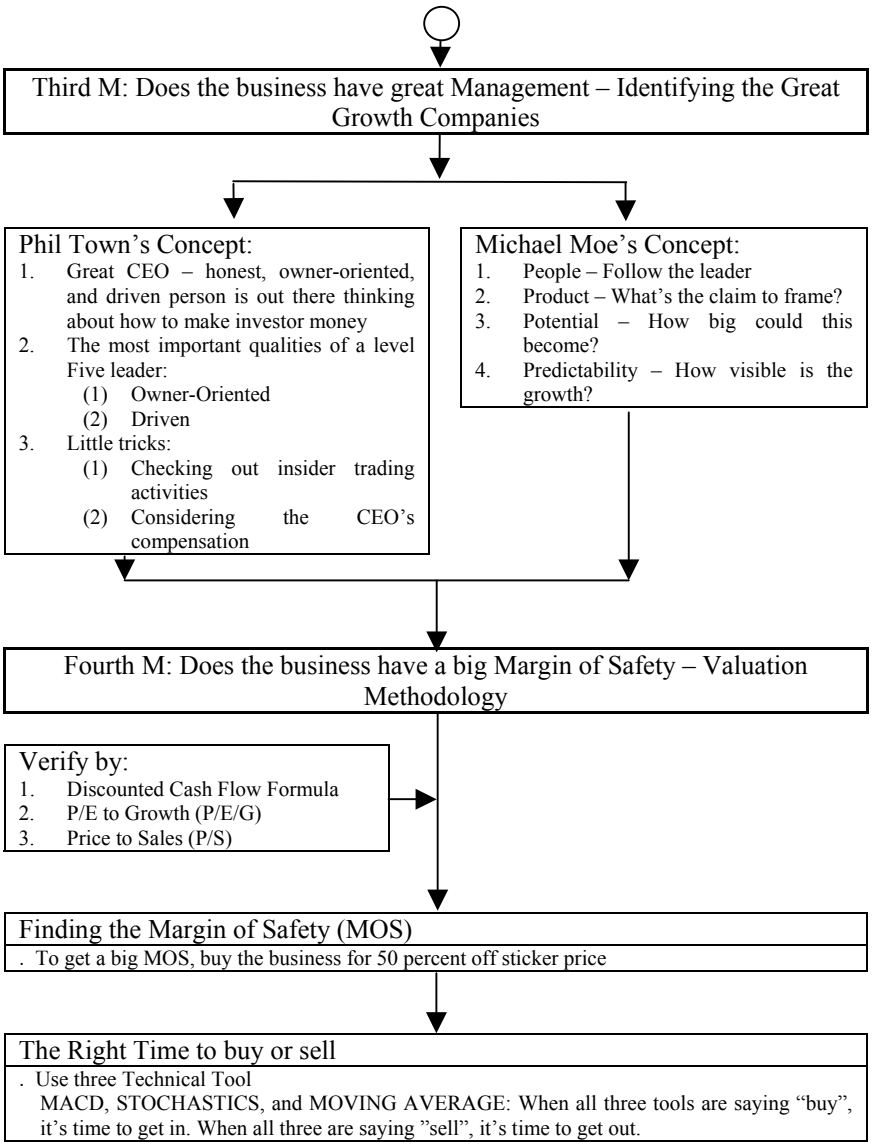

Figure 1: Continued.

3 Numerical study – example of the Taiwan stock market

Shi-Zha and Xin are the couple who have decided that if they really wanted to retire comfortably after 20 years, they would have to do more with their money than just compound it in a treasury bond. Shi-Zha is a professor in the Mechanical and Automation department and Xin is an automotive engineer. Shi-

Zha and Xin used the financial model constructed in this paper in 2007, and tried to find good companies to invest. The detailed process of investment study is described as follows:

3.1 First M: Meaning

Shi-Zha and Xin thought about the three circle method: Passion, Talent, and Money, and coupled it with megatrend, emerging industry, and hot areas for future growth to decide what kind of business they would be proud to invest in. The results of the three circles method analysis are shown in Figure 2. Shi-Zha and Xin noticed right away that Research was in all three circle while shipbuilding, vehicles and energy were in the intersection of megatrend (globalization), emerging industries (alternative energy), and hot areas for the future growth (alternative energy). These three industries encompass 158 businesses that Shi-Zha and Xin can look at on the Market Observation Post System (MOPS). So far, all 158 businesses look wonderful to Shi-Zha and Xin, because all these businesses have some meaning attached to them.

