CHAPTER III
ORIGIN AND GROWTH OF BULLION AND EQUITY MARKETS IN INDIA

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3.1. Introduction

In finance, investment is the purchase of an asset or item with the hope that it will generate income or appreciate in the future and be sold at the higher price. It generally does not include deposits with a bank or similar institution. The term investment is usually used when referring to a long-term outlook. This is the opposite of trading or speculation, which are short-term practices involving a much higher degree of risk. Financial assets take many forms and can range from the ultra safe low return government bonds to much higher risk higher reward international stocks. A good investment strategy will diversify the portfolio according to the specified needs. The most famous and successful investor of all time is Warren Buffett. In March 2013 Forbes magazine had Warren Buffett ranked as number 2 in their Forbes 400 list. Buffett has advised in numerous articles and interviews that a good investment strategy is long term and choosing the right assets to invest in requires due diligence. Edward O. Thorp was a very successful hedge fund manager in the 1970s and 1980s that spoke of a similar approach. Another thing they both have in common is a similar approach to managing investment money. No matter how successful the fundamental pick is, without a proper money management strategy, full potential of the asset cannot be reached. Both investors have been shown to use principles from the Kelly criterion for money management. Numerous interactive calculators which use the Kelly criterion can be found online. In contrast,
dollar (or pound etc.) cost averaging and market timing are phrases often used in marketing of collective investments and can be said to be associated with speculation.¹

Investments are often made indirectly through intermediaries, such as pension funds, banks, brokers, and insurance companies. These institutions may pool money received from a large number of individuals into funds such as investment trusts, unit trusts, SICAVs etc. to make large scale investments. Each individual investor then has an indirect or direct claim on the assets purchased, subject to charges levied by the intermediary, which may be large and varied. It generally, does not include deposits with a bank or similar institution. Investment usually involves diversification of assets in order to avoid unnecessary and unproductive risk.

3.2. Concept of Investment²

Investment is an economic activity stimulates the value of wealth. It creates the asset formation in the country. It is a part of the savings of individuals, corporates and business organisations of the country. The surplus amount of money which is diverted towards the economic activity of the nation is also called investment. A person’s future will be based on his

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investment strategy. Every individual has to make his investment decisions according to his financial position. Investment has different meaning to different persons. If one person has advanced some money to another, it may be his loan which may be considered his investment for a return. If a person has purchased one kg of gold for the purpose of price appreciation or a consumer durable like washing machine for the flow of services, it is his investment. If he purchases one insurance plan or a pension plan, it is an investment.

Physical investments are in consumer goods – non durables or durables, gold, silver, cars and antiques and curios. These are satisfying the immediate consumer needs, for comfort, luxuries, social status, ego satisfaction, etc. Some investments of physical nature are more in real estate, land, buildings, and the like.

3.2.1. Characteristic of Investment

Each type of investment has three characteristics viz., return, risk and liquidity.

3.2.1.1. Returns

A major factor influencing the pattern of investment is its return, which is the yield plus capital appreciation, if any. It is the annualised return
expected over the long term from holding an asset class. The expected return is based on the historical average annual total return of that asset class.

3.2.1.2. Risk

The variability of annual returns is the second most important investment characteristics. Annual returns fluctuate widely for some investments, for example, stocks, but fluctuate hardly at all for other investments like Treasury Bills.

3.2.1.3. Liquidity

The final investment characteristic is liquidity. It measures the difficulty of buying (or selling) without moving the price against the initiator of the transactions. If a capital asset is easily realisable, saleable or marketable, then it is said to be liquid. An investor generally prefers liquidity of his investment, safety of his funds, a good return with a minimum risk or minimisation of risk or maximisation of return.

3.2.2. Values of Investment

Business revolves around the factor of investing; financially, time, in the future and successful investors will generally focus on certain fundamental metrics for their gains. A value investor is aware that when considering the health of a company, the fundamentals associated with it, are a highly influencing factor. They include aspects related to financial and
operational data, preferred by some of the most successful investors; for example, Warren Buffett and George Soros. The financial details, such as, earnings per share and sales growth, are essential aids for an investor in determining stocks trading below their worth.³

The price to earnings ratio (P/E), or earnings multiple, is a particularly significant and recognized fundamental ratio, with a function of dividing the share price of stock, by its earnings per share. This will provide the value representing the sum investors are prepared to expend for each dollar of company earnings. This ratio is an important aspect, due to its capacity as measurement for the comparison of valuations of various companies. A stock with a lower P/E ratio will cost less per share, than one with a higher P/E, taking into account the same level of financial performance; therefore, it essentially means a low P/E is the preferred option.

An instance, in which the price to earnings ratio has a lesser significance, is when companies in different industries are compared. An example; although, it is reasonable for a telecommunications stock to show a P/E in the low teens; in the case of hi-tech stock, a P/E in the 40s range, is

not unusual. When making comparisons the P/E ratio can give you a refined view of a particular stock valuation.

For investors paying for each dollar of a company's earnings, the P/E ratio is a significant indicator, but the price-to-book ratio (P/B) is also a reliable indication of how much investors are willing to spend on each dollar of company assets. In the process of the P/B ratio, the share price of a stock is divided by its net assets; any intangibles, such as goodwill, are not taken into account. It is a crucial factor of the price-to-book ratio, due to it indicating the actual payment for tangible assets and not the more difficult valuation, of intangibles. Accordingly, the P/B could be considered a comparatively, conservative metric.

3.3. History of Investment

The Code of Hammurabi (around 1700 BC) provided a legal framework for investment, establishing a means for the pledge of collateral by codifying debtor and creditor rights in regard to pledged land. Punishments for breaking financial obligations were not as severe as those for crimes involving injury or death. In the early 1900s purchasers of stocks, bonds, and other securities were described in media, academia, and commerce as speculators. By the 1950s, the term investment had come to denote the more conservative end of the securities spectrum, while speculation was applied by financial brokers and their advertising agencies.
to higher risk securities much in vogue at that time. Since the last half of the 20th century, the terms speculation and speculator have specifically referred to higher risk ventures.4

3.4. Debt equity and Free Cash Flow

For investment purposes, an essential factor relates to how a company finances its assets, especially if it involves a sizable value stock and is a situation in which debt/equity ratio has a significant influence. Similar to the P/E ratio, the debt/equity ratio, indicates the proportion of financing, a company has obtained from debt; for example, loans, bonds and equity, such as, the issuance of shares and stock, which vary between industries. An indication to investors that all is not financially sound with a company, relates to above-industry debt/equity figures, particularly if an industry is experiencing a challenging, adverse business environment. A factor that sometimes remains unaware to investors is that the earnings of a company generally do not equal the amount of cash generated. This is due to companies reporting their financials utilising, Generally Accepted Accounting Principles (GAAP). It is a standard framework of guidelines for the financial accounting practices used in any given jurisdiction. International Financial Reporting Standards (IFRS) are commonly used, worldwide. Free cash flow is a metric that determines for an investor the

4 https://en.wikipedia.org/wiki/Investment
sum of actual cash remaining in a company after deduction of any capital investments. In general, it is preferable to for a company to boast a positive free cash flow, but similar to the debt-equity ratio, this metric assumes greater significance in a difficult business environment.

3.5. Saving and Investment

Saving and investment are often used interchangeably. The major difference between savings and investments is time. Saving is money we set aside for future to attain a short term goal. However, in order to meet long term goals, it is important to consider investments. The two acts of saving and investment were not separated because all investors are savers but all savers cannot be good investors, as investment is a science and also an art. Savings are sometimes autonomous and sometimes induced by the incentives like fiscal concessions or income or capital appreciation. Savers came from all classes except in the case of those populations who are living below the poverty line. Visualizing these great possibilities, the Government of India have introduced various schemes of small savings to suit every pocket and in enormous network of institutional machinery for trapping small savings throughout the country in the form of Postal Savings Bank. Thus, Post Office is the operating agency form implementing various small savings schemes. Now, the small savings schemes have been operated throughout the country in more than 1,55,000 post offices making available
the facilities for saving at the very door steps of the people, living even in
the remotest corner which is far away from the cities.

3.6. The Importance of Savings

The importance of savings may be analysed on the basis of the reasons by which people are induced to save. Few selected reasons for savings are

i. To meet unexpected expenditure in life: According to a modern monetarist Milton Friedman, people’s current income has two components namely permanent and transitory component. Transitory component refers to the amount of income generated accidentally and unanticipated. It may be positive or negative. If it is negative people’s current income will decrease and they will become unable to meet their needs. At this time savings plays a crucial role in compensating this adverse situation and rescue them from borrowing.

ii. Savings act as an inducement for investment: If a person has considerable savings, he will have a feeling that he is able to meet some unexpected expenditure and to face moderate risk. This feeling induces him to make investments. Savings can provide an excellent source for future business ventures as capital. It also allows for
exploring sleeping talents and other interests that may increase one’s income.

iii. Makes a feeling of rationality: Every normal human being are rational in behaviour. It means that they try to maximize their satisfaction with minimum spending. It induces them to save a part of their income.

iv. Children’s education: One of the most important things a person can do is to educate his children. In today’s world education is very essential and so expensive. Therefore savings is very important on the side of education also. Quality based education will provide a great sense of accomplishment and peace of mind foe a person.

v. Achieve a feeling of self-reliance: A habit of savings give people the ability to enjoy independence and power to do things.

vi. Security of the family: Even though in the process of income determination, we take income of an individual over his entire life span, death is an accidental fact. Everyone fears death. So they are always aware of the stability and security of their family. It forces them to save a portion of their income.

vii. Financial Independence: The importance of saving money is realized when you see what all you can do and buy simply because you have
money in your account. Saving is a very good habit. Money, that too
your own, will provide you with a feeling of self-worth and
importance. This is because all of a sudden, one may not get a large
sum of money during the time of need. But if the people are saving
though small for a very long time, one day they will find that the
paltry sum which they are investing in their savings has become a
huge amount today. Having a good amount of money can enable you
to spend it the way you want to; it gives you financial independence
and a lot of empowerment. When the people spend some money for
their loved ones to see that smile of immense joy and happiness, they
are feel the importance of saving money. This joy is incomparable
and provides a lot of satisfaction to have come to some use of others.
So here , saving provide the financial independence to saver.

viii. More Income: People who do believe in saving never realize the
importance of saving money. They keep cursing their fate for not
being a better one. Such people live for today and have no future
plans. They spend whatever they get and later sulk when they have
nothing to rely on in case of any emergency. Once you have saved
some considerable amount of money, you can use it as an investment
and can earn returns on it. There are many rags to riches story
wherein a small sum has become a large sum because the investment
was made years ago. Dreaming of a sudden income or a surge sum of
money is useless and highly impractical. Money needs to be saved. For a person to accumulate huge sum of money, he has to start from a small amount. Over a period of time, when the small amount that one keeps investing for years together, becomes a huge amount; then one realizes the importance of saving money. Once you have such kinds of multiple deposits of money, you can also invest them elsewhere and earn profits out of it. This money which is actually the interest money, once again gets accrued to become a bigger amount. There are many options available nowadays to keep your money safe as well as let it grow. For more information as to different ways of saving money, one should meet a known and a trusted financial advisor so that he can explain you everything in detail.

ix. Less Number of Years to Work: Ask yourself a question – why do we earn? Is it to satisfy our inner craving of carving out a name for ourselves in the chosen industry or is it also for earning some decent amount of money? Certainly one of the main reasons for working is money. When a person has understood the importance of saving money, he starts saving. The more early a person starts the saving, the more wealth he can accrue over a period of time. This means more money in less number of years. In other words, a person can work for less number of years. This translates to less tension and stress, more time with family and children and a secured future with guaranteed
income. We all dream of such a lifestyle but we seldom get a chance to actually live like this. But this can be converted into a reality, if you too understand the importance of saving money and start saving now. If a person goes to a book shop, he will find it full of “how to get rich” books. Getting rich is easy. All you have to do is to realize the importance of saving money and start saving from an early age. This good habit of saving money will take you a really long way in making you rich enough to retire early and enjoy the benefits of the “good habit” cultivated.

x. To meet future contingencies: Savings is a funny human habit motivated by urges that are as diverse as human sentiments, emotions, cultures and rationality. Individuals save for several reasons including the desire to provide for unexpected contingencies such as illness or loss of a job, the desire to acquire certain goods or services such as a car, or a vacation and the opportunity to gain financial rewards. The capacity of accumulated savings to earn a rate of return in the form of interest provides an incentive to save. The higher the interest rate the greater the direct reward to savings and the greater saving might be expected to be. Again, the propensity of people to save is highly influenced by the set of cultural, social, personal and psychological factors. For a given population cultural and social factors exert the broadcast influence on the propensity to
save. Saving is important for everyone irrespective of rich and poor, male and female, educated and uneducated.

3.7. **Types of Investment**

There are two types of investment namely financial instruments and non-financial instruments. The following are the details of types of investment.

3.7.1. **Financial Instruments**

The following are the details of financial instruments.

3.7.1.1. **Equities**

Equities are a type of security that represents the ownership in a company. Equities are traded (bought and sold) in stock markets. Alternatively, they can be purchased via the Initial Public Offering (IPO) route, i.e. directly from the company. Investing in equities is a good long-term investment option as the returns on equities over a long time horizon are generally higher than most other investment avenues. However, along with the possibility of greater returns comes greater risk.

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5  http://www.hsbc.co.in/1/2/personal/investments/new-invest/new-invest-types
3.7.1.2. Mutual funds

A mutual fund allows a group of people to pool their money together and have it professionally managed, in keeping with a predetermined investment objective. This investment avenue is popular because of its cost-efficiency, risk-diversification, professional management and sound regulation. There are various general and thematic mutual funds to choose from and the risk and return possibilities vary accordingly.

3.7.1.3. Bonds

Bonds are fixed income instruments which are issued for the purpose of raising capital. Both private entities, such as companies, financial institutions, and the central or state government and other government institutions use this instrument as a means of garnering funds. Bonds issued by the Government carry the lowest level of risk but could deliver fair returns.

3.7.1.4. Deposits

Investing in bank or post-office deposits is a very common way of securing surplus funds. These instruments are at the low end of the risk-return spectrum.

