GOLD MARKET IN TURKEY AND ISTANBUL GOLD EXCHANGE

By

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A thesis submitted in partial fulfilment of

the requirements for the degree of

MA IN INTERNATIONAL ECONOMICS AND FINANCE

at the

YEDITEPE UNIVERSITY

October, 2005

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Date of Approval by the Administrative Council of the Institute 25/11/2005

ABSTRACT

This thesis specifically analysed the changes in the working of the gold market in Turkey and especially determined the changes from the control of central bank to the control of IGE. Establishment of IGE was important in terms of liberalisation of the financial markets. IGE created an organised gold market and closely linked it to international markets. The factors that determine the world gold price are also valid for Turkey. However, during the period of economic instability and uncertainty, gold demand showed significant movements. In Turkey, gold is seen as a traditional store of value both in urban and rural areas, having cultural issues as well as economic ones. The price of gold in Turkey is determined by two sets of factors. These are "gold supply" and "macroeconomic factors". This thesis shows that there is an increasing demand for gold in case of uncertainty or instability.

ACKNOWLEDGEMENTS

In preparing this research, I reviewed all the books which published work on the importance of gold as a mine, money and store of value. The main source of this thesis was the library of Istanbul Gold Exchange (IGE) and World Gold Council's research archive. Additionally, the institutional publications of Istanbul Gold Exchange, Turkish Economy Bank, the Istanbul Chamber of Commerce and the Izmir Chamber of Commerce were used while writing this thesis. My official publication was The Official Gazette. Moreover, I also reviewed all issues of journals which published work on the working of gold market. These journals were Journal of Portfolio Management, Journal of International Financial Markets, Institutions and Money, Journal of Investing, Journal of International Money and Finance Journal of Political Economy, Financial Analysts Journal, Applied Financial Economics, Journal of Business, BIS Review, Cato Journal, EIU ViewsWire, NBER Working paper series and Gold Demand Trends. All the time series about the gold market in Turkey was taken from the central bank of Turkey.

I would first like to thank Prof. Dr. Vural Savaş for guiding in selecting the topic and commenting upon it. I would also thank to Asst. Prof. Idil Uz for reading and making valuable suggestions. I am grateful for her academic contributions at all stages in writing this thesis and for her moral support. Thank you for other jury members Prof. Dr. Uğur Aker and Asst. Prof. Natalia Ketenci for their contributions.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

I. INTRODUCTION

Gold is the most extraordinary metal which has a long history in the form of metal, money and store of value. It is a scarce resource and considered as a currency without any boarders. It is used in wide range of sectors from financial to industry, in particular electronics and dentistry.

Even though, gold does not have a major role in the international monetary system like in pre-1970s, however, it is not wrong to say that it still deserves great amount of attention within the financial markets and still keeps its popularity as an alternative saving tool. It seems that in certain countries, like Turkey, gold continues to be considered as an important asset. This thesis would try to understand the reasons why gold is still important for the Turkish economy. There are few studies that examined the determination of gold market and the evaluation of gold prices in Turkey. This thesis aims to provide an in-depth study for analysing these issues, especially updates information. Furthermore, gold market especially the price of gold is valuable information for the economic structure in Turkey, especially in determining the saving behaviour of the households.

Another reason for selecting this topic is that there were few researches about the gold market in Turkey. After Istanbul Gold Exchange (IGE) was established in year 1995, it became an interesting area for researchers. But, after then, the researchers have lost interest in this area. This thesis would like to find answers to the following questions:

1. What are the factors that determine the gold prices in Turkey?
2. What is the role of IGE in improving the Turkish gold market?

The thesis is structured as follows; determinants of world gold markets were examined. Accordingly, supply of gold and demand for gold were explained in detail. Then, determinants of gold market in Turkey were examined. In order to establish a consistency structure of the analysis of world gold market was used for the structure of the analysis of gold market in Turkey. More specifically, chapter 2 looks at the gold in history. The features of gold mining and the history of monetary policy regimes from gold standard to managed flexibility and the role of gold are explained. Chapter 3 examines the world gold market and analyses the working of the gold market in the world. The analysis will be carried out by taking into consideration the supply of gold and the demand for gold, and the determination of the world gold market. Chapter 4 investigates the important role of gold market in Turkey. It examines the working of gold market and analyses the main sources of demand for gold and supply of gold. This chapter also examines IGE, which is an important institution that promotes the development of gold market in Turkey. Especially the historical development, organisational structure and the major markets that IGE is responsible are the topics that will be covered. Finally, the major determinants of the gold market, especially the determinants of gold prices will be another area of concern in this chapter. Chapter 5 makes conclusion and finds answers to the questions that has been asked in this chapter.

II. GOLD IN HISTORY

2.1. Introduction

The gold has been used as money and became part of every human culture since the early civilization. It was one of the first metals used by the mankind. Gold was probably first found on the ground and used by prehistoric man as a tool and jewellery. But, it soon was used as money with all its characteristics such as; unit of account, medium of exchange and finally the store of value. Gold has several unique properties that will be analysed in this chapter. Its brilliance, scarcity and natural beauty impressed everyone who found it. Gold is also portable, private and permanent.

The aim of this chapter is to examine the major characteristics of gold and the role of gold in the history. To be able to do this, firstly, gold will be examined as a metal to understand its basic features. This kind of approach also shows why the gold has superior positions against other mines. Later, the history of gold will be examined by taking account one of the three characteristic of money, the store of value. Finally, the history of monetary regimes and the role of gold in different monetary policy regimes will be studied.

