Law School

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Analysis and identification of the financial instruments and Investment international strategies for the Ecuadorian investor

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ABSTRACT

In a country like ours where financial education and financial culture are far from developed, it is usual to find international investing as rare or uncommon because of people's way of thinking. Maybe this behavior comes from not knowing how the system works, and therefore not trusting it, and it is completely understandable.

The main idea of this work is to identify the basic principles of the market's behavior and its relevance, and therefore eliminate some of that people's fear of international investments. And also to work as a guide for investors and savers currently looking for investment opportunities.

CHAPTER 1: INTRODUCTION

1.1 The financial environment

At first sight the financial environment along with countless value titles[1], institutions, and markets which are developed in it, could seem chaotic and without any order. The truth is not like that, the world financial environment like all markets is influenced by a lot of variables. For example, without going into detail, the people's desires, the technologies, the risk, and economic limitations, are some of the characteristics that influence the behavior of finances. If you analyze them you can come up with conclusions that can be important at the time of choosing an investment strategy. This shows a certain order in the market and a reason for every movement that happens in the financial environment.

According to the Nobel Prize Henry Markowitz, creator of the portfolio[2] modern theory exposes that at the moment of making an investment, all the investors have a rational behavior when selecting the assets that they want to invest in. This is because they all look to have the maximum profitability without having a high risk. This shows that the market has an order and a rational behavior which allows us to analyze it.

The idea of this work is to simplify the comprehension of this environment, and to identify the strengths that give shape to the instruments and markets, and the way to take advantage of it for our investment benefit or others investment.

At the beginning we should differentiate what kind of assets are the financial ones. According to Zvi Bodie´s, Alex Kane, and Alan J. Marcus concept, authors of the book *Investments*, the financial assets are intangible assets that represent rights over the profits generated by real assets, such as machinery, buildings, companies, etc. or about the government performance[3]. In fact, the richness of a country, company or person is measured in real assets, which means money, properties or machinery. The financial assets play an important role in richness construction, even though they are not materially

[1] A value title is an asset which value is not represent it by itself, but by the right that holds upon a second asset. MARTINEZ C, Hugo R y PEROZO S, Beatriz J. Sistema de información gerencial para la optimización de portafolios de inversión. *Revista Venezolana de Gerencia* [online]. 2010, vol.15, n.50 pp. 263.
[2] MARTINEZ C, Hugo R y PEROZO S, Beatriz J. op.cit. pp. 262.
[3] BODIE Zvi, KANE Alex, MARCUS Alan. Investments.6th Edition.McGraw-Hill.2005.

valuable because they are only documents or an electronic entry, they are the ones that facilitate the capital movement.

Bonds[4] and stocks[5] are the most used financial assets to provide the organizations and government effective ways of capital financing. If there would not be financial markets there would not be the big multinational companies, big bank institutions, and a lot of public work done by the government would not be possible. For these reasons it is really important and necessary to understand this indirect contribution of the financial assets to the economy.

Although there are a lot of factors inside the financial environment like the investors, issuers and intermediaries, etc., a practical way of classifying them would be to group them into three big groups: the domestic sector, the business sector and the governmental sector[6]. Each one of them is different from each other especially because of the objectives that they pursue.

1.1.1 Domestic Sector

The domestic factor is made up of families and homes that look to invest their money earned in their jobs, companies, inheritances, etc. The most common objectives of this sector used to be family planning, studies, retirement or just prior the savings against the expenses. A great majority of the investments of this group are conducted through intermediary companies, insurance companies, and common funds which allow the small savers the benefit of acquiring a big variety of value titles, minimizing the risk, and achieving their expectations. Bonds and stocks from the companies are also attractive instruments for this sector.

[4] A bond is a financial asset which obligates the issuer to pay dividends to its holder at a certain time and rate. BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit. (More on page 10th).
[5] A stock is a financial asset which represents the share of ownership of a company, and therefore the right to claim its profit share. BODIE Zvi, KANE Alex, MARCUS Alan. Op.Cit. (more on page 9th)
[6] BODIE Zvi, KANE Alex, MARCUS Alan. Investments.6th Edition. McGraw-Hill.2005 pp. 12 -14

1.1.2 Business Sector:

The objectives of this group vary a lot from the first group because the companies do not look to save money like the families, on the contrary what the companies look for when they use the financial instruments is to invest and generate profitability or to raise money to finance their business transactions like the purchase of real assets that give more value and efficiency to the company. There are two ways that the companies can raise money when using financial assets. The first one is to issue bonds to be acquired by the domestic sector, becoming this way into creditors; and the other is to acquire associates by the sale of company stocks, giving up a part of the company to have immediate capital on return. These kinds of movements are the ones that allow the existence of big multinational companies and big corporations worldwide.

1.1.3 Governmental Sector:

This group has a double importance in the financial environment. First at the moment of looking for financing, this means when the government sees that its income is less than its planned expense and sees itself forced to borrow from financial institutions or through the issue of bonds. These bonds can be acquired by the domestic sector as well by the business sector. The second important duty that this group has on the financial markets is the regulatory aspect because it is in charge of supervising, legislating, and leading the market in its corresponding jurisdiction.

These three groups added to other important actors, such as the stock market, the stockbrokers' houses, the financial institutions, issuers, among others form what is called the financial market.

Although the purpose of this work is to establish the different strategies that can be used by an investor, there are certain key concepts that are necessary to check with the purpose of understanding the reason of its application in the finance world. Following, a more detailed explanation is given about the concept of the stock market, which is the place where all the variables that influence the stock-exchange market meet; this is a key concept at the moment of applying a strategy and it is necessary to understand it before checking the different instruments available for an investment.

1.2 The Stock market 7

It is an organization whose function is to provide the legal, operative and technological frames necessary to make transactions between supply and demand, purchase and sale of stocks, companies and societies participation, public and private bonds, investment funds and other value titles. It is officially regulated and it is in charge of supervising and monitoring the transactions done in the value market and its name changes depending on the country you are.

The investment in the stock market can generate profit in two ways; the first is by collect dividends and interests produced by the participations or bonds that it has respectively; the second way is by the difference in price between sale and purchase from the titles acquired. Later on there will be a deeper explanation about each one of the instruments and value titles that are negotiated in the market.

1.2.1 Objectives

- Encourage and strengthen the market of capitals and the economy of the country where it works.
- Collaborate to the social growth being one of the financial instruments used for the capital development and the transformation of savings into investment.
- Simplify the connection between small and big savers with the companies, public and private institutions that demand capital.

1.2.2 Participants

The activities done inside the stock market are developed by the following participants:

-Capital Claimants

[7] Source: Conheça mais sobre o mercado de ações e saiba como negociar na Bolsa de Valores. www.geronetservices.com (http://bonscursos.com/administracao/admvendas/2008-bolsaval.pdf)

-Capital Bidders

-Brokers

-Regulator entities

- **Capital Claimants**

Also known as issuers are the companies and public and private organizations which in need of capital put at the disposal of the savers and investors, financial instruments, which represent obligations, being this of fixed[8] or variable income[9].

When dealing with companies which require working capital, they should be ruled by a series of norms that allow the investors to determine the value of their assets and therefore the valuation of their stocks and participations. By means of the periodic publication of their financial status you can know the situation of the company, watching over the investor´s security as well as giving tools for decision making.

- **Capital Bidders**

They are natural or a legal entity able to give their economic resources, depending on their objectives with an expected future benefit on return. This benefit could be in short, medium or long term depending on the risk level that each person is able to accept. There are investors that look for high profits in the shortest term possible, accepting a higher risk. On the other hand there are the ones that are not willing to take high risks and they rather get value titles of fixed income, which are theoretically safer.

- **Brokers**

Within the brokers there are the fund management houses, societies and agencies that manage the stock and values, which are the link between claimants and bidders. A stock broker is every natural or legal entity authorized to do activities of buying and

[8] Financial assets which offer a fixed return over a certain amount of time, being this return able to vary according to different market circumstances. Bonds are the most representative assets of this type. SupraInvest Wealth Management. Investment Class. 2010.

[9] Financial assets which offer a variable return depending of the performance of the company. Stocks are the most representative assets of this type. SupraInvest Wealth Management. Investments. 2010. Op. Cit.

selling value titles for a third person. Every transaction inside a stock market has to be done by a stock broker. The brokers act also as advisers for their clients and promoters of new investment tools.

- **Regulator Entity**

It is the institution or organization in charge of supervising every stock exchange activity done inside its jurisdiction; this includes the stock market, stock brokers, investors, risk examiners, advisors, accountants, etc.

Its name changes depending on the state you are. In Ecuador the one in charge is the National Council of Values which is subscribed to the Superintendence of Companies.

1.2.3 Importance of the Stock Market

In developed countries like The United States, around 48% of the families have stocks and investments funds as part of their assets[10]. Even though a market cannot be compared to another, this shows us that the financial instruments are used a lot abroad. In a country like Ecuador where the financial system and the stock market concept are poorly developed, it is really difficult that the concept of investment takes part of the financial culture of people.

A complete analysis of the Ecuadorian economy allows us to easily realize the advantages of managing an investment in more stable and competitive markets abroad. The risk rating of Ecuador according to Standard & Poor's is B- (last rating change done in august 02, 2011), this you can find on the web page of the agency mentioned before www.standardandpoors.com under the part of ratings. Likewise, the main financial entities do not have a rating by worldwide recognized evaluators. This along with the political instability that has characterized our country, justifies in terms of security and performance, to choose an international investment instead of a local one.

[10] GITMAN, Lawrence J. JOEHNK Michael D. Fundamentals of Investing. Pearson Education. 2004 pp. 6

In conclusion, we can see that the international financial environment opens a range of possibilities for the Ecuadorian investor that wishes to make their money produce abroad and change, this way, his/her patrimony.

These possibilities added to the constant desire for development of the people as well as the entities that they manage, has made the financial markets around the world increase their size and importance inside the world economy.

The knowledge of who they are?, where? and how?, interact with each other, it is essential whether it is in corporate or personal financial management. The next step after this knowledge is to identify the different tools that these actors have available to take advantage of the benefits that the international financial market has. In the next chapter each one of these tools is explained into depth, which, when used correctly, can generate big benefits.

CHAPTER 2: FINANCIAL INSTRUMENTS

Generally when we talk about financial instruments the two words that come to the people´s minds are stocks and bonds, variable and fixed income, respectively. But this would be a wrong simplification of the variety of instruments available for the investors of all economic levels. Each instrument behaves in a different way from the others, some of them influence in others´ behavior and some of them are independent. Indeed it is a wide field to reduce it that way. The purpose of this chapter is to conceptualize each one of the instruments that can be used in an investment portfolio[11], and to know the reason of its behavior.

2.1 Deposit Certificates[12]

This is a fixed income instrument issued by a bank, it has a deadline and an interest rate accorded since the beginning. Although they can be similar to a fixed term deposit, common instrument in any commercial bank, they have a basic difference. The deposit certificates can be negotiated in the market and can be sold before their expiration date. It means they can be negotiated in the stock market.

The accorded interest rate is going to depend on different factors like the risk rating of the issuer entity, the referential interest rate, the term to which the investment is done and the market conditions. This last factor is essential when the deposit certificate is connected to an international interest rate, which is a value taken from an economy or sector of it. For example there are deposit certificates connected to the LIBOR, which is the rate the banks in London lend each other money.

At the same time depending on the government and the laws under which the deposit certificates are issued, this is an insured investment instrument. For example, in The

[11] "It's a combination of different financial assets, which combined allows us to diminish the risk of an Investment" MEJIA CARVAJAL, Oscar Daniel. Discusión sobre la teoría moderna del portafolio: aplicación de la internacionalización del portafolio, incluyendo el caso colombiano. [online]. 2002, vol.18, pp. 114-115

[12] Suprainvest Wealth Management – Curso de inversiones. Op. Cit. - BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.

United States the Federal Deposit Insurance Corporation (FDIC) insures the certificates until $100.000. This makes it an instrument for investors with high risk aversion[13].

2.2 Stocks[14]

The stocks are the primary investment tool of variable income by excellence. A company is divided into stocks. When the company is open, it means that its stocks or part of them are available to the people in general by its negotiation directly to the buyer or by the stock market. Each stock represents a part of the company and at the moment that an investor buys it, he becomes a partial owner of the company, and acquires a right over the percentage of the profit or loss and the company´s assets. Depending on the type of stock he also can be involved in direct company matters like the election of the administrative staff.

The stocks can generate profits in two ways:

- Capital earnings. Profit can be generated by increasing the value of the stocks as time goes by. It means selling them in a higher price than when they were bought.
- Collection of dividends: In this way the profit is generated when the stockholder receives part of the company´s earnings after a certain period of time.

There are two kinds of stocks to be issued, ordinary stocks and preferred ones. The ordinary stocks are more usual, where the partial owner can take part of the directory, has the right to vote, and the payment of dividends is determined by the directory approval.

On the other hand, the preferred stocks are the ones the investor has the right to have a pre-established interest rate which comes from the profit of a certain term, but does not have right to vote. Many preferred stocks have the characteristic that in a previously determined date, the company can start a buy-back process or “call” with a pre-establish price.

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[13] Source: BERGGRUN PRECIADO, Luis and CAMACHO Roger. Cómo crear un portafolio de inversión con las opciones que ofrecen los fondos de pensiones voluntarias en Colombia: el caso de Skandia. [online]. 2009, vol.25 pp. 25

[14] Suprainvest Wealth Management – Curso de inversiones. Op. Cit. - BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit

If the company is in bankruptcy, the owners of preferred stocks have a priority right on the assets of the company over the owners of ordinary stocks. It means that the owner of ordinary stocks have a higher responsibility over the company because they are immerse in its management and decision making.

2.3 Bonds[15]

A bond is a debt issued by an entity that looks to have capital available. The companies use bond issuing to finance specific projects that involve capital, these could be the purchase of an asset or the purchase of another company. In this way the investor becomes a company´s creditor. The governments issue bonds when they need to finance its public deficit or to finance public work.