3.7.1.5. Cash equivalents

These are relatively safe and highly liquid investment options. Treasury bills and money market funds are cash equivalents.
3.7.2. Non-financial Instruments

The following are the details of non-financial instruments

3.7.2.1. Real estate

With the ever-increasing cost of land, real estate has come up as a profitable investment proposition.

3.7.2.2. Gold

The 'yellow metal' is a preferred investment option, particularly when markets are volatile. Today, beyond physical gold, a number of products which derive their value from the price of gold are available for investment. These include gold futures and gold exchange traded funds.

3.8. Investment avenues

In India, there are many investment avenues available to the people for their investment and details of such investments are presented below.

3.8.1. Safe or Low risk investment Avenues

Safe or low risk investment avenues are as follows

i. Savings Account

ii. Bank Fixed Deposit

iii. Public Provident Fund
iv. National Saving Certificate

v. Post office Savings

vi. Government Securities

3.8.2. High Risk Investment Avenues

High Risk Investment Avenues are as follows

i. Equity Share Market

ii. Commodity Market

iii. ForEx Market

3.8.3. Moderate Risk Investment Avenues

Moderate Risk Investment Avenues are as follows

i. Mutual Fund

ii. Bond and Debenture

iii. Life Insurance

3.8.4. Traditional Investment Avenues

Traditional Investment Avenues are as follows

i. Real Estate (Property)

ii. Gold and Silver
Figure 3.1 shows the details of Investment Avenues

**Figure 3.1**

**Investment Avenues**

- **Real Estate**
  - Apartments/Plots
    - Residential
    - Commercial
  - Mutual Funds
    - Real Estate Mutual Funds

- **Commodities**
  - Gold
  - Silver
  - Mutual Funds
    - Gold ETFs

- **Misc**
  - Art

- **Debt**
  - Cash, FDs
  - PIM, PPF
  - NRI, EPF
  - NPS, KVP
  - Bonds, Senior Citizen Schemes
  - Fixed Maturity Plans

- **Equity**
  - Shares/Stocks
  - Mutual Funds
    - Equity Diversified
    - Balanced Funds
    - ELSS
    - Thematic
    - Exchange Traded
    - Index
  - Insurance
    - ULIPs - Equity Portion
    - Traditional - Endowment
    - Traditional - Whole Life
    - Traditional - Money Back
    - ULIPs - Debt Portion
3.9. Foreign Direct Investment and Indian Stock Market\(^6\)

India started permitting outside investments only in the 1990s. Foreign investments are classified into two categories: foreign direct investment (FDI) and foreign portfolio investment (FPI). All investments in which an investor takes part in the day-to-day management and operations of the company, are treated as FDI, whereas investments in shares without any control over management and operations, are treated as FPI. For making portfolio investment in India, one should be registered either as a foreign institutional investor (FII) or as one of the sub-accounts of one of the registered FIIs. Both registrations are granted by the market regulator, SEBI. Foreign institutional investors mainly consist of mutual funds, pension funds, endowments, sovereign wealth funds, insurance companies, banks, asset management companies etc. At present, India does not allow foreign individuals to invest directly into its stock market. However, high-net-worth individuals (those with a net worth of at least $US50 million) can be registered as sub-accounts of an FII.

Foreign institutional investors and their sub-accounts can invest directly into any of the stocks listed on any of the stock exchanges. Most portfolio investments consist of investment in securities in the primary and secondary markets, including shares, debentures and warrants of companies.

\(^6\) http://www.affairscloud.com/foreign-investments-and-indian-stock-market/
listed or to be listed on a recognized stock exchange in India. FIIs can also invest in unlisted securities outside stock exchanges, subject to approval of the price by the Reserve Bank of India. Finally, they can invest in units of mutual funds and derivatives traded on any stock exchange.

An FII registered as a debt-only FII can invest 100% of its investment into debt instruments. Other FIIs must invest a minimum of 70% of their investments in equity. The balance of 30% can be invested in debt. FIIs must use special non-resident rupee bank accounts, in order to move money in and out of India. The balances held in such an account can be fully repatriated.

3.9.1. Restrictions/Investment Ceilings

The government of India prescribes the FDI limit and different ceilings have been prescribed for different sectors. Over a period of time, the government has been progressively increasing the ceilings. FDI ceilings mostly fall in the range of 26-100%. By default, the maximum limit for portfolio investment in a particular listed firm, is decided by the FDI limit prescribed for the sector to which the firm belongs. However, there are two additional restrictions on portfolio investment. First, the aggregate limit of investment by all FIIs, inclusive of their sub-accounts in any particular firm, has been fixed at 24% of the paid-up capital. However, the same can be raised up to the sector cap, with the approval of the company's boards and
shareholders. Secondly, investment by any single FII in any particular firm should not exceed 10% of the paid-up capital of the company. Regulations permit a separate 10% ceiling on investment for each of the sub-accounts of an FII, in any particular firm. However, in case of foreign corporations or individuals investing as a sub-account, the same ceiling is only 5%. Regulations also impose limits for investment in equity-based derivatives trading on stock exchanges.\(^7\)

**3.10. Investment Opportunities for Retail Foreign Investors**

Foreign entities and individuals can gain exposure to Indian stocks through institutional investors. Many India-focused mutual funds are becoming popular among retail investors. Investments could also be made through some of the offshore instruments, like participatory notes (PNs) and depositary receipts, such as American depositary receipts (ADRs), global depositary receipts (GDRs), and exchange traded funds (ETFs) and exchange-traded notes (ETNs). As per Indian regulations, participatory notes representing underlying Indian stocks can be issued offshore by FIIs, only to regulated entities. However, even small investors can invest in American depositary receipts representing the underlying stocks of some of the well-known Indian firms, listed on the New York Stock Exchange and Nasdaq. ADRs are denominated in dollars and subject to the regulations of

\(^7\) http://www.fiilist.rbi.org.in/
the U.S. Securities and Exchange Commission (SEC). Likewise, global
depository receipts are listed on European stock exchanges. However, many
promising Indian firms are not yet using ADRs or GDRs to access offshore
investors.

Retail investors also have the option of investing in ETFs and
ETNs, based on Indian stocks. India ETFs mostly make investments in
indexes made up of Indian stocks. Most of the stocks included in the index
are the ones already listed on NYSE and Nasdaq. As of 2009, the two most
prominent ETFs based on Indian stocks are the Wisdom-Tree India Earnings
Fund (NYSE: EPI) and the PowerShares India Portfolio Fund (NYSE:PIN).
The most prominent ETN is the MSCI India Index Exchange Traded Note
(NYSE:INP). Both ETFs and ETNs provide good investment opportunity for
outside investors.

Emerging markets like India, are fast becoming engines for future
growth. Currently, only a very low percentage of the household savings of
Indians are invested in the domestic stock market, but with GDP growing at
7-8% annually and a stable financial market, we might see more money
joining the race. Maybe it's the right time for outside investors to seriously
think about joining the India bandwagon.

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3.11. Profile of Multi Commodity Exchange\(^8\)

The Multi Commodity Exchange of India Limited (MCX), India’s first listed exchange, is a state-of-the-art, commodity futures exchange that facilitates online trading, and clearing and settlement of commodity futures transactions, thereby providing a platform for risk management. The Exchange, which started operations in November 2003, operates under the regulatory framework of Securities and Exchange Board of India (SEBI).

MCX offers trading in varied commodity futures contracts across segments including bullion, ferrous and non-ferrous metals, energy and agricultural commodities. The Exchange focuses on providing commodity value chain participants with neutral, secure and transparent trade mechanisms, and formulating quality parameters and trade regulations, in conformity with the regulatory framework. The Exchange has an extensive national reach, with 1731 members, operations through 475,519 trading terminals (including CTCL), spanning over 1811 cities and towns across India. MCX is India’s leading commodity futures exchange with a market share of 84.13 per cent in terms of the value of commodity futures contracts traded in Q2 FY2015-16.

\(^8\) http://www.mcxindia.com/aboutus/aboutus.htm#
To ease participation, the Exchange offers facilities such as calendar-spread facility, as also EFP (Exchange of Futures for Physical) transactions which enables participants to swap their positions in the futures/physical markets. The Exchange’s flagship index, the MCXCOMDEX, is a real-time composite commodity futures price index which gives information on market movements in key commodities. Other commodity indices developed by the exchange include MCXAgri, MCXEnergy, and MCXMetal. MCX has been certified to three ISO standards including ISO 9001:2008 quality management system, ISO 27001:2013 information security management standard and ISO 14001:2004 environment management standard.

With an aim to seamlessly integrate with the global commodities ecosystem, MCX has forged strategic alliances with leading international exchanges such as CME Group, London Metal Exchange (LME), The Baltic Exchange, Dalian Commodity Exchange (DCE) and Taiwan Futures Exchange (TAIFEX). The Exchange has also tied-up with various trade bodies, corporates, educational institutions and R&D centres across the country. These alliances enable the Exchange in improving trade practices, increasing awareness, and facilitating overall improvement of commodity futures market.
MCX’s ability to use and apply technology efficiently is a key factor in the development of its business. The exchange’s technology framework is designed to provide high availability for all critical components, which guarantees continuous availability of trading facilities. The robust technology infrastructure of the exchange, along with its rapid customisation and deployment capabilities enables it to operate efficiently with fast order routing, immediate trade execution, trade reporting, real-time risk management, market surveillance and market data dissemination.

The Exchange is committed to nurturing communities that are vital for the development of its business. To achieve our goal of inclusive growth, we collaborate with diversified partners. Gramin Suvidha Kendra, our social inclusion programme in partnership with India Post, seeks to enhance farmers’ value realisation from agricultural activities. MCX has been continuously raising the bar through effective research and product development, intelligent use of information and technology, innovation, thought leadership and ethical business conduct. This exchange deals different products namely Gold, Gold Guinea, Gold M, Gold Petal, Gold Petal (New Delhi), Gold Global, Platinum, Silver, Silver M, Silver Micro, Silver 1000, Aluminium, Aluminium Mini, Copper, Copper Mini, Iron Ore, Lead, Lead Mini, Mild Steel Ingot, Billets, Nickel, Nickel Mini, Tin, Zinc, Zinc Mini, ATF, Brent Crude Oil, Crude Oil, Crude Oil Mini, Gasoline,
Heating Oil, Imported Thermal Coal, Natural Gas, Carbon (CER), Carbon(CFI), Rubber, Crude Palm Oil, Kapasia Khalli, Refined Soya Oil, Soya Bean, Barley, Wheat, Maize-Feed / Industrial Grade, Kapas, Cotton (29mm), Almond, Guar Gum, Gaur Seed, Melted Menthol Flakes, Mentha Oil, Potato (Agra), Potato (Tarkeshwar), Sugar M, Cardamom, Coriander and Chana.

3.11.1. Key shareholders of Multi Commodity Exchange

Kotak Mahindra Bank), Aginyx Enterprises Ltd; IFCI Ltd; Blackstone GPV Capital Partners Mauritius VI FII Ltd; Rakesh Radheyshyam Jhunjhunwala; IDFC Premier Equity Fund; The National Bank for Agriculture and Rural Development (NABARD), Axis Mutual Funds; Bennett, Coleman and Company Ltd; Reliance Mutual Fund; Valiant Mauritius Partners Ltd; Valiant Mauritius Partners Offshore Ltd; Corporation Bank, Intel Capital (Mauritius) Ltd; Religare Finvest Ltd; DSP Blackrock Mutual Fund as on March 31, 2015.

3.12. Profile of Bullion Market

Gold and silver that is officially recognized as being at least 99.5% pure and is in the form of bars or ingots rather than coins. To create bullion, gold first must be discovered by mining companies and removed from the earth in the form of gold ore, a combination of gold and mineralized rock. The gold is then extracted from the ore with the use of chemicals or extreme
heat. The resulting pure bullion is also called "parted bullion." Bullion that contains more than one type of metal is called "unparted bullion."

3.12.1. **Gold**

Gold is a chemical element with symbol Au (from Latin: aurum) and atomic number 79. In its purest form, it is a bright, slightly reddish yellow, dense, soft, malleable and ductile metal. Chemically, gold is a transition metal and a group 11 element. It is one of the least reactive chemical elements, and is solid under standard conditions. The metal therefore occurs often in free elemental (native) form, as nuggets or grains, in rocks, in veins and in alluvial deposits. It occurs in a solid solution series with the native element silver (as electrum) and also naturally alloyed with copper and palladium. Less commonly, it occurs in minerals as gold compounds, often with tellurium (gold tellurides).

Gold's atomic number of 79 makes it one of the higher atomic number elements that occur naturally in the universe. It is thought to have been produced in supernova nucleosynthesis from the collision of two neutron stars and to have been present in the dust from which the Solar System formed. Because the Earth was molten when it was just formed, almost all of the gold present in the early Earth probably sank into the planetary core. Therefore, most of the gold that is present today in the Earth's crust and mantle is thought to have been delivered to Earth later, by
asteroid impacts during the late heavy bombardment, about 4 billion years ago.

Gold resists attacks by individual acids, but it can be dissolved by aqua regia ("royal water" [nitro-hydrochloric acid], so named because it dissolves "the king of metals"). The acid mixture causes the formation of a soluble gold tetrachloride anion. Gold metal also dissolves in alkaline solutions of cyanide, which are used in mining and electroplating. It is insoluble in nitric acid, which dissolves silver and base metals, a property that has long been used to refine gold and to confirm the presence of gold in items, giving rise to the term acid test; it dissolves in mercury, though, forming amalgam alloys, but this is not a chemical reaction.