2.2. Features of Gold Mining

Gold was among the first metals to be mined for the reason that it commonly occurs in its native form. Gold is not combined with other elements. It is beautiful, imperishable and exquisite objects can be made from it (The U.S. Geological Survey, 1979, p.4). Gold is called a "noble" metal which is an alchemistic term. Because, it does not oxidize under ordinary conditions. Its chemical symbol *Au* is derived from the Latin word "aurum". In pure form gold has a metallic luster and is sun yellow in colour. But, mixtures of other metals, such as silver, copper, nickel, platinum, palladium, tellurium, and iron, with gold create various colour hues ranging from silver-white to green and orange-red.

Pure gold is relatively soft. It has about the hardness of a penny. It is the most malleable and ductile of metals. The specific gravity or density of pure gold is 19.3 compared to 14.0 for mercury and 11.4 for lead. Impure gold, as it commonly occurs in deposits, has density of 16 to 18, whereas the associated waste rock (gangue) has a density around 2.5. The difference in density enables gold to be concentrated by gravity and permits the separation of gold from clay, silt, sand, and gravel by various agitating and collecting devices such as the gold pan, rocker and sluicebox.

The degree of purity of native gold, bullion (bars or ingots of unrefined gold), and refined gold is stated in terms of gold content. "Fineness" defines gold content in parts per thousand. For example, a gold nugget containing 885 parts of pure gold and 115 parts of other metals, such as silver and copper, would be considered 8885-fine. "Karat" indicates the proportion of solid gold in an alloy based on total of 24 parts. Thus, 14-karat (14K) gold indicates a composition of 14 parts of gold and 10 parts of other metals. The basic unit of weight used in dealing with gold is the troy ounce.

The basic features of gold that provides superior position against other mines as follows (IGE, 1999, p.17):

1. Gold scarcity: What makes gold is its nature of being a scarce natural resource. There are limited numbers of gold mines located in different geographical areas. This rise the value of gold compared to other elements.

2. Inelastic supply structure: It is difficult for the supply of gold, especially in the short run, to respond to price changes. Gold has a different characteristic when it is compared to other types of mines with its inelastic gold supply due to changing prices. Therefore, it is difficult to follow the changing prices thereby control and manage the supply of gold.

3. Gold is unique in its structure: Another important characteristic of gold is that there are no other substitutes for gold. It is still one of the most popular natural resource in the world. According to its physical and chemical structure, it is more valuable than other metals such as silver and platinum.

4. Gold as a popular reserve tool: Final characteristic of the gold that makes its uniqueness is still being considered as the most popular reserve tool. Until the 19th century, it has been used as a unit of account. Since the middle of the 20th century, it is the most precious metal that has been preferred by central banks in the world.

2.3. Features of Gold Coins

The first use of gold was probably as jewellery, but it soon became used as money and store of value. Currently, there are no money based on gold but, before seventies there have been no periods in history when money has not been based on gold. It was an integral part of business and trades as far back the early civilizations of Sumer and Egypt (Gold Information Network, 2003, p.1). The great French historian Fernand Braudel saw these precious metals

as "the lifeblood of Mediterranean trade in the 2nd millennium BC". They were traded simply by weight in the form of ingots, which could then be cut up into small chunks or drawn into wire. Although gold has been recognized as a store of value since the dawn of history, the first gold coins are believed to have been minted in 670 B.C. by King Gyges of Lydia in Turkey (Gold Bullion Coins, 2003, p.1).

The first real coins were not struck until the 6th century BC in Lydia (Western Turkey). They were made from electrum, natural alloy of gold found in the rivers of the region. They usually had a lion or a bull on one face and punch mark or seal and weighted from 17.2 grams (0.55 troy oz) to as little as 0.2 grams (.006 troy oz). Their introduction was attributed to the Lydian king Croesus (561-547 BC). Improvements in refining soon led to the distinct minting of gold coins. The legendary King Croesus minted 98% pure gold coins in 550 B.C. Half a millennium later; Julius Caesar minted gold coins to pay Roman Legions. The soldiers were happy to discover that the value of the gold in the coins rapidly surpassed their face value Coinage was swiftly taken up in the blossoming Greek city states just across the Aegean Sea. Gold coin became an essential way of paying their armies and meeting other military expenses. The Romans minted gold coins on a scale not seen before and not equalled until modern times. Between 200 and 400 AD hundreds of millions of coins were struck and distributed through out the empire. When that empire fell apart in 400 AD, it was almost one thousand years before widespread gold coinage returned. The solidus survived as the main coin of the Mediterranean world, being minted by the Byzantine emperors in Constantinople (Gold Bullion Coins, 2003, p.1).

The Bezant personified gold coinage from the fall of the Roman Empire until the rise of Venice with famous gold ducats. But, due to a shortage of new gold supplies, minting was very limited and the coins were increasingly debased. Indeed, much of the gold that was available from Africa after 700 AD went into dinars made by the rulers of the growing

Islamic empire that stretched through the Middle East and along the North African coast. By 1200, the growing power of Venice brought more trade between the Islamic world and Europe. Venice soon becomes the main market for gold. It was a symbol of wealth and power for the next five hundred years and become the most widely accepted coin.