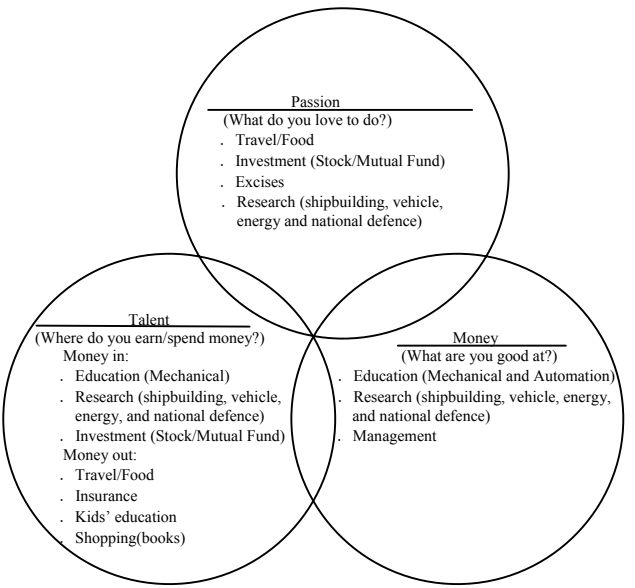

Figure 2: Three circle method from Shi-Zha and Xin.

3.2 Second M: Moat

Shi-Zha and Xin know that the moat is very critical. They refer to the Five Moats (Big Five numbers) to predict the future. All of the Big Five numbers should be equal to or greater than 10 percent per year for the last 10 years (Table 1). At first, the ROIC values of the 158 business stocks are calculated. 31 stocks meet

Table 1: Requirement of Big Five numbers.

Return on Investment Capital (ROIC or ROC or ROI)	□10% per year for 10 years
Sales (or Revenue) growth rate	□10% per year for 10 years
Earning per Share (EPS) growth rate	□10% per year for 10 years
Equity (or Book Value or BVPS) growth rate	□10% per year for 10 years
Free Cash Flow (FCF) growth rate	□10% per year for 10 years

Table 2: The stocks meet the requirement of the ROIC.

Year / Stock / Rate (%)	2001	2002	2003	2004	2005	2006 Last year Avg.	Last 5 years average	Last 6 years average
DEPO AUTO PARTS INDUSTRIAL .(6605)	16.62	22.33	17.12	23.81	21.49	16.36	20.22	19.62
FBT (4535)	9.91	19.37	21.73	25.31	21.16	17.26	20.97	19.12
NAK SEALING TECHNOLOGIES CORPORATION (9942)	14.38	15.03	15.04	14.61	13.65	13.43	14.35	15.17
Wistron NeWeb Corporation (6285)	24.5	25.27	20.21	11.43	11.07	12.12	16.02	17.43
HOLUX Technology Inc. (3431)			25.32	25.36	15.35	11.58	19.40	
Hu Lane Associate Inc. (6279)	12.34	14.90	19.24	17.35	15.34	13.79	16.12	15.25
MPI (6223)	14.35	13.84	10.19	23.49	10.45	14.60	14.51	15.91
Motech Industries, Inc. (6244)	13.50	14.54	24.55	35.68	24.06	13.83	22.53	19.01
Celxpert Energy Corporation (3323)		12.66	13.13	16.66	10.00	11.87	12.86	
BRIGHT LED ELECTRONICS CORP (3031)	10.87	17.79	20.77	21.77	14.77	11.24	17.15	14.49
Richtek Technology Corp. (6286)	14.62	22.64	26.47	24.50	25.03	37.82	27.29	25.18
POWERCOM CO., LTD (3043)	21.06	17.53	18.63	12.03	14.88	10.24	14.66	16.94
ENERMAX (8093)	20.87	24.18	24.92	20.73	16.45	14.79	20.21	20.32
Power Mate Technology Co., LTD (8109)	8.02	3.96	18.29	19.99	17.95	25.71	17.18	15.65
O-TA PRECISION INDUSTRY CO., LTD. (8924)	13.59	14.10	13.59	14.11	17.89	17.32	15.40	15.68
INTEGRATED SERVICE TECHNOLOGY, Inc. (3289)	18.74	16.05	17.46	15.35	13.30	13.67	15.17	15.76
Super Dragon Technology Co., Ltd (9955)	7.61	17.39	14.68	15.20	15.82	15.30	15.68	15.37
MACAUTO INDUSTRIAL CO., LTD. (9951)	8.41	9.06	23.88	22.44	9.50	9.50	14.88	13.80
ELAN MICROELECTRONICS CORP (2458)	17.25	14.27	17.97	16.08	9.96	9.93	13.64	16.28
HOLTEK SEMICONDUCTOR INC. (6202)	4.28	8.41	15.12	21.83	21.64	23.79	18.16	15.92
AME, Inc (3188)	-1.71	15.32	16.06	15.43	13.17	22.25	16.45	11.49
Actron Technology Corporation (8255)	-13.68	-0.59	15.68	27.53	27.12	21.77	15.17	12.97
Simplo Company, Ltd. (6121)	14.96	9.93	14.21	20.14	18.09	17.61	16.00	14.25
TSTI (8099)	20.09	18.97	14.20	11.15	16.40	14.49	15.06	14.74
Chenfull International Co., Ltd. (8383)	13.83	18.10	22.00	20.42	15.58	6.65	16.55	16.10
GMT (8081)	20.52	4.17	8.34	20.47	38.14	29.55	20.13	20.20
Topower Computer Industrial Co., Ltd. (3226)	16.20	19.24	25.12	27.35	21.03	6.89	19.93	17.05
Sea Sonic Electronics Co., Ltd. (6203)	20.65	21.00	5.78	11.50	20.23	24.38	16.58	10.74
POWERTECH INDUSTRIAL CO., LTD. (3296)	5.97	11.82	15.37	19.58	19.68	13.85	16.06	14.38
WAH LEE INDUSTRIAL CORP. (3010)	12.84	12.41	9.24	10.65	9.59	9.64	10.31	10.52
Advanced International Multitech Co., Ltd. (8938)	6.47	8.76	14.54	11.88	10.00	11.18	11.27	10.47