This metal has been a valuable and highly sought-after precious metal for coinage, jewelry, and other arts since long before the beginning of recorded history. In the past, a gold standard was often implemented as a monetary policy within and between nations, but gold coins ceased to be minted as a circulating currency in the 1930s, and the world gold standard was finally abandoned for a fiat currency system after 1976. The historical value of gold was rooted in its medium rarity, easy handling and minting, easy smelting, corrosion resistance, distinct color, and non-reactivity to other elements.
A total of 183,600 tonnes of gold have been mined in human history, as of 2014. This is equivalent to 9513 m³ of gold. The world consumption of new gold produced is about 50% in jewelry, 40% in investments, and 10% in industry. Gold’s high malleability, ductility, resistance to corrosion and most other chemical reactions, and conductivity of electricity have led to its continued use in corrosion resistant electrical connectors in all types of computerized devices (its chief industrial use). Gold is also used in infrared shielding, colored-glass production, gold leafing, and tooth restoration. Certain gold salts are still used as anti-inflammatory in medicine.

3.12.1.1. Applications of Gold

The world consumption of new gold produced is about 50% in jewelry, 40% in investments, and 10% in industry.

a. Jewelry

It is usually alloyed with base metals for use in jewelry, altering its hardness and ductility, melting point, color and other properties. Alloys with lower carat rating, typically 22k, 18k, 14k or 10k, contain higher percentages of copper or other base metals or silver or palladium in the alloy. Copper is the most commonly used base metal, yielding a redder

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color. Eighteen-carat gold containing 25% copper is found in antique and Russian jewelry and has a distinct, though not dominant, copper cast, creating rose gold. Fourteen-carat gold-copper alloy is nearly identical in color to certain bronze alloys, and both may be used to produce police and other badges. Blue gold can be made by alloying with iron and purple gold can be made by alloying with aluminium, although rarely done except in specialized jewelry. Blue gold is more brittle and therefore more difficult to work with when making jewelry. Fourteen- and eighteen-carat gold alloys with silver alone appear greenish-yellow and are referred to as green gold. White gold alloys can be made with palladium or nickel. White 18-carat gold containing 17.3% nickel, 5.5% zinc and 2.2% copper is silvery in appearance. Nickel is toxic, however, and its release from nickel white gold is controlled by legislation in Europe. Alternative white gold alloys are available based on palladium, silver and other white metals, but the palladium alloys are more expensive than those using nickel. High-carat white gold alloys are far more resistant to corrosion than are either pure silver or sterling silver. The Japanese craft of Mokume-gane exploits the color contrasts between laminated colored gold alloys to produce decorative wood-grain effects. By 2014 the gold jewelry industry was escalating despite a dip in gold prices. Demand in the first quarter of 2014 pushed turnover to $23.7 billion according to a World Gold Council report.
b. Investment

Many holders of gold store it in form of bullion coins or bars as a hedge against inflation or other economic disruptions. However, economist Martin Feldstein does not believe gold serves as a hedge against inflation or currency depreciation. Modern bullion coins for investment or collector purposes do not require good mechanical wear properties; they are typically fine gold at 24k, although the American Gold Eagle and the British gold sovereign continue to be minted in 22k (0.92) metal in historical tradition, and the South African Krugerrand, first released in 1967, is also 22k (0.92). The special issue Canadian Gold Maple Leaf coin contains the highest purity gold of any bullion coin, at 99.999% or 0.99999, while the popular issue Canadian Gold Maple Leaf coin has a purity of 99.99%.

Several other 99.99% pure gold coins are available. In 2006, the United States Mint began producing the American Buffalo gold bullion coin with a purity of 99.99%. The Australian Gold Kangaroos were first coined in 1986 as the Australian Gold Nugget but changed the reverse design in 1989. Other modern coins include the Austrian Vienna Philharmonic bullion coin and the Chinese Gold Panda.
c. Electronics connectors

Only 10% of the world consumption of new gold produced goes to industry, but by far the most important industrial use for new gold is in fabrication of corrosion-free electrical connectors in computers and other electrical devices. For example, according to the World Gold council, a typical cell phone may contain 50 mg of gold, worth about 50 cents. But since nearly one billion cell phones are produced each year, a gold value of 50 cents in each phone adds to $500 million in gold from just this application. Though gold is attacked by free chlorine, its good conductivity and general resistance to oxidation and corrosion in other environments (including resistance to non-chlorinated acids) has led to its widespread industrial use in the electronic era as a thin-layer coating on electrical connectors, thereby ensuring good connection. For example, gold is used in the connectors of the more expensive electronics cables, such as audio, video and USB cables. The benefit of using gold over other connector metals such as tin in these applications has been debated; gold connectors are often criticized by audio-visual experts as unnecessary for most consumers and seen as simply a marketing ploy. However, the use of gold in other applications in electronic sliding contacts in highly humid or corrosive atmospheres, and in use for contacts with a very high failure cost (certain computers, communications equipment, spacecraft, jet aircraft engines) remains very common.
d. **Non-electronic industry**

i. Gold solder is used for joining the components of gold jewelry by high-temperature hard soldering or brazing. If the work is to be of hallmarking quality, gold solder must match the carat weight of the work, and alloy formulas are manufactured in most industry-standard carat weights to color match yellow and white gold. Gold solder is usually made in at least three melting-point ranges referred to as Easy, Medium and Hard. By using the hard, high-melting point solder first, followed by solders with progressively lower melting points, goldsmiths can assemble complex items with several separate soldered joints.

ii. Gold can be made into thread and used in embroidery.

iii. Gold produces a deep, intense red color when used as a coloring agent in cranberry glass.

iv. In photography, gold toners are used to shift the color of silver bromide black-and-white prints towards brown or blue tones, or to increase their stability. Used on sepia-toned prints, gold toners produce red tones. Kodak published formulas for several types of gold toners, which use gold as the chloride.
v. Gold is a good reflector of electromagnetic radiation such as infrared and visible light, as well as radio waves. It is used for the protective coatings on many artificial satellites, in infrared protective faceplates in thermal-protection suits and astronauts' helmets, and in electronic warfare planes such as the EA-6B Prowler.

vi. Gold is used as the reflective layer on some high-end CDs.

vii. Automobiles may use gold for heat shielding. McLaren uses gold foil in the engine compartment of its F1 model.

viii. Gold can be manufactured so thin that it appears transparent. It is used in some aircraft cockpit windows for de-icing or anti-icing by passing electricity through it. The heat produced by the resistance of the gold is enough to deter ice from forming.

e. Commercial chemistry

Gold is attacked by and dissolves in alkaline solutions of potassium or sodium cyanide, to form the salt gold cyanide—a technique that has been used in extracting metallic gold from ores in the cyanide process. Gold cyanide is the electrolyte used in commercial electroplating of gold onto base metals and electroforming. Gold chloride (chloroauric acid) solutions are used to make colloidal gold by reduction with citrate or
ascorbate ions. Gold chloride and gold oxide are used to make cranberry or red-colored glass, which, like colloidal gold suspensions, contains evenly sized spherical gold nanoparticles.

f. Medicine

Metallic and gold compounds have been used for medicinal purposes historically and are still in use. The apparent paradox of the actual toxicology of the substance suggests the possibility of serious gaps in the understanding of the action of gold in physiology. Gold (usually as the metal) is perhaps the most anciently administered medicine (apparently by shamanic practitioners) and known to Dioscorides. In medieval times, gold was often seen as beneficial for the health, in the belief that something so rare and beautiful could not be anything but healthy. Even some modern esotericists and forms of alternative medicine assign metallic gold a healing power.

In the 19th century gold had a reputation as a "nervine," a therapy for nervous disorders. Depression, epilepsy, migraine, and glandular problems such as amenorrhea and impotence were treated, and most notably alcoholism. Only salts and radioisotopes of gold are of pharmacological value, since elemental (metallic) gold is inert to all chemicals it encounters inside the body (i.e., ingested gold cannot be attacked by stomach acid). Some gold salts do have anti-inflammatory properties and at present two are
still used as pharmaceuticals in the treatment of arthritis and other similar conditions in the US (sodium aurothiomalate and auranofin). These drugs have been explored as a means to help to reduce the pain and swelling of rheumatoid arthritis, and also (historically) against tuberculosis and some parasites.

Gold alloys are used in restorative dentistry, especially in tooth restorations, such as crowns and permanent bridges. The gold alloys’ slight malleability facilitates the creation of a superior molar mating surface with other teeth and produces results that are generally more satisfactory than those produced by the creation of porcelain crowns. The use of gold crowns in more prominent teeth such as incisors is favored in some cultures and discouraged in others. Colloidal gold preparations (suspensions of gold nanoparticles) in water are intensely red-colored, and can be made with tightly controlled particle sizes up to a few tens of nanometers across by reduction of gold chloride with citrate or ascorbate ions. Colloidal gold is used in research applications in medicine, biology and materials science. The technique of immunogold labeling exploits the ability of the gold particles to adsorb protein molecules onto their surfaces. Colloidal gold particles coated with specific antibodies can be used as probes for the presence and position of antigens on the surfaces of cells. In ultrathin sections of tissues viewed by electron microscopy, the immunogold labels appear as extremely dense round spots at the position of the antigen.
g. Food and drink

Gold leaf, flake or dust is used on and in some gourmet foods, notably sweets and drinks as decorative ingredient. Gold flake was used by the nobility in medieval Europe as a decoration in food and drinks, in the form of leaf, flakes or dust, either to demonstrate the host's wealth or in the belief that something that valuable and rare must be beneficial for one's health. Danziger Goldwasser (German: Gold water of Danzig) or Goldwasser (English: Goldwater) is a traditional German herbal liqueur produced in what is today Gdańsk, Poland, and Schwabach, Germany, and contains flakes of gold leaf. There are also some expensive (~$1000) cocktails which contain flakes of gold leaf.

3.12.1.2. Demand and Supply of Gold

World investment amounted to 1614 MT in 2012, broadly flat year-on-year, but the approximate value of this demand reached a new record of almost $87 billion. Major drivers of this strong investment included further monetary loosening in the developed world, continued sovereign debt crisis, rising longer-term inflation fears and in key markets, negative real interest rates coupled with limited attractive risk-free investment alternatives to gold. In 2012, the gold mine production increased by 12 MT to 2848 MT and the combined demand for bars & coins dropped from 1515 MT to 1256 MT. The highlights of gold are as follows
i. London is the world’s biggest clearing house.

ii. Mumbai is under India's liberalised gold regime.

iii. New York is the home of gold futures trading.

iv. Zurich is a physical turntable.

v. Istanbul, Dubai, Singapore, and Hong Kong are doorways to important consuming regions.

vi. Tokyo, where TOCOM sets the mood of Japan.

Indian Scenario

i. India, world’s largest market for gold jewellery and a key driver of the global gold demand.

ii. The domestic drivers of gold demand are largely independent of outside forces. Indian households hold the largest stock of gold in the world.

iii. Two thirds of the Indian demand for gold comes from the rural parts of the country.

iv. In 2012, gold's role as an inflation hedge bolstered its appeal in India. India imported around 850 metric tonne (MT) of gold in 2012.
3.12.1.3. Factors Influencing the Gold Market

i. Above ground supply of gold from central bank's sale, reclaimed scrap, and official gold loans.

ii. Hedging interest of producers/miners.

iii. World macroeconomic factors such as the US Dollar, interest rate and economic events.

iv. Commodity-specific events such as the construction of new production facilities or processes, unexpected mine or plant closures, or industry restructuring.

v. In India, gold demand is also determined to a large extent by its price level and volatility.

Gold remained under pressure in the final quarter of 2014 on dollar strength and growing demand for higher-yielding risk assets. Technical selling was also a feature after gold breached double bottom chart support around $1,180. The price weakness stimulated physical demand as gold entered its seasonal peak demand period. Demand is expected to remain strong early this year while Chinese demand is boosted by New Year-related purchases. Further asset diversification among emerging market central banks has also been evident, absorbing continued liquidation from western institutional investors, also a trend we expect to continue in 2015. Gold
extended to a four-and-a-half year low of $1,131.60 per ounce early in November after breaking key double-bottom chart support at $1,180. The metal is working higher early in 2015, having put a base in place, but there is notable overhead resistance. Meanwhile, forward rates tightened again in November when price weakness drew strong demand from the physical community. In the first quarter we are looking for a range between $1,170 and $1,280.\footnote{http://www.bulliondesk.com/gold-quarter-report/gold-analysis-and-forecast-report-q1-2015-33888/#sthash.oogumnGs.dpuf} Table 3.1 shows the details of Global Supply and Demand Balance of Gold (in Tonnes) in the year 2014-15

Table 3.1

**Global Supply and Demand Balance of Gold (in Tonnes) in the year 2014-15**

<table>
<thead>
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<td>1</td>
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<td>3994.0</td>
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<td>4254.0</td>
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<td>Demand</td>
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<td>Stock Flow</td>
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<td>-139.8</td>
<td>174.0</td>
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It is clear from Table 3.1 that maximum supply of Gold in the year 2012 is 4454 tonnes and demand in the year 2014 is 4300 tonnes. Table 3.2 shows the details of Average Price of Gold and Silver in Domestic and Foreign Markets.
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<thead>
<tr>
<th>Sl. No.</th>
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<th>Gold Mumbai</th>
<th>Gold London</th>
<th>Spread in Rupees (2-4)</th>
<th>Silver Mumbai</th>
<th>Silver New York</th>
<th>Spread in Rupees (6-8)</th>
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<td>Rupees per 10 gms.</td>
<td>Rupees per kg.</td>
<td>Cents per troy oz.</td>
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<td>2009-10</td>
<td>15756.09</td>
<td>1023.03</td>
<td>15569.88</td>
<td>186.22</td>
<td>25320.69</td>
<td>1576.30</td>
</tr>
<tr>
<td>37.</td>
<td>2010-11</td>
<td>19227.08</td>
<td>1293.53</td>
<td>18937.48</td>
<td>289.60</td>
<td>37289.54</td>
<td>2391.16</td>
</tr>
<tr>
<td>38.</td>
<td>2011-12</td>
<td>25722.42</td>
<td>1644.87</td>
<td>25394.03</td>
<td>328.39</td>
<td>57315.87</td>
<td>3545.64</td>
</tr>
<tr>
<td>39.</td>
<td>2012-13</td>
<td>30163.93</td>
<td>1653.51</td>
<td>28919.04</td>
<td>1244.89</td>
<td>57602.30</td>
<td>3050.71</td>
</tr>
<tr>
<td>40.</td>
<td>2013-14</td>
<td>29190.39</td>
<td>1326.68</td>
<td>25739.35</td>
<td>3451.04</td>
<td>46636.80</td>
<td>2145.41</td>
</tr>
<tr>
<td>41.</td>
<td>2014-15</td>
<td>27414.55</td>
<td>1247.40</td>
<td>24520.42</td>
<td>2894.13</td>
<td>40558.48</td>
<td>1814.04</td>
</tr>
</tbody>
</table>

Notes: The data source for this Table for the period 1970-71 to 1999-2000 are Bombay Bullion Association and Press Trust of India. For the period 2000-01 onwards.