The supply of gold was enhanced soon after 1300 by new mines in Hungary. Suddenly, all Europe was making coins. In 1344, the mints of Florence, Genoa, Venice, Bruges (Flanders) and London coined over five tonnes (170,000 troy oz) between them. As the pattern of gold supplies changed by 1500, first with more gold moving directly from West Africa to Europe by sea and then with new sources in the Americas, so did coin production. But the supply of South American gold was relatively limited compared to the flood of silver so that, during the 16th and 17th centuries, silver coinage was more widespread in Europe than gold. Gold coinage made its comeback only after gold discoveries in Brazil in the 1690s. This gave a new dimension to world production and Britain moved onto an unofficial gold standard with gold coins replacing silver as the main circulating currency. The new flow of gold coincided with a slight over-valuation, compared to silver, at the mint, which had followed a major recoinage program a few years earlier. The premium for gold coinage was confirmed in 1717, when Sir Isaac Newton, as Master of the Mint, set the historic gold price of £ 4.4.11 ½ d (£4.35) which lasted for two hundred years. His action confirmed the preference for gold coins and accidentally put Britain on a gold standard, with gold forming the major coin circulation until 1914, when World War I broke out.

Throughout the 18th century, huge quantities of guineas were put in to circulation, with the mint often striking three to four million annually, virtually no silver was coined. Not since Roman times had gold been so widely used and accepted both in Britain and abroad, although most other nations stayed with silver coinage. The sovereign, which replaced the guinea under the Coinage Act of 1816, made the gold standard official. The sovereign of 0.25 troy oz (7.77

grams) at 916 fine, was the sole standard of value and had unlimited legal tender. The final triumph for gold coinage followed the gold rushes in the US and Australia after 1848. Gold coin minting soared in France and the US in the 1850s. Most nations switched from silver to gold coinage by 1900, when the US finally switched to the single gold standard from a bimetallic gold and silver policy. But when the world went to war in 1914, governments started to husband their gold. The minting of gold coinage largely stopped and coins were often called in. In 1933, during the Great Depression, the US recalled all gold and gold coins from their citizens. After that, the era of almost universal gold coinage was over.

For a long time gold was used in coins. In the nineteenth century however, it was more common to issue notes against gold or other collateral held in safe storage. These notes were often issued by private banks. By the beginning of the twentieth century, this function was generally taken over by central banks (Economy models, 2003, p.1). Role of gold in monetary policy and the gold regimes will be studied in more detail in the following section 2.4.

2.4. History of Monetary Policy Regimes and Gold

Previous sections explained the features of gold mining and gold coins. Besides these features, gold has also played an important role in the history of monetary policy regimes. Some countries had chosen the gold system to manage the interaction of their currencies with other currencies. This section will explain how the gold affected the history of the monetary policy regimes. Also, it will deal with special problems that rose during these monetary systems. The major monetary systems are as follows:

1. Classical Gold Standard (1870-1914)
2. Gold-Exchange System (1925-1939)
3. The Bretton Woods System (1944-1971)

4. The Current System of Managed Flexibility

2.4.1. Classical gold standard (1870-1914)

The function of gold as money has evolved over time as national governments have assumed large roles in the money supply. At first, unminted gold circulated in the form of dust or bullion. Market forces determined the relative prices of gold. Gradually, national governments began to mint gold into coins of a specified weight and to certify their value. The value of these coins equalled the value of the quantity of gold they contained. The major advantage of gold coin was no need to weigh gold at each transaction. It has been stated that as economies grew and size of economic transactions increased, the use of currency or paper money as a substitute for gold began to spread. Paper money was lighter and easier to transport. Each unit of paper money could stand for a unit of gold held by the issuer of the currency. In other words, currency was convertible means that it could be converted in to gold on request. Yarbrough et. al. (1993, p.715) explained this type of gold standard as currency backed by gold and gold served as the money stock. Chacholiades (1990, p.488) deepened this explanation and stated that under an international gold standard, each country tied its money to gold and allowed unrestricted import and export of the gold. The central bank of each gold-standard country stand ready to buy and sell gold freely at a fixed price in terms of the domestic currency, while its private residents were entirely free to export or import gold. The essence of a classical gold standard was the fix exchange rates.

Classical gold standard emerged during the 1870's and lasted until the outbreak of World War I in 1914. This period has been described as the "golden age" of the gold standard. According Chacholiades (1990, p.489), during this period world trade and investment flourished and global welfare was promoted. The balance-of-payments mechanism

was working smoothly. Conflicts of policy among nations were extremely rare. He defined classical gold standard as a myth. During the 1870-1914 periods, the world economy did not really experienced any dramatic shocks such as World Wars I and II, the great depression of the 1930s and 1973-1974 OPEC oil price increase. It has been stated that during the classical gold standard, Great Britain was at the centre because of its leading role in commercial and financial affairs. At that time, London was the financial centre of the world. As a result, sterling was associated with the gold. It was freely accepted and widely used. An important proportion of world trade was financed with sterling, and sizeable sterling balances were held in London.

Yarbrough's (1993, p.717) primary argument in favour of using a gold standard rests on the belief that a gold standard contributed to price stability and contained an automatic adjustment mechanism for maintaining balance of payments equilibrium. Their price stability argument comes from gold standard's limitations on money stock growth. The money stock can grow no faster than the government's stock of gold. Gold must back all money. The monetary authority can not create gold and must buy existing gold from the public or promote mining to enlarge the supply of available gold. As long as, these limitations on money stock growth worked, the gold standard imposed price discipline on the monetary authority. The automatic adjustment mechanism for the balance of payments under a gold standard provided an example of David Hume's (cited in Yarbrough 1993, p.717) specie-flow mechanism. Specie was a term for money in the form of precious metals. In the specie-flow mechanism, international flows of gold (money) corrected balance-of-payments disequilibrium.

According to Chacholiades (1990, p.489), there were two serious misconceptions of the golden age: (1) the price-specie-flow mechanism worked smoothly and maintained external balance automatically (2) the monetary authorities of the gold-standard countries followed the rules of the game. They allowed their gold flows to balance domestic money

supplies and price levels. It has been argued that these misconceptions made the gold standard an impersonal, automatic, and politically symmetrical system.

