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ESSENTIALS OF FINANCE

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Abstract

Essential finance is one of a series of economist that brings clarity to complicated area of business, finance and management. Research will examine how stocks and bonds have become more important as sources of finance for companies, how financial institutions have expanded not just in size, but across borders and in the kinds of business they do.

1 – Introduction

***Essential finance is a guide to the increasingly complex world of money, financial markets, and the things that revolve around them. The complexity of corporate deals and the speed with which huge amounts of money are moved today have undoubtedly increased the volatility of markets and the risks for investors, risks that are at the same time made worse and spread by the use of derivatives (futures, options and the others). There are companies with shareholders, and banks and stock exchanges; there are still plenty of lawyers and bankers who help to transfer money from one pocket to another so that companies can raise the finance they need and business may be done. But the way the money is raised and the speed with which it is done have changed virtually beyond recognition. Thirty years ago, banks were still the main source of finance for most big companies, especially in Japan and continental Europe*[1].

Today, for the most part, banks play second to the equity and bond markets for big companies; the part played by banks has diminished. Equity and bond markets have become more international and have extended their influence in ways that would have been unimaginable 30 years ago [2].

Compared with their counterparts' today's financial institutions aren't only more diverse, both geographically and in terms of their businesses, they are also better capitalized. in 1990, the biggest financial firms were commercial banks, whose main function was the taking of deposits and the making of loans. At the time, banks in continental Europe were typically engaged in a broader range of activities than their US counterparts which, under the GLASS-STEAGALL ACT, since repealed, had to choose between commercial banking, investment banking and specialist financial services such as insurance.

Nowadays, by far the largest firms are financial services conglomerates. These combine commercial banking with a range of other financial services, such as underwriting bond and equity issues and advising on mergers and acquisitions. They also provide consumer finance and sell on loans to other investors, in 1990, the list of the top 15 financial firms, the largest of which had a stock market capitalization of $57 billion. A decade later, because the mergers among such firms, international financial services groups took up most of the places; the biggest (CITIGROUP) was then capitalized at more than $250 billion.

Between 1998 and 2001, according to the federal reserve, American's central bank, telecommunications firms worldwide alone borrowed around $1billion. Many of these loans have since had to be written off because their borrowers went bankrupt. In quick succession in the united states, some firm collapsed. Yet in contrast banks were able to continue lending to companies that needed money. The growth of sophistication

debt markets also helped to reduce companies' reliance on bank credit and equity to finance their operations. as a result, the US economy in particular was able to maintain a faster pace of growth than many had feared.

2 - Insurers at risk

One big worse is that insurance companies, not always the most sophisticated of investors, have taken on part of the risk that banks and other intermediaries in the financial markets are spilling. Some big companies make account between them and a large proportion of credit derivatives outstanding. Credit derivatives are securities that allow banks to pass on to other investors the risk that some of their borrowers will default. Insurance companies have also been big buyers of asset backed securities, financial instruments backed by pools of loans and other forms of debt. If insurance companies were unable to meet their liabilities and went bust, there is a danger that the problems would rebound on the banks. Other worse is that, international banks, by pressure to succeed may be reach make mistakes. Like, take foreign exchange rate marketing. In 1995, twenty banks in the united states accounted for 75% of foreign exchange traded; six years later, the number was down to 13 [3]. ***Liquidity, argue some, is a function not just of the size of the market but also of the diversity of opinion of those trading within it. Moreover, financial institutions increasingly use the same models for assessing and managing risk. So when one decides to move, generally they all move. As the deals become bigger and the stakes higher, observers worry that a sudden loss of liquidity or a shock on the scale of the terrorist attacks of September 11th 2001 could cause a black hole to open up. If it does, the risk is that even sound companies could be sucked into it.***

From 1997, commercial banks have been permitted to use so-called value-at-risk (VAR) models to calculate the amount of capital they are required to hold under the Basel rules on liquidity. The rules were designed to make banks more sensitive to market risk while at the same time giving them greater flexibility in running their businesses.

The new system didn't have to wait long for its first test. In 1998, the financial markets were shocked first by Russia's decision to default on its external debt, and then by the near collapse of long term capital management (LTCM), a US hedge fund which included two Nobel Prize Winners among its directors as well as heavyweights on Wall street. Hedge funds are largely unregulated investment funds that take big and risky positions in the financial markets, often on exchange or interest rates. in this case, LTCM bet wrongly that the prices of certain securities would move closer together; instead, they drifted apart. Required to put up more money by the institutions with which it had to be bailed out by a group of banks gathered together by the federal reserve.

Some observers fret that regulations based on VAR models contribute to the volatility of financial markets by leading to a vicious circle, in which traders are forced to reduce their positions in the market in order to put up fresh money, which puts renewed pressure on prices, and so on. in other words, the VAR rules make an old problem worse by forcing participants to get out of the market when they can least afford to, and by forcing banks to reduce their lending when borrowers most need it.

3 - International equity

Stock markets have also been undergoing dramatic change, most of which has involved becoming more international. In 1999, at least one out of every six deals done on stock markets involved a foreign buyer or seller. The New York Stock Exchange (NYSE), still the world's biggest, led the way towards a more international world. It did this through the introduction of American depositary receipts (ADRS), which enabled domestic investors to buy the shares of foreign companies with US dollars, and later by attracting a growing number of foreign companies to list their shares on the exchange. But the prize for internationalism must go to the London stock exchange. London accounted for more than half of the worldwide trade in foreign equities in 2002, compared with a combined share of 25% for the NYSE and NASDAQ, American main exchange for trading in the shares of technology companies.

London is also the international centre for another market; derivatives market. derivatives are financial instruments that are derived from another, for example, an option to buy a treasury bond. The value of the option depends on the performance of the underlying instrument, in this case a treasury bond. This can be taken a stage further: for example, an option on a futures contract. The value of the option depends on the price of the futures contract, which, in turn, will vary with the value of the underlying instrument.

Although the term derivative was little used until the 1980s, the practice of trading forward to mitigate the effects of risk has been a part of dealing in physical commodities for centuries. Since 1995 alone, the number of contracts of this kind traded on exchanges worldwide has increased two and a half times. Despite increases in other markets, particularly in south Korea, US exchanges still account for the lion's share of the business, around 35% of all contracts traded. Together, European exchanges aren't far behind.

4 – Key objectives and structures

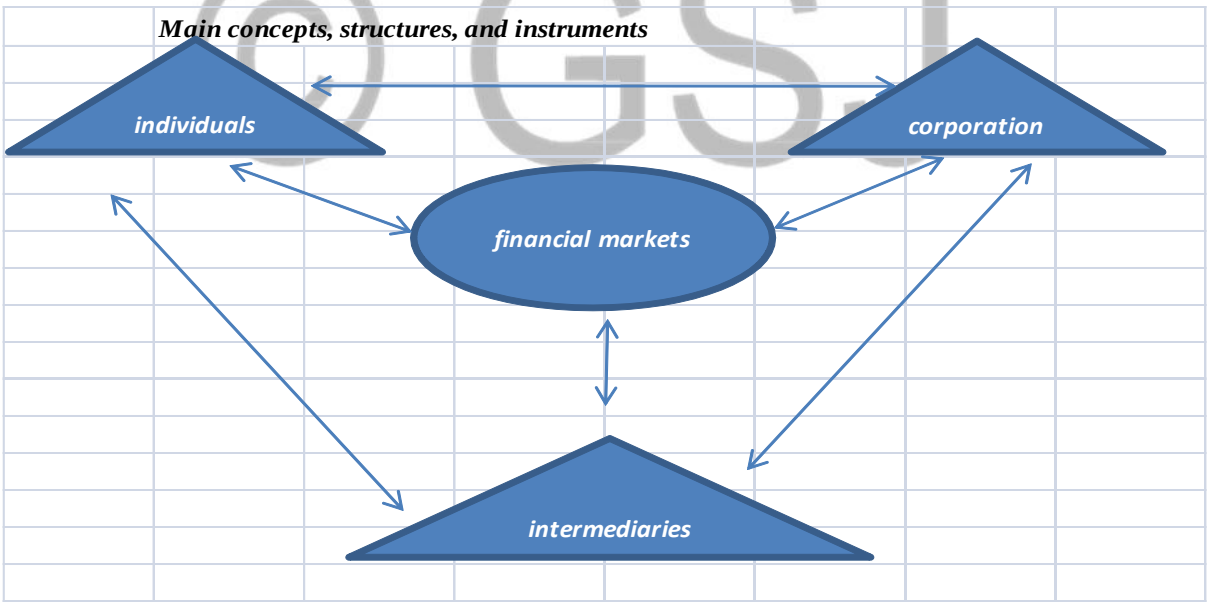
We can distinguish the following basic objects and structures of financial theory that define and explain the specific nature of financial problems, the aims, and the tools of financial mathematics [4]

A – individuals,

B – corporations,

C – intermediaries,

D – financial markets.