Sources: Business Standard/ Business Line and Economic Times, Mumbai for gold and silver price in Mumbai and LBMA for gold price in London and IMF-IFS for silver price in New York. Retrieved from...
It is clear from Table 3.2 that highest gold price movements at London Market Rs.28919.04 (10 Grams) for the year 2012-13 and Mumbai Market is Rs.30163.93 and also clear that the highest silver price movements in New York Market during the year 2011-12 is 54320.69.

3.12.1.4. Gold Reserve

A gold reserve is the gold held by a national central bank, intended as a store of value and as a guarantee to redeem promises to pay depositors, note holders (e.g. paper money), or trading peers, or to secure a currency. It has been estimated that all the gold mined by the end of 2011 totalled 171,300 tonnes. At a price of US$1,500 pertroy ounce, reached on 12 April 2013, one tonne of gold has a value of approximately US$48.2 million. The total value of all gold ever mined would exceed US$8.2 trillion at that valuation. However, there are varying estimates of the total amount of gold mined to date, mainly because gold has been mined for thousands of years around the world. Another reason is that some countries are not particularly open about how much gold they are mining. In addition, it is difficult to account for gold output in illegal mining activities. The IMF regularly maintains statistics of national assets as reported by various countries. These data are used by the World to periodically rank and report the gold holdings of countries and official organizations. On 17 July 2015, China announced that it increased its gold reserves by about 57 percent from 1,054
to 1,658 metric tons, while disclosing its official gold reserves for the first time in six years. The gold listed for each of the countries in the table may not be physically stored in the country listed, as central banks generally have not allowed independent audits of their reserves. Table 3.3 shows the details of Top twenty Gold Holding Countries as of September 2015.

Table 3.3
Top twenty Gold Holding Countries as of September 2015

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country/Organization</th>
<th>Gold holdings (in tonnes)</th>
<th>Percentage of Gold's share of forex reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>8,133.5</td>
<td>72.6</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>3,381.0</td>
<td>66.8</td>
</tr>
<tr>
<td>3</td>
<td>International Monetary Fund</td>
<td>2,814.0</td>
<td>N.A.</td>
</tr>
<tr>
<td>4</td>
<td>Italy</td>
<td>2,451.8</td>
<td>64.9</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>2,435.4</td>
<td>65.2</td>
</tr>
<tr>
<td>6</td>
<td>China</td>
<td>1,677.4</td>
<td>1.6</td>
</tr>
<tr>
<td>7</td>
<td>Russia</td>
<td>1,288.2</td>
<td>12.7</td>
</tr>
<tr>
<td>8</td>
<td>Switzerland</td>
<td>1,040.0</td>
<td>6.1</td>
</tr>
<tr>
<td>9</td>
<td>Japan</td>
<td>765.2</td>
<td>2.2</td>
</tr>
<tr>
<td>10</td>
<td>Netherlands</td>
<td>612.5</td>
<td>56.3</td>
</tr>
<tr>
<td>11</td>
<td>India</td>
<td>557.7</td>
<td>5.5</td>
</tr>
<tr>
<td>12</td>
<td>European Central Bank</td>
<td>504.8</td>
<td>25.1</td>
</tr>
<tr>
<td>13</td>
<td>Turkey</td>
<td>499.9</td>
<td>14.9</td>
</tr>
<tr>
<td>14</td>
<td>Republic of China (Taiwan)</td>
<td>423.6</td>
<td>3.8</td>
</tr>
<tr>
<td>15</td>
<td>Portugal</td>
<td>382.5</td>
<td>72.5</td>
</tr>
</tbody>
</table>

11 https://en.wikipedia.org/wiki/Gold_reserve
<table>
<thead>
<tr>
<th>Rank</th>
<th>Country/Organization</th>
<th>Gold holdings (in tonnes)</th>
<th>Percentage of Gold's share of forex reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Venezuela</td>
<td>361.0</td>
<td>66.6</td>
</tr>
<tr>
<td>17</td>
<td>Saudi Arabia</td>
<td>322.9</td>
<td>1.7</td>
</tr>
<tr>
<td>18</td>
<td>United Kingdom</td>
<td>310.3</td>
<td>8.8</td>
</tr>
<tr>
<td>19</td>
<td>Lebanon</td>
<td>286.8</td>
<td>19.8</td>
</tr>
<tr>
<td>20</td>
<td>Spain</td>
<td>281.6</td>
<td>18.4</td>
</tr>
</tbody>
</table>


It is clear from Table 3.3 that United States got first place by holding 8,133.5 tonnes of gold and Germany got second place by holding 3,381.0 tonnes of gold. It is also clear from Table 3.3 that United States having maximum Percentage of Gold's share of Forex Reserves as of September 2015. Table 3.4 shows the details of privately held gold.
Table 3.4

Privately Held Gold

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Gold holdings (in tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SPDR Gold Shares</td>
<td>672.7</td>
</tr>
<tr>
<td>2</td>
<td>ETF Securities Gold Funds</td>
<td>215.2</td>
</tr>
<tr>
<td>3</td>
<td>COMEX Gold Trust</td>
<td>164.7</td>
</tr>
<tr>
<td>4</td>
<td>ZKB Physical Gold</td>
<td>138.7</td>
</tr>
<tr>
<td>5</td>
<td>Central Fund of Canada</td>
<td>52.7</td>
</tr>
<tr>
<td>6</td>
<td>Julius Baer Physical Gold Fund</td>
<td>49.1</td>
</tr>
<tr>
<td>7</td>
<td>Sprott Physical Gold Trust</td>
<td>38.6</td>
</tr>
<tr>
<td>8</td>
<td>BullionVault</td>
<td>34.2</td>
</tr>
<tr>
<td>9</td>
<td>ABSA New Gold Exchange Traded Fund</td>
<td>26.6</td>
</tr>
<tr>
<td>10</td>
<td>ETFS Physical Swiss Gold Shares</td>
<td>23.4</td>
</tr>
<tr>
<td>11</td>
<td>Central Gold Trust</td>
<td>21.9</td>
</tr>
<tr>
<td>12</td>
<td>Gold Money</td>
<td>19.4</td>
</tr>
</tbody>
</table>


It is clear from Table 3.4 that SPDR Gold Shares holding maximum number of Gold (672.7 Tonnes) followed by ETF Securities Gold Funds is 215.2 tonnes of Gold. Table 3.5 shows the details of World Gold Holding in terms of location.
Table 3.5

World Gold Holding in terms of location

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Location</th>
<th>Gold holdings (in tonnes)</th>
<th>Share of total world gold holdings (In %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jewellery</td>
<td>84,300</td>
<td>49.2</td>
</tr>
<tr>
<td>2</td>
<td>Investment (bars, coins)</td>
<td>33,000</td>
<td>19.26</td>
</tr>
<tr>
<td>3</td>
<td>Central banks</td>
<td>29,500</td>
<td>17.2</td>
</tr>
<tr>
<td>4</td>
<td>Industrial</td>
<td>20,800</td>
<td>12.14</td>
</tr>
<tr>
<td>5</td>
<td>Unaccounted</td>
<td>3,700</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>171,300</td>
<td>100</td>
</tr>
</tbody>
</table>


It is clear from Table 3.5 that Gold holding maximum in the form of Jewellery in the world is 84,300 tonnes followed by Investment (Bars and Coins) is 33,000 tonnes in the world.

3.13. Overview of Stock Market

A stock market or equity market is the aggregation of buyers and sellers (a loose network of economic transactions, not a physical facility or discrete entity) of stocks (also called shares); these may include securities listed on a stock exchange as well as those only traded privately.

3.13.1. Size of the market

Stocks can be categorized in various ways. One common way is by the country where the company is domiciled. For example, Nestlé and Novartis are domiciled in Switzerland, so they may be considered as part of the Swiss stock market, although their stock may also be traded at exchanges in other countries. At the close of 2012, the size of the world stock market (total market capitalisation) was about US$55 trillion. By country, the largest market was the United States (about 34%), followed by Japan (about 6%) and the United Kingdom (about 6%). This went up more in 2013.¹³

3.13.2. Stock exchange

A stock exchange is a place or organization by which stock traders (people and companies) can trade stocks. Companies may want to get their stock listed on a stock exchange. Other stocks may be traded "over the counter", that is, through a dealer. A large company will usually have its stock listed on many exchanges across the world. Exchanges may also cover other types of security such as fixed interest securities or interest derivatives.

3.13.3. Trade

Trade in stock markets means the transfer for money of a stock or security from a seller to a buyer. This requires these two parties to agree on a price. Equities (Stocks or shares) confer an ownership interest in a particular company. Participants in the stock market range from small individual stock investors to larger traders investors, who can be based anywhere in the world, and may include banks, insurance companies or pension funds, and hedge funds. Their buy or sell orders may be executed on their behalf by a stock exchange trader. Some exchanges are physical locations where transactions are carried out on a trading floor, by a method known as open outcry. This method is used in some stock exchanges and commodity exchanges, and involves traders entering oral bids and offers simultaneously. An example of such an exchange is the New York Stock Exchange. The other type of stock exchange is a virtual kind, composed of a network of computers where trades are made electronically by traders. An example of such an exchange is the NASDAQ. A potential buyer bids a specific price for a stock, and a potential seller asks a specific price for the same stock. Buying or selling at market means you will accept any ask price or bid price for the stock, respectively. When the bid and ask prices match, a sale takes place, on a first-come-first-served basis if there are multiple bidders or askers at a given price.
The purpose of a stock exchange is to facilitate the exchange of securities between buyers and sellers, thus providing a marketplace (virtual or real). The exchanges provide real-time trading information on the listed securities, facilitating price discovery. The New York Stock Exchange (NYSE) is a physical exchange, with a hybrid market for placing orders both electronically and manually on the trading floor. Orders executed on the trading floor enter by way of exchange members and flow down to a floor broker, who goes to the floor trading post specialist for that stock to trade the order. The specialist's job is to match buy and sell orders using open outcry. If a spread exists, no trade immediately takes place—in this case the specialist should use his/her own resources (money or stock) to close the difference after his/her judged time. Once a trade has been made the details are reported on the "tape" and sent back to the brokerage firm, which then notifies the investor who placed the order. Although there is a significant amount of human contact in this process, computers play an important role, especially for so-called "program trading".

The NASDAQ is a virtual listed exchange, where all of the trading is done over a computer network. The process is similar to the New York Stock Exchange. However, buyers and sellers are electronically matched. One or more NASDAQ market makers will always provide a bid and ask price at which they will always purchase or sell 'their' stock.
The Paris Bourse, now part of Euronext, is an order-driven, electronic stock exchange. It was automated in the late 1980s. Prior to the 1980s, it consisted of an open outcry exchange. Stockbrokers met on the trading floor or the Palais Brongniart. In 1986, the CATS trading system was introduced, and the order matching process was fully automated.

People trading stock will prefer to trade on the most popular exchange since this gives the largest number of potential counterparties (buyers for a seller, sellers for a buyer) and probably the best price. However, there have always been alternatives such as brokers trying to bring parties together to trade outside the exchange. Some third markets that were popular are Instinet, and later Island and Archipelago. One advantage is that this avoids the commissions of the exchange. However, it also has problems such as adverse selection. Financial regulators are probing dark pools.

3.13.4. Market participant

Market participants include individual retail investors, institutional investors such as mutual funds, banks, insurance companies and hedge funds, and also publicly traded corporations trading in their own shares. Some studies have suggested that institutional investors and corporations trading in their own shares generally receive higher risk-adjusted returns than retail investors.
A few decades ago, worldwide, buyers and sellers were individual investors, such as wealthy businessmen, usually with long family histories to particular corporations. Over time, markets have become more "institutionalized"; buyers and sellers are largely institutions namely pension funds, insurance companies, mutual funds, index funds, exchange-traded funds, hedge funds, investor groups, banks and various other financial institutions.

The rise of the institutional investor has brought with it some improvements in market operations. There has been a gradual tendency for "fixed" (and exorbitant) fees being reduced for all investors, partly from falling administration costs but also assisted by large institutions challenging brokers' oligopolistic approach to setting standardised fees.

3.13.5. History of Stock Market

In 12th century France, the courretiers de change were concerned with managing and regulating the debts of agricultural communities on behalf of the banks. Because these men also traded with debts, they could be called the first brokers. A common misbelief is that in late 13th century Bruges commodity traders gathered inside the house of a man called Van der Beurze, and in 1409 they became the "Brugse Beurse", institutionalizing what had been, until then, an informal meeting, but actually, the family Van der Beurze had a building in Antwerp where those
gatherings occurred; the Van der Beurze had Antwerp, as most of the merchants of that period, as their primary place for trading. The idea quickly spread around Flanders and neighboring countries and "Beurzen" soon opened in Ghent and Rotterdam.

In the middle of the 13th century, Venetian bankers began to trade in government securities. In 1351 the Venetian government outlawed spreading rumors intended to lower the price of government funds. Bankers in Pisa, Verona, Genoa and Florence also began trading in government securities during the 14th century. This was only possible because these were independent city states not ruled by a duke but a council of influential citizens. Italian companies were also the first to issue shares. Companies in England and the Low Countries followed in the 16th century.

The Dutch East India Company (founded in 1602) was the first joint-stock company to get a fixed capital stock and as a result, continuous trade in company stock occurred on the Amsterdam Exchange. Soon thereafter, a lively trade in various derivatives, among which options and repos, emerged on the Amsterdam market. Dutch traders also pioneered short selling – a practice which was banned by the Dutch authorities as early as 1610.
There are now stock markets in virtually every developed and most developing economies, with the world's largest markets being in the United States, United Kingdom, Japan, India, Pakistan, China, Canada, Germany (Frankfurt Stock Exchange), France, South Korea and the Netherlands.