It has been stated that the gold standard requires the individual governments peg the values of their currencies in terms of gold. The arbitrage kept the market exchange rate approximately equal to the mint exchange rate, and that adequate gold stocks backed the money stock. The gold standard imposed a degree of price discipline on the monetary authority by limiting money stock growth equally with gold stock growth. It also contained an automatic adjustment mechanism in the form of Hume's (cited in Yarbrough 1993, p.717) mechanism for solving balance-of-payments problems through changes in the relative sizes of individual countries money stocks. As under any fixed exchange rate regime, the link between the balance of payments and the money stock was essential to automatic, self-equilibrating mechanism (Aldcroft et. al., 1998, p.44).

Finally, the gold-standard period had great instability in terms of monetary growth, prices, and real output. According to Yarbrough et. al. (1993, p.721), efforts to smooth and limit money growth by tying the money stock to gold limited success were for two basic reasons. First, the gold stock itself grew due to new discoveries, new extraction technologies and changing incentives for mining. Second, beside the restrictions placed on monetary growth by the gold stock, monetary authorities circumvented the rules and eliminated the discipline of the gold standard.

2.4.2. Gold-exchange system (1925-1939)

If the pre-1914 gold standard era was considered as the golden age of international monetary relations, the interwar period might be considered as the "dark age". With the outbreak of World War I, the golden age comes to end. The First World War disrupted all

aspects of the world economy, including the gold standard. Financing the war becomes the focus of government policy in the large trading economies. The demands of financing the war had produced high rates of inflation in most economies. Nations faced with a shortage of gold and put embargo on gold exports in order to protect their gold reserves. In the foreign exchange market, private individuals traded one paper currency against another at a price determined by supply and demand conditions. In this system nations applied floating exchange rate regime.

The dollar remained convertible in to gold, but other governments stopped converting their currencies in to either gold or dollars at fixed rates. Thus, the fixed mint exchange rates of the gold-standard era disappeared. The war had shaken confidence in the gold standard, and the strengths of the United States and Britain in the world economy had changed. The dollar played a growing part in the international trade and finance. In 1931, the return to a gold standard collapsed by the Great Depression. One by one, countries again suspended the convertibility of their currencies in to gold. Individual countries began to control their economies through competitive devaluation, tariffs, exchange and capital controls. Before the Great Depression, nations failed to build a stable and open international trade and monetary system. Only after the Great Depression macroeconomic stability became a central goal of government policy.

2.4.3. The Bretton Woods system (1944-1971)

In 1944, delegates of 44 nations met in a conference at Bretton Woods, New Hampshire. The main objective of the conference was to reform the international monetary system. Policy makers viewed flexible exchange rates basis for an international monetary regime. The Bretton Woods system established fixed exchange rates with some changes from

the pre-second war system. Yarbrough et.al. (1993, p.724) stated these changes in the following order;

1. The new regime represented a gold exchange standard rather than a gold standard. This meant that a key currency –the US dollar-played a central role along with gold.
2. The new system termed an adjustable-peg exchange rate system rather than a fixed exchange rate system. Because, the Bretton Woods agreement introduced provisions for altering exchange rates under certain conditions.
3. The Bretton Woods system was the outcome of international bargaining and the US and Britain strongly dominated the negotiations. Those negations created a major international organization, the International Monetary Fund (IMF), as a multilateral consultative and administrative body to facilitate the success of the new agreement.

The US dollar was the key, or reserve, currency in the Bretton Woods gold-exchange standard. The policy rules followed by the US and those followed by other countries were completely different. The key, or reserve, currency was convertible into gold. Maintaining this convertibility (initially at $35 per ounce) was the primary responsibility of the US. Its responsibilities were (1) standing ready to buy/sell gold in exchange for dollars at $35 per ounce on the request of other central banks and (2) creating no more dollars subject to convertibility than the US stock of monetary gold could support. Other country's central banks were responsible to intervene in foreign exchange markets to buy and sell dollars, so they were responsible to keep the dollar values of their respective currencies at the agreed-upon pegged rates.

There were some differences between a gold standard and a gold-exchange standard. Under a true gold standard, each currency was convertible in to gold. Under a gold-exchange standard, only reserve currency was directly convertible into gold. Other currencies were convertible in to reserve currency at pegged exchange rates maintained through intervention

by non-reserve-currency central banks. Rather than fixing exchange rates at permanent levels, the Bretton Woods agreement left open the possibility of periodic currency realignments.

Following the Second World War, the major economies found themselves in circumstances and pursuing diverse policies. Some economies were growing rapidly, while others struggled to recover from the war's impact. For all of these reasons, the negotiators at Bretton Woods recognised the need for devaluation and revaluation to correct chronic balance-of-payments problems. The main aim was avoiding the destructive competitive devaluation that happened during the Great Depression. An adjustable peg allowed central banks to intervene to buy and sell foreign exchange when there was disequilibrium at the pegged rate. In addition, policy makers could change the pegged exchange rate, under the guidance of the IMF, to a rate that more closes to an equilibrium level. These cases called fundamental disequilibrium.

The Bretton Woods system met with difficulties for two reasons. First, U.S failed to achieve its responsibilities. Second, the central banks of many countries faced a dilemma between their responsibilities under the agreement and their domestic macro economic policies. The US was responsible to hold the price of gold at $35 per ounce and the number of dollars in the hands of foreign central banks would not exceed the US gold stock. At the same time, most other central banks used the US dollars in their intervention activities to hold the dollar price of their currency constant. Because, payments imbalances sometimes required large-scale intervention, foreign central banks needed large stocks of dollars to maintain adequate liquidity to intervene in foreign exchange markets to maintain the pegged values of their currencies.