4. A individuals

Their financial activities can be described in terms of the mess "consumption- investment". The ambivalence of their behavior as both consumers (consumer more now) and investors (invest now to get more in the future) brings one to optimization problems formulate in mathematical economics as consumption saving and portfolio decision making. in the framework of utility theory, the first problem is treated on the basis of the postulates of the rational behavior of individuals under uncertainty. These postulates determine the approaches and methods used to determine preferable strategies by means of a quantitative analysis. Of the mean value of the utility functions. The problem of portfolio decision making

confronting individuals can roughly be described as the problem of the best allocation "investment" of funds with due attention to possible risks among, say, property, gold, securities (bonds, stock, options, future), and the like. The idea of diversification in building a portfolio is reflected by such well-known adages as "don't put all your eggs in one basket" or "nothing ventured, nothing gained". In what follows we describe various opportunities (depending on the starting capital) opening for an individual on a securities market.

4. B corporations

Companies, and firms. Who own such valuable as "land, factories, machines, also proprietors of organization structures", organization structures, maintain business relations, and manage manufacturing. To raise funds for the development of manufacturing, corporations occasionally issue stock or bonds. Corporate management must be directed towards meeting the interests of shareholders and bondholders.

4. C intermediaries

There are banks, investment companies, pension funds, insurance companies, and also stock exchange, option and futures exchanges.

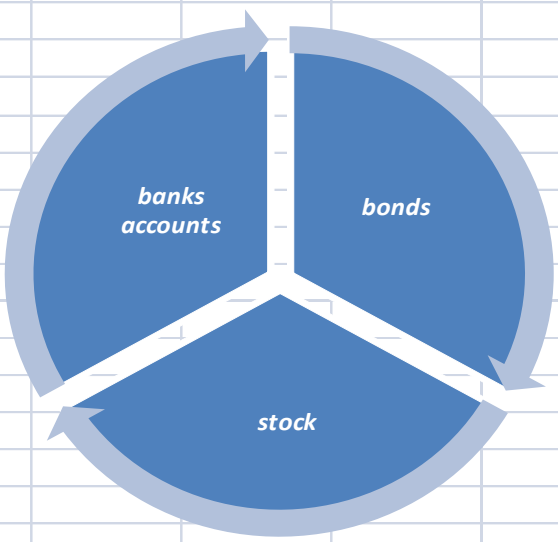
4. D financial markets

Include money, markets of precious metals, and markets of financial instruments. In the market of financial instruments one usually distinguishes.

1 – underlying (primary) instruments and

2 – derivative (secondary) instruments.

1-	***underlying (primary) instruments***



Domestic bonds

The bond is a medium to long term debt instrument. The issuer pays interest to the lender throughout the bond's term, which could be anything from one year to thirteen years or more, and repays the principal sum borrowed on redemption. Undated bonds aren't redeemed, however, in some markets, the short term bond can be called a "note". The bond is popular among cautions investors because it offers a safe haven against equity risk, but it is also for traders who want to exploit price differentials.
Through bonds, investors receive a higher proportion of their return from income than through equities. Bond prices are less volatile than stock prices, particularly as the redemption date approaches. There is a price to pay. Over decades, bonds have underperformed equities, but have outperformed deposits in building societies.

How bonds work

The issuer of a bond may be a government or a company. The issue maybe timed so that capital repayment will coincide with anticipated income from specified projects. Bonds are classified by the time remaining until maturity. If they are 1-7 years, they are classed as short term. If the remaining time is 7-12 years, they are medium term. If it is more than 12 years, they are long term.

A bond will be issued and redeemed at nominal value, which for UK bonds is £100. At any time in the bond's lifetime, the market price may deviate from nominal value. When two redemption dates are known, the bond must be redeemed after the first but before the second.

Bonds in the UK, as in Italy and the US, pay interest twice a year. In some countries, including France and Germany, the payment is only once a year. In the period between interest payment, interest accrues. The pricing on bonds is normally clean, which excludes accrued interest.

a buyer of bonds pays not just for the financial instrument but also for any income accrued since the last interest payment. If they buy it ex-dividend, it is the seller who has retained the right to the pending interest payment. The coupon is the annual rate of interest on the bond, for example, a bond offers a 3 % coupon, it will pay £3 a year in interest for every £100 of nominal value. For UK bonds, the payment will be in two installments. the coupon is decided by the level of interest rates in the market at the time of the bond issue. The dividend yield that you receive from buying a bond on the secondary market can vary from the coupon because it is the return expressed as a percentage of the selling price of the bond, and the bond can sell at a different price from its nominal value.

The yield can also be expressed in different ways. The current yield is the annual interest of a bond dividend by the current bond price. it is also known as the running yield, flat yield, simple yield or annual yield. The higher the bond price rises, the lower the current yield will be, and, conversely, the lower the price falls, the higher the yield.

The bond is priced precisely. In the case of a US corporate bond, the price is calculated to $(1|8)$ ***of a dollar, and, for a US treasury bond, to*** $(1|32)$***. In continental Europe, decimals are used.***

Pension funds are the largest traditional holders of bonds, because these instruments help to match their liabilities more precisely than equities or other types of investment. The factors affecting demand for bonds, whether government or corporate, are economic growth, inflation and interest rate expectations. For example,
If interest rates fall, bond prices will rise. The underlying logic is that investors rush to buy bonds when their yield looks attractive compared with the declining rates on bank deposit accounts. The bonds will then rise to a level that reflects the increased demand, and the yields will reduce accordingly until they no longer look attractive. A converse process also operates. If interest rates rise, bond prices will depression.

In most countries, the biggest investors in bonds are institutional investors, especially pension and insurance funds. Retail investors are much smaller investors in the UK, but significant in some other countries such as Italy.

Types of bond

Government bonds

Bonds issued by governments of developed countries are considered risk free, acknowledging that tax revenue could be used to honor commitments. Following the credit crisis of 2007-2009, investors have sought refuge in government bonds as a safe haven for their money.