The bonds are very useful instruments for portfolio investment strategies, as we will see in the next chapters they are considered low risk investments, compared with other kinds of instruments like the stocks, derivatives and more. For this reason it is necessary to analyze many basic concepts that are going to allow us to understand better the characteristics and variables that the bonds can have.

- Due date: Is the bond due date, which has been established before the purchase. The bonds can be short, medium and long term.
- Nominal Value (Par value): Is the initial value determined by the issuer. This is going to be the value to be paid in a due date and over this the interests (coupons) will be calculated.
- Market value: Is the established value in a certain moment, which is used to buy and sell a bond in the secondary market. When it is superior to the nominal value it is known to be over the par value; if it is inferior it is under it.
- Coupon: Is the interest rate that a bond pays and it is calculated over the nominal value. There could also be bonds sold with a discount, which means sold at a lower value than the nominal. They are also known as zero coupon bonds. It is called

[15] Suprainvest Wealth Management – Curso de inversiones. Op. Cit. BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.

coupon because in the pre-digital era physical coupons were issued and cashed later. The most common thing is that they are payable twice a year.

- Performance rate: Is the profit that a bond has if the investor buys it and keeps it until its due date. This is a key concept at the moment of analyzing the purchase of a government bond. It refers to calculate the internal return rate[16] which comes from the bond investment, having in mind the nominal value, the market value and the interest rate (coupon).
- Possibility to buy-back the bond: You can find this characteristic in some bonds and it means that the issuer can buy the bonds again, take them out of the market in their nominal value, in certain dates previously established before their due date. This happens when there are changes in interest rates. Like we will see later they influence in the value of the bonds.

2.3.1 Bond Types

The principal difference that we can use to classify the bonds is between bonds issued by the government and bonds issued by companies. But the bond universe is very vast to simplify them this way. An effective way of knowing the different kinds of bonds is analyzing how this instrument works in a market like The United States. In this country the bonds are classified in three kinds: bonds issued by the government, agency bonds and corporate bonds.

The bonds issued by the government of The United States are issued in four ways:

- Treasury Bills: They are short term investments, generally between 3 and 12 months. The profits are received totally on their due date, both the nominal value of the bond as well as the interests.
- Treasury Notes: They are medium term investments, between 2 and 10 years. They pay semiannual interests and the nominal value on their due date.

[16] It refers to the rate which compares the income and the outcome. VELEZ-PAREJA, Ignacio. Ranking and optimal selection of investments with internal rate of return and benefit-cost ratio: a revision [online]. 2012, vol.57, pp. 29-51.

- Treasury Bonds: They are long term investments with a thirty-year due date. The profit is received the same as with the treasury notes, semiannual interests and the nominal value on their due date.
- Zero Coupon Bonds: The same as the treasury bills they pay the nominal value of the bond on its due date. The difference is that they are medium or long term investors, generally between six months to thirty years. They are also known like discount bonds, because at their due date the nominal value is paid and the bond profit is the discount.

There are other kinds of bonds issued by the agencies in The United States. The agency bonds generally offer higher profits than the government bonds but lower than the corporate bonds. They are short, medium or long term investments since they go from three months until thirty years, they pay semiannual interests and some of them can have the characteristic of being bought again by the issuer in dates and valued established. In The United States these bonds are issued by five entities sponsored by the government, Government Sponsored Enterprises (GSE's), these are: Federal Farm Credit Banks, Federal Home Loan Bank system, Federal Home Loan Mortgage Corporation (Freddie Mae), Federal National Mortgage Association (Fannie Mae) and Student Loan Marketing Association (Sallie Mae). The majority of these agencies have high risk ratings which make the investment very secure.

At last we have the corporate bonds issued by companies which are used to finance any company project, like buying another company, infrastructure, machinery among others. These bonds have a higher risk than others because they depend directly on the issuer's development and its financial capacity to handle these obligations. Some of them are qualified by risk-rate agencies.[17] These bonds are diverse in its characteristics because they depend directly on the project that is being financed. Its due date could go from a few weeks until one hundred years, its interests can be paid semiannual or annual or there could even be Zero Coupon Bonds. Some corporate bonds have especial characteristics; for

[17] Source: AGUIRRE BOTERO, Yenny Catalina and MESA CALLEJAS, Ramón Javier. Lecciones de la crisis financiera internacional: el debate sobre la regulación financiera. [online]. 2009, vol.12, n.25 pp.61-79.

example, they can be transformed into ordinary stocks from the company or they can be bought again by the issuer. ("Call")

2.4 Derivative Instruments[18]

It is a financial instrument whose value depends directly on the value of one or other underlying assets. There has been an interesting expansion in the topic of derivative instruments around the world. Its participation in the market has been really significant not only being negotiated in the most important stock markets in the world, but also in specific derivative stock markets such as the Chicago Board of Trade (CBOT) and the Chicago Board Options Exchange (CBOE).

There are different kinds of derivative instruments, from which we will focus in analyzing the options and the futures, because of their importance and constant use in the stock exchange environment.

2.4.1 Options

An option[19] is a standardized arrangement between two parts which are negotiated in the stock market, where one of the parts acquires a right of buying or selling an asset, known as underlying asset, in an established date. This right is acquired in return to the payment of a premium. The seller of this right acquires an obligation, to accept the use of this option if the buyer thinks it is convenient. In conclusion, the buyer acquires a right, which will be used if it produces a positive performance and the seller acquires the obligation to accept the buyer's decision.

There are two kinds of option contracts. A call option, which gives the owner the possibility to buy an asset in a pre-established date and price. The other kind is a put option, which gives the owner the right to sell an asset in a pre-established date and price. The established price is known as the *exercise price* and the date as the *due date* of the option.

[18] Suprainvest Wealth Management – Curso de inversiones. Op. Cit. - BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.
[19] VENEGAS, Francisco y CRUZ, Salvador. Productos derivados sobre bienes de consumo. [online]. 2010, vol.6, n.2 pp. 25-54.

The customer of a call option waits for the underlying asset to increase its value on its due date over the exercise price of the option. This way he gains money by being able to buy the asset in a lower price than what really it is worth on the market.

The customer of a put option waits for the asset to have a lower value than the exercise price on its due date, so in this way he is able to sell the asset in a higher price than the real price in the market.

In both cases the seller of the option hopes that the customer does not use the option in order to get the value of the premium as the profit.

When an option gives a positive result for the owner, it is said that this option is "in the money". On the contrary when the option gives a negative result it is known that the option is "out of the money".

Example:

An investor goes to a stockbroker and gets a call option of a stock from Company X. The stock is valued currently in $100, the price of the option is $5, the option has a 90-day due date and the exercise price will be $115. Ninety days later on the due date of the option, the stock is valued in $125. Therefore the investment result is that the customer of the option is "in the money". He has the right to buy a stock in $115 which has a market value of $125, this minus he option cost of $5, represents a $5 profit, being equivalent to a $5 loss for the seller.

2.4.2 Futures

The futures contracts as well as the options, are standardized contracts between two parts, they are negotiated in stock markets, where both parts are compromised to buy and sell an asset, with a date and price established since the beginning. In Futures this established date is known as *delivery date* and the determined price like *future price*. The asset is known as *underlying asset*.

The one who buys a contract to future is said commonly that he adopts a *long position*, obligating himself to receive the asset in the delivery date and in the future price. This person will benefit himself if the future price will be less than the market price at the delivery date, otherwise he will have loss.

The seller of the contract to future will assume a short position, acquiring the obligation of receiving the asset in the delivery date and in the future price. This person will benefit himself when the asset´s future price will be higher than the real market´s price at the delivery date.

Example:

Company A and company B go to their respective stock brokers to buy and sell asset X with a contract to future. In the stock market the negotiation of this contract is done with a value of $10.000 in a year term.

A year later, when the delivery date of the asset has come, the market value of asset X is $12.000. According to company B´s contract it has the obligation to give the asset at the future price. In this case company A will have saved $2.000 and company B has a loss of the same value. In case that the real value of the asset X at the delivery date would be $9.000, company B would have obtained a profit of $1.000 meaning an equal loss for company A.

The options as well as the futures are standardized contracts, the entity in charge of guarantee the contract accomplishment is a clearing chamber, which acts legally as buyer from the seller´s point of view and as seller from the buyers´ point of view. In case that there is any contract failure, the chamber assumes the values to be paid and can legally act against the part that did not fulfill the contract. When it refers to the futures the clearing chamber also assigns a daily loss and profit status for both parts of the negotiation.

Besides stocks, bonds and derivatives, there are other investment alternatives that are necessary to consider. These alternatives like the investment funds, hedge funds, among others are useful to complete an investment portfolio. In the last chapter these topics will be explained into depth. Next, an analysis of these alternatives is presented.

2.5 Investment Funds.

An investment fund is a shared patrimony, actively managed by finance professionals who allow the investor to accomplish better profits than the ones that could be obtained using only his capital and managing this personally, based on the principle of higher capital, higher benefits present in any kind of investment.

Another key advantage of the investment funds is the high degree of diversification that they get according to the operations volume involved.

There are diverse kinds of investment funds, based on the kind of financial instruments used as well as the fund objective.

- Funds of money market
  These kinds of funds invest in instruments with the most liquidity possible, therefore in a short term. Generally they have low volatility[20] and they look to have superior results than the inflation level. Public debt in a short term or deposit certificates are the most used by the managers of this kind of funds.
- Bond Funds
  Since the universe of the bonds is vast, there are a lot of kinds of bond funds in the finance world. There are funds that invest in the first world countries and corporate bonds of first level, which have moderate results, stable and with low volatility. At the same time there are funds that invest in emergent countries´ bonds and small and medium companies with growing potential that look for high profit with its corresponding volatility or risk.
- Stock Funds
  Always the investments related with company stocks are going to have a higher risk and volatility in relation with other instruments. Consequently, the stock funds look to generate interesting profits in a medium and long term, considering the volatility.

[20] It measures the intensity and frequency of an asset's price fluctuation. LAMOTHE, Prosper. Opciones Financieras. (http://hdl.handle.net/123456789/2280)

A great variety of strategies can be implemented in these funds. They could be specific funds, it means they invest in a specific economy or specific sector of it, or they could be global funds that invest in stocks of all kind of companies anywhere in the world. This is going to depend directly on the options that the banks and funds management houses offer. The investor always is going to find great variety.

- Mutual Funds

  The mutual funds are an important part of the world financial industry. The majority of these funds are used to cover investment necessities like savings and family future projection. Being retirement the main objective pursued.

  These funds are quoted publically and daily and in some countries are tax free plans. In The United States these funds are known as Individual Retirement Account – IRA and they are controlled by the government. The funds management houses also offer international funds generally located in Off Shore centers.[21]

  Their regulation is going to depend directly on the financial center where they are issued. These funds being quoted daily allow the investors to have access to this money immediately after its withdrawal or at any moment depending on the limitations of the administrative house.

2.6 Alternative investment strategies.

Professionals of the finances and subject theoreticians have recognized the importance of including alternative investment strategies to reduce the volatility of a portfolio. By alternatives we understand any instrument or different strategy to the common instruments such as bonds, stocks, and deposits.

Within these alternative strategies we can find hedge funds, mirror funds or funds of funds or the structured notes with capital guaranteed.

[21] Term used in financial slang to describe any economic and financial activity performed abroad in countries known as "fiscal paradises". Being these territories where non-residents have total or partial tribute exemptions. SALTO, Diego. Los paraísos fiscales como escenarios de elusión fiscal internacional y las medidas anti-paraíso en la legislación española.

- Hedge Funds are funds managed in an active way and look to have positive results in any situation of the market. Essentially these funds intervene in a combination of traditional instruments with derivative instruments, with low correlation[22] with the financial system, in this way with a minimized risk. The ability and reputation of the administrative house like the fund manager is the key in this kind of investments because they will have the freedom of managing the fund according to its strategy prioritizing always the positive results at any moment.

- Fund of Funds is the one that invests in a variety selected after analysis of many hedge funds with different strategies. If we see that a hedge fund has a high degree of diversification itself, a fund of funds aim is to reach a higher degree of diversification for the portfolio. This way the risk and volatility can be reduced.

- Structured notes with capital guarantee are investment funds that have a due date and the capital is 100% guaranteed. The common term in these kinds of funds is from 10 to 13 years, during this date the capital is guaranteed. The funds work acquiring a percentage of zero coupon bonds that when the time of the due date has come, 100% of the capital is guaranteed. The percentage left is what is sent to very aggressive investments with the objective of straightening the medium results that the zero coupon bonds have. This makes the investment more attractive being the initial capital guaranteed from the beginning.

As we can see, there are tools for the investors and finance professionals that can be used at the moment of making an investment strategy. This shows the importance of the finance creativity of the person or firm that is in charge of the investment.

Once that the investor has become familiar with the environment and the tools he’s able to use, a harder part can be review. This is the market behavior analysis. In the next two chapters the behavior of these tools and how they interact between each other and the market will be deeply explained.

[22] More on page 49th.

CHAPTER 3: BEHAVIOR OF THE DIFFERENT INVESTMENT INSTRUMENTS AND ITS RELATION TO ECONOMIC CHANGES

In this chapter what I look for is to determine how the market works and the variables that modify its behavior. The chapter will be divided into two parts: the first part details the individual behavior of the different investment tools. And the second part explains how the general environment works, the variables that influence it and the way that it has behaved through time. At the end there will be recommendations from information sources that will work as support at the moment of making an investigation and building a strategy.

3.1 Individual behavior by asset

3.1.1 Deposit Certificates

There are a lot of variables that influence in the deposit certificates behavior. The risk rate from the issuer entity as well as the legislation is really important to analyze the certificates quality. Considering that one of the main advantages of this instrument is that it can be negotiated in the stock market when cash availability is needed, the fact that the certificate comes from a recognized and secure financial entity is going to make the negotiation easier and faster. For this purpose I recommend to analyze the given rate by Standard & Poor's, Moody's and Fitch.