Table 3: The stocks meet the requirement of the equity growth rate.

Year / Stock / Rate (%)	2001	2002	2003	2004	2005	2006	Last 5 years average	Last 6 years average
DEPO AUTO PARTS INDUSTRIAL. (6605)	8.30	17.86	6.02	24.92	9.95	14.07	14.56	13.52
Motech Industries, Inc. (6244)	0.79	12.60	26.41	53.05	11.11	29.27	26.40	22.20
HOLUX Technology Inc. (3431)		8.91	10.00	10.44	1.48	9.87	26.54	
MPI (6223)	-6.56	10.25	3.68	46.53	-17.11	21.13	12.90	9.65
Richtek Technology Corp. (6286)	99.27	-18.65	-4.61	-8.91	5.47	34.02	4.46	17.77
Actron Technology Corporation (8255)		-5.14	48.14	70.42	13.73	43.34	34.10	
Simplo Company, Ltd. (6121)		-5.25	20.46	7.18	9.14	17.60	9.83	
GMT (8081)	30.73	-3.40	4.14	23.97	55.03	16.77	19.30	21.21

the requirement (Table 2). And then on to Equity growth rate, where eight stocks (Table 3) meet the requirement. Those eight stocks are then verified by the EPS growth rate, and six stocks (Table 4) pass the requirement. When calculating the Sale Growth rate of these six stocks (Table 5), all of them fit in with the requirement. Finally, on calculating the cash growth rate of these six stocks, only two stocks (Table 6) are left. Shi-Zha and Xin write down the Big Five of both stocks all together (as shown in Table 7).

Table 4: The stocks meet the requirement of the EPS growth rate.

Year / Stock / Rate%	2001	2002	2003	2004	2005	2006	Last 5 years average	Last 6 years average
DEPO AUTO PARTS INDUSTRIAL. (6605)	41.78	38.60	22.48	27.39	2.88	-16.58	17.26	22.25
Motech Industries, Inc. (6244)	42.00	128.87	109.54	70.78	19.60	12.90	68.34	63.95
MPI (6223)	-50.34	40.44	0.39	122.00	-56.28	39.47	29.20	15.95
Richtek Technology Corp. (6286)	48.76	0	19.12	-23.57	8.17	92.30	19.20	24.13
Simplo Company, Ltd. (6121)	76.34	-25.43	84.66	19.27	0.37	12.03	18.18	27.87
GMT (8081)	82.94	-82.96	116.98	277.39	198.16	-16.23	46.44	52.52

Table 5: The stocks meet the requirement of the sales growth rate.

