CAPITAL MARKET DEVELOPMENT AND STOCK PRICE BEHAVIOR IN NEPAL

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Abstract

This paper mainly focuses in tracing out the historical events contributing to the development process of capital market in Nepal. Implications of macro-economic fundamentals such as monetary policy, fiscal policy, major financial and economic incidents and/or announcements affecting the market prices of shares are examined in brief. The objective of the study is to find out the fair market prices of equities and test whether the present behaviour of equity prices will remain stable. Coefficients of correlation between the Earning per share and corresponding Market price on the one hand and Dividend per share and corresponding Market price on the other are also computed to know which one EPS or DPS has a higher degree of relationship with the market price. Further, in order to test the degree of explanatory power of the two in influencing the market price of share, Regression Equations of Market Price (Y) on EPS as well as on DPS are drawn. Regression results are statistically tested to derive the conclusion.

Introduction

The history of capital market in Nepal dates back to the era of Rana Prime Minister Juddha Samsher when Gunjaman Singh, the first secretary at the Nepalese Embassy in England returned back to Kathmandu and set up the 'Industrial Council'. The council drafted the Company Act and Nepal Bank Act for the first time in 1936. The first public floatation of shares in the securities market was initiated by Biratnagar Jute Mills Ltd in 1937. There were very few companies in Nepal issuing shares to the general public until another Company Act came into operation in 1951. Because of the world-wide increase in the demand for consumer goods during the Second World War, import of such goods becoming difficult many

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domestic industries were encouraged to establish. Jute being an exportable item was on the priority list. Therefore, many industries including jute, sugar, match, textile, chemical and furniture were established in Nepal. Many war driven industries, except those based on domestic raw materials such as rice and oil mills, sugar, jute and match factories, had to remain closed till 1950 because of the competition faced with goods imported from abroad. For many years after 1950, Nepal passed through a trauma of series of political instability. During the Panchayat regime (1961–1990), the economy was based on central planning and most of the industries were opened in the public sector. Various control measures were adopted providing with difficult rules and regulations required to register companies and thus private sector was eventually discouraged. There were only two financial institutions, Nepal Industrial Development Corporation and Agriculture Development Bank, in existence to finance industrial and agricultural projects along with the two domestic commercial banks. The government approach during this period was to expand banking services to remote villages of the nation in order to encourage agriculture production, small-scale industry and service sector in the economy. Corporate industries involving huge capital investment were opened in public sector. Since there was no industrial development, revenue was collected in a meagre amount and that too was based broadly on imports. Resources were collected from the private sector by issuing Government Bonds. No industrial environment was created in the country to set up corporate undertakings in the private sector. Private sector productive savings were transferred to the more inefficient government sector by issuing government securities. As such, deficit financing through public borrowing was one of the major fiscal instruments used by the Government.

Historical Perspective

The non-security market of Nepal came under regulatory framework when Nepal Rastra Bank, the central bank of Nepal was established in 1956. Prior to this, Nepal Bank Ltd. was the only financial institution operating under Nepal Bank Limited Act 1937. Another commercial bank, Rastriya Banijya Bank was established under Rastriya Banijya Bank Act 1966 in the public sector. A single commercial bank Act was enacted in 1974 to consolidate the functioning of all the commercial banks under one legal umbrella. Also the Finance Companies Act and Development Bank Act came in 1985 and 1996 respectively. At present, the country has 13 commercial banks including joint venture banks, seven development banks including Agriculture Development Bank and Nepal Industrial Development Corporation and 46 finance companies operating in the financial market. In addition to the above, there are five Rural Development Banks, many saving and credit cooperatives and NGOs operating in the economy. Besides, there are 13 insurance companies including Deposit and Credit Guarantee Corporation and other non-depository institutions like Employees Provident Fund and Citizen Investment Trust collecting huge amounts of

fund from the public in different forms and nature, providing long tern funds to the people for various purposes.

In the absence of developed securities market in Nepal, the Government was the sole issuing authority of Development Bonds and National Saving Certificates. Therefore the securities generally floated in the market were mainly the Government securities. Nepal Rastra Bank as the central bank is responsible to mobilise resources, on behalf of the government, to finance development activities and manage public debt under the Public Debt Act. Accordingly Nepal Rastra Bank has been managing the issue of short-term treasury bills and various types of development bonds to collect public debt for the Government from time to time. Ninety-one day Treasury Bills of Rs7 million were issued for the first time during June/July 1962. The government floated six percent Development Bond of Rs13.1 million with a maturity period of five years for the first time on February 12, 1964. In 1965, three-percent compensation Bonds with a maturity period of 10 years were issued for the acquisition of Birta Land and one percent Compensation Bonds with a maturity of 20 years issued for the acquisition of private forests. Non-interest bearing Prize Bonds of Rs861 thousand were also issued to individuals in 1969. Nepal Rastra Bank makes arrangement for the issue, register, purchase and sale, transfer of ownership and redemption of government bonds and debentures. Therefore, Government securities are fully traded under the management and supervision of Nepal Rastra Bank.

Altogether 36 public enterprises were established through subscription of shares under the companies Act during 1960 - 1975. The Government had dominant control as to the capital investment and management in most of those companies. Many companies were later on either liquidated or sold to private parties. Some of the prominent companies are still in operation under public sector while a few of them are in the process of privatisation. Most of the companies were incorporated either under the full ownership of the government or under joint investment with the private sector. The role of private sector except in the operation of few small-scale industries was almost nil during that period.

Institutional development of securities market in Nepal started from the year 1976 when Securities Exchange Centre (SEC) was established under the Companies Act with the joint capital contribution of Nepal Rastra Bank and Nepal Industrial Development Corporation. The Industrial Policy of the Government also encouraged the promotion of securities exchange activities in Nepal. The main objective of the establishment of the Centre was to mobilise public savings and encourage the people to participate in the ownership of industries and business enterprises. As a securities market intermediary, its role was to organise and provide marketing facilities of channelling securities exchange business through the centre. Its activities included the purchase, underwrite and sale, directly or through the licensed brokers or sub-brokers of the Centre, the shares, stocks and debentures of public

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limited companies and also development bond as well as Treasury bills issued by the Government.

Economic Liberalisation and Capital Market Development

As a precondition to economic liberalisation, the Industrial Enterprise Act was enacted in 1982 and Foreign Investment and Technology Transfer Act came into effect since 1983. Since 1985 Nepal has been following liberal economic policy. In its first stage of implementation, banking and financial sector was liberalised. A policy to invite foreigners to invest jointly with the domestic investors in the banking and financial sector was introduced. Finance Companies Act, 1986 was also enacted with a view to provide non-banking services to the people in order to promote their economic benefit in general through institutionalised investment. Accordingly, many banks and finance companies were incorporated in the private sector and listed in the securities exchange centre. Nepal Rastra Bank liberalised the regulation of interest rate and endeavoured to reform and strengthen the financial sector by implementing various prudential financial norms like income recognition, loan classification, maintenance of adequate loan loss provisions, reserves and capital adequacy ratio and liquidity position of the banks and finance companies. The Industrial Policy of 1988 introduced various reforms in order to encourage the establishment of corporate enterprises and guaranteed the non-nationalisation of private sector industrial organisations.

In August 1988, Nepal was hard hit by major earthquake resulting in considerable loss of lives and properties. Nepal - India Trade and Transit Treaty came to an end on March 1989 and the country underwent more than a year long trade impasse with India which caused temporary set back to the capital market too. Most of the trade points with India were closed down and because of the short supply of fuel and other essential industrial inputs, the operation of most of the industries was disrupted. After the restoration of multiparty democracy in 1990 and resumption of the Trade and Transit stalemate with India in its status quo ante, new democratic constitution was enacted, which enshrined in its directive principles the provisions conducive to the private sector growth. The multiparty election took place in April 1991 and the elected government while taking the steering of the economy realised the need to reform the financial sector and develop capital market along with the economic liberalisation in the country for private sector growth. Towards this move, more joint venture companies were opened in the country and the Citizen Investment Trust was established as a pioneering market maker institution in the capital market.