3.13.6. Importance of stock market

The importance of stock market are as follows

3.13.6.1. Function and Purpose

The stock market is one of the most important ways for companies to raise money, along with debt markets which are generally more imposing but do not trade publicly. This allows businesses to be publicly traded, and raise additional financial capital for expansion by selling shares of ownership of the company in a public market. The liquidity that an exchange affords the investors enables their holders to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as property and other immovable assets. Some companies actively increase liquidity by trading in their own shares.
History has shown that the price of stocks and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. An economy where the stock market is on the rise is considered to be an up-and-coming economy. In fact, the stock market is often considered the primary indicator of a country's economic strength and development.

Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and, in general, on the smooth operation of financial system functions. Financial stability is the raison d'être of central banks.

Exchanges also act as the clearinghouse for each transaction, meaning that they collect and deliver the shares, and guarantee payment to the seller of a security. This eliminates the risk to an individual buyer or seller that the counterparty could default on the transaction.

The smooth functioning of all these activities facilitates economic growth in that lower costs and enterprise risks promote the production of goods and services as well as possibly employment. In this way the financial system is assumed to contribute to increased prosperity, although some
controversy exists as to whether the optimal financial system is bank-based or market-based.

Recent events such as the Global Financial Crisis have prompted a heightened degree of scrutiny of the impact of the structure of stock markets (called market microstructure), in particular to the stability of the financial system and the transmission of systemic risk.

3.13.6.2. Relation of the stock market to the modern financial system

The financial system in most western countries has undergone a remarkable transformation. One feature of this development is disintermediation. A portion of the funds involved in saving and financing, flows directly to the financial markets instead of being routed via the traditional bank lending and deposit operations. The general public interest in investing in the stock market, either directly or through mutual funds, has been an important component of this process.

Statistics show that in recent decades, shares have made up an increasingly large proportion of households' financial assets in many countries. In the 1970s, in Sweden, deposit accounts and other very liquid assets with little risk made up almost 60 percent of households' financial wealth, compared to less than 20 percent in the 2000s. The major part of this adjustment is that financial portfolios have gone directly to shares but a good deal now takes the form of various kinds of institutional investment for
groups of individuals namely pension funds, mutual funds, hedge funds, insurance investment of premiums, and the like.

The trend towards forms of saving with a higher risk has been accentuated by new rules for most funds and insurance, permitting a higher proportion of shares to bonds. Similar tendencies are to be found in other developed countries. In all developed economic systems, such as the European Union, the United States, Japan and other developed nations, the trend has been the same: saving has moved away from traditional (government insured) "bank deposits to more risky securities of one sort or another". A second transformation is the move to electronic trading to replace human trading of listed securities.

3.13.6.3. Behavior of the stock market

From experience it is known that investors may 'temporarily' move financial prices away from their long term aggregate price 'trends'. Over-reactions may occur so that excessive optimism (euphoria) may drive prices unduly high or excessive pessimism may drive prices unduly low. Economists continue to debate whether financial markets are 'generally' efficient.

According to one interpretation of the efficient-market hypothesis (EMH), only changes in fundamental factors, such as the outlook for margins, profits or dividends, ought to affect share prices beyond the
short term, where random 'noise' in the system may prevail. (But this largely theoretic academic viewpoint—known as 'hard' EMH—also predicts that little or no trading should take place, contrary to fact, since prices are already at or near equilibrium, having priced in all public knowledge.) The 'hard' efficient-market hypothesis is sorely tested and does not explain the cause of events such as the crash in 1987, when the Dow Jones Industrial Average plummeted 22.6 percent the largest-ever one-day fall in the United States.

This event demonstrated that share prices can fall dramatically even though, to this day, it is impossible to fix a generally agreed upon definite cause: a thorough search failed to detect any 'reasonable' development that might have accounted for the crash. (But note that such events are predicted to occur strictly by chance, although very rarely.) It seems also to be the case more generally that many price movements (beyond that which are predicted to occur 'randomly') are not occasioned by new information; a study of the fifty largest one-day share price movements in the United States in the post-war period seems to confirm this.

A 'soft' EMH has emerged which does not require that prices remain at or near equilibrium, but only that market participants not be able to systematically profit from any momentary market 'inefficiencies'. Moreover, while EMH predicts that all price movement (in the absence of
change in fundamental information) is random (i.e., non-trending), many studies have shown a marked tendency for the stock market to trend over time periods of weeks or longer. Various explanations for such large and apparently non-random price movements have been promulgated. For instance, some research has shown that changes in estimated risk, and the use of certain strategies, such as stop-loss limits and value at risk limits, theoretically could cause financial markets to overreact. But the best explanation seems to be that the distribution of stock market prices is non-Gaussian (in which case EMH, in any of its current forms, would not be strictly applicable).

Other research has shown that psychological factors may result in exaggerated (statistically anomalous) stock price movements (contrary to EMH which assumes such behaviors 'cancel out'). Psychological research has demonstrated that people are predisposed to 'seeing' patterns, and often will perceive a pattern in what is, in fact, just noise. (Something like seeing familiar shapes in clouds or ink blots.) In the present context this means that a succession of good news items about a company may lead investors to overreact positively (unjustifiably driving the price up). A period of good returns also boosts the investors' self-confidence, reducing their (psychological) risk threshold.
Another phenomenon also from psychology that works against an objective assessment is group thinking. As social animals, it is not easy to stick to an opinion that differs markedly from that of a majority of the group. An example with which one may be familiar is the reluctance to enter a restaurant that is empty; people generally prefer to have their opinion validated by those of others in the group.

In one paper the authors draw an analogy with gambling. In normal times the market behaves like a game of roulette; the probabilities are known and largely independent of the investment decisions of the different players. In times of market stress, however, the game becomes more like poker (herding behavior takes over). The players now must give heavy weight to the psychology of other investors and how they are likely to react psychologically.

The stock market, as with any other business, is quite unforgiving of amateurs. Inexperienced investors rarely get the assistance and support they need. In the period running up to the 1987 crash, less than 1 percent of the analyst's recommendations had been to sell (and even during the 2000–2002 bear market, the average did not rise above 5%). In the run up to 2000, the media amplified the general euphoria, with reports of rapidly rising share prices and the notion that large sums of money could be quickly earned in the so-called new economy stock market. (And later amplified the gloom
which descended during the 2000–2002 bear market, so that by summer of 2002, predictions of a DOW average below 5000 were quite common.

On the other hand, Stock markets play an essential role in growing industries that ultimately affect the economy through transferring available funds from units that have excess funds (savings) to those who are suffering from funds deficit (borrowings) (Padhi and Naik, 2012). In other words, capital markets facilitate funds movement between the above-mentioned units. This process leads to the enhancement of available financial resources which in turn affects the economic growth positively. Moreover, both of economic and financial theories argue that stocks prices are affected by the performance of main macroeconomic variables, see Al-Majali and Al-Assaf (2014).

Many different academic researchers have stated companies with low P/E ratios and smaller sized companies have a tendency to outperform the market. Research carried out states mid-sized companies outperform large cap companies and smaller companies have even higher returns historically.

3.13.6.4. Irrational behavior

Sometimes, the market seems to react irrationally to economic or financial news, even if that news is likely to have no real effect on the fundamental value of securities itself. But, this may be more apparent than
real, since often such news has been anticipated, and a counter reaction may occur if the news is better (or worse) than expected. Therefore, the stock market may be swayed in either direction by press releases, rumors, euphoria and mass panic.

Over the short-term, stocks and other securities can be battered or buoyed by any number of fast market-changing events, making the stock market behavior difficult to predict. Emotions can drive prices up and down, people are generally not as rational as they think, and the reasons for buying and selling are generally obscure. Behaviorists argue that investors often behave 'irrationally' when making investment decisions thereby incorrectly pricing securities, which causes market inefficiencies, which, in turn, are opportunities to make money. However, the whole notion of EMH is that these non-rational reactions to information cancel out, leaving the prices of stocks rationally determined.

3.13.6.5. Crashes

A stock market crash is often defined as a sharp dip in share prices of stocks listed on the stock exchanges. In parallel with various economic factors, a reason for stock market crashes is also due to panic and investing public's loss of confidence. Often, stock market crashes end speculative economic bubbles.

There have been famous stock market crashes that have ended in the loss of billions of dollars and wealth destruction on a massive scale. An increasing number of people are involved in the stock market, especially since the social security and retirement plans are being increasingly privatized and linked to stocks and bonds and other elements of the market. There have been a number of famous stock market crashes like the Wall Street Crash of 1929, the stock market crash of 1973, the Black Monday of 1987, the Dot-com bubble of 2000, and the Stock Market Crash of 2008.

One of the most famous stock market crashes started October 24, 1929 on Black Thursday. The Dow Jones Industrial Average lost 50% during this stock market crash. It was the beginning of the Great Depression. Another famous crash took place on October 19, 1987 – Black Monday. The crash began in Hong Kong and quickly spread around the world.

By the end of October, stock markets in Hong Kong had fallen 45.5 per cent, Australia 41.8 per cent, Spain 31 per cent, the United Kingdom 26.4 per cent, the United States 22.68 per cent, and Canada 22.5 per cent. Black Monday itself was the largest one-day percentage decline in stock market history – the Dow Jones fell by 22.6 per cent in a day. The names "Black Monday" and "Black Tuesday" are also used for October 28–29, 1929, which followed Terrible Thursday—the starting day of the stock market crash in 1929.
The crash in 1987 raised some puzzles – main news and events did not predict the catastrophe and visible reasons for the collapse were not identified. This event raised questions about many important assumptions of modern economics, namely, the theory of rational human conduct, the theory of market equilibrium and the efficient-market hypothesis. For some time after the crash, trading in stock exchanges worldwide was halted, since the exchange computers did not perform well owing to enormous quantity of trades being received at one time. This halt in trading allowed the Federal Reserve System and central banks of other countries to take measures to control the spreading of worldwide financial crisis. In the United States the SEC introduced several new measures of control into the stock market in an attempt to prevent a re-occurrence of the events of Black Monday.

Since the early 1990s, many of the largest exchanges have adopted electronic 'matching engines' to bring together buyers and sellers, replacing the open outcry system. Electronic trading now accounts for the majority of trading in many developed countries. Computer systems were upgraded in the stock exchanges to handle larger trading volumes in a more accurate and controlled manner. The SEC modified the margin requirements in an attempt to lower the volatility of common stocks, stock options and the futures market. The New York Stock Exchange and the Chicago Mercantile Exchange introduced the concept of a circuit breaker. The circuit breaker
halts trading if the Dow declines a prescribed number of points for a prescribed amount of time. In February 2012, the Investment Industry Regulatory Organization of Canada (IIROC) introduced single-stock circuit breakers.

3.13.6.6. Stock Market Prediction

Tobias Preis and his colleagues Helen Susannah Moat and H.Eugene Stanley introduced a method to identify online precursors for stock market moves, using trading strategies based on search volume data provided by Google Trends. Their analysis of Google search volume for 98 terms of varying financial relevance, published in Scientific Reports, suggests that increases in search volume for financially relevant search terms tend to precede large losses in financial markets.15

3.13.6.7. Stock market index

The movements of the prices in a market or section of a market are captured in price indices called stock market indices, of which there are S&P, the FTSE and the Euronext indices. Such indices are usually market capitalization weighted, with the weights reflecting the contribution of the stock to the index. The constituents of the index are reviewed frequently to

include/exclude stocks in order to reflect the changing business environment.

3.13.6.8. Derivative Instruments

Financial innovation has brought many new financial instruments whose pay-offs or values depend on the prices of stocks. Some examples are exchange-traded funds (ETFs), stock index and stock options, equity swaps, single-stock futures, and stock index futures. These last two may be traded on futures exchanges (which are distinct from stock exchanges their history traces back to commodity futures exchanges), or traded over-the-counter. As all of these products are only derived from stocks, they are sometimes considered to be traded in a (hypothetical) derivatives market, rather than the (hypothetical) stock market.

3.13.6.9. Leveraged strategies

Stock that a trader does not actually own may be traded using short selling; margin buying may be used to purchase stock with borrowed funds; or, derivatives may be used to control large blocks of stocks for a much smaller amount of money than would be required by outright purchase or sales.
3.13.6.10. Short Selling

In short selling, the trader borrows stock (usually from his brokerage which holds its clients' shares or its own shares on account to lend to short sellers) then sells it on the market, betting that the price will fall. The trader eventually buys back the stock, making money if the price fell in the meantime and losing money if it rose. Exiting a short position by buying back the stock is called "covering." This strategy may also be used by unscrupulous traders in illiquid or thinly traded markets to artificially lower the price of a stock. Hence most markets either prevent short selling or place restrictions on when and how a short sale can occur. The practice of naked shorting is illegal in most (but not all) stock markets.

3.13.6.11. Margin Buying

In margin buying, the trader borrows money (at interest) to buy a stock and hopes for it to rise. Most industrialized countries have regulations that require that if the borrowing is based on collateral from other stocks the trader owns outright, it can be a maximum of a certain percentage of those other stocks' value. In the United States, the margin requirements have been 50% for many years (that is, if you want to make a $1000 investment, you need to put up $500, and there is often a maintenance margin below the $500).
Regulation of margin requirements (by the Federal Reserve) was implemented after the Crash of 1929. Before that, speculators typically only needed to put up as little as 10 percent (or even less) of the total investment represented by the stocks purchased. Other rules may include the prohibition of free-riding: putting in an order to buy stocks without paying initially (there is normally a three-day grace period for delivery of the stock), but then selling them (before the three-days are up) and using part of the proceeds to make the original payment (assuming that the value of the stocks has not declined in the interim).