The market conditions are going to be an important factor to consider when analyzing a certificate, because the interest rates handled in the different banks are going to depend directly on the economic status of the country where you are. Like it is analyzed before there are certificates attached to international reference rates like LIBOR or to stock market indexes like the S&P 500. For example, to analyze the financial health of The United States can give us a clear prediction of the certificate performance bound-up to the S&P 500 index. The same happens with other international reference rates and the markets that they offer.

It is also necessary to consider the fact that in many countries these certificates are insured by governmental agencies, which makes these kinds of instruments more attractive for a conservative portfolio or useful to leverage the risk of a balanced or aggressive portfolio.

3.1.2 Bonds[23]

To have a better idea of the behavior in the valuation of bonds it is necessary to understand the relation that they have with the interest rates. The price of a bond, which can be negotiated in a stock market, varies in function of the movements that the interest rates have in the market. If the interest rates go up, the bond price is going to descend because they become less attractive in relation to the new releases that a higher interest has, therefore it is going to be harder to sell these bonds. On the contrary if the interest rates descend, the bond price is going to go up because the interest that the bond was issued with, is more attractive than the new emissions that will come up.

Therefore the investor that thinks that the interest rates are going to descend, is going to invest in long term bonds, while if he thinks the interest is going to go up, he is going to invest in short term bonds, this way the profit increases without being affected by the market variations.

The quality of any bond is based on the issuer's capacity to answer to this obligation. For the investor the main tool to be used is the risk ratings that the issuer has.

3.1.3 Stocks

The stocks are the variable part of an investment portfolio. It is very necessary to do a correct analysis of the kind of company that is desired to acquire. If you are looking for stocks that produce interesting capital profits, always consider the risk – return ratio[24] concept, you can analyze companies that are looking for financing operations or companies that are looking for grow in a determined sector. This way,

[23] Suprainvest Wealth Management – Curso de inversiones. Op. Cit.

[24] Concept that indicates that at a higher assumption of risk bigger the expected return would be. BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit. Pp. 201

depending how these companies develop their ideas, the profits on the value of the acquired stocks can be produced in a short amount of time.

On the other hand if the purpose is to have safer returns, lower the risk and keep the value of the capital invested, the investor should consider the acquisition of mature companies' whose stocks are internationally established and recognized.

For example, to get stocks from companies like General Electric or Coca Cola, it means settled companies, the investor could wait for interesting results, maybe more regular than with other companies and with moderate possibilities of increasing the value of the stocks as well as the capital invested. On the contrary to acquire companies that are growing like those in the boom of the technological companies at the end of the nineties, it could turn into profits and even extraordinary capital earnings. Always considering that it is assuming a higher risk and the results could not be so persistent. Even though, it is worth to make clear that the investor should always consider when investing in stocks that he is dealing with variable income. The results depend directly on the company´s development and as safes as it looks, does not give any guarantee that the investment will have positive results.

The environment where the company is developed should be part of the analysis, because when examining the situation of the region, country, and economic sector where the company is settled you can have a clearer idea on how an investment could work. For example, there are regions and sectors where the profits can be really interesting due to the growth process that they are involved in, such as groups like BRIC[25] or the Next 11[26], considered by some analysts to have the major growth potential for the next years. Annex #1 shows an analysis done by the firm Castlestone Management, from the group Next 11. This analysis shows two important characteristics of the market. The existence of developing countries that could be taken advantage of and also the psychological factor in the investments

[25] Term first used by Goldman Sachs, in reference of the main emerging markets worldwide which are Brazil, Russia, India and China.

[26] Term which refers to the countries of Egypt, Indonesia, Iran, Korea, México, Nigeria, Pakistan, Filipinas, Turkey y Vietnam. (More on page 48th)

world where only a comment from a renowned company can raise or decrease the economy of one or many countries.

3.1.4 Derivatives

The market of derivatives in my opinion is the most complex inside the investment universe. The options and the futures are instruments that allow the investor to have a big amount of possibilities to combine them in order to accomplish the investment objectives.

An example of this is the options. Although the options are instruments based on speculation, because their value depends on the future value of an underlying asset, the investors and finance professionals also use them to accomplish other objectives. To clarify the way these instruments behave and are used let's see the following example[27]

An investor has $10.000 to invest. He goes to a stock broker who gives him two investment strategies. The first one is to buy $10.000 in stocks from the company X, which is valued in $100. The second strategy with the objective of reducing the investment's risk, proposes to buy 90 call options over stocks of the same company, options valued in $10 with the expiration in a year, during that year the $9.100 left invest in a deposit certificate from the bank which pays 4% annual of interest and if it is advantageous, make possible the call option of the stocks on the due date.

Let´s suppose there are three scenarios for the final result of the investment. The first, where the value of the stock after a year has passed, decreased to $95. The second scenario explains what would happen if the stock will increase its value to $110. And the third and final scenario shows us what would happen if the stock would increase its value to $120.

[27] BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit. Pp. 709

Table 1 - Example: Option's Behavior

Example	Final price of the stock					
	$95		$110		$120	
Strategy A	$9.500	-5%	$11.000	10%	$12.000	20%
Strategy B	$9.464	-5,36%	$10.364	3,64%	$11.264	12,64%

Chart done by: José Andrés Mora.

If the investor choses the strategy A, he will get $10.000 in stocks from the company X, in the case that the value of the stock increases to $120, the investor would have a profit of 20%. At the same time and depending on the stock´s value, the capital can be reduced, likewise in the case where the stock decreases a 5% of its value. The risk that the investor assumes is if the company disappears or his stock is devaluated at all, he will lose all his investment.

If the investor choses strategy B, he would get a deposit certificate in a year term of $9.100 and he would invest $900 in options. This means 90 call options of the company X, we can see that in the case that the stock loses its value, the investor will have a maximum loss of 5.36% from his capital, which is the $900 from the paid value by the premium, since it did not produce profits the options are not used and the only profit is the 4% paid by the deposit certificate. On the other hand if the stock increases its value, for example to $120 he will have obtained a profit of 12.64%. The growth potential of his investment in this case is infinite.

The analysis of this example shows us interesting characteristics on how options work. In the example of the investor using the strategy B, although the profit is not the same than obtaining only stocks, you get to lower the risk considerably. This shows us that an investor can use this instrument to lever up the risk which means the variable income, without deserting to the possibility to benefit from the profits. The options used this way can be useful to build conservative investment strategies.

The same way, the future contracts have the characteristic to eliminate the fluctuation risk from some assets that could be very changeable from one day to another. Often these contracts are done over commodities like agricultural products or oil, over finance references like interest rates and the valuation of stock exchange indexes and exchange rates.

The idea of these structures is the following: if a farmer only dedicates his time to sow wheat his profit is going to depend completely on the product´s harvest and the price that he can sell it. On the other hand we have the companies that need this raw material to create products for its commercialization, which have the risk that at the moment that they need suppliers the price in the market is higher than what was estimated before. The future contracts look to eliminate this risk for both parts, allowing them to agree since the beginning, in a favorable price for both of them and not to depend on the ups and downs that the market has in the product´s price. In this case the company will be assuming a long position and the farmer a short position.

3.2 Environment Analysis

Besides doing the analysis of the behavior of each one of the assets that can be used for our investment portfolio, it is necessary to take a look of the market in general. For this I make an analysis that has two parts: first it shows an approximation of the risk - return concept which represents a basic principle in the investment world. Then I continue the analysis with alternatives of data accumulation. That is tools like the historic information and the stock exchange indexes that allow us to analyze the behavior of the economy in general or from a sector of it, to get useful conclusions to elaborate the different strategies.

3.2.1 Approximation to the risk/return concept[28]

As we can see, the different instruments that can be used to structure an investment portfolio imply infinity of variables that if they are not assessed correctly, they can be counterproductive for the investor's objectives. Although the basic idea of getting the highest returns possible reducing the associated risk it is clear for the investors in general, it it important to recognize that there are many other factors to consider.

[28] Suprainvest Wealth Management – Curso de inversiones. Op. Cit.

At the time of building up a portfolio and proceed with its diversification[29] in order to reduce the investment's risk, there are tools, data and information that can help us to elaborate a strategy according to the presented objective for the investment. For example data from last profits of an asset can be used, in order to understand the behavior that they could have after different circumstances. Without going into technical considerations about statistic data, there are certain concepts necessary to consider at the moment of analyzing and building our strategy.

The estimated return value is the average of a series of data in a determined period, considering its occurrence probabilities; with this we can approach to an expected profit from the asset in an established period of time:

Formula[30]: $\overline{X}$ **= (**X1 * P1) + (X2 * P2) + (X3 * P3) +…. (Xn * Pn)

The standard deviation is the measure that allows us to know the dispersion that different data has had in relation to the media, which shows us the risk level because of the ups and downs that the value of an asset could have.

Formula[31]: S = √ $\overline{\text{(X-X1)2 * }}$(P1) + (X - X2)2 * (P2)+ …. (Xn * Pn)

Finally we have the risk premium, which is the difference that there are between the historic media of an asset performance and the reference value of a risk free market or "Benchmark" that generally is the interests that the bank pays for a deposit at that moment.

These data as a whole, allow the investor to analyze if the profit potential expected from the good or goods portfolio is coherent and interesting

[29] To divide the Investment portfolio into different types of financial assets in order to not be exposed to only one source of risk. BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.

[30] $\overline{X}$ = Average
X = Values From sample
P = Probability

[31] S = Standard deviation
X = Values From sample
P = Probability

considering the risk that is being assumed. In this way whichever the way of thinking of the investor is and his risk aversion, a strategy can be made according to his profit expectations as well as security.

A portfolio that gets to satisfy and maximize the investment earnings minimizing the market risk greatly is what is considered an efficient portfolio. [32]

Historically the variable income instruments, commonly represented by stocks, have had a higher long term profit than the fixed income ones, represented by bonds, obviously with a higher volatility.
On the other hand fixed income investments are characterized by being a low volatility investment.

The investor will always look for have high profits with low volatility and a lot of liquidity which in the value market is something very hard to reach. It is important to know that a perfect and risk free investment does not exist. If someone wants to have a higher profit than the one offered normally by a commercial bank has to be able to assume some volatility. The risk in the market is always going to be there.

So setting a timeline for the investment becomes really important. Technically speaking, for a short term investment like a year or so, it is not recommended to invest in variable income instruments with high volatility, because when the year has passed could be that the volatility forces to sell the stock in a lower value than the one bought. On the contrary for a long term investment it would be less efficient to invest in fixed income documents, because even if secure earnings will be generated the investor will be sacrificing profits just for having cash that he does not need

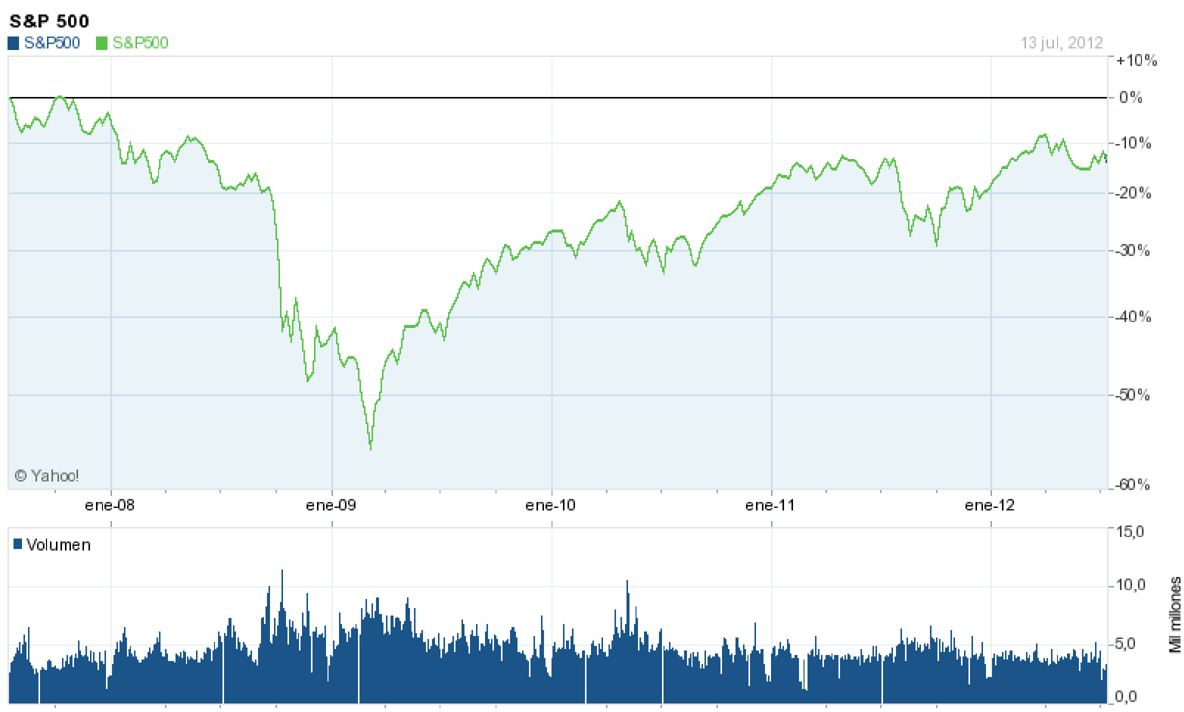
[32] BERGGRUN, Luis and CAMACHO, Virginia. Cómo crear un portafolio de inversión con las opciones que ofrecen los fondos de pensiones voluntarias en Colombia: el caso de skandia. *estud.gerenc.* [online]. 2009, vol.25, pp. 229-241.

available, and he is not taking advantage of the growth potential that these instruments have long term.