Primary Market

Before the establishment of the Securities Exchange Centre (SEC) there was no any institutional arrangement to undertake new issue and manage the sales of the shares and

debentures of the corporate bodies. A public limited company could make public offering according to the provisions of the Companies Act 1964. When the SEC came into existence, it started managing new issues of shares and debentures according to the guidelines for new issues and sales management 2043 (1986). It used to charge commission for its service to the issuing company varying from a minimum of 1.35 percent to a maximum of 2.0 percent depending on the amount of new issue. A lower amount of transaction would attract a higher rate of commission and vice versa. Therefore, the issuing company had to pay a commission of 2.0 percent for the management of new issue and sales services to SEC for an amount up to Rs2.5 million. The rate of commission for a new issue of Rs10 million and above was 1.35 percent. At present, the rate of commission ranges from 1.5 percent to 2.5 percent depending upon the value of securities sold. The issue managers who arrange the sale of securities charge commission to the issuing company at the rate of 2.5 percent of the value of the sold securities up to Rs2.5 million. If the value of the issue is more than Rs10 million, the rate of commission is 1.5 percent.

Secondary Market

The corporate bodies were required to list their shares and debenture in the SEC in order to qualify for the trading. However, the government bonds issued under the National Debt Act were exempted from such compulsory-listing obligation.

Securities Exchange Act 1983 made it obligatory to trade the securities through the recognised Exchange Centre or through their licensed brokers. Therefore, the Securities Exchange Centre opened its floor for secondary trading of corporate shares in November 1984. Before this, the SEC was restricted to the trading of Government Bonds. At present 27 member brokers and two market makers have been operating on the trading floor. The rate of brokerage on equity transactions varies from one percent to 1.5 percent depending upon the volume of trade. Higher the amount of transaction lower is the percentage of commission. The seller and the buyer both the parties have to pay the commission to the broker. However, it takes a very long period of around two months to get the securities transferred and registered in the name of the buyer.

In mid-July 1986, there had been a total of 16 listed companies with paid up share capital of Rs341 million. The market capitalisation of listed shares on that date and the annual turnover for the FY1985/86 amounted to Rs548 million and Rs10.1 million respectively. However, the securities market started growing continuously thereafter and in 1990 the number of listed companies rose to 41, the paid up value of listed shares increased to Rs789 million and the market capitalisation at mid-July reached Rs1775, which is larger by more than three times to that of 1986. The total turnover of FY1989/90 was Rs25.3

million. At the earlier stages of growth the secondary market of securities in Nepal was very weak.

Along with the formation of Security Exchange Board, His Majesty's Government converted the Securities Exchange Centre Ltd. into Nepal Stock Exchange Ltd. (NEPSE) in 1993 with a view to reform the capital market. It is a non-profit making organisation operating under Securities Exchange Act 1983. Brokers and market makers operate on the trading floor as per the Securities Exchange Act rules and bylaws of NEPSE. Nepal Stock Exchange started its trading operation on 13 January 1994 through its licensed members.

The Securities Board was constituted in 1993 under Sec. 1 of the Securities Exchange Act 1983. Its main objective is to provide essential policy direction for the systematic and regular exchange of securities and develop competitive stock exchange market by protecting and promoting the interest of the investors. Nepal Stock Exchange is a trading (operational) institution, whereas Securities Board is the regulatory body. Before the Board came into existence, the Securities Exchange Centre carried on both the functions. Though any corporate body desirous to carry out the transaction of securities can submit application to the Board for obtaining the license, till now Nepal Stock Exchange Ltd. alone is representing the securities market in the country.

Rise and Downfall of Stock Market

The first six months of 1994 (mid-January to mid-June) witnessed an euphonic upward trend in the stock market of Nepal. Public sentiment towards the corporate shares was so strong that the prices of equity share of most of the companies, especially shares of companies in the banking and finance sector went up abruptly without any strong financial backing. When the joint venture banks started to declare attractive rates of dividend, investors exhibited a grave concern over the shares of most of all corporate bodies irrespective of the nature and financial strength of the company. The NEPSE Index tremendously went up to 265, the monthly share market turnover reached a record level of Rs963.9 million and the market capitalisation of the listed shares reached Rs16407 million. But this period onwards, the bearish tendency in the history of stock market in Nepal began gradually. Most of the investors were not aware of the risks associated with the corporate investment. They were neither familiar with the corporate information nor were there any financial information disseminated regularly for public use. When some of the companies like Gorakhkali Rubber Udyog, Jyoti Spinning Mill, Agro-Nepal, Ace Laboratories Nepal Ltd., Harisiddhi Bricks and Tile Factory, Bansbari Leatherage and Himgiri Textiles started showing poor performance, the investors tried to find out the reasons of their weaknesses and started to show their pessimistic outlook towards the stock market. They gradually started showing their concern over the financial information of the companies. Suddenly the share prices of most of the

companies fell down and the stock market took the downturn. According to studies (Shrestha, 1999), investors were losing confidence on the performance of share market mainly due to their experience of fraudulent and scandalous activities undertaken by a handful of market swindlers. There had been also more subtle problems involving misuse of insider information and growing tendency of frauds in securities transaction. Moreover, credulous investors too were responsible for showing irresponsible behaviour due to greed for quick gains from share market. The unhappy episode had also emerged from wrong advice of the brokers. Thus, market disorders, price manipulation and fraudulent share market activities - all taken together had resulted in the bearish market in the country.

What was learned from the 1994 market collapse?

The sudden market collapse in 1994 emphasised the need to correct several deficiencies in our financial system. Financial sector is comprised of both the banks and the other depository as well as non-depository financial institutions, money markets and capital markets. It allows an efficient transfer of resources from the surplus units to deficit units i.e., from savers to investors. By mobilising savings to high return investments most effectively, an economy can achieve higher rates of growth. The development of capital market is closely related with the modernisation and the development of the financial system. The stock market had lost momentum reflecting concern that more fundamental measures were needed to put the economy and financial system on a path to recovery. The Government initiated the policy of economic liberalisation in 1985 and in the first phase measures to reform financial sector were adopted. Joint investment in the banking sector was invited, interest rate was deregulated, and various provisions as to the maintenance of capital adequacy ratio, open market operation, exchange market intervention, loan loss provision and credit ceiling were made. Now, financial sector restructuring is broadly on track and the policy for corporate restructuring is largely in place. A strong financial development is underway. All these along with the privatisation policy of the government have prompted further development of capital market in Nepal.

Objective of the Study and Hypothesis

The objective of the study is to find out the fair market prices of equities and observe the variations of the actual market prices from the computed fair prices to test whether the present behaviour of prices will remain stable. Despite heavy fall in share prices in the past, the NEPSE index at present has rising trend, which has created doubt in the mind of investors that whether the stock market will remain consistent. The author has taken the hypothesis that there is no significant difference between the observed (sample) equity prices and computed (expected) fair market prices of shares.

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Methodology

Capitalisation of earnings model is used to compute the fair market prices of equities, which are expected market prices. The capitalisation of dividend model is also discussed at length. Standard deviations and coefficients of variation of the series on observed market prices and on expected market prices are computed to test the hypothesis mentioned above. Coefficients of correlation between the Earning per share and corresponding Market price on the one hand and Dividend per share and corresponding Market Price on the other hand are also computed to find out which of the two depicts a closer relationship with the market price. Further in order to evaluate the degree of explanatory power between the two in influencing the market price of share, Regression Equations of Market Price (Y) on EPS as well as on DPS were drawn. With the help of the above techniques and statistical tests various conclusions are drawn.