An obvious conflict existed between the need to limit the creation of dollars to keep confidence in convertibility in to gold and the need to create large stocks of dollars to provide adequate liquidity for intervention. During the early post-war years, dollars for financing

Europe's reconstruction deficits were scarce. The European economies maintained protectionist policies and controls on capital flows. Later, with the US expansionary monetary policies for pursuing domestic goals, the dollar shortage changed to a dollar glut. As a result of the US expansionary monetary policies, the dollar weakened against other currencies in foreign exchange markets. Under the Bretton Woods agreement, foreign central banks were responsible for intervening to buy the excess dollars for adding to their foreign exchange reserves. In 1960s, the US dollar liabilities to foreign central banks exceeded the US gold stock. The US ability to maintain convertibility at $35 per ounce of gold came under question and foreign central banks became unwilling to hold large stocks of dollars. Many foreign governments anticipated a devaluation of the dollar and hurried to exchange their dollars for gold before devaluation (rise in the price of gold) and pressures increased as the US gold stock decreased. After number of attempts to end the crisis, convertibility was officially ended in 1971. The currencies of the major economies floated against the dollar.

2.4.4. The current system of managed flexibility

In 1971, almost all major currencies began to float freely in the foreign exchange market. Nevertheless, the major financial nations of the world were not ready to accept the regime of freely floating exchange rates because, their economies damaged from economic crisis and war. But, their attempt did not solve the fundamental defects of the Bretton Woods system. In 1973, a new exchange-rate regime was emerged that was a system of managed floating. The new exchange rate regime was based on exchange rate flexibility. A managed float referred to a system in which the forces of supply and demand in foreign exchange markets determine the basic trend in exchange rates but central banks intervene when they perceive markets as disorderly.

In 1976, the Jamaica conference led the countries free to choose the type of exchange-rate system that best suited to their own individual needs. Pegged and floating rates were given equal legal status. Countries were no longer compelled to maintain specific par values for their currencies. Instead, countries were argued to give importance to economic and financial stability that will bring exchange rate stability. In addition, countries set policies such as competitive depreciation in order to gain an unfair competitive advantage over other members. The major problem of the Jamaica accord was how to ensure that countries would avoid from competitive depreciation and other similar practices. Over the 15 years of its operation, the system of managed flexibility has led to huge international imbalances and currency misalignments. Today most economists agree that managed flexibility has failed in three major areas (Chacholiades, 1990, p.502); (1) *Currency misalignment:* Managed flexibility has permitted a large misalignment of the dollar. The dollar was undervalued in the late 1970s before it became grossly overvalued in the early 1980s. The yen and German mark gyrated in opposite directions from the dollar. Contrary to the expectations of the advocates of flexible exchange rates, misalignments have been the rule rather than the exception. (2) *Lack of policy autonomy:* Floating rates have failed to cut the policy links between countries. As long as there are policy links between countries, a switch in economic policy affects exchange rates. (3) *Protectionism:* Managed flexibility has failed at supporting an open trading system. Liberalization increased international capital movements. As a result of currency misalignments, international competitive positions of nations have distorted and trade restrictions increased.

2.4.5. The role played by gold

As the gold keeps its importance as a scarce natural resource, it also played significant roles in the history of different monetary regimes. Charles de Gaulle said: "There can be no other criterion, no other standard than gold. Yes, gold which never changes, which can be shaped in to ingots, bars, coins, which has no nationality and which is externally and universally accepted as the unalterable fiduciary value par excellence" (cited in Forrest Capie. et. al., 2004, p.7).

For many years over a large part of the world, gold was the ultimate standard of value. Also, it was a standard which held steady its purchasing power in terms of goods over a very long period of years, although there were short term fluctuations. When we look at the history of the monetary regimes, we see that in each regime, gold played an important role. In the 19th century, most countries abandoned silver and paper standards in favour of gold. The function of gold as money has evolved over time and gold became an important parameter in determining the value of currencies. The main logic behind the classical gold standard was backing currency by gold and gold served as the money stock. Gold was at the centre of the classical gold standard and each country tied its money to gold. The main role of gold was fixing the exchange rates and maintaining the price stability. Governments gave priority to maintain the fixed price of their currency in terms of gold. As mentioned before, gold had important role of baking currency to limit money stock growth. In this idea, gold was related with government's stock of gold. The money stock could grow no faster than the government's stock of gold. The gold was an automatic adjustment mechanism in maintaining balance of payments equilibrium. The duty of gold was imposing a price discipline on the monetary authority.

The behaviour of prices was taken outside the control of government and central banks and depended on the gold supply relative to demand for it. They also emphasised that in such a situation, an automatic stabilising mechanism was in place. They argued that for some reasons if the price of goods rise relative to gold, this fall in the relative price of gold will reduce incentives to produce gold, and also divert some existing stock to non-monetary uses such as jewellery. Conversely, if the price of goods fell, this time there will be a rise in the relative price of gold and thus a stimulus to gold production. Capie. et. al. (2004, p.8) described this as a built-in stabilising mechanism and with this mechanism price stability in terms of gold was expected. Their conclusion was so simple that gold was the basis of the monetary system. When gold is no longer in that role as the automatic stabiliser, working from changes in the relative gold price to changes in gold output and use to changes in the money supply was no longer in place. This did not mean that gold would no longer be a good store of value. When currencies weakened, people switched to gold and when currencies strengthened, people became more confident about the value of currencies and switched from gold.