Government bonds are much more liquid than corporate bonds and are more activity traded. Many bonds trade a lot just after they have been issued, typically in much longer sizes than shares, but less frequently. They subsequently trade very little. In the UK, institutional investors trade bonds with bond dealers, who trade with each other, often anonymously through inter dealer brokers.
Rates on government bonds affect the entire economy. this is partially because the government's sale or repurchase of their own bonds affects the money supply and influences interest rates. for example, when federal reserve repurchases treasuries, sellers deposit the proceeds at their local banks, which in turn lend to customers, who deposit their loan proceeds in their bank accounts, and so on, thus, every dollar of treasuries repurchased increases the money supply by several dollars. The supply of money for lending increases and the demand for borrowing increases, causing lending rates to fall.
Income from government bonds is federally taxable but generally exempt from most state and local taxes. This means that for some investors, particularly those who live in states with high taxes, treasuries may return slightly more than taxable securities with higher coupons. For example, [5] ***if a resident of California and a resident of Nevada each purchase a $10,000 with a 3% coupon, each will have received interest payments of***
Treasury notes (T-Notes).
$10,000 × ,03 = $300 in one year. If California resident's tax rate is 20%, he really only earns $240 from the T-NOTE (300 × 20% = $60 then $300 - $60 = $240). However, the same T-NOTE has a higher return in the eyes of the Nevada resident. If the Nevada resident's tax rate is 10%, he really only earns $270 from the T-NOTE (300 × 10% = $30 then $300 - $30 = $270). Keep in mind that treasury income may be subject to alternative minimum tax, so investors should seek tax advice before investing.

corporate bonds

The corporate bond has slightly more risk of default than the government bond and so pays slightly higher interest. Investors who buy corporate bonds are lending money to the company issuing the bond. In return, the company makes a legal commitment to pay interest on the principal and, in most cases, to return the principal when the bond comes due, or matures. To understand bonds, it is helpful to compare them with stocks. When you buy a share of common stock, you own equity in the company and will receive any dividends declared and paid by the company. When you buy corporate bond, you don't own equity in the company. You will receive only the interest and principal on the bond, no matter how profitable the company becomes or how high its stock price rise. But if the company runs into financial difficulties, it still has a legal obligation to make timely payments of interest and principal. The company has no similar obligation to pay dividends to shareholders. In a bankrupt, bond investors have priority over shareholders in claims on the company's assets.
Like all investments, bonds carry risks. one key risk to a bondholder is that the company may fail to make timely payments of interest or principal. If that happens, the company will default on its bonds. This default risk makes the creditworthiness of the company, that is, its ability to pay its debt obligations on time, an important concern to bondholders.

The basic types of corporate bonds

Corporate bonds make up one of the largest components of the US bond market, which is considered the largest securities market in the world. Other components include US treasury bonds, other US government bonds, and municipal bonds.
Companies use the proceeds from bond sales for a wide variety of purposes, including buying new equipment, investing in research and development, buying back their own stock, paying shareholder dividends, refinancing debt, and financing mergers and acquisitions.
Bonds can be classified according to their maturity, which is the date when the company has to pay back the principal to investors. maturity can be
1 – less than three years, short term.
2 – four to 10 years, medium term.
3 – more than 10 years, long term. Longer term bonds usually offer higher interest rates, but may entail additional risks.

Financial term	*Bond A*	*Bond B*	*Bond C*
Price as a % of face value	*100*	*90*	*110*
Maturity	*10 years*	*10 years*	*10 years*
Face value	*$1,000*	*$1,000*	*$1,000*
Coupon rate	*4.00%*	*4.00%*	*4.00%*
Yield to maturity	*4.00%*	*5.31%*	*2.84%*

bond A.

bond prices maybe quoted in dollars or as a % of its face value. Bond A price is 100% of the face value, or $1,000($1000 × $\frac{100}{100}$ = $1000). The bond will pay 4% of the face value, or $40 per year. Most bonds are paid semiannually, so bond A will pay $20 every six months. In addition, the bond will make a principal payment of $1,000 at the end of the 10 years. The bond pay a 4.00% yield to maturity because it isn't trading at either a premium or a discount [6]

Bond B.

Bond B price is 90% of its face value, or $900 ($1000 × $\frac{90}{100}$ = $900). Notwithstanding this, investors in bond B will still receive a total of $40 per year in coupon payments and when bond B matures, bondholders will still receive the face value of $1,000. The discounted price results in bond B having a yield to maturity of 5.31%.

Bond C.

This bond sells for a premium at $1,100, or 110% of face value. Like bonds A and B, investors in bond C will receive a total of $40 per year in coupon payments and the bond's face value of $1,000 at maturity. Because of the premium price, the yield to maturity on bond C at 2.84% is lower than the coupon rate.

Stock markets

I will explain how stock markets work and basics of investment analysis. Many readers will have an interest in investing, so this particular is more about the concerns of private investors than of pension funds, insurance funds, and other institutions.

shares

If you buy a share, you are buying part of a company. You can have shares in companies that aren't quoted anywhere, and these may be traded privately or over the counter, so making a market. the share price is set as a spread between a buying and a selling price. when a single price is quoted, it is often the mid price. shares can rise or fall in value, which reflects supply and demand.

As an investor, you will typically hold your shares for several months, and perhaps some years, to make a profit. Traders don't buy and hold in this way, but come in and out of stocks quickly, within days or hours, hoping to profit from share price volatility.

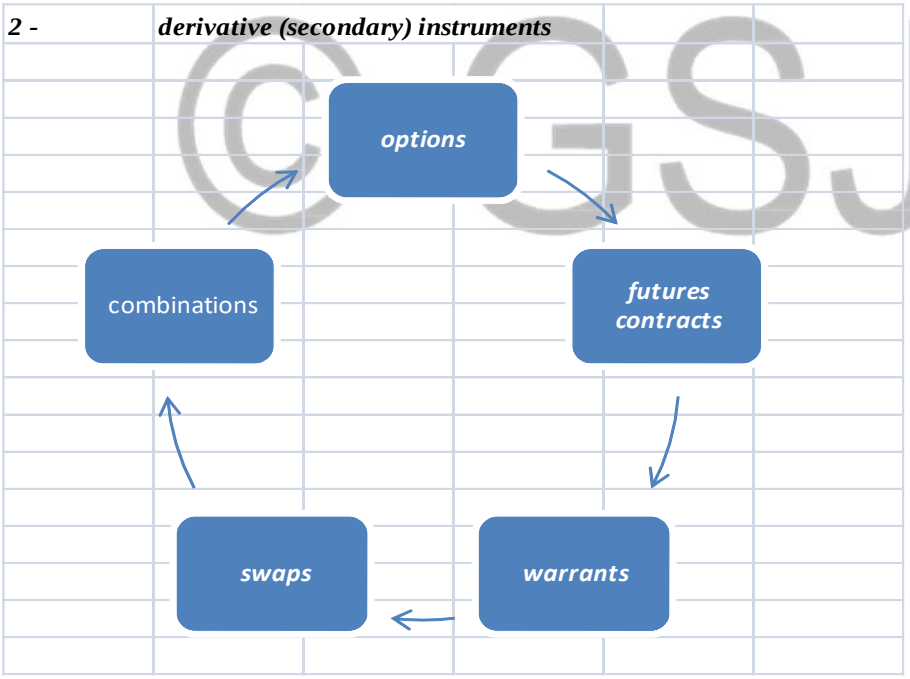
If you own shares in a company, you may attend its annual general meeting, which offers you the chance to review the company's activities and to exercise your voting rights. Many companies pay a dividend, which in the United States is quarterly or in the United Kingdom is twice a year. This represents a payment from corporate profits to shareholders. It is the income from your share ownership. The price of a share falls by the amount paid out, which happens after the company goes ex-dividend. If you buy the shares after the ex-dividend date, you will pay a lower price but will not receive the dividend.

Broker-dealers and investment advisers

As an investor or trader, you will deal with a stockbroker, or you may have an investment adviser run a portfolio for you. You can invest globally through a broker in your home country, or you can often go directly to local brokers in the country where the shares are traded. In the United States, there are around 5,000 broker-dealers, who have both a broker function, by which they conduct transactions in securities for others, and a dealer function, by which they buy and sell securities for themselves as principals. The broker-dealers are regulated by the securities and exchange commission (SEC), with some regulatory authority delegated to the financial industry regulatory authority (FIRA), a self-regulatory organization. in addition, some states regulate broker-dealers under separate state securities laws.