3.13.6.12. New Issuance

Global issuance of equity and equity-related instruments totaled $505 billion in 2004, a 29.8 per cent increase over the $389 billion raised in 2003. Initial public offerings (IPOs) by US issuers increased 221 per cent with 233 offerings that raised $45 billion, and IPOs in Europe, Middle East and Africa (EMEA) increased by 333%, from $9 billion to $39 billion.\(^\text{16}\)

3.13.6.13. ASX Share Market Game

ASX Share Market Game is a platform for Australian school students and beginners to learn about trading stocks. The game is a free service hosted on ASX (Australian Securities Exchange) website. Each year

\(^{16}\) Mahipal Singh, Security Analysis with Investment and Portfolio Management, Gyan Publishing House, New Delhi, 2011, pp.507-521
more than 70,000 students enroll in the game. For vast majority, this is an introduction to Stock Market investing. Students once enrolled, are given $50,000 virtual money and can buy and sell up to 20 times a day. The game runs for 10 weeks. This ridiculously short time frame turns the game into a lottery, encouraging people to take huge risks with their virtual $50,000, breaking the laws of commonsense investing in the process. Many similar programs are found in secondary educational institutions across the world.


One of the many things people always want to know about the stock market is, "How do I make money investing?" There are many different approaches; two basic methods are classified by either fundamental analysis or technical analysis. Fundamental analysis refers to analyzing companies by their financial statements found in SEC filings, business trends, general economic conditions, etc. Technical analysis studies price actions in markets through the use of charts and quantitative techniques to attempt to forecast price trends regardless of the company's financial prospects. One example of a technical strategy is the Trend following method, used by John W. Henry and Ed Seykota, which uses price patterns,
utilizes strict money management and is also rooted in risk control and diversification.  

Additionally, many choose to invest via the index method. In this method, one holds a weighted or unweighted portfolio consisting of the entire stock market or some segment of the stock market (such as the S&P 500 or Wilshire 5000). The principal aim of this strategy is to maximize diversification, minimize taxes from too frequent trading, and ride the general trend of the stock market (which, in the U.S., has averaged nearly 10% per year, compounded annually, since World War II).

**3.13.6.15. Taxation**

According to much national or state legislation, a large array of fiscal obligations are taxed for capital gains. Taxes are charged by the state over the transactions, dividends and capital gains on the stock market, in particular in the stock exchanges. However, these fiscal obligations may vary from jurisdictions to jurisdictions because, among other reasons, it could be assumed that taxation is already incorporated into the stock price through the different taxes companies pay to the state, or that tax free stock market operations are useful to boost economic growth.

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3.14. **Overview of Global Stock Market**

Stock market indices may be classed in many ways. A 'world' or 'global' stock market index includes (typically large) companies without regard for where they are domiciled or traded. Two examples are MSCI World and S&P Global 100. A 'national' index represents the performance of the stock market of a given nation—and by proxy, reflects investor sentiment on the state of its economy. The most regularly quoted market indices are national indices composed of the stocks of large companies listed on a nation's largest stock exchanges, such as the American S&P 500, the Japanese Nikkei 225, and the British FTSE 100.

Other indices may be regional, such as the FTSE Developed Europe Index or the FTSE Developed Asia Pacific Index. Indexes may be based on exchange, such as the NASDAQ-100 or NYSE US 100, or groups of exchanges, such as the Euronext 100 or OMX Nordic 40. The concept may be extended well beyond an exchange. The Wilshire 5000 Index, the original total market index, represents the stocks of nearly every publicly traded company in the United States, including all U.S. stocks traded on the New York Stock Exchange (but not ADRs or limited partnerships), NASDAQ and American Stock Exchange. Russell Investment Group added to the family of indices by launching the Russel Global Index.

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18 https://en.wikipedia.org/wiki/Stock_market_index
More specialized indices exist tracking the performance of specific sectors of the market. Some examples include the Wilshire US REIT which tracks more than 80 American real estate investment trusts and the Morgan Stanley Biotech Index which consists of 36 American firms in the biotechnology industry. Other indices may track companies of a certain size, a certain type of management, or even more specialized criteria — one index published by Linux Weekly News tracks stocks of companies that sell products and services based on the Linux operating environment. On the other hand, Stock markets play an essential role in growing industries that ultimately affect the economy through transferring available funds from units that have excess funds (savings) to those who are suffering from funds deficit (borrowings) (Padhi and Naik, 2012). In other words, capital markets facilitate funds movement between the above-mentioned units. This process leads to the enhancement of available financial resources which in turn affects the economic growth positively. Moreover, both of economic and financial theories argue that stocks’ prices are affected by the performance of main macroeconomic variables, see Al-Majali and Al-Assaf (2014)


Following are the different stock indices in the world stock exchanges.
a. Global

i. BBC Global 30

ii. FTSE/Mondo Visione Exchanges Index

iii. MSCI World

iv. S&P Global 100

v. S&P Global 1200

vi. Russell Global Launched 17/01/07

vii. The Global Dow - Global version of the Dow Jones Industrial Average

viii. Dow Jones Global Titans 50

ix. Dow Jones Global Total Stock Market Index

x. Regional indices

xi. MSCI EAFE (Europe, Australasia, and Far East)

b. Asia

i. S&P Asia 50

ii. Dow Jones Asian Titans 50 Index

iii. Dow Jones Asia/Pacific Small-Cap Total Stock Market Index (DWAPS)
c. India

i. Bombay Stock Exchange (BSE) - Sensex

ii. National Stock Exchange of India (NSE) - Nifty

iii. MCX Stock Exchange [MCX - SX]

3.14.2. Equity indices based on products

Equity indices based on products are presented below:

i. Amex Oil Index (companies nationality: international)

ii. Alternative Energy Index (companies nationality: international)

iii. Philadelphia Oil Service Index (Oilfield Services companies nationality: international)

iv. Dow Jones U.S. Oil & Gas Index

v. AMEX Computer Hardware Index

vi. AMEX CSFB Technology Index

vii. AMEX Disk Drive Index

viii. AMEX Morgan Stanley High Tech Index

ix. AMEX Semiconductor Index

x. CBOE GSTI Composite Index

xi. Copenhagen SE Software and Computers
xii. Copenhagen SE Technology and Hardware

xiii. Dow Jones Internet Composite Index

xiv. Dow Jones Internet Commerce Index

xv. Dow Jones Internet Services Index

xvi. Dow Jones Technology Titans 30 Index

xvii. FTSE TECHMARK 100

xviii. Germany CDAX Software Return Index

xix. Germany CDAX Technology Return Index

xx. GICS Information Technology

xxi. Hang Seng Composite Information Technology

xxii. Iceland Information Technology Index

xxiii. Ireland ISEQ Information Technology Price Index

xxiv. Ireland ISEQ Information Technology Return Index

xxv. Kuala Lumpur SE Technology Index

xxvi. Mumbai BSE TECk Index

xxvii. Nasdaq Computer Index

xxviii. NASDAQ-100 Technology Sector Index

xxix. OMX Helsinki Information Technology Price Index

xxx. Oslo SE Information Technology
xxxiii. PHLX Semiconductor Sector (companies nationality: international)

xxxiv. PSE Technology Index

xxxv. S&P Global 1200 Information Technology Index

xxxvi. S&P/TSX Capped Information Technology Index

xxxvii. Stockholm SX Information Technology Price Index

xxxviii. Stockholm SX Software and Computer Services PI

xxxix. Stockholm SX Technology Hardware and Equipment PI

xl. Sweden Affarsvarlden Hardware and Retail Distrib.

xli. Sweden Affarsvarlden Software

xlil. TecDax Price Index

xliii. Tel Aviv Technology Index

xliv. The Cleantech Index (Amex:CTIUS), The Index of Leading Clean Technology Companies

xlv. ACT Australian Cleantech Index the index of cleantech companies listed on the Australian Stock Exchange managed by ACT Consulting
The DB Nasdaq OMX(R) Clean Tech Index (DBCC), a global cleantech stock index jointly managed by Deutsche Bank and Nasdaq

Solactive Green Bond Index

PHLX / KBW Bank Index (BXX) (companies nationality: USA)

Dow Jones U.S. Financials Index

Solactive Guru Index (following US Hedge Funds)

Dow Jones U.S. Basic Materials Index

Amex Gold BUGS Index (companies nationality: USA, Canada)

Philadelphia Gold and Silver Index

Dow Jones U.S. Technology Index

Solactive 3D Printing Index

Solactive Social Media Index

CBV Real Estate Index

Dow Jones U.S. Select REIT Index

Dow Jones U.S. Select Real Estate Securities Index

Dow Jones Global Select REIT Index

Dow Jones Global Select Real Estate Securities Index
lxii. Wilshire US REIT (United States real estate investment trusts)

lxiii. Wilshire US RESI (United States real estate investment trusts and Real Estate Operating Companies)

lxiv. Wilshire Global REIT (Global real estate investment trusts)

lxv. Wilshire Global RESI (Global real estate investment trusts and Real Estate Operating Companies)

lxvi. Wilshire Global REIT ex US (Non-US real estate investment trusts)

lxvii. Wilshire Global RESI ex US (Non-US real estate investment trusts and Real Estate Operating Companies)

lxviii. Space Foundation Index (SFI)

lxix. Palisades Water Index (ZWI)

Those futures exchanges that also offer trading in securities besides trading in futures contracts are listed both here and at the list of futures exchanges. Table 3.6 shows the details of top 20 Major stock exchanges by market capitalization as of 31 January 2015.
### Table 3.6

**Top 20 Major Stock Exchanges by Market Capitalization as of 31 January 2015**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Exchange</th>
<th>Economy</th>
<th>Headquarters</th>
<th>Market capitalization (USD bn)</th>
<th>Monthly trade volume (USD bn)</th>
<th>Open (local)</th>
<th>Close (local)</th>
<th>Lunch (local)</th>
<th>Open (UTC)</th>
<th>Close (UTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York Stock Exchange</td>
<td>United States</td>
<td>New York</td>
<td>19,223</td>
<td>1,520</td>
<td>09:30</td>
<td>16:00</td>
<td>No</td>
<td>14:30</td>
<td>21:00</td>
</tr>
<tr>
<td>2</td>
<td>NASDAQ</td>
<td>United States</td>
<td>New York</td>
<td>6,831</td>
<td>1,183</td>
<td>09:30</td>
<td>16:00</td>
<td>No</td>
<td>14:30</td>
<td>21:00</td>
</tr>
<tr>
<td>3</td>
<td>London Stock Exchange Group</td>
<td>United Kingdom Italy</td>
<td>London</td>
<td>6,187</td>
<td>165</td>
<td>08:00</td>
<td>16:30</td>
<td>No</td>
<td>08:00</td>
<td>16:30</td>
</tr>
<tr>
<td>4</td>
<td>Japan Exchange Group – Tokyo</td>
<td>Japan</td>
<td>Tokyo</td>
<td>4,485</td>
<td>402</td>
<td>09:00</td>
<td>15:00</td>
<td>11:30–12:30</td>
<td>00:00</td>
<td>06:00</td>
</tr>
<tr>
<td>5</td>
<td>Shanghai Stock Exchange</td>
<td>China</td>
<td>Shanghai</td>
<td>3,986</td>
<td>1,278</td>
<td>09:30</td>
<td>15:00</td>
<td>11:30–13:00</td>
<td>01:30</td>
<td>07:00</td>
</tr>
<tr>
<td>6</td>
<td>Hong Kong Stock Exchange</td>
<td>Hong Kong</td>
<td>Hong Kong</td>
<td>3,325</td>
<td>155</td>
<td>09:15</td>
<td>16:00</td>
<td>12:00–13:00</td>
<td>01:15</td>
<td>08:00</td>
</tr>
<tr>
<td>7</td>
<td>Euronext</td>
<td>European Union</td>
<td>Amsterdam Brussels Lisbon Paris</td>
<td>3,321</td>
<td>184</td>
<td>09:00</td>
<td>17:30</td>
<td>No</td>
<td>08:00</td>
<td>16:30</td>
</tr>
<tr>
<td>Rank</td>
<td>Exchange</td>
<td>Economy</td>
<td>Headquarters</td>
<td>Market capitalization (USD bn)</td>
<td>Monthly trade volume (USD bn)</td>
<td>Open (local)</td>
<td>Close (local)</td>
<td>Lunch (local)</td>
<td>Open (UTC)</td>
<td>Close (UTC)</td>
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</tr>
<tr>
<td>8</td>
<td>Shenzhen Stock Exchange</td>
<td>China</td>
<td>Shenzhen</td>
<td>2,285</td>
<td>800</td>
<td>09:30</td>
<td>15:00</td>
<td>11:30–13:00</td>
<td>01:30</td>
<td>07:00</td>
</tr>
<tr>
<td>9</td>
<td>TMX Group</td>
<td>Canada</td>
<td>Toronto</td>
<td>1,939</td>
<td>120</td>
<td>09:30</td>
<td>16:00</td>
<td>No</td>
<td>14:30</td>
<td>21:00</td>
</tr>
<tr>
<td>10</td>
<td>Deutsche Börse</td>
<td>Germany</td>
<td>Frankfurt</td>
<td>1,762</td>
<td>142</td>
<td>08:00 (Eurex)</td>
<td>22:00 (Eurex)</td>
<td>No</td>
<td>07:00</td>
<td>21:00</td>
</tr>
<tr>
<td>11</td>
<td>Bombay Stock Exchange</td>
<td>India</td>
<td>Mumbai</td>
<td>1,682</td>
<td>11.8</td>
<td>09:15</td>
<td>15:30</td>
<td>No</td>
<td>03:45</td>
<td>10:00</td>
</tr>
<tr>
<td>12</td>
<td>National Stock Exchange of India</td>
<td>India</td>
<td>Mumbai</td>
<td>1,642</td>
<td>62.2</td>
<td>09:15</td>
<td>15:30</td>
<td>No</td>
<td>03:45</td>
<td>10:00</td>
</tr>
<tr>
<td>13</td>
<td>SIX Swiss Exchange</td>
<td>Switzerland</td>
<td>Zurich</td>
<td>1,516</td>
<td>126</td>
<td>09:00</td>
<td>17:30</td>
<td>No</td>
<td>08:00</td>
<td>16:30</td>
</tr>
<tr>
<td>14</td>
<td>Australian Securities Exchange</td>
<td>Australia</td>
<td>Sydney</td>
<td>1,272</td>
<td>55.8</td>
<td>09:50</td>
<td>16:12</td>
<td>No</td>
<td>23:50</td>
<td>06:12</td>
</tr>
<tr>
<td>15</td>
<td>Korea Exchange</td>
<td>South Korea</td>
<td>Seoul</td>
<td>1,251</td>
<td>136</td>
<td>09:00</td>
<td>15:00</td>
<td>No</td>
<td>00:00</td>
<td>06:00</td>
</tr>
<tr>
<td>16</td>
<td>OMX Nordic Exchange</td>
<td>Northern Europe, Armenia</td>
<td>Stockholm</td>
<td>1,212</td>
<td>63.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rank</td>
<td>Exchange</td>
<td>Economy</td>
<td>Headquarters</td>
<td>Market capitalization (USD bn)</td>
<td>Monthly trade volume (USD bn)</td>
<td>Open (local)</td>
<td>Close (local)</td>
<td>Lunch (local)</td>
<td>Open (UTC)</td>
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</tr>
<tr>
<td>17</td>
<td>JSE Limited</td>
<td>South Africa</td>
<td>Johannesburg</td>
<td>951</td>
<td>27.6</td>
<td>09:00</td>
<td>17:00</td>
<td>No</td>
<td>07:00</td>
<td>15:00</td>
</tr>
<tr>
<td>18</td>
<td>BME Spanish Exchanges</td>
<td>Spain</td>
<td>Madrid</td>
<td>942</td>
<td>94.0</td>
<td>09:00</td>
<td>17:30</td>
<td>No</td>
<td>08:00</td>
<td>16:30</td>
</tr>
<tr>
<td>19</td>
<td>Taiwan Stock Exchange</td>
<td>Taiwan</td>
<td>Taipei</td>
<td>861</td>
<td>54.3</td>
<td>09:00</td>
<td>13:30</td>
<td>No</td>
<td>01:00</td>
<td>05:30</td>
</tr>
<tr>
<td>20</td>
<td>BM&amp;F Bovespa</td>
<td>Brazil</td>
<td>São Paulo</td>
<td>824</td>
<td>51.1</td>
<td>10:00</td>
<td>17:30</td>
<td>No</td>
<td>13:00</td>
<td>20:00</td>
</tr>
</tbody>
</table>