Sample and Data Sources

Out of 107 companies listed in the Nepal Stock Exchange a sample of 34 most actively traded companies during the first 8 months of the FY1999/2000 has been selected for the purpose of the study. These companies are the most representative ones in their respective industries. The sample represents more than 92 percent of the market capitalisation as of 31 December 1999. The total market capitalisation on that date was Rs28782 million. Earnings and dividends of each of these companies have been taken into consideration from the preceding fiscal year 1998/99 and the market prices of shares of these companies are the closing market prices of transactions from 18 July 1999 to 7 March 2000. The data used in this study are from secondary sources and they mainly include from the following:

1. Nepal Stock Exchange Ltd.
2. Quarterly Economic Bulletin, Mid-July1999, Volume xxxiii, No. 3 & 4 and various other issues
3. National Accounts of Nepal 1999, Central Bureau of Statistics
4. Economic Survey, FY1999/2000

Present Status of Stock Market in Nepal

Equity market has shown impressive recovery from the sharp fall in 1994 with the lag effect elongated till late 1998. At present, it has been performing more strongly than in the earlier years. The improvement in the equity market has been attributed to various factors including good prospect of corporate earnings and broader household participation in the stock market. Investors not only rely on the statement of the brokers, but they also have a concern over the financial information of the concerned company. Therefore the shares of

companies with better prospect of dividend, capital increment and growth have normally higher prices in the stock market. Recent rise in equity prices can also be attributed to the gradual fall in the bank deposit interest rates causing excess liquidity in the market. Investors without any credible investment opportunity have diverted their resources towards the stock market. At present, the stock market in Nepal has witnessed its strength surprisingly, and this has raised hopes for sustained growth of corporate undertakings.

Stock market in Nepal has been growing gradually both in terms of turnover as well as the capital investment. From 16 listed companies in 1986 they grew to 110 in 2000. During this period, their paid up capital surged up from Rs341 million to Rs7.3 billion. Number of listed companies increased by sevenfold, whereas the paid up capital went up 22 times. Market capitalisation of listed shares has been rising continuously, except with a few cases of volatility. It has reached Rs43.1 billion in 2000 from Rs548 million in 1986. The ratio of market capitalisation to paid up value increased from 1.6 times in 1986 to 5.9 times in 2000. Though the annual turnover is much volatile, it has reached to the highest level of Rs1.5 billion in 1999 from Rs10.1 million in 1986.

Table – 1
Stock Market Indicators

Fiscal Year End Mid-July	No. of Listed Companies	Paid up Value of Listed Shares (In Million Rs)	Market Capitalisation (In Million Rs)	Total Annual Turnover (In Million Rs)	NEPSE Index *
1986	16	341	548	10.1	-
1987	23	419	988	8.1	-
1988	27	524	1089	7.7	-
1989	36	684	1509	30.0	-
1990	41	789	1775	25.3	-
1991	46	1049	2516	27.3	-
1992	55	1273	2120	36.9	-
1993	62	1483	3806	79.8	-
1994	66	2182	13872	431.3	226.0♣
1995	79	2962	12963	1054.0	195.5
1996	89	3359	12295	210.0	185.6
1997	95	4477	12698	416.0	176.3
1998	101	4960	14289	203.0	163.4
1999	107	6487	23508	1500.0	216.9
2000	110	7347	43123	1157.2	360.7

* Base Year 12 Feb. 1994 (30 Magh, 2050)

♣ Based on six months data
Source: Nepal Stock Exchange

By the end of fiscal year 1999/2000, the 110 companies listed on the Stock Exchange were capitalised at Rs43.1 billion and turnover for the year was 1.2 billion. According to recent statistics published by the International Finance Corporation (GMA 1998), the capitalisation of the Nepalese stock market as a percentage of GDP was a little over 4 percent in 1996, compared to an average of 19.5 percent for low-income countries. By mid-July 2000, market capitalisation of the Nepalese stock market has reached 11.5 percent of GDP.

There was a bearish tendency in stock market since 1994. Share prices of most of the companies had gone down. The NEPSE Index fell to 163.4 in 1998 from 226 in 1994. However since 1998 onwards, stock market began to revive. As compared to the preceding year, market capitalisation went up by 65.5 percent to Rs23.5 billion at mid-July 1999, whereas paid up capital had gone up by 30.8 percent to Rs6.5 billion. The paid up capital and market capitalisation in the previous year were Rs5.0 billion and Rs14.3 billion respectively. The NEPSE Index moved up to 217 at mid-July 1999 from 163 at mid-July 1998. It has been moving upwards sharply till date and has reached 360.7 on July 14, 2000.

The data for the year 2000 reveals that commercial banks occupy the topmost position in terms of annual turnover, market capitalisation and NEPSE Index. Manufacturing and processing companies occupy second rank in terms of market capitalization and NEPSE Index, however they rank third in annual turnover. Insurance and finance group jointly holds second position in terms of annual turnover and third position terms of market capitalization and NEPSE Index. Throughout the year, it has witnessed a continuous sharp rise in the price index except few cases. The NEPSE Index started with 275.8 in January jumped to 502.9 in November, however it fell to 488.0 when the trading was closed on December. Charts of sector-wise annual turnover, market capitalization and NEPSE Index are presented in Annexes 1, 2 and 3.

Perfect markets require that all information concerning future risks and returns of securities be readily available to all investors. As there exists various market imperfections, relevant information are not easily available to the investors. They are often published in national dailies, but most of the information is highly aggregated and not reliable. Because of the lack of technical knowledge, majority of the investors is unable to analyse the available information. As such, a single buyer and a single seller can affect the price of securities.

Equity Growth and Confidence of Investors

The development of equity culture in Nepal was almost nil before 1985. Most of the investors were not aware of the benefits and risks associated with the equity investment. Because of the policy of economic liberalisation followed by the government, many

corporate undertakings were encouraged to be established in private sector. At present, some of the companies are performing very well and distributing handsome rates of dividend to shareholders. This had attracted the people to diversify their savings into equity investment. The investors' confidence was further boosted by the policy of the government to invite foreign joint investment in various sectors of the economy. Altogether 638 public limited companies were registered in private sector during 1993-97 including 30 companies in tourism sector, out of which only 42 companies floated their shares for public subscription in the capital market. The Government started the process of privatisation since 1992. During the period 1992-94 ten corporations were privatised. Again in 1995-96, additional 6 corporations were privatised including the partial privatisation of Nepal Bank Ltd. After the adoption of economic liberalisation programme, the number of financial institutions grew from 19 to 97 during 1994 - 97.

After the restructuring of the securities market in 1993 around 40 licensed brokers, market makers issue managers and securities dealers have been working in the stock market. The number of listed companies has been increasing every year and the number of actively participating companies in the security market has increased by more than two folds. Investments in the share of many new companies were likely to earn high dividend. All of the above activities helped to raise the confidence of financial sector as well as the investors. During the period between 1992-2000, around Rs106 billion additional capital investments was made in industries of all forms and sectors, of which Rs6.2 billion was collected from equity issues.

Table –2
Annual Equity Injection
(In Million Rs)

Fiscal Year	Outstanding at the Year-end	Annual Injection	Increase Percent
1991/92	1273	-	-
1992/93	1483	210	16.5
1993/94	2182	699	47.1
1994/95	2962	780	35.7
1995/96	3358	396	13.4
1996/97	4477	1119	33.3
1997/98	4960	483	10.8
1998/99	6487	1527	30.8
1999/00	7482	995	15.3
Total		**6209**	

Source: Nepal Stock Exchange

Manufacturing and trading companies like Nepal lever Ltd., Nepal Bottles (Terai) Ltd. and Bishal Bazar Company Ltd. together with most of the banking companies have been giving better returns to the shareholders, leading to an increase in the level of investors' confidence on equity investment. Moreover, banking sector has witnessed the most attractive investment opportunity in terms of dividend payment and capital increment. The shares of most of the banking companies are normally demanded at higher prices in the stock market. According to the directives issued by NRB, a commercial bank having its branches all over the country must increase its paid up capital to Rs500 million. This has led to the issue of bonus shares to existing shareholders by capitalising the company's retained earnings. This also has persuaded the investors to place more confidence on shares of companies, especially on shares of banking companies. Therefore, the present development of stock market does not look symmetrical. Other sectors, except few companies, are lagging far behind in showing their results. Hence, many investors still put forth doubts on whether present growth is sustainable or the stock market will again collapse as in 1994. The rationale of this doubt could be explained with reference to the responses of stock market to monetary and fiscal policy announcements as well as to broad macroeconomic environment of the economy.