Broker-dealers are paid on commission. They sell mutual funds as well as equities, and do private placements of securities. They are to be distinguished from investment advisers, of which there are over 10,000 in number. They are regulated separately and have a fiduciary duty to clients that broker-dealers don't. they are paid by fees.

2 - derivative (secondary) instruments



Options

Many investors portfolios include investments such as mutual funds, stocks, and bonds. But the variety of securities you have at your disposal doesn't end there. Another type of security, known as options, presents a world of opportunity to sophisticated investors who understand both the practical uses and inherent risk associated with this asset class.

The power of options lies in their versatility, and their ability to interact with traditional assets such as individual's stocks. They enable you to adapt or adjust your position according to many market situations

that may arise. For example, options can be used as an effective hedge against a declining stock market to limit downside losses. Option can be put to use for speculating purposes or to be exceeding conservative, as you want, using options is therefore, best described as part of a larger strategy of investing.

This functional versatility, however, doesn't come without its costs. Options are complex securities and can be extremely risky if used improperly. This is why, when trading options. With a broker. You will often come across a disclaimer like the following:

Options involve risks and aren't suitable for everyone. Option trading can be speculative in nature and carry substantial risk of loss. Only invest with risk capital.

Options belong to the larger group of securities known as derivatives. This word has come to be associated with excessive risk taking and having the ability crash economies. That perception, however, is broadly overblown. All "derivative" means is that its price is dependent on, or derived from the price of something else. Put this way, wine is a derivative of grapes; Ketchup is a derivative of Tomatoes. Options are derivatives of financial securities their value depends on the price of some other asset. That is all derivative means, and there are many different types of securities that fall under the name derivatives, including futures, forwards, swaps, and mortgage backed securities.

Futures

Futures are financial contracts obligating the buyer to purchase an asset or the seller to sell an asset, such as physical commodity or a financial instrument, at a predetermined future date and price. future contracts detail the quality and quantity of the underlying asset; they are standardized to facilitate trading on a future exchange. Some futures contracts may call for physical delivery of the asset, while others are settled in

Futures are contracts that derive value form an underlying asset such as a traditional stock, a bond cash. or stock index. Futures are standardized contracts traded on a centralized exchange. They are an agreement between two parties to buy or sell something at a future date for a certain price called "the future price of the underlying asset." The futures markets are characterized by the ability to use very high leverage relative to stock markets. futures can be used to hedge or speculate on the price movement of the underlying asset, for example,

A producer of corn could use future to lock in a certain price and reduce risk, or anybody could speculate on the price movement of corn by going long or short using futures.

The primary difference between options and futures is that options give the holder the right to buy or sell the underlying asset at expiration, while the holder of a futures contract is obligated to fulfill the terms of his contract.

Futures are a very important vehicle used to hedge or manage different kinds of risks. companies engaged in foreign trade use futures to manage foreign exchange risk, interest rate risk if they have a sizeable investment to make and they lock in a interest rate in anticipation of a drop in rates, and price risk to lock in prices of commodities such as oil, crops and metals that serve as inputs. Futures and derivatives help increase the efficiency of the underlying market because they lower unforeseen costs of purchasing an asset outright. Futures help reduce transaction costs and increase liquidity as they are viewed as an insurance or risk management vehicle.

Another important role future play in financial markets is that of price discovery. Future market prices rely on a continuous flow of information and transparency. A lot of factors impact the supply and demand of an asset and thus its future and spot prices. this kind of information is absorbed and reflected in future prices quickly. Future prices for contracts nearing maturity converge to the spot price and thus the future price of such contracts serve as a proxy for the price of the underlying asset. Future price also give an indication of market expectations.

The purpose of hedging isn't to gain from favorable price movements but prevent losses from potentially unfavorable price changes and in the process, maintain a predetermined financial result as permitted under the current market price. to hedge, someone is in the business of actually suing or producing the underlying asset in a future contract. When there is a gain from the future contract, there is always a loss from the spot market. with such a gain and loss offsetting each other, the hedging effectively locks in the acceptable, current market price.

Forwards contract

A forward contract is a private agreement between two parties giving the buyer an obligation to purchase an asset and the seller an obligation to sell an asset, at a set price at a future point in time.
The assets often traded in forward contracts include commodities like oil, electricity, and grain. But foreign currencies and financial instruments are also part of today's forward markets.
Futures and forwards both allow people to buy or sell an asset at a specific time at a given price, but forward contracts aren't standardized or traded on an exchange. They are private agreements with terms that may vary from contract to contract.

Also, settlement occurs at the end of a forward contract. Futures contracts settle every day, meaning that both parties must have the money to ride the fluctuations in price over the life of the contract.
The parties to a forward contract tend to bear more credit risk than the parties to futures contracts because there is no clearing house involved that guarantees performance. thus, there is always a chance that a party to a forward contract will default, and the harmed party's only recourse may be to sue. As a result, forward contract prices often include premiums for the added credit risk.
As one type of derivative product, forward contracts can be used as an example to provide a general understanding of more complex derivative instruments such as futures contracts, options contracts, and swaps contracts. Forward contracts are very popular because they are unregulated by the government, they provide privacy to both the buyer and seller, and they can be customized to meet both the buyer's and seller's specific needs.
Assume that a US currency trader works for a company that routinely sells products in Europe for euro, and that those euro ultimately need to be converted back to US dollars. A trader in this type of position would likely know the spot rate and forward rate between the US dollar and the euro in the open market, as well as the risk-free rate of return for both the US dollar and the euro. For example, the currency trader knows that US dollar spot rate per euro in the open market is $1.35 US dollars per euro, the annualized US risk-free rate is 1% and the European annual risk-free rate is 4%. The one-year currency forward contract in the open market is quoted at a rate of $1.50 US dollars per euro. With this information, it is possible for the currency trader to determine if a covered interest arbitrage opportunity is available, and how to establish a position that will earn a risk-free rate.

[1.35/ (1+0.04)] × (1+0.01) = 1.311
In this case, the one year forward contract between the US dollar and the euro should be selling for $1.311 US dollars per euro. Since the one year forward contract in the open market is selling at $1.50 US dollars per euro, the currency trader would know that the forward contract in the open market is overpriced. Accordingly, an astute currency trader would know that anything that is overpriced should be sold to make a profit, and therefore, the currency trader would sell the forward contract and buy the euro currency in the spot market to earn a risk-free rate of return on the investment.

The covered interest arbitrage strategy can be achieved in four simple steps:

Step 1: the currency trader would need to take $1.298 dollars and use it to buy €0.962 euro.
To determine the amount of US dollars and euro needed to implement the covered interest arbitrage strategy, the currency trader would divide the spot contract price of $1.35 US dollars per euro by one plus the European annual risk-free rate of 4%.
1.35 / (1+0.04) = 1.298
In this case, $1.298 US dollars would be needed to facilitate the transaction. Next, the currency trader would determine how many euro are needed to facilitate this transaction, which is simply determined by dividing one by one plus the European annual risk-free rate of 4%.
1/ (1+ 0.04) = 0.962
The amount that is needed is 0.962 euro.

Step 2: the trader would need to sell a forward contract to deliver €1.0 euro at the end of the year for a price of $1.50 US dollars.

Step 3: the trader would need to hold the euro position for the year, earning interest at the European risk-free rate of 4%. This euro position would increase in value from €0.962 euro to €1.00 euro.
0.962 × (1+ 0.04) = 1.000

Step 4: finally, on the forward contract expiration date, the trader would deliver the €1.00 euro and receive $1.50 US dollars. This transaction would equate to a risk-free rate of return of 15.6% which can be determined by dividing $1.50 US dollars by $1.298 US dollars and then subtracting one from the answer to determine the rate of return in the proper to implement a forward contract strategy.

Swaps

A swap is a derivative contract through which two parties exchange financial instruments. These instruments can be almost anything. But most swaps involve cash flows based on a notional principal amount that both parties agree to. Usually, the principal doesn't change hands. Each cash flow comprises one leg of the swap. One cash flow is generally fixed, while the other is variable, that is, based on a benchmark interest rate, floating currency exchange rate, or index price.