It is clear from Table 3.6 that the New York Stock Exchange, United States has holding maximum capitalization (USD 19,223 billion) as of January 2015 followed by NASDAQ, United States holding (USD 6,831 billion).

3.15. Commodity Exchanges in the World

The details of commodity exchanges in the world are presented below

a. In the World

i. Chicago Board of Trade

ii. Chicago Mercantile Exchange

iii. Hong Kong Mercantile Exchange

iv. Kansas City Board of Trade

v. London International Financial Futures and Options Exchange

vi. London Metal Exchange

vii. New York Mercantile Exchange

viii. Tokyo Commodity Exchange

b. In India

i. Multi Commodity Exchange of India Limited (MCX)

ii. National Commodity & Derivatives Exchange Limited (NCDEX)
iii. Indian National Multi-Commodity Exchange (NMCE)

iv. Commodity Exchange Limited ICEX.

3.16. Origin and Growth of Indian Stock Market\(^{19}\)

Mark Twain once divided the world into two kinds of people: those who have seen the famous Indian monument, the Taj Mahal, and those who haven't. The same could be said about investors. There are two kinds of investors: those who know about the investment opportunities in India and those who don't. India may look like a small dot to someone in the U.S., but upon closer inspection, you will find the same things you would expect from any promising market. Here we'll provide an overview of the Indian stock market and how interested investors can gain exposure.

3.17. Major Investment Industries in Indian Stock Market\(^{20}\)

The following are the major investment industries in Indian Stock Market.


3.17.1. The Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE)

Most of the trading in the Indian stock market takes place on its two stock exchanges: the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). The BSE has been in existence since 1875. The NSE, on the other hand, was founded in 1992 and started trading in 1994. However, both exchanges follow the same trading mechanism, trading hours, settlement process, etc. At the last count, the BSE had about 4,700 listed firms, whereas the rival NSE had about 1,200. Out of all the listed firms on the BSE, only about 500 firms constitute more than 90% of its market capitalization; the rest of the crowd consists of highly illiquid shares.

Almost all the significant firms of India are listed on both the exchanges. NSE enjoys a dominant share in spot trading, with about 70% of the market share, as of 2009, and almost a complete monopoly in derivatives trading, with about a 98% share in this market, also as of 2009. Both exchanges compete for the order flow that leads to reduced costs, market efficiency and innovation. The presence of arbitrageurs keeps the prices on the two stock exchanges within a very tight range.
3.17.2. Trading Mechanism

Trading at both the exchanges takes place through an open electronic limit order book, in which order matching is done by the trading computer. There are no market makers or specialists and the entire process is order-driven, which means that market orders placed by investors are automatically matched with the best limit orders. As a result, buyers and sellers remain anonymous. The advantage of an order driven market is that it brings more transparency, by displaying all buy and sell orders in the trading system. However, in the absence of market makers, there is no guarantee that orders will be executed.

All orders in the trading system need to be placed through brokers, many of which provide online trading facility to retail customers. Institutional investors can also take advantage of the direct market access (DMA) option, in which they use trading terminals provided by brokers for placing orders directly into the stock market trading system.

3.17.3. Settlement Cycle and Trading Hours

Equity spot markets follow a T+2 rolling settlement. This means that any trade taking place on Monday, gets settled by Wednesday. All trading on stock exchanges takes place between 9:55 am and 3:30 pm, Indian Standard
Time (+ 5.5 hours GMT), Monday through Friday. Delivery of shares must be made in dematerialized form, and each exchange has its own clearing house, which assumes all settlement risk, by serving as a central counterparty.

3.17.4. Market Indexes

The two prominent Indian market indexes are Sensex and Nifty. Sensex is the oldest market index for equities; it includes shares of 30 firms listed on the BSE, which represent about 45% of the index's free-float market capitalization. It was created in 1986 and provides time series data from April 1979, onward. Another index is the S&P CNX Nifty; it includes 50 shares listed on the NSE, which represent about 62% of its free-float market capitalization. It was created in 1996 and provides time series data from July 1990, onward.

3.17.5. Market Regulation

The overall responsibility of development, regulation and supervision of the stock market rests with the Securities & Exchange Board of India (SEBI), which was formed in 1992 as an independent authority. Since then, SEBI has consistently tried to lay down market rules in line with the best market
practices. It enjoys vast powers of imposing penalties on market participants, in case of a breach.\textsuperscript{21}

3.18. **Profile of Bombay Stock Exchange (BSE)\textsuperscript{22}**

Bombay Stock Exchange has established in the year 1875. It is Asia's first and fastest Stock Exchange with the speed of 200 micro seconds and one of India's leading exchange groups. Over the past 140 years, BSE has facilitated the growth of the Indian corporate sector by providing it an efficient capital-raising platform. Popularly known as BSE, the bourse was established as "The Native Share & Stock Brokers' Association" in 1875. BSE is a corporatized and demutualised entity, with a broad shareholder-base which includes two leading global exchanges, Deutsche Bourse and Singapore Exchange as strategic partners. BSE provides an efficient and transparent market for trading in equity, debt instruments, derivatives, mutual funds. It also has a platform for trading in equities of small-and-medium enterprises (SME).

More than 5500 companies are listed on BSE making it world's No.1 exchange in terms of listed members. The companies listed on BSE command a total market capitalization of USD 1.68 Trillion as of March 2015. It is also one

\begin{itemize}
  \item \textsuperscript{21} http://www.sebi.gov.in/
  \item \textsuperscript{22} http://www.bseindia.com/#about
\end{itemize}
of the world's leading exchanges (5th largest in March 2015) for Index options trading (Source: World Federation of Exchanges). BSE also provides a host of other services to capital market participants including risk management, clearing, settlement, market data services and education. It has a global reach with customers around the world and a nation-wide presence. BSE systems and processes are designed to safeguard market integrity, drive the growth of the Indian capital market and stimulate innovation and competition across all market segments. BSE is the first exchange in India and second in the world to obtain an ISO 9001:2000 certification. It is also the first Exchange in the country and second in the world to receive Information Security Management System Standard BS 7799-2-2002 certification for its On-Line trading System (BOLT). It operates one of the most respected capital market educational institutes in the country (the BSE Institute Ltd.). BSE also provides depository services through its Central Depository Services Ltd. (CDSL) arm.

Bombay Stock Exchange's popular equity index - the S&P BSE SENSEX - is India's most widely tracked stock market benchmark index. It is traded internationally on the EUREX as well as leading exchanges of the BRICS nations (Brazil, Russia, China and South Africa). BSE has won several awards and recognitions that acknowledge the work done and progress made like India Innovation Award for the Big Data implementation, ICICI Lombard & ET
Now Risk Management BFSI Company 2013, SKOCH Order of Merit Certificate was awarded to BSE for E-Boss for qualifying amongst India's Best 2013, The Golden Peacock Global CSR Award for its initiatives in Corporate Social Responsibility, NASSCOM - CNBC-TV18's IT User Awards, 2010 in Financial Services category, Skoch Virtual Corporation 2010 Award in the BSE StAR MF category and Responsibility Award (CSR) by the World Council of Corporate Governance. Its recent milestones include the launching of BRICSMART indices derivatives, BSE-SME Exchange platform, S&P BSE GREENEX to promote investments in Green India.

3.18.1. History of Bombay Stock Exchange23

The Bombay Stock Exchange is the oldest exchange in Asia. It traces its history to 1855, when four Gujarati and one Parsi stockbroker would gather under banyan trees in front of Mumbai’s Town Hall. The location of these meetings changed many times as the number of brokers constantly increased. The group eventually moved to Dalal Street in 1874 and in 1875 became an official organization known as "The Native Share & Stock Brokers Association". On 31 August 1957, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act. In 1980, the exchange moved to the Phiroze Jeejeebhoy

23 https://en.wikipedia.org/wiki/Bombay_Stock_Exchange
Towers at Dalal Street, Fort area. In 1986, it developed the BSE SENSEX index, giving the BSE a means to measure overall performance of the exchange. In 2000, the BSE used this index to open its derivatives market, trading SENSEX futures contracts. The development of SENSEX options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform.

Historically an open outcry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system developed by CMC Ltd in 1995. It took the exchange only fifty days to make this transition. This automated, screen-based trading platform called BSE On-line trading (BOLT) had a capacity of 8 million orders per day. The BSE has also introduced a centralized exchange-based internet trading system, BSEWEBx.co.in to enable investors anywhere in the world to trade on the BSE platform. The BSE is also a Partner Exchange of the United Nations Sustainable Stock Exchange initiative, joining in September 2012. Table 3.7 shows the details of Sensex Index of Bombay Stock Exchange in India from 1979 to 2015.
Table 3.7

Sensex Index of Bombay Stock Exchange in India from 1979 to 2015

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Year</th>
<th>Open</th>
<th>High</th>
<th>Low</th>
<th>Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1979</td>
<td></td>
<td></td>
<td></td>
<td>118.76</td>
</tr>
<tr>
<td>2.</td>
<td>1980</td>
<td></td>
<td></td>
<td></td>
<td>148.25</td>
</tr>
<tr>
<td>3.</td>
<td>1981</td>
<td></td>
<td></td>
<td></td>
<td>227.72</td>
</tr>
<tr>
<td>4.</td>
<td>1982</td>
<td></td>
<td></td>
<td></td>
<td>235.83</td>
</tr>
<tr>
<td>5.</td>
<td>1983</td>
<td></td>
<td></td>
<td></td>
<td>252.92</td>
</tr>
<tr>
<td>6.</td>
<td>1984</td>
<td></td>
<td></td>
<td></td>
<td>271.87</td>
</tr>
<tr>
<td>7.</td>
<td>1985</td>
<td></td>
<td></td>
<td></td>
<td>527.36</td>
</tr>
<tr>
<td>8.</td>
<td>1986</td>
<td></td>
<td></td>
<td></td>
<td>524.45</td>
</tr>
<tr>
<td>9.</td>
<td>1987</td>
<td></td>
<td></td>
<td></td>
<td>442.17</td>
</tr>
<tr>
<td>10.</td>
<td>1988</td>
<td></td>
<td></td>
<td></td>
<td>666.26</td>
</tr>
<tr>
<td>11.</td>
<td>1989</td>
<td></td>
<td></td>
<td></td>
<td>778.64</td>
</tr>
<tr>
<td>12.</td>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td>1048.29</td>
</tr>
<tr>
<td>13.</td>
<td>1991</td>
<td>1027.38</td>
<td>1955.29</td>
<td></td>
<td>1908.85</td>
</tr>
<tr>
<td>14.</td>
<td>1992</td>
<td></td>
<td>4546.58</td>
<td></td>
<td>2615.37</td>
</tr>
<tr>
<td>15.</td>
<td>1993</td>
<td>2617.78</td>
<td>3459.07</td>
<td></td>
<td>3346.06</td>
</tr>
<tr>
<td>16.</td>
<td>1994</td>
<td>3436.87</td>
<td>4643.31</td>
<td></td>
<td>3926.9</td>
</tr>
<tr>
<td>17.</td>
<td>1995</td>
<td>3910.16</td>
<td>3943.66</td>
<td></td>
<td>3110.49</td>
</tr>
<tr>
<td>18.</td>
<td>1996</td>
<td>3114.08</td>
<td>4131.22</td>
<td>2713.12</td>
<td>3085.2</td>
</tr>
<tr>
<td>19.</td>
<td>1997</td>
<td>3096.65</td>
<td>4605.41</td>
<td>3096.65</td>
<td>3658.98</td>
</tr>
<tr>
<td>20.</td>
<td>1998</td>
<td>3658.34</td>
<td>4322</td>
<td>2741.22</td>
<td>3055.41</td>
</tr>
<tr>
<td>21.</td>
<td>1999</td>
<td>3064.95</td>
<td>5150.99</td>
<td>3042.25</td>
<td>5005.82</td>
</tr>
<tr>
<td>22.</td>
<td>2000</td>
<td>5209.54</td>
<td>6150.69</td>
<td>3491.55</td>
<td>3972.12</td>
</tr>
<tr>
<td>23.</td>
<td>2001</td>
<td>3990.65</td>
<td>4462.11</td>
<td>2594.87</td>
<td>3262.33</td>
</tr>
<tr>
<td>24.</td>
<td>2002</td>
<td>3262.01</td>
<td>3758.27</td>
<td>2828.48</td>
<td>3377.28</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Year</td>
<td>Open</td>
<td>High</td>
<td>Low</td>
<td>Close</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>25.</td>
<td>2003</td>
<td>3383.85</td>
<td>5920.76</td>
<td>2904.44</td>
<td>5838.96</td>
</tr>
<tr>
<td>26.</td>
<td>2004</td>
<td>5872.48</td>
<td>6617.15</td>
<td>4227.5</td>
<td>6602.69</td>
</tr>
<tr>
<td>27.</td>
<td>2005</td>
<td>6626.49</td>
<td>9442.98</td>
<td>6069.33</td>
<td>9397.93</td>
</tr>
<tr>
<td>28.</td>
<td>2006</td>
<td>9422.49</td>
<td>14035.3</td>
<td>8799.01</td>
<td>13786.91</td>
</tr>
<tr>
<td>29.</td>
<td>2007</td>
<td>13827.77</td>
<td>20498.11</td>
<td>12316.1</td>
<td>20286.99</td>
</tr>
<tr>
<td>30.</td>
<td>2008</td>
<td>20325.27</td>
<td>21206.77</td>
<td>7697.39</td>
<td>9647.31</td>
</tr>
<tr>
<td>31.</td>
<td>2009</td>
<td>9720.55</td>
<td>17530.94</td>
<td>8047.17</td>
<td>17464.81</td>
</tr>
<tr>
<td>32.</td>
<td>2010</td>
<td>17473.45</td>
<td>21108.64</td>
<td>15651.99</td>
<td>20509.09</td>
</tr>
<tr>
<td>33.</td>
<td>2011</td>
<td>20621.61</td>
<td>20664.8</td>
<td>15135.86</td>
<td>15454.92</td>
</tr>
<tr>
<td>34.</td>
<td>2012</td>
<td>15534.67</td>
<td>19612.18</td>
<td>15358.02</td>
<td>19426.71</td>
</tr>
<tr>
<td>35.</td>
<td>2013</td>
<td>19513.45</td>
<td>21483.74</td>
<td>17448.71</td>
<td>21170.68</td>
</tr>
<tr>
<td>36.</td>
<td>2014</td>
<td>21222.19</td>
<td>28822.37</td>
<td>19963.12</td>
<td>27499.42</td>
</tr>
<tr>
<td>37.</td>
<td>2015</td>
<td>27485.77</td>
<td>30024.74</td>
<td>24833.54</td>
<td>27079.51</td>
</tr>
</tbody>
</table>