Monetary Policy Implications on Capital Market Development

After the restoration of multiparty democracy in the country, it was realised that economic development of the nation was not possible without the increased participation of the private sector. With the adoption of liberal economic policy, the newly elected government followed the policy of privatisation of industrial and commercial undertakings retaining the public utility enterprises under its control. The government recognised the need of a dynamic capital market in order to meet the increased demand of capital for the private sector. Towards this end, suitable monetary policy moves were undertaken by Nepal Rastra Bank.

Commercial banks and financial institutions enjoyed complete freedom to determine their own interest rates on lending and borrowing with effect from FY1989/90. Before that, NRB used to determine the maximum interest rates on credit and minimum interest rates on deposits for the commercial banks and the financial institutions. As a move towards financial sector reforms, NRB took various policy decisions such as increasing banks' capital structure, classification of loans, loan loss provisioning, recognition of income and establishment of ceiling for individual credit. The capacity of commercial banks to channel their resources to the private sector had improved due to the lowering of statutory ratio from 24 percent to 22 percent. NRB continued to hold auction sales of government treasury bills on a regular basis. Along with the improvement in the financial sector, additional joint venture banks, finance companies and insurance companies had also come into existence. NRB in an effort to maintain the price stability to an acceptable level, had issued bonds worth Rs4 billion. This

squeeze in excessive liquidity had been helpful in easing the domestic inflation. NRB continued to issue bonds occasionally to absorb excessive liquidity.

NRB abolished the mandatory requirement of commercial banks to invest 22 percent of total deposit liability on government bonds, treasury bills or NRB Bonds with effect from 16 July, 1993. At the same time, it also lowered its refinance rates from 13 percent to 11 percent. All these moves were directed towards the release of adequate fund to the private sector. Development of capital market in Nepal had then become imperative because of ongoing structural reforms in the economy, increased participation of private sector and the growing demand for capital.

Fiscal Policy Announcements and the Capital Market Development

The Government recognised the importance of private sector to lead the role in market oriented and competitive economic activities, while its own role was to provide basic services to boost up the private sector. The budget announcement for the Fiscal Year 1991/92 had realised that the government's role in the industrial and other enterprises should gradually be decreased with corresponding increased participation of the private sector. Various fiscal incentives were offered by the government to the public limited companies as well as to the investors in such companies in order to augment the development of capital market in Nepal. These incentives included (SEC, 1991):

- *Companies, which had listed their shares in the SEC, had to pay an income tax at a rate of 40% on their profit. This rate was 5% less than that to be paid by other private sector companies.*
- *An additional tax rebate at a rate of 5% was given to the corporate body, which had distributed at least 30% of its ownership to shareholders with a maximum of 100 shares.*
- *Dividend income was totally exempted from taxes.*
- *A rebate of 50% on the land registration fees was granted to the Hotels, which had acquired land for a new establishment, or for capacity expansion. Such incentive could be available only if 20% of its shares was given to shareholders owning a maximum number of 100 shares.*
- *Investment in Shares & Debentures of local companies was not included in calculation of wealth tax.*

The Budget speech for the fiscal year 2000/2001 has given emphasis for the reform in the stock exchange regulation, simplification of settlement procedure and transparency in securities market. A revised Stock Exchange Act is proposed to be passed by the parliament.

An institutional arrangement is being made for the securitisation of assets like land and buildings mortgaged with the commercial banks against their loans. When loans turn bad, a proposed finance company called Assets Reconstruction Company will take over the assets pledged with the commercial banks at their realisable values and issue bonds to the concerned commercial bank. However, the budget announcement has proposed a nominal income tax rate of 5 percent on incomes from dividend to the detriment of share market expansion.

Stock Market Responses to Macroeconomic Variables

Macroeconomic variables would have the effect on the stock market through the change in level of income and prices. An expansionary economy normally causes to push up the share prices and a recessionary economy will have the tendency to pull down their prices. Therefore, the stock market would respond favourably under the conditions of moderate by rising consumers' price index, sustainable growth rate, stable exchange rate as well as money supply and increasing industrial employment. How stock market would react on the changes of these variables depends upon the state of the economy, whether it is a grown or a developing economy. In the developing economy like Nepal, the stock market is not so sensitive to other macroeconomic variables than monetary and fiscal announcements. Though some of the monetary and fiscal announcements would immediately attract the attention of the financial press and do have the fast effect on the share prices, most of the macroeconomic information would have no immediate and significant impact on the stock price behaviour. However, these information could have the lag, contagion and cumulative effect on stock prices.

Table – 3
Macroeconomic Indicators of Nepal

(Percentage growth)

FY End Mid-July	Industrial Production Index	GDP Growth rate	Money Supply		Rate of Inflation	NEPSE Index
			M_1	M_2		
1994	150.3	8.2	19.6	19.6	9.0	226.0
1995	164.1	3.5	15.7	16.1	7.6	195.5
1996	180.0	5.3	10.6	14.4	8.1	185.6
1997	185.4	5.0	5.4	11.9	7.8	176.3
1998	255.1	2.3	17.4	21.9	4.0	163.4
1999	292.5	3.4	13.3	20.9	12.7	216.9
*r**	-0.12	0.58	0.39	0.28	0.79	

* *r* is the coefficient of correlation taking NEPSE Index as dependent variable.
Source: Nepal Rastra Bank, Nepal Stock Exchange, National Accounts of Nepal, 1999 (CBA) and Economic Survey, FY 1999/2000

Capital Market Development and Stock Price Behavior in Nepal

Since 1994 GDP, though fluctuating, has revealed a declining trend reaching at the minimum in 1998. Also, the NEPSE Index is continuously turning downwards falling to the lowest level in the same year. Since 1998 onwards when the GDP growth rate started to increase, the share price index had also surged up to 216.9. Both narrow money and broad money have a declining trend until 1997, the share price index also headed in the similar direction and witnessed the lowest point of 163.4 at mid-July 1998. Money supply increased in 1998 and again decreased in 1999 but the stock market started to show the bullish tendency only after 1998. A steady rise in the industrial production index, the declining trend of inflation until 1998 and an increase thereafter supports this behaviour of the stock market. Financial sector has dominating influence over the share price index. Therefore, because of a minimal contribution of corporate industrial sector to share price index, industrial production index shows no evidence of correlation with it. All other macroeconomic indicators e.g., GDP growth rate, money supply and inflation are positively correlated and have the contagion and cumulative effect on the NEPSE Index. A high degree of coefficient of correlation is found to exist between NEPSE Index and GDP growth rate as well as inflation. However, a very weak coefficient of correlation is observed to exist between share price index and each of the variable M_1 and M_2.

Table - 4

Fiscal Year Mid-July	Interest Rate #	Number of Listed Shares (' 000)	Market Capitalisation Rs (in Million)	Annual Turnover Units (' 000)
1993/94 ∗	8.00	43424	13872	993.10
1994/95	7.75	58247	12963	3900.70
1995/96	7.75	65880	12295	2953.50
1996/97	7.50	85193	12698	9443.30
1997/98	7.50	90107	14289	1195.10
1998/99	6.88	105632	23508	4857.00
1999/00	5.25	114057	43123	7673.70
∗ Mid-January to Mid-July,1994				
# Average interest rate on saving deposit as determined by commercial banks.				

Source: Nepal Rastra Bank and Nepal Stock Exchange

No supporting evidence is found that a change in the market interest rate on deposits alone could affect the price of the securities. Though the market capitalisation is observed to have been increasing continuously along with the fall in the average rate of interest, it is mostly because of the increase in the number of scripts listed in the stock exchange. The degree of impact on security price due to the change in interest rate is conditional on the corporate environment. If the corporate environment is bright enough, the fall in the market interest rate on deposits causes to push up the security prices in the stock market. As such, brighter the corporate growth potential, more will be the pressure on equity investment and

consequently brighter will be the equity market and vice versa. Unless, viable investment opportunity is available in the economy, the fall in the interest rate on deposits alone does not cause a rise in the price of equities.

Theories of Stock Price Behaviour

Broadly, there are three schools of thought concerning the valuation of securities and their price behaviour: (1) Technical Analysis (2) Fundamental Analysis and (3) Random Walk or Efficient Market Analysis.