3.2.2 Historic Information [33]

An analysis tool that can be used to examine a market is the historic data and its past behavior. This could be useful to have an idea on the way the market has behaved in front of certain specific events or before a crisis time. Besides this gives the investor important statistical data like the standard deviation and the risk premium of a group of instruments, providing conclusions which facilitates structuring a portfolio according to its risk profile.

Figure 1 - Behavior of the S&P 500 Index in the last 5 years



Source: Yahoo Finance. [citado el 13/07/2012] Disponible en: http://es.finance.yahoo.com/q/bc?s=^GSPC&t=5y&l=on&z=l&q=l&c=^SPX

[33] BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.

In this graphic we can observe the behavior that the index Standard & Poor's 500 has had, which measures the performance of the main 500 companies in The United States. Being a stock fund, the volatility is really high, having strong ups and downs. It can be seen a very noticeable fall after the 2008 real estate crisis, that just in the second trimester of the year 2009 it starts to recover. Information of this kind can give us a clue on how the market behaves in front of specific facts and in the same way how to take advantage of this and to plan ahead a future behavior. The most recommended web site to get this kind of information is the finance site of Yahoo, where you can make comparisons between different assets or indexes to get a better idea of the environment.

All of these variations during time are the consequence of many factors and events happening in different economies around the world. This fluctuation is impossible to predict. If it wouldn't be this way, the entire world would be a millionaire. But there is analysis that could be made over facts and specific economies that could give the investor a clear idea on how to establish his investment strategy.

Something that is important to detail is the way an economy works during a crisis time. This is a common threat for the investor whenever the investment time is. Following is detailed a behavior analysis of the economy during and after a crisis and how this could be taken advantage for the investors.

3.2.3 Crisis Time

According to the principle of cyclic crisis[34], surely there will be periods that the markets are going to fall and there will be recessions, like the one in the year 2008 shown in the chart before. This topic is even more considerable for the investors with long term objectives.

[34] Concept developed by Karl Marx, which establishes that within capitalism there will most certainly be times of crisis and recessions over time. These could appear at any time and in different parts of the economy. SIERRA, Lara: *"Ciclos Económicos en la Vida del Capitalismo"* en Contribuciones a la Economía, octubre 2008 (http://www.eumed.net/ce/2008b)

The crisis times are very difficult to predict, but they never should be matter of reject to the investments in the stock exchange market neither motive of panic, as long as the investment is well managed.

In the case that a recession or a specific financial crisis reduces the value of an investment already done, the recommendation is to be patient to wait the market´s recovery, this way you will not lose the capital. At the moment the crisis is on its higher point, the unity price in stocks or mutual funds are going to be lower than on other times. If in that moment the investor decides to sell them, he is simply letting the opportunity of earning from the recovery goes away, and allowing other investor to benefit himself from these profits because of the low price that he got the investment. Time of crisis also means opportunity time.

An example of this is the behavior of bonds. The crisis generally takes to fluctuations in the interest rates from the affected countries and reductions in the credit ratings of the financial entities and governments. This makes that the interests to be paid from the bonds increase its value too.

Another way to take advantage of crisis times is taking advantage on the low cost of the stocks and mutual fund units to get the most out of the economy recovery. This is easily recognizable in the next example:

On the date 31/07/2007, an investor has two options: the first to invest $9.000 in a mutual fund of the company Schroder called “UK Equity Fund” that invests in stocks in the United Kingdom. The investment term will be 3 years. The second option is to invest the same $9.000 but to be paid monthly during 3 years in a regular way that is $250 monthly. The two investments behave considering the value of each unit as the time passes.

Table 2 - Example: Regular Investment vs Unique Investment

Date	Price per unity	Regular Investments	Total of Units	Unique Investment	Total of Units
jul-07	14,78	$ 250	$ 16,91	$ 9.000	$ 608,93
aug-07	14,6	$ 250	$ 17,12		
sep-07	14,71	$ 250	$ 17,00		
oct-07	15,35	$ 250	$ 16,29		
nov-07	14,68	$ 250	$ 17,03		
dec-07	14,76	$ 250	$ 16,94		
jan-08	13,41	$ 250	$ 18,64		
feb-08	13,92	$ 250	$ 17,96		
mar-08	13,66	$ 250	$ 18,30		
apr-08	14,46	$ 250	$ 17,29		
may-08	14,69	$ 250	$ 17,02		
jun-08	13,69	$ 250	$ 18,26		
jul-08	13,42	$ 250	$ 18,63		
aug-08	13,98	$ 250	$ 17,88		
sep-08	11,63	$ 250	$ 21,50		
oct-08	9,638	$ 250	$ 25,94		
nov-08	9,505	$ 250	$ 26,30		
dec-08	9,995	$ 250	$ 25,01		
jan-09	9,554	$ 250	$ 26,17		
feb-09	8,857	$ 250	$ 28,23		
mar-09	9,151	$ 250	$ 27,32		
apr-09	10,46	$ 250	$ 23,90		
may-09	10,78	$ 250	$ 23,19		
jun-09	10,65	$ 250	$ 23,47		
jul-09	11,42	$ 250	$ 21,89		
aug-09	12,51	$ 250	$ 19,98		
sep-09	13,1	$ 250	$ 19,08		
oct-09	12,94	$ 250	$ 19,32		
nov-09	12,97	$ 250	$ 19,28		
dec-09	13,45	$ 250	$ 18,59		
jan-10	13,12	$ 250	$ 19,05		
feb-10	13,38	$ 250	$ 18,68		
mar-10	14,35	$ 250	$ 17,42		

apr-10	**14,49**	**$ 250**	**$ 17,25**		
may-10	**13,56**	**$ 250**	**$ 18,44**		
jun-10	**13,02**	**$ 250**	**$ 19,20**		
	Total	**$ 9.000**	**$ 724,49**	**$ 9.000**	**$ 608,93**
	Price per Unity en jul - 2010		**13,2**		**13,2**
		Final Amount	**$ 9.563,33**		**$ 8.037,89**
		Growth	**6,26%**		**-10,69%**

As we can see in the chart No 2 the price of the fund units is very variable. Even you can see an important devaluation since October 2008 until March 2009. If the investor chose the option to invest all his capital since the beginning, the market fluctuations and the fact that the unit price in the date of the investment maturation, turned less than the one bought, have worked against him. On the other hand if he chose the option to invest the same amount of money but making short payments in a regular way, he took advantage of the market fluctuations because when the price of the units were really low a major number of units were acquired and at the end it benefited him at the moment of making the investment effective and eliminate the risk of waiting to see which is the price of the unit in the final date.

Therefore if a crisis affect directly an investment, knowing how to manage it can lead you to recovery and an even higher profit in a medium and long term.

“Be fearful when others are greedy, and be greedy when others are fearful” Warren Buffett.

3.2.4 Stock-exchange indexes.

The stock-exchange indexes are vehicles of summarized information that may be used by the investors. They are used to group, give value and simplify the comprehension of an economy or a sector of it, and to quantify the trust that the investors have over it.

The most common indexes used by the investors are the stock indexes. They measure the stock performance from a number of companies in different economies and sectors.

To value a stock-exchange index, the firm in charge takes a group of companies present in the stock market all of them belonging to an economy or a sector of it depending on the kind of index that wants to be developed. The firm gives a relative weight to each one of these companies, basing on its own criteria and the price fluctuations of the stocks, and then gives a value to the index that moves according to the fluctuations of the companies that make it.

In the annex #2 we can see the behavior of the stock-exchange index FTSE 100, which measures the performance of the main 100 companies in the United Kingdom in a period of 25 years. Here can be identified how the different world events and recession times affect the markets and how the stock-exchange indexes can make its lecture easier.

There are many stock-exchange indexes, made by different firms worldwide; below I detail one of the most known and influential:

- DOW JONES AVERAGE[35]

  Dow Jones Industrial Average (DJIA) index, expresses a weighted average yield of the 30 biggest corporations in The United States. It is part of an index family made by the same firm, which includes "Transportations Average", made of 20 transportation companies like airlines, shippers and land transportation. The "Utilities Average" of 15 electricity and natural gas companies. And the "Composite Average" which combines the 65 companies that make all of three indexes. This has been counted since the year 1896, although until the year 1928 it only included 20 companies.

Different funds management houses and financial firms worldwide develop many stock-exchange indexes, organizing their information by economic sectors to ease its lecture. Besides this, each country in the world with a stock market and and a developed financial

[35] DOW JONES. (www.dowjones.com)

system has its own index to monitor its performance. All of these indexes are a very important source of information for the investor. Next I make a list of the most important indexes worldwide:

- NIKKEI (Japan)
- FTSE (United Kingdom)
- DAX (Germany)
- HANG SENG (Hong Kong)
- TSX (Canada)
- CAC 40 (France)
- NASDAQ (The United States)
- EUROSTOXX 50 (European Union)
- MERVAL (Argentina)
- BOVESPA (Brazil)
- TA 100 (Israel)

Another efficient way of comparing two or more markets for an investment is to use regional or country indexes made by a same firm and valued under the same statistical methods and financial formulas. In this way there could be a clearer idea of the development that an investment strategy will have regarding another one, because there is used an only elaboration criterion. One of the leading firms concerning indexes elaboration worldwide is Morgan Stanley Capital International (MSCI), which computes around 50 indexes in many regions and countries in the world.

3.3 Information Sources

At the moment of analyze the market conditions that influence an investment portfolio there are many useful information sources where we can base our investigation. From these sources we can get information about political, social and economic events, that happen in different markets as well as information of prices and valuations of companies, countries and markets.

Generally the investors who are up-to date in what happens in business, politics, and economics take better decisions in their investments.

Regarding data and stock-exchange statistics and everything related to quoting financial instruments in different stock markets, we have the financial journals like main source. The *Wall Street Journal* (www.wsj.com) is probably the most known of all. This is a journal that is emitted daily and has information of the US market as well as the international one. Its traditional and digital version can be acquired under subscription and it also includes quotation of thousands of financial instruments, economic news and current politics.

Another popular source of financial news is the Barron´s magazine published weekly; here we can find a deep analysis of different market sectors, investment recommendations and different experts' opinions. As well as the *Wall Street Journal* this is published by Dow Jones & Co, and a combination of both are very useful information tools. (www.barrons.com).

The *Investor's Business Daily* (www.investors.com) offers besides basic market information, very useful tools to monitor financial assets and markets.

The *Financial Times* (www.ft.com/home/uk), in my opinion is the best source of corporate information available for an investor, mainly about European markets. Here you can find news about many companies, their performance, current status and relevant updates.

Like it is mentioned before, the yahoo finance website (es.yahoo.finance.com) is the best site to find graphics of different assets performance and stock-exchange indexes. Its most important characteristic is that it is easy to use and the possibility to compare different graphics at once.

Besides these main sources we have complementary options that could be the newspapers from the most important cities like the New York Times, Los Angeles Times or the Washington Post, which present news from each one of their local levels.

There are also specialized magazines that show descriptive data about economy, the stock market and portfolios administration. These magazines rarely offer an investment recommendation that is why they could become excellent sources of impartial information. The most important are Newsweek, Time, *U.S. News & World Report*, *Business Week, and Fortune Forbes*.

The main banks, fund administrators and financial entities also publish their own reports, giving interesting investment recommendations of different markets and sectors. There should be noticed that these recommendations are always going to try to benefit the interests of each particular firm.

CHAPTER 4: CORRELATION OF ASSETS AND PORTFOLIO DIVERSIFICATION

Although each financial instrument has different characteristics, when analyzing the economy as a whole we can see that everything is in constant synergy. A crisis anywhere in the world is going to influence other regions. A political scandal of an economic power can change the investors´ trust in that market and also change completely the game rules for many investors. Everything is tied and if this is not considered, it can work against an investment.

But at the same time considering this relation between assets it opens many possibilities of reducing the risk in our investment and to improve its performance. The correlation between assets and the different ways of using them in group, diversifying, are two key pieces inside the analysis of an investor. In this chapter these two concepts will be explained in depth and the way how they should be applied when building a portfolio.

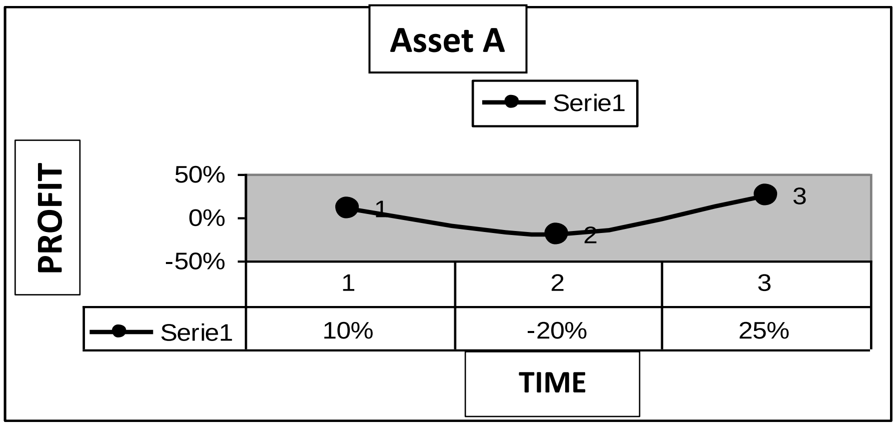
4.1 Correlation

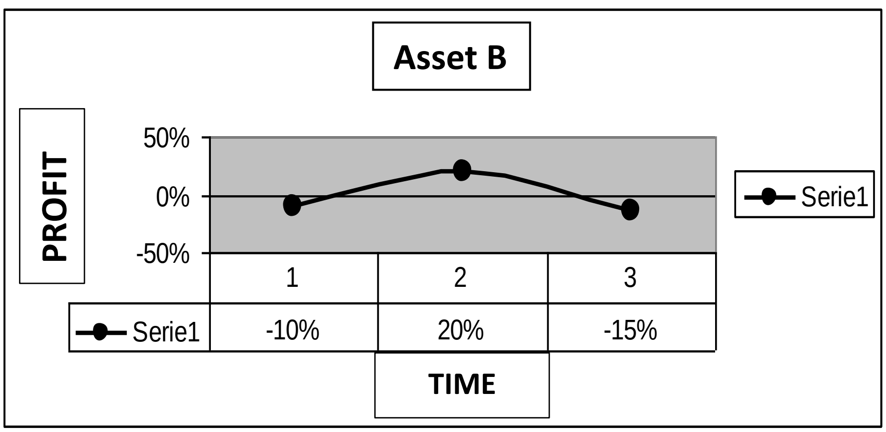
The correlation between two assets measures the relation degree that different assets have, based on its response before specific economic events. This correlation degree is measured by a coefficient which range goes from +1, being a perfect positive correlation, to -1 being this a perfect negative correlation.