It is clear from Table 3.7 that the highest Index of Bombay Stock Exchange is 27499.42 during the year 2014 and followed by 27079.51 in the year 2015. Table 3.8 shows the details of Sector Wise Market Capitalization of Bombay Stock Exchange as on 27th October 2015.
### Table 3.8

**Sector Wise Market Capitalization of Bombay Stock Exchange as on 27th October 2015.**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>SENSEX/Sectors</th>
<th>Free Float Market Capitalisation (In %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>S&amp;P BSE SENSEX</td>
<td>100</td>
</tr>
<tr>
<td>2.</td>
<td>Finance</td>
<td>31.12</td>
</tr>
<tr>
<td>3.</td>
<td>Information Technology</td>
<td>16.44</td>
</tr>
<tr>
<td>4.</td>
<td>FMCG</td>
<td>10.71</td>
</tr>
<tr>
<td>5.</td>
<td>Transport Equipment</td>
<td>10.70</td>
</tr>
<tr>
<td>6.</td>
<td>Healthcare</td>
<td>9.67</td>
</tr>
<tr>
<td>7.</td>
<td>Oil &amp; Gas</td>
<td>8.93</td>
</tr>
<tr>
<td>8.</td>
<td>Capital Goods</td>
<td>5.89</td>
</tr>
<tr>
<td>9.</td>
<td>Metal, Metal Products and Mining</td>
<td>3.36</td>
</tr>
<tr>
<td>10.</td>
<td>Telecom</td>
<td>2.05</td>
</tr>
<tr>
<td>11.</td>
<td>Power</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Source: [http://www.bseindia.com](http://www.bseindia.com)

It is clear from Table 3.8 that S & P BSE Sensex having 100 per cent of the Free Float Market Capitalization of BSE as on 27th October 2015 and followed by Finance Sector having 31.12 per cent.

### 3.18.2. Vision Statement of Bombay Stock Exchange

"Emerge as the premier Indian stock exchange with best-in-class global practice in technology, products innovation and customer service."
3.18.3. Corporate Social Responsibility (CSR) in BSE

Corporate Social Responsibility (CSR) in BSE is aligned with its tradition of creating wealth in the community with a three pronged focus on Education, Health and the Environment. Besides funding charitable causes for the elderly and the physically challenged, BSE has been supporting the rehabilitation and restoration efforts in earthquake-hit communities of Gujarat. BSE has been awarded the Golden Peacock Global - CSR Award for its initiatives in Corporate Social Responsibility (CSR) by the World Council of Corporate Governance. Table 3.9 shows the details of Trading Highlights of BSE as on 12th October 2015.
### Table 3.9

Trading Highlights As on 12<sup>th</sup> October 2015

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Traded</th>
<th>Rolling (Groups)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>No. Of Securities</td>
<td>3,019</td>
</tr>
<tr>
<td>2</td>
<td>No. of Trades</td>
<td>14,30,015</td>
</tr>
<tr>
<td>3</td>
<td>Total No. of Shares (Cr.)</td>
<td>26.65</td>
</tr>
<tr>
<td>4</td>
<td>Total Turnover (₹ Cr.)</td>
<td>2,390.13</td>
</tr>
<tr>
<td>5</td>
<td>% of Total Turnover</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Average Daily Turnover (₹ Cr.)</td>
<td>3,490.72</td>
</tr>
</tbody>
</table>

Source: [http://www.bseindia.com/#about](http://www.bseindia.com/#about)
It is clear from Table 3.9 that BSE Trade 3019 securities and holding 26.65 crore shares as on 12th October 2015.

Market statistics of BSE as on 12th October 2015

- Market Capitalization of BSE Listed Co. (Rs.Cr.) 98,92,483
- Registered Investors 2,90,11,364
- Median Response Time (µS) 6
- No. of Companies Traded 2,869
- Advances 1,309
- Declines 1,442
- Unchanged 118
- Total No. of Orders 29,02,06,734
- Equity Orders 27,18,25,958
- Equity Derivatives Orders 1,13,23,361
- Currency and Interest Rate Orders 70,57,415

Listing Statistics of BSE

- No of Cos with Listed Equity Capital 5440
- No of Cos with Listed Equity Capital - Suspended 1564
- No of Cos with Listed Equity Capital - Available For Trade 3876
- No of Equity Cos Permitted to Trade 83
- No of Equity Cos Permitted to Trade - Suspended 12

The National Stock Exchange (NSE) is India's leading stock exchange covering various cities and towns across the country. NSE was set up by leading institutions to provide a modern, fully automated screen-based trading system with national reach. The Exchange has brought about unparalleled transparency, speed & efficiency, safety and market integrity. It has set up facilities that serve as a model for the securities industry in terms of systems, practices and procedures. NSE has played a catalytic role in reforming the Indian securities market in terms of microstructure, market practices and trading volumes. The market today uses state-of-art information technology to provide an efficient and transparent trading, clearing and settlement mechanism, and has witnessed several innovations in products & services viz. demutualisation of stock exchange governance, screen based trading, compression of settlement cycles, dematerialisation and electronic transfer of securities, securities lending and borrowing, professionalisation of trading members, fine-tuned risk management systems, emergence of clearing

24 http://www.nseindia.com/content/press/corp_brochure.pdf
corporations to assume counterparty risks, market of debt and derivative instruments and intensive use of information technology.

3.19.1. Vision

To continue to be a leader, establish global presence, facilitate the financial well being of people.

3.19.2. Values

NSE is committed to the following core values:

i. Integrity

ii. Customer focussed culture

iii. Trust, respect and care for the individual

iv. Passion for excellence

v. Teamwork

The securities market has two interdependent and inseparable segments, the new issues (primary) market and the stock (secondary) market. The primary market provides the channel for creation and sale of new securities, while the secondary market deals in securities previously issued. The
Stock market or Equities market is where listed securities are traded in the secondary market. Currently more than 1300 securities are available for trading on the Exchange.

3.19.3. Current Volume and Turnover of NSE

As on Oct 12, 2015 16:00:00 IST

Traded Volume (shares in lakh)   Traded Value (Rs crores)

8,891.09   14,482.56

3.19.4. Key Facts & Figures of NSE

3.19.4.1. Index

<table>
<thead>
<tr>
<th>Record value of CNX NIFTY INDEX</th>
<th>Record value of CNX NIFTY JUNIOR INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>9119.20</td>
<td>21730.80</td>
</tr>
<tr>
<td>As on 04-Mar-2015</td>
<td>As on 10-Aug-2015</td>
</tr>
</tbody>
</table>
### 3.19.4.2. Capital Market (Equities) Segment

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investor Protection Fund</td>
<td>31-Mar-2013</td>
<td>₹ 354.41 crores</td>
</tr>
<tr>
<td>2</td>
<td>Number of securities available for trading</td>
<td>30-Jun-2013</td>
<td>3,091</td>
</tr>
<tr>
<td>3</td>
<td>Record number of trades</td>
<td>25-Aug-2015</td>
<td>1,21,89,508</td>
</tr>
<tr>
<td>4</td>
<td>Record daily turnover (quantity)</td>
<td>26-May-2014</td>
<td>21,059.59 lakhs</td>
</tr>
<tr>
<td>5</td>
<td>Record daily turnover (value)</td>
<td>29-May-2015</td>
<td>₹ 43,621.27 crores</td>
</tr>
<tr>
<td>6</td>
<td>Record market capitalisation</td>
<td>13-Apr-2015</td>
<td>₹ 1,04,20,430 crores</td>
</tr>
</tbody>
</table>

**CLEARING & SETTLEMENT**

Record Pay-in/Pay-out (Rolling Settlement):

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Funds Pay-in/Pay-out (N2007200)</td>
<td>23-Oct-2007</td>
<td>₹ 4,567.70 crores</td>
</tr>
<tr>
<td>2</td>
<td>Securities Pay-in/Pay-out (Value) (N2009088)</td>
<td>21-May-2009</td>
<td>₹ 9,523.33 crores</td>
</tr>
<tr>
<td>3</td>
<td>Securities Pay-in/Pay-out (Quantity) (N2009088)</td>
<td>21-May-2009</td>
<td>4,385.75 lakhs</td>
</tr>
</tbody>
</table>

*Settlement Date

### 3.19.4.3. Derivatives Segment

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equity (F&amp;O)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Investor Protection Fund</td>
<td>31-Mar-2013</td>
<td>₹ 157.30 crores</td>
</tr>
<tr>
<td>2</td>
<td>Record daily turnover (value)</td>
<td>30-Apr-2015</td>
<td>₹ 6,27,005.15 crores</td>
</tr>
<tr>
<td>3</td>
<td>Record number of trades</td>
<td>30-Apr-2015</td>
<td>64,65,358</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Investor Protection Fund</td>
<td>31-Mar-2013</td>
<td>₹ 14.33 crores</td>
</tr>
<tr>
<td><strong>Futures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Record daily turnover (value)</td>
<td>20-Jun-2013</td>
<td>₹ 41,926.16 crores</td>
</tr>
<tr>
<td>2</td>
<td>Record number of contracts</td>
<td>27-Jul-2011</td>
<td>73,69,204</td>
</tr>
</tbody>
</table>
3.19.4.4. Wholesale Debt Segment

<table>
<thead>
<tr>
<th></th>
<th>Number of securities available for trading</th>
<th>30-Jun-2013</th>
<th>5,846</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Record daily turnover (value)</td>
<td>25-Aug-2003</td>
<td>₹ 13,911.57 crores</td>
</tr>
</tbody>
</table>

3.19.5. Corporate Structure

NSE is one of the first demutualized stock exchanges in the country, where the ownership and management of the Exchange is completely divorced from the right to trade on it. Though the impetus for its establishment came from policy makers in the country, it has been set up as a public limited company, owned by the leading institutional investors in the country.

From day one, NSE has adopted the form of a demutualized exchange - the ownership, management and trading is in the hands of three different sets of people. NSE is owned by a set of leading financial institutions, banks, insurance companies and other financial intermediaries and is managed by professionals, who do not directly or indirectly trade on the Exchange. This has
completely eliminated any conflict of interest and helped NSE in aggressively pursuing policies and practices within a public interest framework.

The NSE model however, does not preclude, but in fact accommodates involvement, support and contribution of trading members in a variety of ways. Its Board comprises of senior executives from promoter institutions, eminent professionals in the fields of law, economics, accountancy, finance, taxation, and the like public representatives, nominees of SEBI and one full time executive of the Exchange.

While the Board deals with broad policy issues, decisions relating to market operations are delegated by the Board to various committees constituted by it. Such committees includes representatives from trading members, professionals, the public and the management. The day-to-day management of the Exchange is delegated to the Managing Director who is supported by a team of professional staff.

3.20. Summary

In this chapter, the researcher has presented the origin, growth and background of the bullion and equity market in India in particular. The chapter provides basic data on investment and stock market in India, concept of investment, history of investment, debt equity and free cash flow, saving and
investment, importance of savings, types of financial investment, investment avenues, Foreign Direct Investment and Indian stock market, investment opportunities for retail foreign investors, profile of multi commodity exchange, profile of bullion market, overview of stock market, overview of global stock market, commodity exchanges in the World, commodity exchanges in India, origin and growth of Indian stock market, major investment industries in Indian stock market, profile of Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).