The most common kind of swap is an interest rate swap. Swaps don't trade on exchange, and retail investors don't generally engage in swaps. Rather, swaps are over the counter contracts between businesses or financial institutions.

Interest rate swaps

In an interest rate swap, the parties exchange cash flows based on a notional principal amount (this amount isn't actually exchanged) in order to hedge against interest rate risk or to speculate. For example, BMW co. has just issued $1 million in five year bonds with a variable annual interest rate defined as the London interbank offered rate (LIBOR) plus 1.3% (or 130 basis points). LIBOR is at 1.7%, low for its historical range, so BMW management is anxious about an interest rate rise.

They find another company, TOYOTA inc., that is willing to pay BMW an annual rate of LIBOR plus 1.3% on a notional principal of $1 million for 5 years. In other words, TOYOTA will fund MBW's interest payments on its latest bond issue. In exchange, BMW pays TOYOTA a fixed annual rate of 6% on a notional value of $1 million for five years. BMW benefits from the swap if rates rise significantly over the next five years. TOYOTA benefits if rates fall, stay flat or rise only gradually.

Below are two scenarios for this interest rate swap:

1 – LIBOR rises 0.75% per year,

2 – LIBOR rises 2% per year.

SCENARIO 1

If LIBOR rises by 0.75 per year, company BMW'S total interest payment to its bond holders over the five-year period are $225,000:

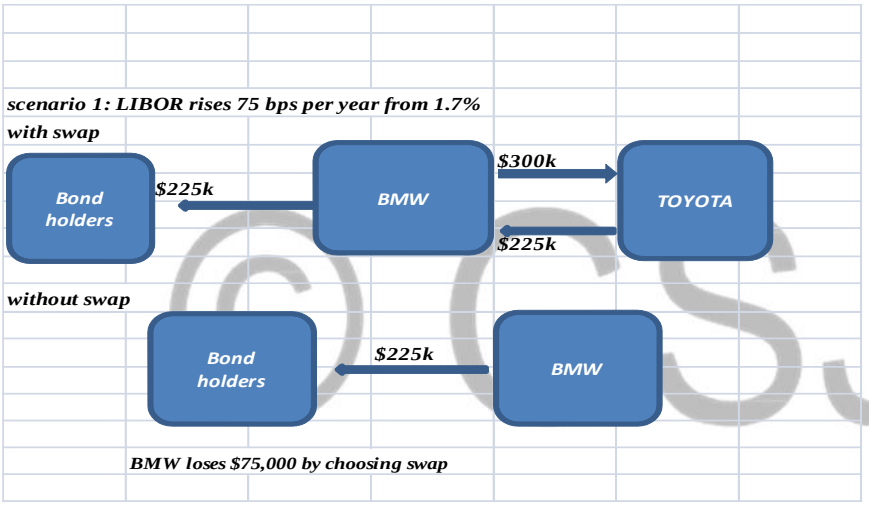
225000 = 1000000*(5*0.013+ 0.017+ 0.0245+ 0.032+ 0.0395+ 0.047)

notice						
scenario 1 : LIBOR rises 0.75% , that mean 0.75/100=0.0075						
the first year is 5*0.013 + 0.017 + (0.017+ 0.0075)+ (0.017+0.0075+0.0075) and then						
			0.0245	*0.032*	*0.0395*	*0.047*
225000 = 1000000(5*0.013+0.017+0.0245+0.032+0.0395+0.047)*						

In other words, $75,000 more than the $150,000 BMW would have paid if LIBOR had remained flat:
150000 = 1000000*5*(0,013+ 0,017)

1000000*5*.06 = 300,000

and receives $225,000 in return (the same as BMW's interest payments to bond holders). BMW's net loss on the swap comes to $75,000.



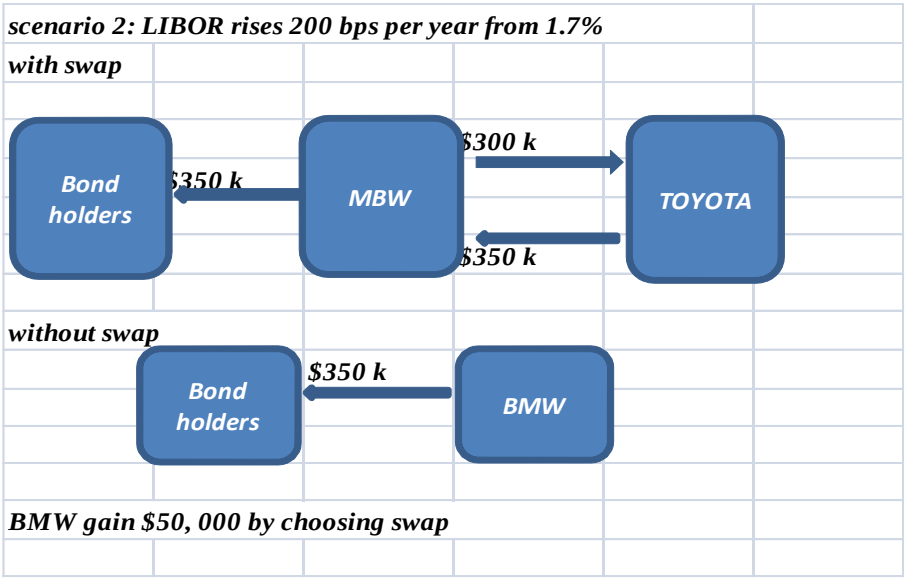
Scenario 2

In the second scenario, LIBOR rises by 2% a year. This brings MBW's total interest payments to bond holders to $350, 000.

350000 = 1000000* (0.013*5 + 0.017 + 0.037 + 0.057 + 0.077 +
0.097)

notice 2		*2%* =2/100=0.02			
(0.013 *5 +0. 017+(0.017+020)+(0.017+0.02+0.02)+(0.017+0.02+0.02+0.02) +(0.017+0.08)*					
0.013 *5 + 0.017 + 0.037 +*		*0.057*	*0.077*	*0.097*	
*350000 = 1000000 * (0.013* *5 + 0.017+ 0.037 + 0.057 + 0.077 + 0.097)*					

TOYOTA pays this amount to BMW, and BMW pays TOYOTA $300,000 in return. BMW's net gain on the swap is $50,000.



Swaps are useful for volatility hedging and speculation. Volatility swaps are forward contracts on future realized stock volatility and variance swaps are similar contracts on variance, the square of future volatility. Covariance and correlation swaps are covariance and correlation forward contracts, respectively, of the underlying two assets. Using change of time method, one can model and price variance, volatility, covariance and correlation swaps.

Mortgage-backed security (MBS).

A mortgage-backed security is a type of asset-backed security that is secured by a mortgage or collection of mortgage. This security must also be grouped in one of the top two ratings as determined by an accredited credit rating agency, and usually pays periodic payments that are similar to coupon payments. Furthermore, the mortgage must have originated from a regulated and authorized financial institution. It is issued by either a federal government agency company, government-sponsored enterprise (GSE). Or private financial company.