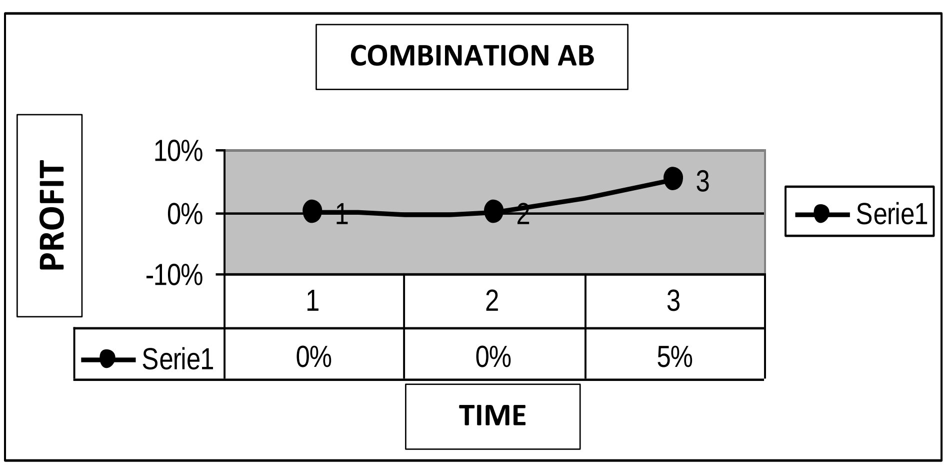
When there is a perfect positive correlation means that the assets answer exactly the same way to the market conditions, while if it is a perfect negative correlation, it means that the assets answer exactly equal in opposite directions upon specific circumstances of the market.

In the economy we can find relation between many financial instruments that answer to the same variables. In the same way we can find elements that behave in an opposite way from each other. To include assets that have perfect negative correlation (-1) between each other, or even that they have null correlation (close to 0) and they behave independently from each other; it helps to reduce the total investment risk.

Figure 2 - Correlation: How to take advantage of it to reduce the risk







In graphic No. 2 we can see that the behavior of asset A can be very volatile, especially in the first and third year where there are high capital profits. On the other hand asset B also has some volatility in its earnings, showing important reductions in its first and third year. When combining both assets, investing 50% in each one we can see that the portfolio performance has not been so volatile. Keeping the first two years and obtaining profits in their last period. The most important is that during the 3 periods the capital never lost its value.

When a coefficient passes 0,7 it is considered that both assets are positively correlated between each other, while under -0,7 they would be negatively correlated.

Table 3 - Correlation between different financial instruments and world regions

Over the past year, most investments have been moving in the same direction.

	S&P 500	MSCI AC World	AC World ex-US	EAFE	Europe	EM	AC Far East	AC Far East ex-Jpn	BRIC	LatAm	EMEA	30d Tbill	Inv Grade Bonds	HY Bonds	EMD	REITs	Inflation	Gold	GSCI	GSCI Energy	GSCI Base Metals	GSCI Prec Metals	GSCI Ag & Livestock	Aussie/USD	Brazil/USD	Can$/USD	Euro/USD	Yen/USD	Hedge Funds	Global Macro HFs	Market Neutral HFs
S&P 500	1.00	0.97	0.90	0.87	0.85	0.89	0.86	0.80	0.85	0.90	0.78	-0.12	-0.28	0.67	0.60	0.93	0.67	-0.28	0.71	0.67	0.82	0.01	0.40	0.74	0.59	0.95	0.66	-0.24	0.90	0.83	0.87
MSCI AC World	0.97	1.00	0.98	0.97	0.95	0.96	0.94	0.90	0.91	0.93	0.87	-0.01	-0.26	0.78	0.75	0.89	0.66	-0.32	0.74	0.70	0.83	-0.08	0.44	0.84	0.65	0.95	0.75	-0.26	0.92	0.90	0.87
AC World ex-US	0.90	0.98	1.00	0.99	0.99	0.97	0.95	0.94	0.92	0.91	0.89	0.07	-0.23	0.82	0.82	0.82	0.62	-0.33	0.74	0.70	0.81	-0.13	0.45	0.87	0.66	0.92	0.79	-0.27	0.88	0.91	0.82
EAFE	0.87	0.97	0.99	1.00	0.99	0.95	0.95	0.91	0.89	0.88	0.91	0.08	-0.20	0.81	0.84	0.77	0.63	-0.38	0.74	0.69	0.81	-0.19	0.48	0.89	0.62	0.89	0.82	-0.26	0.85	0.88	0.79
Europe	0.85	0.95	0.99	0.99	1.00	0.95	0.92	0.90	0.89	0.89	0.90	0.14	-0.18	0.79	0.83	0.75	0.64	-0.33	0.72	0.66	0.80	-0.17	0.52	0.87	0.61	0.88	0.84	-0.22	0.81	0.85	0.78
EM	0.89	0.96	0.97	0.95	0.95	1.00	0.92	0.98	0.96	0.94	0.86	0.10	-0.28	0.86	0.80	0.84	0.57	-0.17	0.71	0.68	0.75	-0.04	0.38	0.83	0.73	0.91	0.73	-0.29	0.91	0.94	0.82
AC Far East	0.86	0.94	0.95	0.95	0.92	0.92	1.00	0.91	0.82	0.79	0.85	-0.05	-0.32	0.85	0.78	0.82	0.52	-0.45	0.74	0.73	0.77	-0.24	0.30	0.84	0.62	0.88	0.66	-0.43	0.91	0.93	0.81
AC Far East ex-Jpn	0.80	0.90	0.94	0.91	0.90	0.98	0.91	1.00	0.93	0.88	0.78	0.11	-0.31	0.87	0.81	0.80	0.44	-0.17	0.72	0.70	0.70	-0.07	0.36	0.80	0.80	0.84	0.67	-0.34	0.89	0.94	0.77
BRIC	0.85	0.91	0.92	0.89	0.89	0.96	0.82	0.93	1.00	0.97	0.78	0.18	-0.21	0.78	0.76	0.75	0.58	-0.03	0.76	0.73	0.73	0.09	0.40	0.82	0.80	0.88	0.77	-0.18	0.82	0.86	0.73
LatAm	0.90	0.93	0.91	0.88	0.89	0.94	0.79	0.88	0.97	1.00	0.76	0.13	-0.18	0.71	0.73	0.81	0.60	-0.11	0.72	0.66	0.77	0.11	0.50	0.79	0.76	0.87	0.78	-0.07	0.82	0.82	0.77
EMEA	0.78	0.87	0.89	0.91	0.90	0.86	0.85	0.78	0.78	0.76	1.00	0.21	-0.23	0.84	0.73	0.66	0.78	-0.29	0.55	0.52	0.68	-0.31	0.31	0.80	0.38	0.83	0.72	-0.34	0.81	0.82	0.78
30d Tbill	-0.12	-0.01	0.07	0.08	0.14	0.10	-0.05	0.11	0.18	0.13	0.21	1.00	0.11	0.13	0.13	-0.15	0.09	0.26	0.15	0.09	0.07	-0.06	0.39	0.22	0.27	-0.09	0.33	-0.03	-0.13	-0.03	-0.20
Inv Grade Bonds	-0.28	-0.26	-0.23	-0.20	-0.18	-0.28	-0.32	-0.31	-0.21	-0.18	-0.23	0.11	1.00	-0.22	0.22	-0.40	-0.21	0.10	-0.24	-0.29	-0.52	0.54	0.19	0.09	-0.17	-0.28	0.28	0.88	-0.38	-0.31	-0.51
HY Bonds	0.67	0.78	0.82	0.81	0.79	0.86	0.85	0.87	0.78	0.71	0.84	0.13	-0.22	1.00	0.79	0.61	0.60	-0.19	0.61	0.62	0.48	-0.19	0.24	0.83	0.60	0.72	0.64	-0.34	0.87	0.91	0.75
EMD	0.60	0.75	0.82	0.84	0.83	0.80	0.78	0.81	0.76	0.73	0.73	0.13	0.22	0.79	1.00	0.51	0.36	-0.29	0.52	0.48	0.42	0.05	0.38	0.87	0.59	0.64	0.82	0.11	0.68	0.79	0.49
REITs	0.93	0.89	0.82	0.77	0.75	0.84	0.82	0.80	0.75	0.81	0.66	-0.15	-0.40	0.61	0.51	1.00	0.42	-0.31	0.58	0.54	0.75	-0.04	0.31	0.57	0.61	0.84	0.45	-0.34	0.89	0.82	0.84
Inflation	0.67	0.66	0.62	0.63	0.64	0.57	0.52	0.44	0.58	0.60	0.78	0.09	-0.21	0.60	0.36	0.42	1.00	-0.14	0.49	0.45	0.56	-0.23	0.38	0.61	0.14	0.67	0.61	-0.16	0.58	0.50	0.74
Gold	-0.28	-0.32	-0.33	-0.38	-0.33	-0.17	-0.45	-0.17	-0.03	-0.11	-0.29	0.26	0.10	-0.19	-0.29	-0.31	-0.14	1.00	-0.25	-0.23	-0.36	0.62	-0.22	-0.33	-0.05	-0.23	-0.22	0.15	-0.25	-0.21	-0.30
GSCI	0.71	0.74	0.74	0.74	0.72	0.71	0.74	0.72	0.76	0.72	0.55	0.15	-0.24	0.61	0.52	0.58	0.49	-0.25	1.00	0.98	0.77	-0.03	0.58	0.81	0.80	0.70	0.71	-0.30	0.63	0.63	0.57
GSCI Energy	0.67	0.70	0.70	0.69	0.66	0.68	0.73	0.70	0.73	0.66	0.52	0.09	-0.29	0.62	0.48	0.54	0.45	-0.23	0.98	1.00	0.71	-0.05	0.42	0.78	0.78	0.70	0.62	-0.37	0.62	0.63	0.54
GSCI Base Metals	0.82	0.83	0.81	0.81	0.80	0.75	0.77	0.70	0.73	0.77	0.68	0.07	-0.52	0.48	0.42	0.75	0.56	-0.36	0.77	0.71	1.00	-0.24	0.49	0.62	0.56	0.75	0.56	-0.46	0.69	0.67	0.73
GSCI Prec Metals	0.01	-0.08	-0.13	-0.19	-0.17	-0.04	-0.24	-0.07	0.09	0.11	-0.31	-0.06	0.54	-0.19	0.05	-0.04	-0.23	0.62	-0.03	-0.05	-0.24	1.00	0.04	-0.01	0.19	-0.06	0.10	0.61	-0.07	-0.04	-0.27
GSCI Ag & Livestock	0.40	0.44	0.45	0.48	0.52	0.38	0.30	0.36	0.40	0.50	0.31	0.39	0.19	0.24	0.38	0.31	0.38	-0.22	0.58	0.42	0.49	0.04	1.00	0.56	0.46	0.26	0.72	0.23	0.22	0.23	0.31
Aussie/USD	0.74	0.84	0.87	0.89	0.87	0.83	0.84	0.80	0.82	0.79	0.80	0.22	0.09	0.83	0.87	0.57	0.61	-0.33	0.81	0.78	0.62	-0.01	0.56	1.00	0.69	0.76	0.92	-0.04	0.73	0.78	0.60
Brazil/USD	0.59	0.65	0.66	0.62	0.61	0.73	0.62	0.80	0.80	0.76	0.38	0.27	-0.17	0.60	0.59	0.61	0.14	-0.05	0.80	0.78	0.56	0.19	0.46	0.69	1.00	0.56	0.58	-0.14	0.62	0.67	0.43
Can$/USD	0.95	0.95	0.92	0.89	0.88	0.91	0.88	0.84	0.88	0.87	0.83	-0.09	-0.28	0.72	0.64	0.84	0.67	-0.23	0.70	0.70	0.75	-0.06	0.26	0.76	0.56	1.00	0.67	-0.29	0.86	0.82	0.83
Euro/USD	0.66	0.75	0.79	0.82	0.84	0.73	0.66	0.67	0.77	0.78	0.72	0.33	0.28	0.64	0.82	0.45	0.61	-0.22	0.71	0.62	0.56	0.10	0.72	0.92	0.58	0.67	1.00	0.21	0.54	0.60	0.47
Yen/USD	-0.24	-0.26	-0.27	-0.26	-0.22	-0.29	-0.43	-0.34	-0.18	-0.07	-0.34	-0.03	0.88	-0.34	0.11	-0.34	-0.16	0.15	-0.30	-0.37	-0.46	0.61	0.23	-0.04	-0.14	-0.29	0.21	1.00	-0.38	-0.36	-0.41
Hedge Funds	0.90	0.92	0.88	0.85	0.81	0.91	0.91	0.89	0.82	0.82	0.81	-0.13	-0.38	0.87	0.68	0.89	0.58	-0.25	0.63	0.62	0.69	-0.07	0.22	0.73	0.62	0.86	0.54	-0.38	1.00	0.97	0.90
Global Macro HFs	0.83	0.90	0.91	0.88	0.85	0.94	0.93	0.94	0.86	0.82	0.82	-0.03	-0.31	0.91	0.79	0.82	0.50	-0.21	0.63	0.63	0.67	-0.04	0.23	0.78	0.67	0.82	0.60	-0.36	0.97	1.00	0.82
Market Neutral HFs	0.87	0.87	0.82	0.79	0.78	0.82	0.81	0.77	0.73	0.77	0.78	-0.20	-0.51	0.75	0.49	0.84	0.74	-0.30	0.57	0.54	0.73	-0.27	0.31	0.60	0.43	0.83	0.47	-0.41	0.90	0.82	1.00

low correlation — high correlation

http://investorsconundrum.com/2010/10/08/como-mejorar-los-resultados-de-tus-inversiones/

Including in an investment portfolio a series of assets that have negative correlation between each other, gives the investor´s strategy a considerable volatility reduction in his assets, therefore a reduction of the portfolio's risk. In the same way there are assets that are not related among them, their correlation coefficient is close to cero, and they also can help to reduce the risk, maybe not as effective as with negative correlated assets but they are also helpful.