Technical Analysis

The Technical Analysis theory of share price behaviour is based on past market information. On the assumption that history tends to repeat itself, it is believed that a knowledge of past patterns of share prices will help to predict future prices under similar circumstances. It involves the study of past market behaviour with reference to various financial and economic variables to forecast the future. Financial and economic variables do change, but these variables are to be adjusted in the light of the present situation. Charles Dow is the greatest protagonist of this theory. Since the followers of this theory anticipate future share prices on the basis of charts and graphs of past movements in prices, this approach is popularly known as Chartist Approach. Thus, under this approach technicians are interested to interpret the past trend to predict the future prices of equity shares.

Fundamental Analysis

The fundamentalists are of the opinion that the value of a share depends upon the anticipated future stream of returns and corresponding capitalisation rates. The capitalisation rate is an appropriated risk related cost of equity. Therefore, value of share, under this model, is equal to the present value of future incomes from an equity discounted at risk adjusted capitalisation factor. It requires full disclosure of financial and economic information. If the dissemination of information is not regular, reliable and complete, the market value of shares cannot be properly ascertained. Two models are popularly used under this theory e.g., Earnings Capitalisation Model and Dividend Capitalisation Model. The market price of share is based on its intrinsic value. The shareholder would like to maximise the return by buying shares of the under-valued company and selling shares of the over-valued company. Buying pressure would increase the price of under-valued company and selling pressure would decrease the price of over-valued company until the equilibrium price is restored.

Random Walk Analysis

The Random Walk Theory assumes that all future streams of incomes from the equity investment are independent of preceding incomes. In other works, future prices cannot be predicted on the basis of past price behaviour. The share prices fluctuate randomly, however, this does not mean that the market is irrational in the determination of prices. It operates through market mechanism. In a free and competitive market, the relative forces of demand and supply determine share prices. The so-called efficient market automatically adjusts the prices of shares since the market is very sensitive. Any discrepancies in the market are automatically corrected and actual prices fluctuate randomly about its intrinsic value. This is a free and most competitive market and the prices of shares in the market are assumed to reflect all relevant information.

Nepalese stock market is not efficient enough to evaluate the prices of stocks. Most of the investors are not very responsive to many financial and economic changes. But it has been felt that they invariably respond to the dividend incomes, earnings per share, capitalisation of profits to issue bonus shares and issue of right shares. In such a situation, share prices of the company starts going up steadily. The leakage of secret information in the share market from inside the company called insider trading also sometimes raises share prices upwards. But this is a temporary phenomenon; when the company discloses the information, the price is automatically corrected in the market. There is no doubt that their demand and supply affect the price of shares in the stock market. When there is a tendency of rising prices in the market, the supply of shares will be increased; and in contrast, when the prices are falling, investors would demand more of the shares to buy, other things remaining the same. But because of the lack of reliable and regular disclosure of market information and lack of awareness and technical knowledge amongst the vast majority of investors to read and analyse the financial information, the market is non-competitive and inefficient. Therefore, the Technical and Fundamental Analysis models are most appropriate to evaluate the prices of shares in our context. The best-practised tools of analysis, under Fundamental School of thought, are based on earnings and dividends of the company. Hence, the stock valuation models discussed below are based on earnings and dividends.

Stock Valuation Models

Capitalisation of Earnings

Under this model, the market value of shares of a company is dependent on the earnings of the company. The rate of earning or the earning per share is capitalised by the normal rate of return in order to measure the present market value of the equity share. The

normal rate of return is the risk-adjusted cost of capital (K_e), which equates the present value of all expected future earnings with the current market price of share. *"Cost of equity capital can be defined as the minimum rate of return that a company must earn on the equity-financed portion of its investments in order to leave unchanged the market price of its stock"* (Horne, 1988) .

Earning per share of 34 companies are capitalised to compute the fair market prices of equity shares. The market prices of shares, taking cost of equity as actual risk-free rate of return with hypothetical risk factors adjusted to it, have been computed in order to arrive at the findings. The minimum rate of return (K_e) is based on the annual interest rate of 3 years taxable Development Bond issued by NRB on 26 May, 2000 and adjusted to the equity class of business and financial risk, which is:

$K_e = I_b (1-T) + B_r + F_r$
where, I_b = Riskless bond interest rate (7%)
$\quad\quad$ T = Income Tax rate applicable to this class of income (5%)
$\quad\quad$ B_r = Premium for business risk defined as the probability of loss in profits due to changes in demand (arising from business competition, entry of new products in the market, changes in government policy, risk of volatility in earnings etc.) or in supply (due to changes in the production technology, methods of productions, cost structures etc.) 1.5%
$\quad\quad$ F_r = Premium for financial risk, connected with the probability of loss in shareholders' return due to rise in market interest rate, risk of higher leverage etc., 1%
$\therefore\quad K_e = I_b (1-T) + B_r + F_r$
$\quad\quad\quad$ 0.07(1-0.05) + 0.015 + 0.01 = 9.15 percent.

This cost of capital (9.15 percent) is equivalent to the rate, which must be earned annually so as to maintain the present value of equity share. The market value of equity share is the capitalised value of the earning per share of a company at the cost of equity (Ke). Thus,

$$P_0 = \frac{EPS}{K_e}$$

The fair market prices of equity share are computed on the assumption that the earnings of the companies are stable. Therefore, the anticipated future earnings are equal to the current earnings. The computed values of equity shares (expected market price) of each of the 34 companies are presented in *Table – 5*.

Table – 5
Expected Equity Prices based on EPS

S.N.	Name of the Company	Earning per Share (EPS) Rs	Observed Market Price ≈ (P) Rs	Expected Market Price (P_0) Rs
1	Ace Finance Company Ltd.	40.00	411	437
2	Annapurna Finance Ltd.	63.70	300	696
3	Bank of Kathmandu Ltd.	25.00	674	273
4	Bottlers Nepal (Terai) Ltd.	57.32	760	626
5	Citizen Investment Trust	11.13	79	122
6	Everest Bank Ltd.	21.03	715	230
7	Everest Insurance Company Ltd.	31.50	326	344
8	Goodwill Finance and Investment Co. Ltd.	18.08	115	198
9	Himalayan Bank Ltd.	68.85	1735	752
10	Himalayan General Insurance Co. Ltd.	15.43	220	169
11	Himalayan Securities and Finance Ltd.	21.12	148	231
12	Kathmandu Finance Ltd.	21.30	203	233
13	Lalitpur Finance Ltd.	47.22	415	516
14	Mahalaxmi Finance Ltd.	25.72	135	281
15	Narayani Finance Ltd.	28.68	210	313
16	National Finance Company Ltd.	52.40	395	573
17	National Life and General Ins. Co. Ltd.	26.16	620	286
18	Neco Insurance Company Ltd.	11.36	276	124
19	Necon Air Ltd.	2.88	155	31
20	Nepal Arab Bank Ltd.	67.84	1255	741
21	Nepal Bangladesh Bank Ltd.	68.93	1051	753
22	Nepal Finance and Saving Company Ltd.	27.50	270	301
23	Nepal Grindlays Bank Ltd.	105.86	1995	1157
24	Nepal Housing and Development Finance	16.41	93	179
25	Nepal Housing and Merchant Finance Ltd.	16.94	235	185
26	Nepal Indosuez Bank Ltd.	57.06	1261	624
27	Nepal Insurance Company Ltd.	40.22	625	440
28	Nepal Lever Ltd.	129.28	1900	1413
29	Nepal SBI Bank Ltd.	24.89	830	272
30	Nepal Share Markets Ltd.	10.05	175	110
31	Premier Insurance Company Ltd.	19.17	200	210
32	Soaltee Hotel Ltd.	8.81	150	96

33	United Insurance Company Ltd.	16.50	215	180
34	Universal Finance Ltd.	14.82	94	162
	Total(sum)	1213.16	18241	14272
	Mean	35.68	536.50	419.78
	Standard Deviation		532.65	309.37
	Coefficient of Variation		0.99	0.74

• Earnings of Fiscal Year 1998/99
≈ Closing Market Prices of transactions during 18 July 1999- 7 March, 2000
Source: Nepal Stock Exchange

The standard deviations of observed market price and expected market price are 532.65 and 309.37 respectively. The standard deviation of expected market prices is less than the standard deviation of observed market prices, which signifies that the series consisting of expected market prices is more consistent than the series of observed market price. The coefficients of variation of the observed and expected data are 0.99 and 0.74 respectively which further indicates that the series consisting expected values of share is less variable or more stable than series having observed values. This shows that the stock market is much volatile and the equity investment has higher risk.