As the importance of gold increased during this system, countries tried to increase their gold reserves with new discoveries. Also, countries failed to follow the rules of the gold standard. During the World War I, gold become a major source of the war expenditures and gold's value as a reserve asset increased. Nations started to protect their gold reserves and this created inflation in most economies. During the interwar period, the gold standard was insufficient in achieving economic stability and set the stage for the Great Depression. With the Great Depression, the role of gold as convertibility into currency suspended.

During the Bretton Woods system, gold again gained popularity but this time gold shared its central role with dollar. The dollar became the reserve currency instead of gold and it was convertible in to gold. Before the Bretton Woods system, gold had direct relation with

currency but, Bretton Woods system created an indirect link between the currency and the gold. Before it gold was an important reserve asset for all nations. During the Bretton Wood, gold become an important reserve asset only for the US because, it was responsible to buy/sell gold in exchange for dollars. The desires of nations to increase their gold stocks left its place to desires of increasing dollar stocks. Gold left its reserve asset role to dollar and also shared its popularity with the dollar.

The 2nd world War created great instability and dollar could not keep its promise in convertibility into gold. This damaged the reliability of the dollar and it also affected the image of the gold. With the collapse of the Bretton Woods system, countries accepted the regime of freely floating exchange rates. The relation of gold with currency was abolished. After World War II, the importance of full employment increased. During the managed float, many countries aimed to sustain low inflation. Bordo (1998, p.3) stated that inflation was lowest and most stable under convertible regimes such as gold standard and the Bretton Woods. Inflation was less persistent under convertible regimes when compared with fiat regimes. The price level was trend-stationary in convertible regimes but, it was difference-stationary in fiat regimes.

In the history, gold played different important roles such as being a good store value as a safe haven in political and economic risks. Also, gold played a hedge[1] role against the changes in the domestic or external purchasing power[2] of the dollar. Gold was a good protection against depreciation in a currency's value during inflation or other currency

[1] Hedging is a kind of protection operation against risk. If one thing provides a hedge against another, it provides protection against movements in the price of the other good or asset because, their respective price movements reliably offset each other. When we say that gold is a hedge against the dollar, it can be a hedge in two senses. The first is a hedge against changes in the international or domestic purchasing power of the dollar. The second is a hedge against changes in the external purchasing power of the dollar. The first would involve inspecting various US price indices, the second inspecting the foreign exchange values of the dollar. The internal and external measures differ possibly for quite long periods, because purchasing power parity is some way from holding continuously (Capie et. al., 2004, p.9)

[2] The theory of purchasing power parity (PPP) states that the exchange rate between two countries' currencies equals the ratio of the currencies' price levels. The PPP theory predicts that a fall in a country's domestic power

fluctuations. Bordo et. al. (1998, p. 1) analyzed the changing role of gold in the international monetary system. They emphasized four points as follows:

1) The gold-exchange standard was a relatively recent arrangement that emerged only around 1900 in response to a set of historically-specific factors. These factors also help to account for its smooth operation.

2) A system which relied on inelastically-supplied precious metal and elastically-supplied foreign exchange to meet the world economy's incremental demand for reserves was intrinsically fragile, prone to confidence problems, and a transmission belt for policy mistakes. Proposals to solve the liquidity problem through adjustments in the price of gold were not feasible.

3) Network externalities, statutory restrictions, and habit all contributed to the persistence of the practice of holding gold reserves. But, the hold of even factors as powerful as these inevitably weakens with time. And, the effects of their erosion are reinforced by the rise of international capital mobility, which increases the ease of holding other forms of reserves, both unborrowed and borrowed, and by the shift to greater exchange-rate flexibility, which according to their results diminishes the demand for reserves in general.

4) Network externalities, in conjunction with central bankers' collective sense of responsibility for the stability of the price of what remains an important reserve asset, suggest that the same factors which had long held in place the practice of holding gold reserves, when they come unstuck, might become unstuck all at once.

According to Robert Mundell (cited in Bordo and Eichengreen, 1998, p.1), the gold standard always functioned as a gold-exchange standard in which specie was supplemented by foreign-exchange reserves and issued by the leading international economic power. There was nothing unstable or undesirable about this system as long as the price of gold was

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will be associated with proportional currency depreciation in the foreign exchange market (Capie et. al., 2004, p.10).

appropriately set. In particular, the gold-exchange standard allowed the world to economize on the costs of producing specie reserves. The gold-exchange standard functioned smoothly when countries followed responsible policies.

Moreover, Mundell (cited in Bordo et. al., 1998, p.1) emphasized the continuity in the evolution of international monetary arrangements. He pointed to the similarities in the structure of the pre-war and interwar gold-exchange standards. He suggested that the Bretton Woods System of pegged-but-adjustable exchange rates was best understood as a gold-exchange standard (gold-dollar standard) until the US severed the gold-dollar link at the end of the 1960's. In the post-1973, shift to the managed floating viewed as an aberration in which the stability and predictability of fixed exchange rates were allowed to go by the board. But, even these developments have produced less real change than meets the eye. Floating system gave monetary authorities the license to pursue inflationary policies. It has actually increased the demand for reserves and the demand for reserves of dollars and gold in particular. Indeed, central bank's insistence on having gold in their portfolios made way for a new monetary reform. Exchange rates again pegged and the global supply of liquidity managed by US that used gold to back its liabilities.

Bordo's et. al. (1998, p.3) analysis was broadly consistent with Mundell's analysis. They hold a less universalistic view of the gold-exchange standard. They argued that the international monetary system was understood as a gold-exchange standard for seven decades from 1900. They emphasized that the system was buttressed for most of its existence by special factors such as the insulation from political pressures enjoyed by central banks and the capital controls that limited international financial flows. More generally, Bordo et. al. (1998, p.3) was less confident than Mundell about the stability of a multiple reserve-asset system[3].