This is what the experts call to improve the return-risk ratio, by diversifying in low correlated assets.[36] This is based on the modern theory of portfolio explained before.[37]

As we can see in chart No. 3 which summarizes the activity and correlation that different assets have with some stock exchange indexes and world regions, we can notice that the stock markets indexes around the world have all moved in a parallel way. Indexes like S&P 500, the MSCI AC World (Morgan Stanley Capital International All Country World), the MSCI EAFE (Morgan Stanley Capital International Europe, Australasia and Far East), BRIC (Brazil, Russia, India y China) or the EMEA (Europe, the Middle East and Africa), demonstrate this. All of those have correlations really close to +1 and over +0,7.

The chart also shows a series of assets and commodities like gold, energy (Goldman Sachs Commodity Index Energy) and precious metals (GSCI Prec. Metals) and their correlation with all the economy sectors. Something really interesting can be evidenced regarding the gold behavior during this period that has had a practically null correlation, or very low, with all the assets and economy sectors, which can be very useful at the moment of structuring a portfolio.

To use this coefficient as an analysis tool allows us to structure a portfolio that given any market circumstances, such as economic, political, or social events, come parts of it are still capable of generating profits, and in this way can bear the lost in the investments that have been affected by this fact. In conclusion, the idea is that if one part of the portfolio falls, the other part increases its profits or at least does not go down in the same way.

[36] Source: Suprainvest Wealth Management – Curso de inversiones. Op. Cit.
[37] Explained in page 14th.

Once established the relation that the different available assets have in the market, the election of the ones that are going to be a part of the portfolio can be made, the idea is to distribute the risk that each one has so in this way the total portfolio risk decreases, this is called diversification.

4.2 Diversification[38]

Although the risk in the market is impossible to eliminate completely, a way to contrast it is through diversification. It is impossible to know which asset is going to generate better profits and which one is not going to do it in a determined period of time, it is better to combine many assets so in this way as a whole, generate an interesting yield, without the risk of investing in only one asset and this one does not work.

Diversification gives two key benefits to the investor: the first allows him to take advantage of many economies and economic sectors at the same time. And the second protects him against a fall that any market specifically could have, because when having many elements inside the portfolio, the idea is that the ones that experiment a fall can be supported by others and the total portfolio does not lose.

[38] Suprainvest Wealth Management – Curso de inversiones. Op. Cit. - BODIE Zvi, KANE Alex, MARCUS Alan. Op. Cit.

Table 4 – Diversification

Diversify

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Europe Equity 29.98	Japan 111.62	Commodities 42.28	UK Non-Govt Bond 4.01	Commodities 20.73	Gold 39.34	UK Small Cap 22.46	Japan 43.60	UK Small Cap 23.55	Asia Equity 36.00	Global Bonds 18.38	Asia Equity 53.83	UK Small Cap 30.90
US Large Cap 27.16	UK Small Cap 80.84	UK Property 16.21	Cash 3.65	UK Govt Bond 6.48	UK Small Cap 38.76	UK Property 22.06	Gold 42.40	UK Property 23.03	Gold 27.33	UK Govt Bond 11.99	UK Small Cap 61.60	Gold 27.98
UK Large Cap 17.47	Asia Equity 66.82	Gold 11.97	UK Property 1.19	UK Non-Govt Bond 6.32	Asia Equity 34.50	Gold 15.11	Commodities 37.56	Europe Equity 18.81	Commodities 20.11	Cash 2.27	Gold 41.59	Asia Equity 22.03
UK Govt Bond 17.32	Gold 43.90	UK Non-Govt Bond 6.51	Global Bonds 0.84	UK Property 4.71	Europe Equity 26.74	Europe Equity 13.56	Asia Equity 33.31	Asia Equity 17.92	Europe Equity 12.68	Japan -1.78	UK Large Cap 27.33	Commodities 21.30
UK Non-Govt Bond 13.88	Commodities 36.07	Global Bonds 6.39	UK Govt Bond 0.62	Global Bonds 4.38	Japan 23.97	UK Large Cap 11.28	Europe Equity 25.96	UK Large Cap 14.43	UK Large Cap 7.36	UK Non-Govt Bond -9.84	Europe Equity 19.46	Japan 19.17
Global Bonds 10.28	Europe Equity 26.15	UK Govt Bond 6.84	Asia Equity -2.61	Cash 2.24	UK Large Cap 17.89	Commodities 10.19	UK Large Cap 20.78	Cash 3.32	Global Bonds 4.11	Commodities -10.06	UK Non-Govt Bond 14.67	US Large Cap 18.68
Japan 6.78	US Large Cap 24.94	Cash 4.37	US Large Cap -9.58	Asia Equity -17.33	US Large Cap 15.73	Asia Equity 8.71	UK Small Cap 19.83	Gold 3.24	Cash 3.97	US Large Cap -12.77	UK Property 14.43	UK Property 12.66
Cash 5.37	UK Large Cap 20.58	Europe Equity 1.83	UK Large Cap -14.08	Japan -18.57	UK Property 15.60	Japan 6.09	US Large Cap 17.34	US Large Cap 1.56	US Large Cap 3.73	Europe Equity -24.63	US Large Cap 12.60	UK Large Cap 12.62
UK Property -4.86	UK Property 17.68	UK Small Cap 0.63	Gold -15.56	Gold -20.03	Commodities 11.70	UK Non-Govt Bond 4.98	UK Property 15.49	UK Non-Govt Bond -0.69	UK Govt Bond 2.95	Gold -25.84	Commodities 10.09	Global Bonds 8.98
UK Small Cap -6.45	Cash 3.64	US Large Cap -1.93	UK Small Cap -19.13	UK Large Cap -22.17	Global Bonds 7.07	UK Govt Bond 4.64	UK Govt Bond 7.08	UK Govt Bond -1.31	UK Non-Govt Bond -0.17	UK Large Cap -28.33	Global Bonds 6.86	Europe Equity 8.83
Asia Equity -8.36	UK Non-Govt Bond -1.24	UK Large Cap -4.32	Commodities -19.68	Europe Equity -25.52	UK Non-Govt Bond 4.64	Global Bonds 3.62	UK Non-Govt Bond 6.65	Global Bonds -3.44	UK Small Cap -6.55	UK Property -30.03	Cash 0.95	UK Non-Govt Bond 7.83
Gold -9.32	UK Govt Bond 1.88	Asia Equity -19.64	Europe Equity -21.37	UK Small Cap -27.54	Cash 2.28	US Large Cap 3.38	Global Bonds 5.03	Japan -14.13	Japan -11.14	Asia Equity -33.20	UK Govt Bond -2.65	UK Govt Bond 6.42
Commodities -28.05	Global Bonds -5.48	Japan -29.83	Japan -26.72	US Large Cap -25.58	UK Govt Bond 0.91	Cash 2.60	Cash 3.68	Commodities -14.79	UK Property -14.48	UK Small Cap -40.53	Japan -3.50	Cash 0.32

Source: Morningstar workstation, percentage growth, mid to mid, basic tax rate, in GBP. Discrete calendar years shown. The performance of each of the classes are represented as follows: Cash is the Investment Management Association (IMA) Money market sector average; UK Large Cap is FTSE 100 index; UK Small Cap is IMA UK Smaller Companies sector average; UK Govt Bonds is IMA UK Gilt sector average; UK Non-Govt Bonds is IMA £ Corporate Bond sector average; UK Property is IMA UK Property sector average; Global Bonds is IMA Global Bonds sector average; Japan Equity is IMA Japan sector average index; Asia Equity is IMA Asia Pacific Excluding Japan sector average; Europe Equity is IMA Europe Excluding UK sector average; US Large Cap is S&P 500 index; Commodities is Reuters /Jefferies CRB index; and Gold is S&P/TSX Composite index. Annual returns (%) of asset classes.

Henderson GLOBAL INVESTORS

The concept of diversification comes from the common saying “do not put all the eggs in the same basket”. In the chart No. 4 made by the funds management house Henderson, the behavior of many assets in a period of 10 years is shown. Each year has the performance of each one and organizes from higher to lower according to each year performance.

In assets like cash, which is generally used as a reference market value or Benchmark, the performance from one year to another does not varies a lot. Its standard deviation is nearly 3,57%. This is why it is considered practically a risk free investment and it is used as benchmark to get data like the risk premium of other assets. This compared with other asset like for example the investments in companies of higher capital from The United States (US Large Cap), which had a standard deviation of 56,44% shows the different risk levels that an investor should consider at the moment of choosing one or other instrument.

The principal question for an investor is: how the individual risk can be lowered from each one of the assets to get to the objectives planned? The answer to this question could be diversification.

In chart No. 5 a summary of some assets displayed in chart No. 4 is shown. Here we can see the annual performance that each one of the instruments have had, the average performance gotten, the standard deviation, the maximum and minimum to which it has evolved in this period of time and the development and investment growth of $10.000 made in the year 1998 until 2010. The last row represents the portfolio performance in equal parts in the 13 kinds of assets represented in chart No. 4.

Table 5 - Comparison of the asset performance vs the performance of a combined portfolio

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Media	Standard Deviation	Máx	Mín
Europe Equity	29,98	26,15	1,83	-21,37	-25,52	26,74	13,56	25,96	18,81	12,68	-24,63	19,46	8,83	8,65	20,14%	29,98%	-25,52%
10000,00	12998,00	16396,98	16697,04	13128,88	9778,39	12393,13	14073,64	17727,16	21061,64	23732,26	17887,00	21367,81	23254,59			23732,26	9778,39
Initial Investment												Growth	132,54%	10,20%			
US Large Cap	27,16	24,94	-1,93	-9,56	-29,58	15,73	3,38	17,34	1,56	3,73	-12,77	12,6	18,68	5,48	56,44%	0,2716	-29,58
10000,00	12716,00	15887,37	15580,74	14091,23	9923,04	11483,93	11872,09	13930,71	14148,03	14675,75	12801,66	14414,67	17107,33			17107,33	9923,04
Initial Investment												Growth	71,07%	5,47%			
Global Bonds	10,25	-5,46	6,39	0,84	4,25	7,07	3,62	5,03	-3,44	4,11	18,35	6,66	8,98	5,1269231	5,98%	0,1835	-5,46
10000,00	11025,00	10423,04	11089,07	11182,22	11657,46	12481,64	12933,48	13584,03	13116,74	13655,84	16161,68	17238,05	18786,03			18786,03	10423,04
Initial Investment												Growth	87,86%	6,76%			
Japan	6,78	111,52	-29,83	-26,72	-18,57	23,97	6,09	43,6	-14,13	-11,14	-1,78	-3,5	-19,17	5,1630769	37,53%	111,52	-29,83
10000,00	10678,00	22586,11	15848,67	11613,91	9457,20	11724,09	12438,09	17861,10	15337,33	13628,75	13386,16	12917,64	10441,33			22586,11	9457,20
Initial Investment												Growth	4,41%	0,34%			
Cash	5,37	3,84	4,37	3,65	2,24	2,26	2,6	3,65	3,32	3,97	2,27	0,95	0,32	2,9853846	1,39%	5,37	0,32
10000,00	10537,00	10941,62	11419,77	11836,59	12101,73	12375,23	12696,99	13160,43	13597,35	14137,17	14458,08	14595,43	14642,14			14642,14	10537,00
Initial Investment												Growth	46,42%	3,57%			
Portafolio	5,55	32,59	2,82	-9,1	-8,92	18,39	9,89	21,43	5,5	6,6	-14,18	19	15,2	8,0592308	13,48%	32,59	2,82
10000	10555	13994,9	14389,5	13080,1	11913,3	14104,2	15499,1	18820,6	19855,7	21166,2	18164,8	21616,12474	24901,8			24901,7757	10555
Initial Investment												Growth	149,01%	11,46%			

In this way we can notice that by using diversification we can eliminate a big part of the volatility that an individual asset could have, measured by its standard deviation.

Let´s take as an example the investments done in Japan, the cash investments and the hypothetical portfolio which has all the assets in equal parts. If the investor in the year 1998 decided to put 100% on his investment in the stock market in Japan, at the end of the period there would be a profit of 4,41%. This represents 0,34% per year. This investment has had a standard deviation of 37,53%. The maximum value that the capital reached in the second year was $22.586,11 and its minimal value in the fifth year was $9.457,20. This shows that the Japanese market of stocks has been really volatile, being valorized in a short time but also loosing value in the same way. It means this could have had an extraordinary profit if it walked away in the second year but having the risk that his capital loses its value if does not do it in the right time.

On the contrary there is the market of cash investors. If the investor would have decided to invest his total capital in deposit certificates or fixed-term deposits for example, its capital would have had a growth of 46,42%, this represents 3,57% per year. Its standard deviation would have been of 1,39%, this is to say a practically risk free investment. Its maximum value would be at the end with $14.642,14 and its minimal value in the first year with $10.537,00. With this kind of investments the objective is to ensure the money keeping it safely and give priority to liquidity this instead of high growth.