Capitalisation of Dividends

Investors are interested in return, therefore, the price they will be prepared to pay for the share will depend upon the size of dividends. According to the dividend valuation model, future streams of cash dividends are to be evaluated and discounted by the cost of equity (K_e). Hence, the value of an equity share is the present value of all future streams of cash dividends an investor expects to receive. Since the company is a going concern and has an indefinite life, an investor has to assume a fixed period within which he wants to hold the share. Thus, the model is:

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+K_e)^t}$$

Where,
P_0 = Present market value of an equity.
D_t = Expected future dividend at each future date t
K_e = The required rate of return for equity which discounts the future dividend to a present value per share.

This model considers dividend per share, not total dividends.

The amount of dividend is dependent on company's pay out policy. The declared dividend may be only a small proportion of profits of the company available to equity

shareholders. The part of profits retained in the company represents deferred income to the shareholders. This profit is available to the company for the financing of assets to produce more profits and dividends in future. On the other hand, dividends are sometimes declared in excess of earnings. Therefore, the arguments raised against this model is that the method of valuing shares is misleading if the dividend income is not consistent. Since the dividend declared by the company is normally much less than the rate of earning, earning yield is frequently regarded as a better measure of valuing the share. John Burr Williams has defended the Dividend Model on the reasoning that the part of earnings which are not paid out as dividends are reinvested in the business and which ultimately would produce more dividends through growth. *"If earnings not paid out in dividends are all successfully reinvested at compound interest for the benefit of the stockholder, as critics imply, then these earnings should provide dividends later; if not, then they are money lost. Furthermore, if these reinvested earnings will produce dividends, then our formula will take account of them when it takes account of all future dividends; but if they will not, then our formula will rightly refrain from including them in a discounted annuity of benefits"* (Williams, 1938)

Zero Growth

If all future dividends are expected to remain constant i.e., there is no growth in the rate of dividend, the model becomes:

$$P_0 = \sum_{t=1}^{\infty} \frac{D}{(1 + K_e)^t} = \frac{D}{K_e}$$

Here the market value of share is the capitalised value of dividend per share at the normal rate of return or cost of equity. If only a part of the earning is paid out as dividends the market value of share under this method is much below than the value computed under the capitalisation of earning method. Therefore, this model is suitable in cases where dividend pay out ratio is one hundred percent and there is no growth in the rate of earnings.

Constant Growth

In case, dividends of the company are expected to grow at a constant rate over time, the constantly growing dividend stream is to be evaluated using an appropriate compound growth factor:

$D_t = D_0 (1 + g)^t$

Where,

g = Periodic constant growth rate

The rate of dividend declared in the current year (D_t) would become equal to the previous year's rate of dividend (D_0) plus growth rate during t^{th} year. Therefore, the present value (current market value of equity) of the growing dividend stream over n finite interval is:

$$P_0 = \sum_{t=1}^{n} \frac{D_0(1+g)^t}{(1+K_e)^t}$$

When g is less than K_e, the model can be presented as:

$$P_0 = \frac{D_0(1+g)}{K_e - g} = \frac{D_1}{K_e - g}$$

Variable Growth

Not all firms are zero growth or constant growth firms. Most of the firms confirm to variable growth rate of dividends in future. However, it is very difficult to predict the future growth path of a company beyond a few years. Therefore, a particular rate of dividend is projected for each of the next few years (say, 3 years) and again another rate of dividend could be projected for further 3 years.

Thus, the value of share (at t = 0) under this model is:

$$P_0 = \frac{D_0(1+g_1)^{t_1}}{(1+K_e)^{t_1}} + \dots + \frac{D_2(1+g_3)^{t_3}}{(1+K_e)^{t_3}} + \frac{D_3(1+g_4)^{t_4}}{(1+K_e)^{t_4}} + \dots + \frac{D_5(1+g_6)^{t_6}}{(1+K_e)^{t_6}}$$

$$P_0 = \sum_{t=1}^{n} \frac{D_0(1+g_1)^t}{(1+K_e)^t} + \frac{1}{(1+K_e)^n} \left[\frac{D_0(1+g_1)^n(1+g_2)}{K_e - g_2} \right]$$

$$P_0 = \sum_{t=1}^{n} \frac{D_0(1+g_1)^t}{(1+K_e)^t} + \left[\frac{1}{(1+K_e)^t} \right] P_n$$

Capital Market Development and Stock Price Behavior in Nepal

Empirical Findings

The coefficient of correlation between earning per share (EPS) and observed market value of share and also between the dividend per share (DPS) and observed market value of share were computed. Also regressions were run to see the influence of the explanatory variables, EPS and DPS on equity prices. A positive correlation was found to exist between EPS and the market price of share. The value of r = 0.86 is more than 6 times of the probable error $(P_r)^{\circ}$ which is very much significant. Coefficient of determination (r^2) indicates that 75 percent of the variation in the dependent variable (market price of share) has been explained by the independent variable (EPS). Therefore, only 25 percent variance has not been explained. That variance could have been arisen because of the probability of issue of bonus or right shares or growth perspective of the business in future.

The coefficient of correlation between dividend per share and the market price was also computed taking DPS as independent variable and market price as dependent variable. A high degree of positive relationship (r = 0.83) was observed between the two variables. The coefficient of determination (r^2) shows that 69 percent of the variation in the market price has been explained by the DPS. The rest 31 percent variance is because of other unspecified factors.

Regression Tests were also run and it was observed that the explanatory variables, EPS and DPS have 16.27 times and 25.57 times influence over the market price of shares. Therefore, the variable DPS is found stronger than EPS to affect the market price of shares. In other words, dividend per share is more sensitive to attract investors than earning per share in the Nepalese stock exchange.

Regression equation of Y (market price) on X_1(EPS) and on X_2(DPS) are:

$$Y = -44.0 + 16.27X_1 \text{ and}$$
$$Y = 80.05 + 25.57X_2 \text{ respectively}$$

Expected market prices of shares of the selected companies on the basis of the results of the above equations are presented in Table - 6.

$^{\circ} PE_r = 0.6745 \dfrac{1-r}{\sqrt{N}} = 0.03$

Table – 6
Regression Results with EPS and DPS as independent variables
(Dependent variable: Market price)

S.N	Name of the Company	X_1	Y_1	X_2	Y_2
1	Ace Finance Company Ltd.	40.00	606.80	0.00	80.05
2	Annapurna Finance Ltd.	63.70	992.40	0.00	80.05
3	Bank of Kathmandu Ltd.	25.00	362.75	0.00	80.05
4	Bottlers Nepal (Terai) Ltd.	57.32	888.60	0.00	80.05
5	Citizen Investment Trust	11.13	137.09	0.00	80.05
6	Everest Bank Ltd.	21.03	298.16	15.00	463.60
7	Everest Insurance Company Ltd.	31.50	468.51	15.00	463.60
8	Goodwill Finance and Investment Co. Ltd.	18.08	250.16	16.67	506.30
9	Himalayan Bank Ltd.	68.85	1076.19	50.00	1358.55
10	Himalayan General Insurance Co. Ltd.	15.43	207.05	10.00	335.75
11	Himalayan Securities and Finance Ltd.	21.12	299.62	4.61	197.93
12	Kathmandu Finance Ltd.	21.30	302.55	16.00	489.17
13	Lalitpur Finance Ltd.	47.22	724.27	25.00	719.30
14	Mahalaxmi Finance Ltd.	25.72	374.46	20.00	591.45
15	Narayani Finance Ltd.	28.68	422.62	5.00	207.90
16	National Finance Company Ltd.	52.40	808.55	22.00	642.59
17	National Life and General Ins. Co. Ltd.	26.16	381.62	20.00	591.45
18	Neco Insurance Company Ltd.	11.36	140.83	10.00	335.75
19	Necon Air Ltd.	2.88	2.86	0.00	80.05
20	Nepal Arab Bank Ltd.	67.84	1059.76	45.00	1230.70
21	Nepal Bangladesh Bank Ltd.	68.93	1077.49	20.00	591.45
22	Nepal Finance and Saving Company Ltd.	27.50	403.43	15.00	463.60
23	Nepal Grindlays Bank Ltd.	105.86	1678.34	80.00	2125.65
24	Nepal Housing and Development Finance	16.41	222.99	10.00	335.75
25	Nepal Housing and Merchant Finance Ltd.	16.94	231.61	12.75	406.07
26	Nepal Indosuez Bank Ltd.	57.06	884.37	50.00	1358.55
27	Nepal Insurance Company Ltd.	40.22	610.38	25.00	719.30
28	Nepal Lever Ltd.	129.28	2059.39	40.00	1102.85
29	Nepal SBI Bank Ltd.	24.89	360.96	20.00	591.45
30	Nepal Share Markets Ltd.	10.05	119.51	10.00	335.75
31	Premier Insurance Company Ltd.	19.17	267.90	10.00	335.75
32	Soaltee Hotel Ltd.	8.81	99.34	5.00	207.90
33	United Insurance Company Ltd.	16.50	224.46	10.00	335.75
34	Universal Finance Ltd.	14.82	197.12	10.00	335.75