[3] Their emphasis on the fragility of the gold-exchange standard is consonant with theoretical work pointing to the inevitability in the long-run of the collapse of any commodity price support scheme in the face of unforeseen shocks

According to Bordo et. al. (1998, p.4), the disintegration of the gold-exchange standard in the 1930s and the collapse of the Bretton Woods System in 1971-3 both showed the fragility of these systems. In their view, more than an inappropriately set price of gold that limited the supply of international liquidity was responsible for stability problems in these two periods. The collapse of the interwar system and the Bretton Woods reflected the structural faults of the gold-exchange standard.

III. THE WORLD GOLD MARKET

3.1. Introduction

The purpose of this chapter is to examine working of world gold market. The main area of focus will be gold supply and demand. The main sources of gold supply are gold mining, central bank vaults and gold producer hedging. People might maintain gold with different ways such as gold bars, gold coins and gold money. This chapter will explain the major gold supplying countries. These countries are South Africa, the US, Canada, Austria, China, Hong Kong, Brazil, Indonesia, Dubai and Russia. Demand for gold is very much harder to evaluate than production process. Production is concentrated in a relatively small number of mines but, demand is distributed throughout the world.

There are mainly three major sources of demand for gold. These are private purposes that contain jewellery fabrication and industrial applications, governments & central banks and saving purposes. This chapter will explain these sources of gold demand and why central banks are holding gold in their reserves in more detail. There are good reasons for countries continuing to hold gold as part of their reserves such as diversification, economic security, physical security, unexpected needs, confidence, income and store of value. The gold demanding countries are Italy, India, Saudi Arabia, Egypt, Japan and Turkey. The evolution

of world gold demand and supply, and world gold prices and factors effecting gold prices will be examined.

3.2. Supply of Gold

3.2.1. Sources of gold supply

As stated in the previous chapter, gold is a scarce mine that is difficult to find in commercial quantities. It also takes time and plenty of money to bring gold mines into production. In this sense, the supply side of the gold equation is relatively constant. There is a common fear that gold supply might decline overtime. Lower gold exploration means that fewer ounces are being discovered and this is a threat for the gold market where gold is always demanded. There is an argument that gold mining output might reach to a peak point in the following years. According to the argument, the supply response might be muted independent from gold price fluctuations. As the process from mine exploration and bringing it to the market is really expensive and takes time, the growth in output might be achieved by the acquisition of the several major companies (The Tacqueville Funds, 2002, p.3).

The following section will examine the major sources of gold supply. The main sources of gold supply to the market are mine output, central bank sales, hedging activity by gold producers and old scrap that is returned to the market. First area of concern will be the physical supply of gold in the gold mining section. Next focus will be on the control of gold reserves by the central banks. The discussion will be developed around why and how the central bank supplies gold and major criticisms in literature about the functioning of gold by the central banks. Later, gold producer hedging will be examined that means gold producers sell leased gold in to gold market and return back for the future production. Finally, three

forms of gold maintenance will be examined. These forms are gold bars, gold coins and the gold.

3.2.1.1. Gold mining

The average gold on earth is 0.0035gr/tonnes (IGE, 1999, p.3). In the recent years, demand for gold increased from about 3000 tonnes to 4000 tonnes and most of the gold supply comes from mine production. The rest of supply comes from scrap and central banks (Veneroso, 2001, p.3). Gold production has some difficulties such as, a sustained period of declining exploration expenditure brought by low industry profit margins. This had raised the possibility of a market fall for the future supply of gold. The recent gold reports showed a drop in the world gold production (AME Mineral Research, 2002). Veneroso (2001, p.3) studied the reason of decline in gold supply and its relation with gold prices. He defined that if the gold price falls below the total cost of production, mine supply will fall because, gold mining will became less profitable. The gold mine is never in a rush to sell its gold when there is decrease in the gold price. The miner is aware of gold siting underground as a reserve represents value no less than gold siting above ground locked up in the vault. According to Fekete (2003, p.4), the gold miner is a seller of gold futures when there is an increase in the gold price. In this manner gold miner earns profits. The amount of gold to be sold is not unlimited however; it is strictly limited by the quantity of gold that can be gained from the gold mine. Gold miner is creating an economic value by extracting, refining and selling gold. Gold miner's main concern is not only market share, but the prolongation of the life expectancy of his mine.

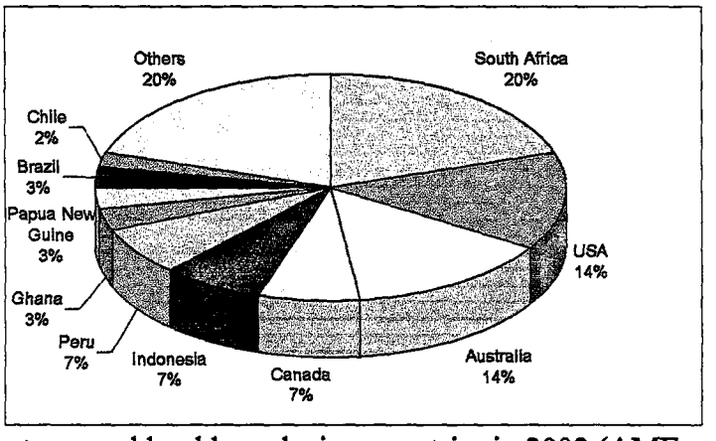

Figure 3.1 Western world gold-producing countries in 2002 (AME report, 2002, p.3)

Figure 3.1 explains the major changes in gold production and cost rankings among the gold companies around the world. The graph shows the world gold producing countries in 2002. According to graph, South Africa is the major gold producing country with 20%. Both USA's and Australia's gold production is 14%. Peru's, Indonesia's and Canada's gold production is 7%. Ghana's, Papua New Guine's and Brazil's gold production is 3% and Chile's is 2%.