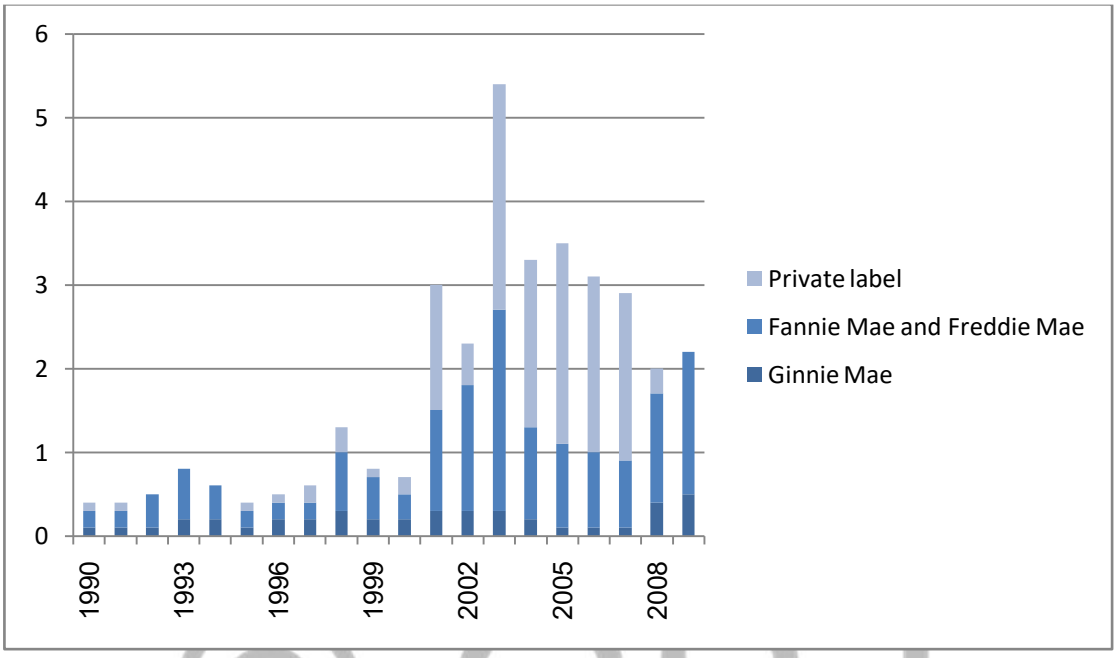
When an investor invests in a mortgage-backed security, he is essentially lending money to a home buyer or business. An MBS is a way for a smaller regional bank to lend mortgages to its customers without having to worry about whether the customers have the assets to cover the loan. Instead, the bank acts as a middleman between the home buyer and the investment market participants.
This type of security is also commonly used to redirect the interest and payments from the pool of mortgages to shareholders. These payments can be further broken down into different classes of securities, depending on the riskiness of different mortgages as they are classified under the MBS.

Types of mortgage-backed securities

There are two common types of MBS: A- pass-through. B- collateralized mortgage obligations.

A – pass-through is structured as a trust in which mortgage payment are collected and passed through to investors. pass-through is typically have stated maturities of 5, 15, and 30 years. The average life of pass-through maybe less than the stated maturity, depending on the principal payment of the pool of mortgages
B – collateralized mortgage obligation consists of multiple pools of securities, which are known as slices, or tranches. The tranches are given credit ratings, and the rates that are returned to investors depend on the tranches. For example, pools of securities in the senior mortgage-backed securities

played a central role in the financial crisis that began in 2007 and wiped out trillions of dollars. MBS allows a bank to move a mortgage off its books by turning it into a security and selling it to investors. when a bank is able to move mortgages off the books, it frees up room for more lending capital. With investors encouraged by the traditional strength of the housing market and the ratings on MBS, there was steady demand for these repackaged mortgages.



Value of mortgage-backed security issuances in $USD trillions, 1990-2009. Source: SIFMA statistics, structured finance (http://www.sifma.org/research/statistics.aspx)

Combination

In mathematics, a combination is a way of selecting items from a collection, such that unlike permutations the order of selection doesn't matter. In smaller cases it is possible to count the number of combinations. Example of counting combinations.

Combination formula

A formula for the number of possible combination of r objects from a set of n objects. This is written in any of the ways shown below.

or $\mathrm{n}\quad c\quad \mathrm{r}$ ***or c(n,r) or occasionally*** $c_r^n \quad \binom{n}{r}$

All forms are read aloud "n choose r."

Formula: $\binom{n}{r}$ ***or*** $c_r^n = \frac{n!}{r!(n-r)!} \quad = \frac{n(n-1)(n-2)---(n-r+1)}{r!}$

Note: $\binom{n}{r} = \frac{p_r^n}{r!}$ ***, where*** P_r^n ***is the formula for permutation of n***

Objects taken r at a time.

Example: how many different committees of 4 students can be chosen from a group of 15?

Answer: there are $\binom{15}{4}$ ***possible combinations of 4 students from a set of 15.***

$= \frac{15!}{4!11!} \quad = \frac{15-14-13-12}{4-3-2-1} \quad = 1365 \binom{15}{4}$

$there\ are\ 1365\ defferent\ commitees$

notice: 1			
15! = 15! - 14! - 13! - 12! - 11!			
4! 11! = 4! -3! -2! - 1! - 11!			*then*
15! - 14! - 13! - 12!			
4! - 3! - 2! - 1!			

As a specific example, one can compute the number of five-card hands possible from a standard fifty-two card deck as:

$= \frac{52\times51\times50\times49\times48}{5\times4\times3\times2\times1} = \frac{311{,}875{,}200}{120} = 2{,}598{,}960. \quad \binom{52}{5}$

5. Understanding financial information

The Balance Sheet

The balance sheet is a representation of the company's financial health. It is presented at a specific point in time, usually the end of the fiscal "accounting" period, which could be a year, a quarter, or a month. It lists the assets that the company owns and the liabilities that the company owes to others; the difference between the two represents the ownership position "stockholders' equity". More specifically, the balance sheet tells us about the company's:

1 – liquidity. The company's ability to meet its current obligations.

2 – financial health. The company's ability to meet its obligations over the longer term; this concept is similar to liquidity, except that it takes a long-term perspective and also incorporates strategic issues.

	exhibit: kuwait national petroleum company						
	march 31, 2013 and 2012 (kw000)						
						2013	*2012*
1	*real estate, machinery and equipment*					*1,607,853*	*1,433,690*
2	*long-term receivables are receivable from the parent company*					*130,000*	*130,000*
3	*investment in an asociate*					*77,402*	*74,229*
4	*deferred expenses*					*18,921*	*25,548*
5	*total*	*total non-current assets*				*1,834,176*	*1,663,467*
6	*goods*					*822,395*	*743,371*
7	*trade receivables*					*26,812*	*25,941*
8	*receivable from related parties*					*343,266*	*259,296*
9	*other recievables and prepayments*					*103,451*	*121,557*
10	*bank balances and cash*					*13,255*	*24,549*
11	*total*	*total current assets*				*1,309,179*	*1,174,714*
	5 + 11	*total assets*				*3,143,355*	*2,838,181*
12	*equity capital*					*260,000*	*260,000*
13	*legal reserve*					*130,000*	*130,000*
14	*foreign exchange reserve*					*574*	*1,412*
15	*total*	*property rights*				*390,574*	*391,412*
16	*advance payments are due to the parent company*					*2,007,893*	*1,755,694*
17	*employees end of service benefits*					*178,408*	*175,364*
18	*total*	*non current liabilities*				*2,186,301*	*1,931,058*
19	*trade debits*					*1,642*	*503*
20	*others and expenses are due*					*164,151*	*208,145*
21	*dividends payable*					*377,579*	*283,719*
22	*due to a related party*					*23,108*	*23,344*
23	*total*	*current liabilities*				*566,480*	*515,711*
24	*18 + 23*	*total liabilities*				*2,752,781*	*2,446,769*
	15 + 24	*total stockholders equity and liabilities*				*3,143,355*	*2,838,181*

Assets

The assets section of the balance sheet is a financial representation of what the company owns. The items are presented at the lower of their purchase price or their market value at the time of the financial statement presentation. Assets are listed in the sequence of their liquidity, that is, the sequence in which they are expected to be converted to cash.