Note:
X_1 = Earning per share, X_2 = Dividend per share
Y_1 = Market price based on EPS, Y_2 = Market price based on DPS

From the above results, we can infer that though the earning per share is more relevant than dividend per share in evaluating the fair market price of share, investors are more sensitive towards the actual cash dividend.

Table – 7
Computation of T - Statistics

S. No.	Name of the company	Observed Market price	Expected Market price	
			On the basis of EPS	On the basis of DPS
1	Ace Finance Company Ltd.	411	606.8	80.05
2	Annapurna Finance Ltd.	300	992.4	80.05
3	Bank of Kathmandu Ltd.	674	362.75	80.05
4	Bottlers Nepal (Terai) Ltd.	760	888.6	80.05
5	Citizen Investment Trust	79	137.09	80.05
6	Everest Bank Ltd.	715	298.16	463.6
7	Everest Insurance Company Ltd.	326	468.51	463.6
8	Goodwill Finance and Investment Co. Ltd.	115	250.16	506.3
9	Himalayan Bank Ltd.	1735	1076.19	1358.55
10	Himalayan General Insurance Co. Ltd.	220	207.05	335.75
11	Himalayan Securities and Finance Ltd.	148	299.62	197.93
12	Kathmandu Finance Ltd.	203	302.55	489.17
13	Lilitpur Finance Ltd.	415	724.27	719.3
14	Mahalaxmi Finance Ltd.	135	374.46	591.45
15	Narayani Finance Ltd.	210	422.62	207.9
16	National Finance Company Ltd.	395	808.55	642.59
17	National Life and General Ins. Co. Ltd.	620	381.62	591.45
18	Neco Insurance Company Ltd.	276	140.83	335.75
19	Necon Air Ltd.	155	2.86	80.05
20	Nepal Arab Bank Ltd.	1255	1059.76	1230.7
21	Nepal Bangladesh Bank Ltd.	1051	1077.49	591.45
22	Nepal Finance and Saving Company Ltd.	270	403.43	463.6
23	Nepal Grindlays Bank Ltd.	1995	1678.34	2125.65
24	Nepal Housing and Development Finance	93	222.99	335.75
25	Nepal Housing and Merchant Finance Ltd.	235	231.61	406.07
26	Nepal Indosuez Bank Ltd.	1261	884.37	1358.55
27	Nepal Insurance Company Ltd.	625	610.38	719.3
28	Nepal Lever Ltd.	1900	2059.39	1102.85
29	Nepal SBI Bank Ltd.	830	360.96	591.45
30	Nepal Share Markets Ltd.	175	119.51	335.75
31	Premier Insurance Company Ltd.	200	267.9	335.75

32	Soaltee Hotel Ltd.	150	99.34	207.9
33	United Insurance Company Ltd.	215	224.46	335.75
34	Universal Finance Ltd.	94	197.12	335.75
	Mean	536.5	536.5335	525.29147
	Standard Deviation	532.6503	460.5577	449.38901
	T-Statistic		0.999422	0.8297746

In order to determine whether the mean of the sample market prices deviates significantly from the mean of the expected prices, t-statistics are computed. The calculated values of 't' on the basis of EPS as well as on DPS are 0.999 and 0.830 respectively. Since the calculated values of 't' in both the cases are less than table value (1.96) at 5 percent level of significance, the difference between the sample mean and expected mean is not significant. Therefore, it can be inferred with 95 percent confidence that ruling market prices of shares are closely related to the expected market prices and the stock market is heading towards stability.

Conclusion

Expected values of share of individual companies are computed by solving regression equations both on the basis of earning per share as well as dividend per share. The results are statistically tested and found to have their close relationship with observed values. Expected market prices of share are also computed capitalising the EPS of individual company by the risk-adjusted cost of capital. It has been found that the market price of share depends on EPS as well as on DPS, but DPS is more price sensitive and it will have direct and immediate response in the market. However market values of share computed on the basis of EPS are near to the observed values. Therefore the observed market prices of equity share reveal that the stock market is not inconsistent

The market value of share is the function of various financial and economic variables as well as internal and external factors. The company's financing and investment policy, product development, market expansion policy and competition would largely determine the value of its share. Macro economic variables like monetary and fiscal policies, money supply, rate of inflation and GDP growth rate would determine the economic growth of a nation. The upward swings in the economy would help to push up the market value of shares. On the other hand, the downward swings in the economy would suppress the market value of shares.

The world has been launching towards economic integration and globalisation. The economic depression in one corner of the globe can spread its impact all over the world. As such, not only the domestic factors, but also the external factors to a larger extent, are

responsible in affecting the equity prices. It is practically impossible in the uncertain and inefficient market environment to anticipate in advance all the future opportunities of an equity investment and the risks associated with it. Changes in some of the variables affect the share prices immediately and changes in other variables can affect share prices after a certain time lag. Further, some factors impose direct impact while other factors affect the share prices indirectly. The money supply and bank credits, however, indulge a direct impact on the capital market. When money supply increases, the interest rate may fall causing the share prices to move upwards, but inflation may also creep up side by side, as a result the real increase of capital gain is neutralised. Money supply could become the leading indicator in the short period, but it is only a coincident indicator to help further growth in the long run. Market reacts to the dissemination of such news whether good or bad, which can affect the investors risk and return in the immediate future; may it be capitalisation of profits of the company, issue of bonus shares or issue of right shares, declaration of higher rate of dividend, change in the market interest rates, availability of alternative investment opportunities or publication of the auditors report regarding the bad financial position of the company.

Annexes

Annex-1

Sector-wise Annual Turnover
For the Year 2000 (1 January to 31 December)

Sectors	(In Rs Million)	Percent
Commercial Banks	1914.3	85.0
Insurance and Finance	184.4	8.2
Manufacturing and Processing	78.7	3.5
Hotel	36.2	1.6
Trading	7.3	0.3
Others	32.6	1.4
Total	1622.0	100.0