It could be said that these are the two extreme scenarios, one with high volatility represented by a world economic power like Japan and another with a low risk investment, without attractive profits but with high security.

Of all the investment options, there is going to be all kind of assets with different levels of risk – return ratio. The investor´s idea and objective is to find the way of combining these different assets to reduce the volatility of risky ones and to increase the rent of the more secure ones. In this way optimize the money without risking more than necessary and be coherent with the investment objectives.

The hypothetical portfolio from the chart before shows in numbers the existing relation between a diversified portfolio and an individual asset. In the case that the investor in the year 1998 would have decided to invest 100% of his capital on the portfolio distributed in all the assets, at the end of the period would have had an accumulated profit of 149%, being 11,46% per year. His investment would have experienced an standard deviation of 13,48%, which compared with the standard deviation of Japan, is more manageable. Its growth also would be more stable being its maximum value at the end with $24.901.77, and its minimum value in the first year $ 10.555.00.

Although in the investments world there is not an ideal “recipe”, there are all of these tools to look for the correct strategy according to each investor and his risk profile.

Now that the different questions that can come up at the moment of analyzing the international finances have been understood, it is time to focus this knowledge in structuring an efficient portfolio. In this last step, the investor´s decision is extremely necessary, showing the level of tolerance towards risk the person has. Next three proposals are presented, each one with a different level of risk aversion.

CHAPTER 5: PORTFOLIO PROPOSALS

At the moment of analyzing all the different investment alternatives that can be used to be part of a portfolio, it is necessary to investigate and consider all the variables that have been shown along this research. Once understood how the market and each one of the instruments works, we can continue to take decisions about the assets to choose. According to the book "Investment Fundamentals" by Lawrence J. Gitman y Michael D. Joehnk, the steps to follow in a structured plan to build a portfolio are:

1. **To set the investment goals:** Once decided to invest in international financial markets, the first step is to set the objectives that the investment looks for. These objectives could be to plan a future event like education, retirement, goods purchase, etc., they can look to increase the actual earnings of the person, by dividends, interests or look for capital and patrimony growth through companies and assets acquisition. Starting with this step is going to give the investor a timeline for the investment, something necessary in order to choose the assets to acquire, and at the same time the amount of risk that is able to assume in coherence with the planned objectives.

2. **Environment analysis and financial assets:** the next step is to analyze the economic environment and the different financial instruments that could be used. For this evaluation is necessary to have in mind all the variables that can influence the market and use all the statistic and information tools that we have seen in this research. This is going to give a clearer idea on how each one of the assets would behave inside the portfolio and how the portfolio would develop in general.

3. **To build a diversified portfolio**: After the objective has been set and the environment analyzed, the following thing is to choose the assets that will be part of the portfolio. It is important to consider the correlation and diversification variables so in this way build an efficient portfolio.

4. **Investment monitoring:** The final step is the investment behavior control. It is important in this step to consider the expected behavior of the investment by doing

a previous analysis to compare in this way with the real results, evaluate correctly the decisions taken and what corrections can be made. In the case that the investment has not given the expected results, it is necessary to do a complete analysis of the environment and portfolio again, to decide if the investment should continue or if it is better to modify the strategy.

In the following chart you can see graphically how the investment process works:

Figure 3- Investment process[39]

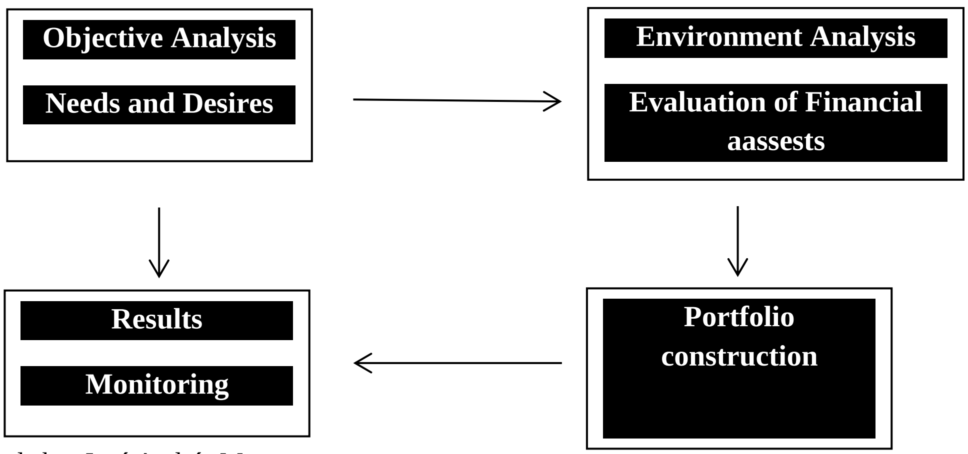


Chart made by: José Andrés Mora.

Although in the investments world there are not perfect formulas, there is not only one way of managing a portfolio and there is nobody who has done everything, there is always something more that can be done and different ways of structuring a portfolio will continue coming up.

Following I present a summary of the general conditions of the current financial environment and based on this I make three portfolio proposals, each one of them with a risk profile assumed differently. Each portfolio will have investment recommendations from the main fund management houses and the estimation of results and risks expected from a structure of this kind.

[39] GITMAN, Lawrence J. JOEHNK Michael D. Fundamentals of Investing. Pearson Education. 2004.

5.1 Market conditions

Before making an international investment portfolio, it is necessary to do a deep investigation and analysis of the world financial market, so in this way continue with the diversification and acquisition of the assets that will form it. This investigation should be done regularly once the investment is functioning to support in the monitoring process.

Next is detailed the most important conclusions found through this investigation about the current environment, based on this the assets for each proposed portfolio were determined:

- Corporative Bonds from The United States are presented now like an interesting alternative because the American companies are in a healing process of their trade balances through the refinancing of their debts and one of the ways they are using is to issue bonds for a longer term and with interesting interests. This healing also allows the companies, especially the biggest ones, to compensate their shareholders increasing the profits which represent an attractive market of stocks in The United States. It is recommended to invest in technology companies.[40]
- The crisis in Europe in the last months has become stronger. The speculations of a possible left out of Greece, the new socialist government in France and the questioning about the Spanish bank solvency, are some of the characteristics of the European reality. It is not recommended to invest in Europe at this moment. It is recommended to take advantage of the projection that the emerging markets have in front of the clear recession of the developed economies. In addition, according the report of May 2012 about emerging markets of Franklin Templeton Investments, due to this economic environment the valuation of the financial assets of the developed countries are close to their lowest values in all history, which makes them really attractive for an current investment.[41]
- According to the economic and strategy report of the investment house Schroder, a politic break up in Europe is imminent, because of Greece departure and how this affected its surrounding countries, but this would not cause a new world economic recession. The low but persistent growth of The United States and the strength of

[40] PERKS, Edward, SCANDALIOS, John. Perspectives may 2012.
[41] MOBIUS, Mark. Market Update may 2012 – Emerging Markets Overview – Franklin Templeton.

the emerging markets like China would evade it. But this shows that the investments in the European market actually should be proportionally really low.[42]

- The Standard & Poor´s 500 of Large Cap index, has registered one of the best beginnings of the year in its history. This shows the strength of the American economy and the attractiveness to invest at this moment.
- The developed country bonds are in levels historically very low, that is why is recommended to avoid them and direct those investments to emerging market bonds where the opposite happens.[43]
- Even though the reduction of its profits last year, gold is still the most recommendable commodity to invest. This is due to current market conditions where there are a lot of uncertainty, makes that investors look for assets that do not lose their value significantly, being gold an asset that has this characteristic. If the economy would be in a good moment maybe the commodities to be chosen would be in fields like energy for example, but facing the constant capital injection to help other economies and the inflation fear, makes gold a very attractive prevention tool.
- Some of the assets that are very attractive are junk bonds. These are the ones with BB, B, CCC or less rating. Even they are not a secure investment; they have a particularity that they do not work in inverse relation to the interest rates like the rest of bonds. Because when an economy is strong and especially has a lot of liquidity, it is easier for the companies to answer to their obligations. So even the interest rates increase, these bonds still pay attractive interests.

After these general environment conditions has been established, following I make three portfolio proposals, each one on them with a different risk profile to be adapted to the investor.

[42] WADE, Keith. Economic and strategy viewpoint, 31 may, 2012. Schroders. [cited 28/06/2012] Available from: http://www.schroders.com/staticfiles/Schroders/Economics/Economics%20and%20Strategy%20Viewpoint/Economic-Strategy-Viewpoint-May2012.pdf

[43] Schroders. Global Market Perspective Q2 2012, abril 2012. [cited 28/06/2012] Available from: http://www.schroders.com/StaticFiles/Schroders/Market%20Strategy%20And%20News/Global%20Market%20Perspective/Global-Market-Perspective-Q2-2012.pdf

5.2 Conservative Portfolio

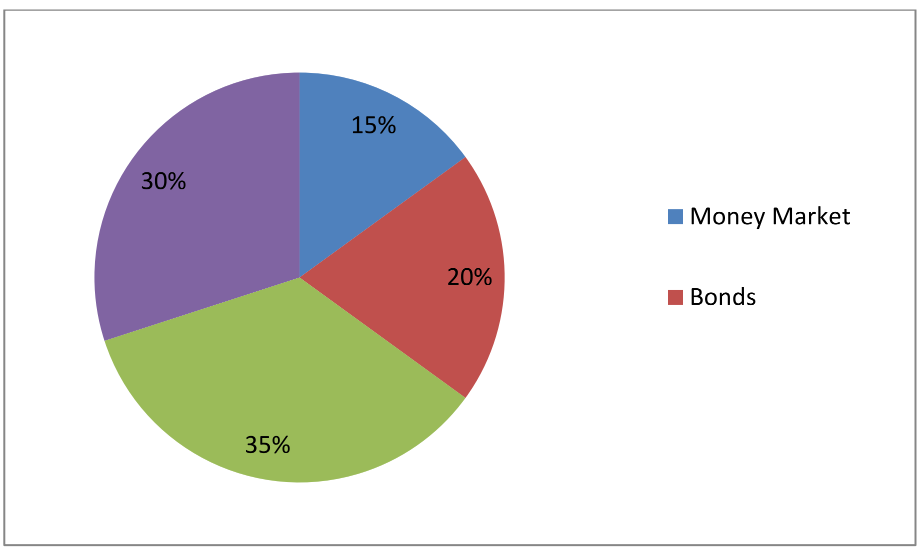
A conservative portfolio is for an investor that looks to generate a higher profit than the one given by commercial banks, which in the actual scenario presents practically inexistent interest payments, but at the same time it does not want to assume a major risk.

Table 6 - Conservative Portfolio

Conservative Portfolio			
Money Market	15%		
Bonds	20%		
	Corporative Bonds		
		The United States	5%
	Governmental Bonds		
		The United States	5%
		Emerging Markets	10%
Stocks	35%		
	The United States Stocks	15%	
	Emerging Market Stocks	20%	
Alternative Investments	30%		
	Futures	5%	
	Hedge Funds	20%	
	Commodities	5%	
TOTAL	100%		

Made by: MORA, José Andrés

Figure 4 - Distribution by type of asset



5.2.1 Recommendations:

According to the money market, it is recommended to invest in fixed-term deposits that can be changed in liquidity easily whenever it is necessary, this will work like a support fund for the portfolio. To choose the entities to invest in, it is recommended to analyze their risk qualifications, because this will ease the document negotiations, in case that it is required. These qualifications should be BBB, A, AA or AAA. It is recommended that the certificates are issued by the HSBC Bank USA, which has a rating of AA- by Standard & Poor's.

Regarding a lot of experts, the current market in The United States is presented very similar to the one presented in the year 1982, which was a year where a negative period was cut and started positive results during 18 years. Besides this the projected growth for the small and medium companies, measured by the index projection The Russell 2000 – Small Company Stock Index that measures the performance of the main 2000 small and medium companies from different industries - is shown very favorable, even above the emerging markets. For this I recommend to take advantage of this, investing in corporate bonds of American companies. The energy and technology sectors are very attractive for these kinds of investments. An interesting option is Chesapeake Energy, company producer of natural gas with its base in Oklahoma, issues bonds with due date in 2021, and pays an interest of 6.1% with a BB+ rating.

In the case of the governmental bonds, I believe that the bonds from the American treasure are still an option that must be included in any portfolio, because this is an asset that works in inverse relation to the crisis, which makes it very useful in the case of a market fall. For emerging markets I recommend to invest in bonds of countries like Mexico, Indonesia, Malaysia or Brazil because they are very active economies and on constant growing.

In the stocks item it is recommended to invest in solvent, mature and international companies in The United States as well as in other emerging markets. The idea of this group is to get stable dividends and easy to negotiate. In The United States companies like Apple (AAPL), Microsoft (MSFT), Chevron (CVX) o Dover Corp (DOV) are recommended. According to the emerging markets, though their growth is going to decrease because of the European crisis, their growth in a long term keeps it like a very attractive option, an annual profit of 14% in the last 10 years, measured by Morgan Stanley MSCI Emerging Markets index shows it. It is recommended to invest in the main companies from the countries that are members of the group BRIC to guarantee the most continuous return possible and to get diversification. Companies like the Asiatic state Petrochina, leader in the oil sector of this country or Vale S.A. Brazilian mining company are very good options.

Within the alternative investments a short percentage is given to futures, mainly to give diversification to the fund and to contrast the market ups and downs. For this I recommend to use a common fund because they are tools that need a high degree of monitoring and strategy, which is why I believe it is better to let other person, manages it for you. An interesting option is the fund Man AHL Diversified Futures[44] that invests in futures from different industrial sectors, getting interesting profits providing diversification.

Other strong items in this portfolio are hedge funds, which help reducing the risk. If it is the case that the investment in portfolio stocks does not work, they act as guarantee of the capital and the patrimony remains intact. It is recommended funds from the main funds management houses worldwide. The fund Investec Multi Asset Protector[45] achieves the characteristics mentioned before.