Cash, KD 13,255

Cash is the ultimate measure of an organization's short-term purchasing power, its ability to pay its debts and to expand and modernize its operations. it represents immediately available purchasing power. This balance sheet category primarily consists of funds in checking accounts in commercial banks. This money may or may not earn interest for the company. Its primary characteristic is that it is immediately liquid; it is available to the firm now. This account may also be called cash and cash equivalents or cash and marketable securities. Cash equivalents are securities with very short maturities, perhaps up to three months, that can earn some interest income for the company.

receivable from related parties, KD 343,266

When a company sells products to customers, it may receive immediate payment. This may be done through a bank draft, a check, a credit card, a letter of credit, or, in the case of a supermarket or retail store, cash.

current assets, KD 1,309,179

This is the sum of the asset classifications previously identified: cash, marketable securities, accounts receivable, and inventory, plus a few more minor categories. It represents the assets owned by the company that are expected to become cash (liquid assets) within a one-year period from the date of the balance sheet.

Non-current assets KD 1,834,176

Fixed assets are assets owned by the company that are used in the operation of the business and are expected to last more than one year. They are sometimes called tangible assets and often represent a substantial investment for the company. Included in this category are:
Building. This includes any structures owned by the company, such as factories or other production facilities, offices, warehouses, distribution centers, and vehicle parking and repair facilities.
Machinery and equipment. This category includes all production machinery, office equipment, computers, and any other tangible assets that support the operations of the company.
Vehicles. Trucks, company cars, rail cars owned by the company are included in this category.

This relates to the significance or importance of an accounting event relative to the overall financial statement presentation. As a result, companies are permitted to identify a threshold KD amount below which a purchased item will be recorded as an expense on the company's income statement and will not appear on the balance sheet at all, even though the item is expected to provide benefit for more than one year and therefore, would otherwise be considered a fixed asset.

Liabilities, KD 566,480

Liabilities are the amounts that the company owns to others for products and services it has purchase and amounts that it has borrowed and therefore must repay.
Current liabilities. Include all money that the company owns that must be paid within one year form the date of the balance sheet.

Stockholders' equity, KD 390,574

Stockholders' equity represents the cumulative amount of money that all of the owners of the business have invested in the business.

	income statement		
	march, 31, 2013 and 2012 (KD 000)		
		2013	***2012***
1	***revenue***	***14,125,678***	***13,356,557***
2	***revenue cost***	***-13,773,502***	***-13,087,633***
3	***total profit***	***352,176***	***268,924***
4	***general and administrative expenses***	***-158,364***	***-143,492***
5	***other revenue***	***179,303***	***153,560***
6	***share in the results of an associate***	***4,011***	***4,545***
7	***revenue benefits***	***167***	***275***
8	***gain (loss) of foerign currency***		
	conversion	***331***	***-51***
9	***profits***	***377,624***	***283,761***
10	***board members remuneration***	***-45***	***-42***
11	***year profits***	***377,579***	***283,719***

Return on total assets $= \frac{net\ income}{total\ assets} = \frac{377{,}579}{3{,}143{,}355} = .120$

Return on common equity $= \frac{net\ income}{common\ equity} = \frac{377{,}579}{390{,}574} = .966$

Current ratio $= \frac{current\ assets}{current\ liabilities} = \frac{1{,}309{,}179}{566{,}480} = 2.311$

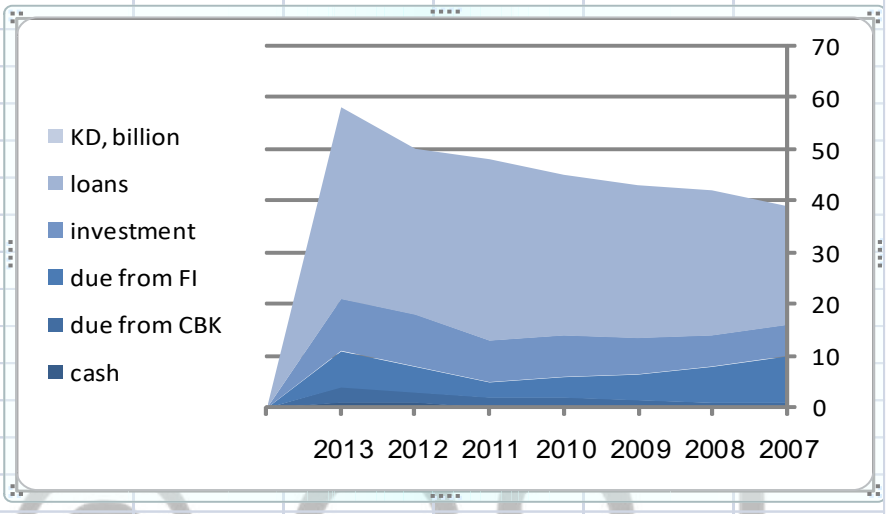
Debt ratio $= \frac{total\ debt}{total\ assets} = \frac{2{,}752{,}781}{3{,}143{,}355} = .876$

Kuwait

Growth in the banking assets turned double digit (11.9%), as the banking sector accumulated another KD 6.29 billion, pushing its asset base to a new high of KD 59.2 billion by December 2013, both in absolute and growth terms, this was the most significant growth achieved in the last six years; it seems the banking sector, which experienced much slower growth in the wake of global financial crisis, is finally gaining power push. A look at the asset composition of banks reveals that both loans and investments have remained the two major components of the banks' balance sheet, collectively accounting for 79% of total assets as of December 2013 (figure 1.5).

KD, billion	loans	investment	due from FI	due from CBK	cash	
	23	6	9	1	0	2007
	28	6	7	1	0	2008
	29.5	7	5	1.5	0	2009
	31	8	4	2	0	2010
	35	8	3	2	0	2011
	32	10	5	2	1	2012
	37	10	7	3	1	2013

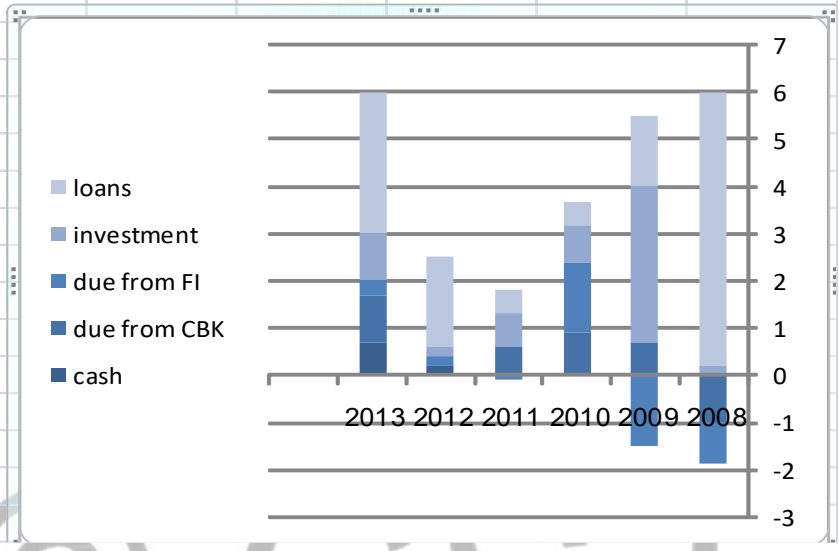
1.5 trends in key components of assets



Flow data for the key components of banks' assets further exhibits that growth in assets was broad based, with positive contribution by all the key components an overall asset growth, in particular from loans which increased by KD 2.98 billion during 2013 (figure 1.6).
Contrary to the previous years, banks also closed the year 2013 with a sizeable increase in their cash holdings.