Year / Stock / Rate (%)	2001	2002	2003	2004	2005	2006	Last 5 years average	Last 6 years average
DEPO AUTO PARTS INDUSTRIAL. (6605)	13.89	40.30	25.10	27.62	13.82	0.19	21.44	20.20
Motech Industries, Inc. (6244)	57.77	81.00	119.28	115.86	76.66	88.17	86.00	89.67
MPI (6223)	12.52	106.39	20.39	116.42	-16.02	58.26	57.09	49.66
Richtek Technology Corp. (6286)	91.55	65.00	82.06	11.39	19.83	60.09	47.60	55.00
Simplo Company, Ltd. (6121)	44.69	36.00	146.77	34.54	23.51	46.56	57.80	55.67
GMT (8081)	52.35	3.00	40.08	65.58	94.52	17.09	44.20	45.50

Table 6: The stocks meet the requirement of the free cash growth rate.

Year / Stock / Rate (%)	2001	2002	2003	2004	2005	2006	Last 5 years average	Last 6 years average
Motech Industries, Inc. (6244)	108.40	-27.57	177.08	-34.15	-48.43	296.08	72.60	78.57
GMT (8081)	64.35	-21.72	12.98	-49.81	146.24	20.51	21.64	28.76

Table 7: The Big five number of excellent stocks.

Average growth rate	ROIC				Equity growth rate (%)				EPS growth rate (%)			
Years	6	5	3	1	6	5	3	1	6	5	3	1
Motech Industries, Inc. (6244)	19.0	22.5	24.5	13.8	22.2	26.4	31.1	29.3	64	68.3	34.4	13.0
GMT (8081)	20.2	20.1	29.6	29.4	21.2	19.3	32.0	16.8	52.2	46.4	153.1	-16.2
Average growth rate	Sales growth rate (%)				Free cash growth rate (%)							
Years	6	5	3	1	6	5	3	1				
Motech Industries, Inc. (6244)	89.7	96.0	93.6	88.2	78.6	73.0	71.2	296.1				
GMT (8081)	45.5	44.2	59.0	17.1	83.6	27.5	27.1	3.6				

3.3 Third M: Management

After finding the two stocks, Shi-Zha and Xin need to know the fundamental information about both businesses. From the MOPS website of Taiwan, Shi-Zha and Xin can find the patterns that each business has been built up and been operated with, the competitors of each business, the risks of each business, the

management operation strategy of each business and the senior executive of each business – the most important point. Shi-Zha and Xin apply the four Ps (people, product, potential, and predictability) to integrate the information they got and to differentiate the constitution of each business and then find the excellent long-term growing stock.

3.4 Fourth M: Margin of Safety

To calculate the Margin of Safety price, Shi-Zha and Xin needed to know the sticker price (Intrinsic Value). The process of calculating the sticker price and the price of the Margin of Safety is shown in Table 8.

Table 8: The calculation of the sticker price and the Margin of Safety.

Stock Name / Calculated Item	Motech Industries Inc.	Global Mixed-mode Technology Inc.	Notes
1.Current EPS	16.01 NT$	11.18 NT$	2007.12.29
2.Estimated PE (Future) EPS for the ten years	128 NT$	89.44NT$	Use last ten years Equity growth rate
3.Estimated EPS growth rate for the next ten years	35.13	16.48	
4.Estimated PE in ten years	22.2%	21.21%	
5.Minimum acceptable rate of return from this investment	15%	15%	
6.Future market price	4496.64 NT$	1473.97 NT$	
7.Sticker Price	1124.16 NT$	368.49 NT$	
8.Price of margin of safety	562.08 NT$	184.25 NT$	

4 Conclusion

This paper has been constructed as a financial model of long-term growing stocks in the Taiwan Stock Market. According to the study presented in this research, the following conclusions can be drawn:

1. The financial model constructed based on Town's and Moe's concepts is quite suitable for the Taiwan Stock Market. Through calculating the Big Five numbers, the excellent long-term growth company can be found. In particular, when calculating the ROIC numbers, the inferior companies can be dropped out first.
2. MOPS of Taiwan only offers the past six years information, therefore, this paper modified the financial model to use the past six years data rather than the past ten years data.
3. Basically, the financial model constructed in this paper belongs to Fundamental Analysis (i.e. firm-foundation theory). The key point is that Fundamental Analysis relies on some tricky forecasts of the extent and duration of the future growth. The foundation of intrinsic value may thus be less dependable than is claimed.

4. Before individual investors adopt the financial model of this paper, it is essential to bear three important caveats [3] in mind:
   (1) Expectations about the future cannot be proven in the present.
   (2) Precise figures cannot be calculated from undetermined data.
   (3) What is growth for the goose is not always growth for the gander.

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