Gold still is a very useful tool for structuring a portfolio, even though the fall in its returns last year. This added to the low correlation with the rest of assets makes it an appropriate election.

According a portfolio structure analysis made by the American firm Suprainvest, with its division of Wealth Management the expected return for a structure of this kind is around 6%, with an assumed risk measured by a standard deviation of 4%

[44] http://factsheets.financialexpress.net/frii/_S198.pdf
[45] http://factsheets.financialexpress.net/frii/_L20.pdf

approximately. This gives us a projection of very constant returns, with 80% of the months that the investment lasts with positive records.

5.3 Balanced Portfolio

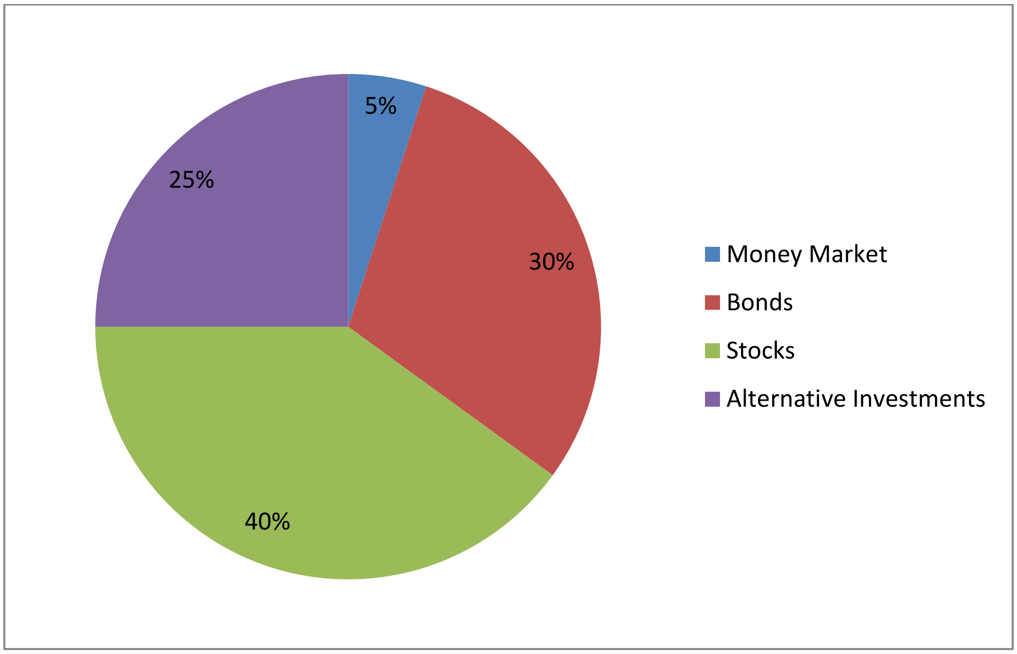
A balanced portfolio is for investors who look to generate an interesting profit with a risk level partially assumed. To satisfy this necessity the objective is to have a highly diversified portfolio and little correlated to itself, so in this way reduce the risk in the case of an economic crisis and to generate profits in different economic sectors.

Table 7- Balanced Portfolio

Balanced Portfolio			
Money Market	5%		
Bonds	30%		
	Corporative Bonds		
		The United States	15%
	Governmental Bonds		
		The United States	5%
		Emerging Markets	5%
		Global	5%
Stocks	40%		
	The United States Stocks	15%	
	Emerging Market Stocks	25%	
Alternative Investments	30%		
	Futures	10%	
	Hedge Funds	10%	
	Commodities	5%	
TOTAL	100%		

Made by: MORA, José Andrés

Figure 5 - Distribution by type of asset



5.3.1 Recommendations:

The percentage assigned to the money market is less for this kind of portfolio. In the same way it is recommended deposit certificates from entities with high ratings based in strong economies. The Brazilian bank Bradesco is an excellent option.

In the case of corporate bonds I recommend to use American bonds considered junk bonds, with BB, B, CCC qualification or less. Because investing in junk bonds is a very risky investment I recommend diversifying it using a common fund. Vanguard High-Yield Corporate[46] it is an excellent option.

I recommend to use the governmental bonds with a similar structure to the conservative portfolio, it means with bonds from the American treasure, emerging market bonds like Mexico, Brazil, Malaysia and Indonesia and in this case include also bonds from European countries, mainly Germany and the United Kingdom, that

[46] https://personal.vanguard.com/us/funds/snapshot?FundId=0029&FundIntExt=INT#hist=tab%3A0

even they are not in their best moment, in a long term they work as effective tools of diversification.

Saying that the main objective of this structure is to generate profits, the stocks in The United States and in the emerging markets are going to be assign to big and mature companies as well as small and medium ones with growth projection. Companies like Parametric Technology, developer and marketer of software, or the distribution chain Walmart México fulfill these characteristics.

Futures and options will give us the opportunity of interesting profits in front of different market conditions, avoiding some of the portfolio's risk. The same as with the conservative portfolio, I recommend to use common funds for these two items because in this way you give diversification to the portfolio.

The risk that options and futures represent can be contrasted with hedge funds. The fund BlackRock Fixed Income Global Alpha[47] is a favorable option.

The timeline of a moderated portfolio should be medium or long term so in this way accomplish the expected results.

According an analysis of portfolio structure made by the American firm Suprainvest, with its division of Wealth Management the expected return for a structure of this kind is around 8% to 10%, with a risk assumed measured by a standard deviation of approximately 8%. This gives us a return projection very constant with 55% of the months that the investment lasts with positive records.

5.4 Aggressive Portfolio

An aggressive portfolio is for an investor that looks to generate high developments in his patrimony, always prioritizing the possible return over the assumed risk. The low correlation between assets and the diversification will be the key to accomplish high profits in the total of the portfolio.

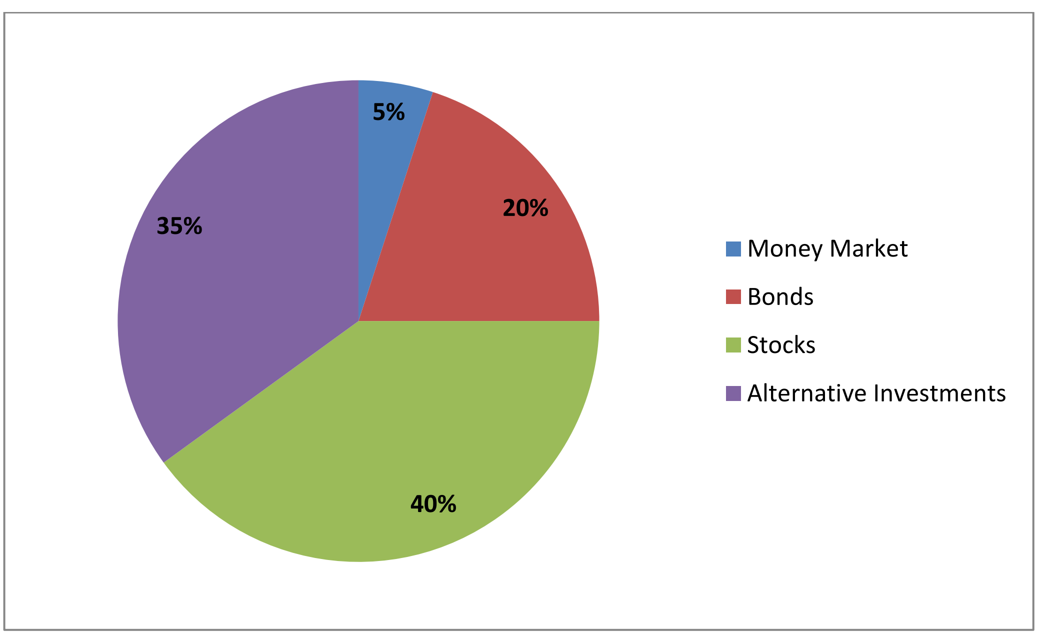
[47] http://www.blackrockinternational.com/content/groups/uksite/documents/literature/1111143287.pdf

Table 8 - Aggressive Portfolio

Aggressive Portfolio			
Money Market	5%		
Bonds	20%		
	Corporative Bonds		
		The United States	10%
	Governmental Bonds		
		Emerging Markets	10%
Stocks	40%		
	The United States Stocks	15%	
	Emerging Market Stocks	25%	
Alternative Investments	35%		
	Futures	10%	
	Options	15%	
	Hedge Funds	5%	
	Commodities	5%	
TOTAL	100%		

Made by: MORA, José Andrés

Figure 6 - Distribution by type of asset



5.4.1 Recommendations:

It is given a less percentage to the money market; mainly in the case that liquidity is needed for the purchase of other assets that can come up during the investment. It is recommended to have a deposit certificate issued by the Industrial and Commercial Bank of China, one of the most secure and biggest banks in the world.

The index Bank of America Merril Lynch US High-Yield Master II is an important reference for the corporate bonds item, because it measures the performance of a vast range of junk bonds in different sectors of the market. It has shown a performance of 7,5% annual, which demonstrates its attractiveness.

Within governmental bonds it is recommended to keep the structure with bonds from the American treasure, emerging markets and European powers. Brazil, China, India, Germany and the United Kingdom must be considered priorities for this item.

Regarding stocks the idea is to invest in international companies characterized for being innovative and with world image, in this way it is looked to guarantee the good performance even when the market is low, and also to look for companies that belong to different industrial sectors so in this way get diversification. Companies like Target or Teva Pharmaceutical Industries in The United States, the Russian Gazprom, Korean Samsung Electronics, the Brazilian bank Itau or the state oil company from China Sinopec are recommendable alternatives.

Gold is used to leverage the portfolio in case of stock market fall. A high percentage is intended to the investment through options, that even if they increase the portfolio risk they give very high projections of expected yields. For the options as well as for the futures it is recommended to use common funds that give a personal management of these assets. At the end of this section you can find some recommendations of funds that can be used for this item.

The recommended timeline of an investment of this profile is long term and constant, because in this way the ups and downs of the market can be taken advantage.

According a portfolio structure analysis made by the American firm Suprainvest, with its division of Wealth Management, the expected return for a structure of this kind is around 14% to 16%, with an assumed risk measured by a standard deviation of 13% approximately. This gives us a projection of very constant returns, with a 45%, of the months that lasts the investment with positive records.

5.5 Investment Funds:

In the case that the investor does not want to make the investments directly, because of capital lack, which obviously needs to be a lot higher to buy assets directly, or because of access and monitoring facilities, the investment funds of the main fund management houses are the most efficient vehicle to do it. Below I present many funds´ alternatives that can be useful for these three structures of investment portfolios. As reference the link of each fund is detailed for its investigation on line:

5.5.1 Money Market:

- Investec GS US Dollar Money[48]
- FPIL deposit[49]

5.5.2 Governmental Bonds:

- BNP Paribas Bond Best Selection World Emerging
- Baring International Bond[50]
- Franklin US Government[51]

5.5.3 Corporative Bonds:

- HSBC GEM Debt Total Return[52]

5.5.4Acciones Estados Unidos:

- Invesco Global Technology[53]
- Vanguard US 500 Stock Index[54]

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[48] http://factsheets.financialexpress.net/frii/_M66.pdf
[49] http://factsheets.financialexpress.net/frii/_M99.pdf
[50] http://factsheets.financialexpress.net/frii/_M57.pdf
[51] http://factsheets.financialexpress.net/frii/_M84.pdf
[52] http://factsheets.financialexpress.net/frii/_R71.pdf
[53] http://factsheets.financialexpress.net/frii/_J58.pdf
[54] http://factsheets.financialexpress.net/frii/_P02.pdf

- BlackRock New Energy[55]

5.5.5 Emerging Markets stocks:

- Schroder Latin America[56]
- JF India[57]
- Templeton BRIC[58]

5.5.6 Alternative Investments:

- Man AHL Diversified Futures[59]
- BlackRock World Gold[60]
- Investec Multi Asset Protector[61]
- Schroder Gold & precious Metals[62]

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[55] http://factsheets.financialexpress.net/frii/_P69.pdf
[56] http://factsheets.financialexpress.net/frii/_J37.pdf
[57] http://factsheets.financialexpress.net/frii/_J30.pdf
[58] http://factsheets.financialexpress.net/frii/_P58.pdf
[59] http://factsheets.financialexpress.net/frii/_S198.pdf
[60] http://factsheets.financialexpress.net/frii/_M82.pdf
[61] http://factsheets.financialexpress.net/frii/_L20.pdf
[62] http://factsheets.financialexpress.net/frii/_L28.pdf

CONCLUSION

During this research the international finance market has been analyzed, generating many results that are worth to emphasize.

One of the most relevant topics is the relation risk/return that exists in any investment that anyone wants to develop. Regarding this topic I would like to make clear that the risk aversion level of a person should not dictate whether an investment is done or not because is always possible to structure a portfolio that goes with this profile and can accomplish his objectives.

If for example, the objective is to invest a surplus of income that the person has each month and plan with this a future event, I recommend using the conservative strategy. This strategy can provide an interesting level of profit without risking the future event from happening. Children's future education or retirements are events that could fit this recommendation.

If what the investor looks for is to generate profits and increase his capital, I recommend using a balanced strategy. It is important for the investor to be aware of the level of risk he is willing to assume, and to be tolerant in front of extraordinary events or strong variations of the economy. The probability of long term success is very high.

The idea is simply to notice that the finance market should not be seen as something strange or unreachable. In fact in our country I think it is reachable for many people, some of them are actually using it. The "right time" that a lot of people are waiting for, is probably never going to arrive, there is always a reason that can be used as an excuse, like market crisis, political instability, uncertainty, etc. Notice that not even the experts in this matter can predict the market behavior in a short term.

All this being said, the final recommendation is simple: to invest.

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