KD, billion	*loans*	*investment*	*due from FI*	*due from CBK*	*cash*	
	5.8	*0.2*	*-0.9*	*-1*	*0*	*2008*
	1.5	*3.3*	*-1.5*	*0.7*	*0*	*2009*
	0.5	*0.8*	*1.5*	*0.9*	*0*	*2010*
	0.5	*0.7*	*-0.1*	*0.6*	*0*	*2011*
	1.9	*0.2*	*0.2*	*0*	*0.2*	*2012*
	3	*1*	*0.3*	*1*	*0.7*	*2013*

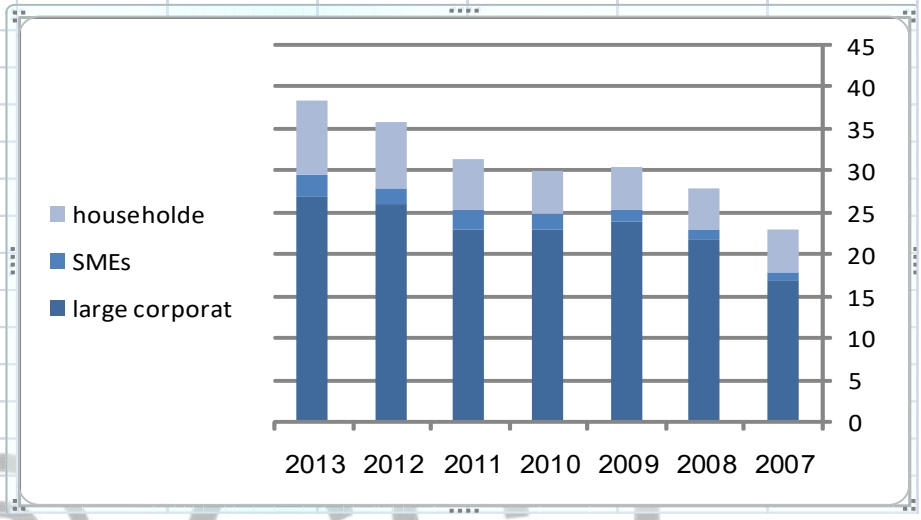
1.6 trends in banking assets (flow)



During 2013, banks expanded their loan portfolio by another 2.98 billion, posting a growth of 8.9% (figure 1.7). this was the strongest growth recorded in the last five years, a clear indication of the pickup in credit off-take. In terms of credit allocation to various types of borrowers, lending to large corporate accounted for around 73% of total gross loans. a distant second was the households sector, with 21.3% share in overall credit and outstanding loans amounting to KD 7.81 billion as of December 2013. With increasing focus of the government to promote SMEs in Kuwait with a view to generate additional employment and business growth, share of bank lending to these enterprises is likely to improve in future, though a major shift in credit allocation away from corporate and households in unlikely in the medium term.

	householde	SMEs	large corporat	
	5	1	17	2007
	5	1	22	2008
	5	1.5	24	2009
	5	2	23	2010
	6	2.5	23	2011
	8	2	26	2012
	9	2.5	27	2013

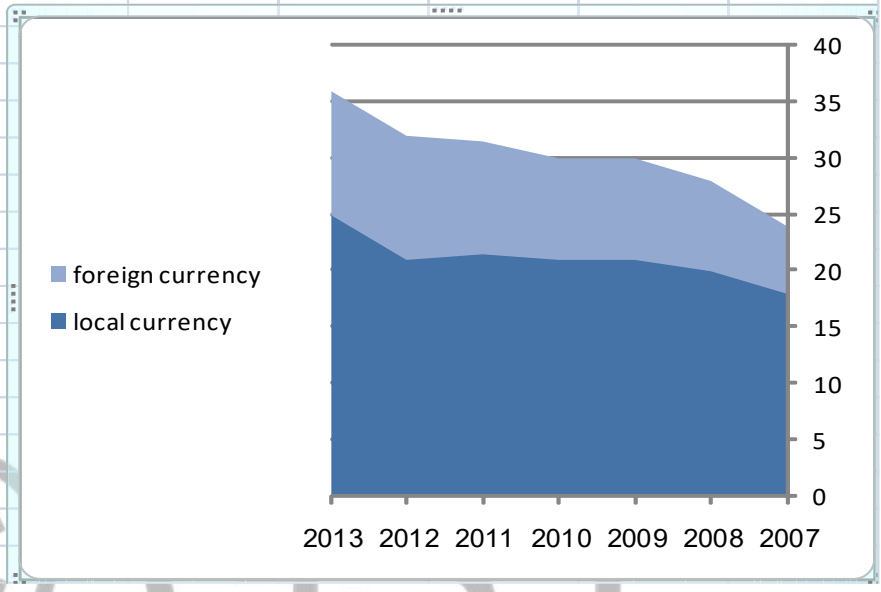
1.7 Gross loans by borrowers' type



Currency wise break down of the gross loans indicates that more than two thirds of the overall lending was in the domestic economy, with the share of foreign currency loans remaining almost the same (28.2%) in 2013 as observed a year earlier (figure 1.8).

	foreign currenc	local currency	
	6	18	2007
	8	20	2008
	9	21	2009
	9	21	2010
	10	21.5	2011
	11	21	2012
	11	25	2013

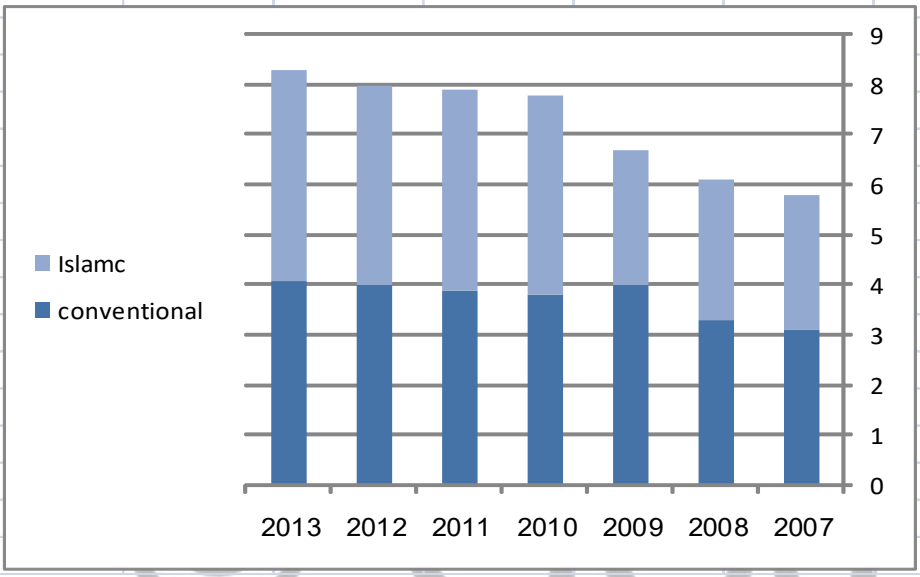
1.8 Gross loans by currency



Banks' most significant exposure remained towards the real estate sector as these loans accounted for around 23.2% of banks' gross loan portfolio in 2013 (figure 1.9). during the year under review, credit to real estate posted a growth of 6.5%, compared to a much slower growth of 2.6% in 2012. Lending to real estate segment has also remained almost equally divided among conventional and Islamic banks, though conventional banks had a slightly higher share (51.9%) as of December 2013.

	Islamc	conventional	
	2.7	3.1	2007
	2.8	3.3	2008
	2.7	4	2009
	4	3.8	2010
	4	3.9	2011
	4	4	2012
	4.2	4.1	2013

1.9 Banks' real estate loans



My opinion

Any financial need to learn more about the business. These are markets, customers, concepts, competitive, and operations issues. And all other business managers need to learn more about the financial aspects of business. This including the language of financial, the finance with which the company must deal, and the financial strategies. That may improve the company's competitive positions, operational effectiveness, and ultimate profitability.

Conclusion

Some question, like why do we deserve their money? Why do our customers buy our products and services? we must answers, if we are focus our energies and resources on these efforts that will make growth. And we must explain definition of high quality, and focus on people whom distinguishing that will be develop. The our company to continue ahead of the competitive. People and money must be dedicate to the most profitable, fastest growth.

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