Sectorwise Annual Turnover
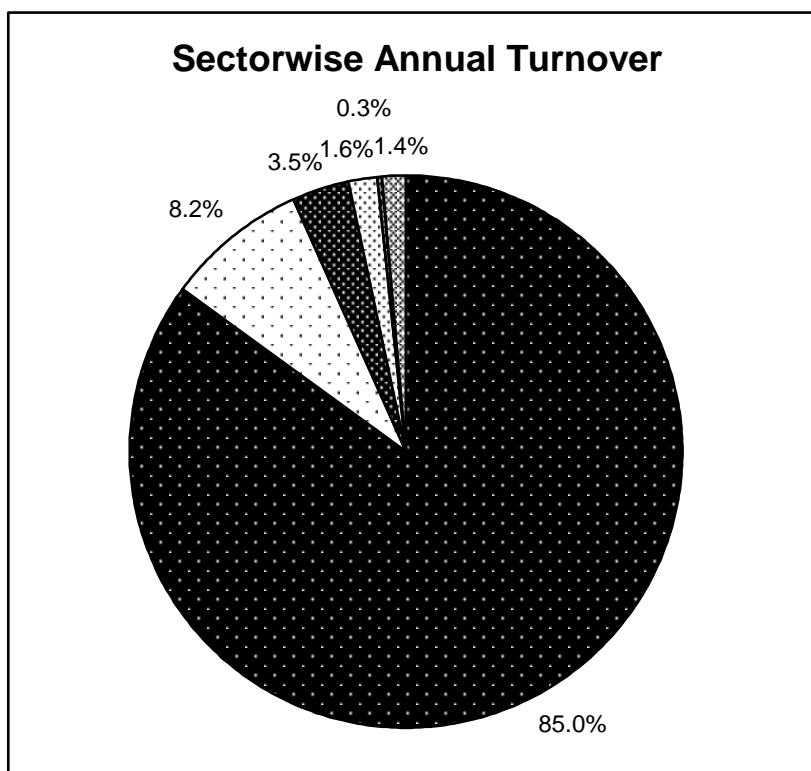
Annex-2

Sector-wise Market Capitalization
December 31,2000

	(In Rs Million)	Percent
Commercial Banks	43425.5	72.7
Manufacturing and Processing	6482.0	10.9
Insurance and Finance	5135.5	8.6
Hotel	3499.8	5.9
Trading	637.7	1.1
Others	524.6	0.8
Total	59705.1	100.0
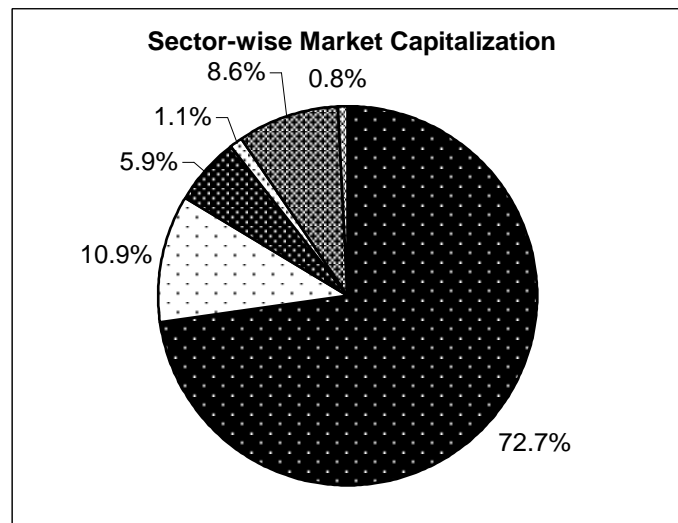
Annex-3

Sector-wise NEPSE Index
Dec. 31, 2000

Commercial Banks	587.3
Manufacturing and Processing	379.1
Insurance and Finance	361.6
Hotel	343.3
Trading	119.4
Others	334.1

Sectorwise NEPSE Index
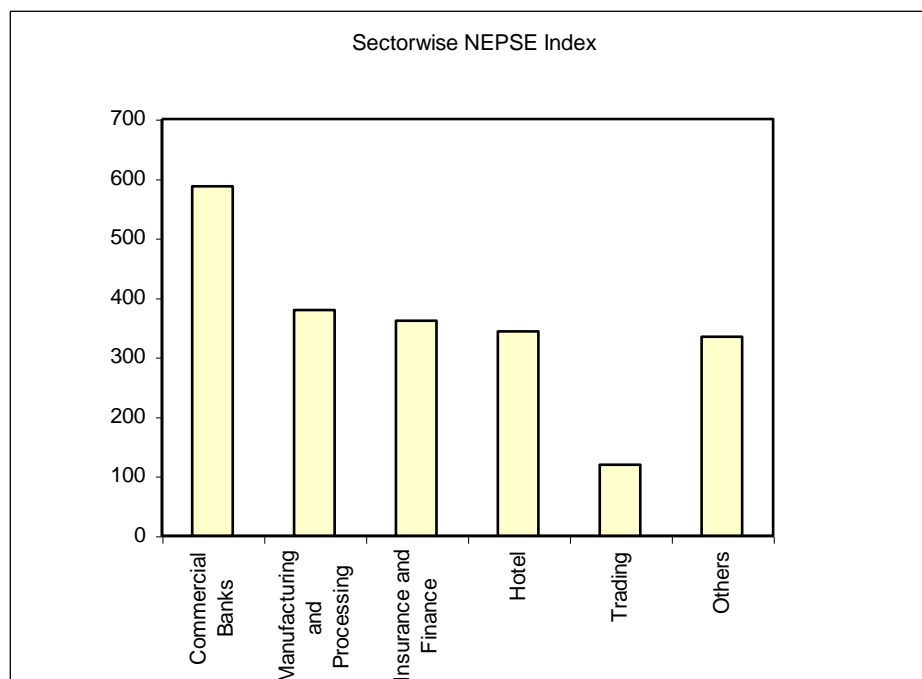
Annex-4

Monthly NEPSE Index, 2000
January – December

Jan. 31	275.8
Feb. 29	308.2
Mar. 31	330.1
Apr. 28	350.7
May. 31	343.5
Jun.30	373.5
Jul. 31	355.6
Aug. 31	423.6
Sept. 29	423.9
Oct. 31	468.8
Nov. 30	502.9
Dec. 28	488.0

Monthly NEPSE Index, 2000
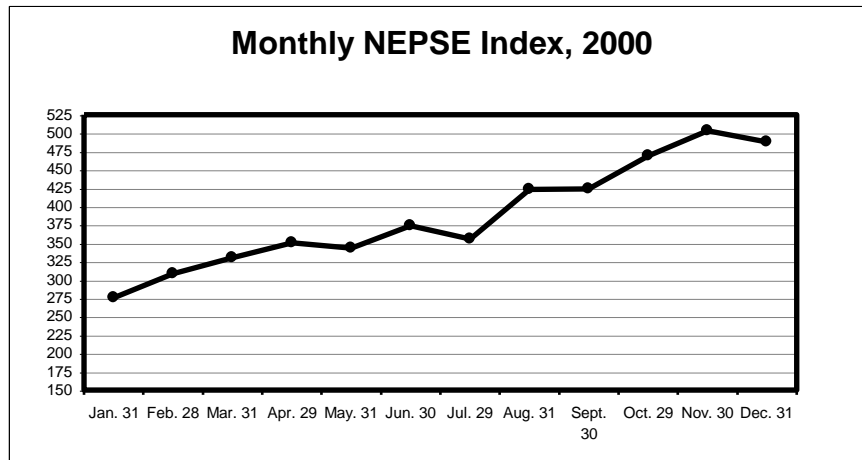
Annex-5

Nepal Stock Exchange Ltd.
Year-wise Transaction Summary

Mid-July	1994*	1995	1996	1997	1998	1999	2000
No. of Shares traded (' 000)	993.1	3900.7	2953.5	9443.3	1195.1	4857.0	7673.7
Number of Market Days	121	242	240	239	237	231	240
No. of Transactions	9357	21472	17943	12428	15483	15814	29136
Average Daily Transaction	77	89	75	52	65	68	121
Turnover (Traded Amount) (Rs Million)	441.6	1054.3	209.9	416.2	202.6	1500.0	1157.2
No. of Listed Companies	66	79	89	95	101	107	110
Market Capitalization of Listed Companies (Rs Million)	13872	12963	12295	12698	14289	23508	43123
Total Paid up value of Listed Shares (Rs Million)	2182.0	2961.8	3358.5	4476.5	4959.8	6487.4	7347.4
NEPSE Index	226.0	195.5	185.6	176.3	163.3	216.9	360.7
% of Turnover to Market Capitalization	3.18	8.13	1.71	3.28	1.42	6.38	2.68
% of Turnover to Paid up Value of Traded Company	20.24	35.60	6.25	9.30	4.08	23.12	15.75
* Consists six months data							

Source: Nepal Stock Exchange

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