3.2.1.2. Central bank vaults

The importance of central banks in gold supplying will be examined in this section. First of all, the role of central banks in working of gold market will be examined. Later, questions such as; how and why central banks are entering the gold market will be answered with some criticisms. At the end of the section, gold reserves of central banks and governments based on years will be examined.

Eventhough, the large number of gold is being supplied from the mining sector, world gold supply is inadequate to fill the demand for gold. Therefore, central banks are providing the remaining gold. The events during the last decade in the international gold market were

denominated by the official sector mainly by central banks, especially through sales and leasing with consequential impact on gold prices. It is certain that many years of future gold production have been borrowed and sold by central banks in the gold market. Central banks are important operators in physical gold market because they are the willing sellers of gold which make up for the global production shortage. Much of the selling is done in relative secret but some of the central banks publish details. For example, Germany sold 12 tonnes of gold in 2001. Holland sold 300 tonnes of gold between 1999 and 2004. Portugal sold 15 tonnes of gold in 2002 and 30 tonnes in 2003. UK has sold 395 tonnes in a public auction programme which finished in 2002 (World Gold Council (WGC), 2004).

The followings will explain the role of central banks in working of gold market. Central banks have bars of gold in their own vault. It costs them money for insurance and storage. Central banks earn interest on their bills of sovereigns such as, US Treasury Bills. The central banks are engaging to the lending market in order to evaluate their gold reserves and to earn profit. They take the bars out of the vault and they lend them to the intermediates such as bullion banks for 3-6 months with small interest. Although some central banks remain averse to lend their gold, large numbers central banks entered the market. Now the bullion bank owes the central bank gold which is a physical gold. Bullion bank pays interest to central bank for this loan. Central banks are said to lend their gold for about 1% per annum that is the cheapest borrowed money on earth (Istanbul Gold Exchange (IGE), 1999, p.36).

According to Veneroso (2001, p.3), the important reason behind entering of central banks in to gold market is controlling the gold price. Leased gold earns an interest for the central banks, but this lease rate is low compared to the interest rate that can be obtained in the bond market. This rises the gold carry trade where speculators lease gold and sell in into the market. The proceeds are invested in bonds or treasury bills. There is also a less

speculative form of gold leasing, where it is used for hedging by gold producers. The gold producers sell the leased gold in to the market and return the gold out of future production.

In 1990s, central banks provided liquidity of the gold market with some impacts on the gold prices. Low inflation and soft interest rates made central banks more sensitive about the returns on their portfolios. The steady decline in gold prices in 1990s against the background of low inflation raised doubts in some quarters on the importance of gold as a safe haven saving and hedge against inflation. Some central banks have resorted to off loading substantial quantities of gold, which they held as a reserve. Another significant development of the 1990s was the spurt in Central banks' precious metal lending. Central banks are lending their idle stocks with a view of enhancing returns from their reserves. The main idea is bringing liquidity to the market in order to bridge the gap between supply and demand. A notable development in this regard was the signing of Washington Agreement in 1999. This agreement placed an effective cap on the central banks operations.

In 2004, the Central Bank Gold Agreement was renewed for a further five years. The agreement is the mechanism by which the world's largest owners of gold can dispose of their holdings within a framework that does not disrupt the market and placing funds received in interest-earning assets. Under this agreement, annual permitted sales have been increased from 400 tonnes to 500 tonnes over the next five years. Sales within the framework of the agreement have become a necessary part of the gold market's liquidity. The size of the central bank's gold mobilisation in now known by the market even if actual sellers and the timing of sales are not. This means that some of the uncertainty that weighted on market prices at the end of 1990s has been removed. Central bank selling is now considered to be orderly and not a mass disposal that would swamp an oversupplied gold market regardless of price. Switzerland, the Netherlands, Austria, Germany and Portugal have agreed to remain sellers in the new agreement. The non-sellers within the new agreement are Italy, France, Belgium,

Luxembourg, Ireland, Spain, Finland, Sweden and the European Central Bank. The UK has not signed the new agreement, as it does not intend to sell any more gold. The new agreement also has been replaced by Greece. Switzerland announced that it would sell 130 tonnes by the end of the first quarter of 2005. The German central bank has received a quota of 600 tonnes, while the French central bank has mentioned that 500 tonnes would be sold. The impact of the latest agreement on the gold market will depend on the needs of the gold holders. Some governments are more eager to sell gold to fill budget deficits or fund research. In other instances, central banks are keen to sell to improve the interest earning capacity of the reserves that are under their management (EIU ViewsWire, 2004, p.3).

Furthermore, there are some criticisms about central banks' activities in the lending market. It has been argued that gold lending might have negative effects on the central banks' reserves. Howard (2002) has some criticism about the role of central banks in the gold market. He stated that central banks are not reporting the loaned gold as sales. According to his explanation, central bank's gold reserves remain constant but, the leased gold is gone. Gold fields mineral service (GFMS) stated that 4.500 tonnes of gold was out on loan in 2000. As mentioned before, bullion banks are borrowing gold at 1% and they earn much more money with selling the gold with higher rates. Howard (2002), named this as a 'sweet multi-billion dollar deal'. He argued that bullion banks owe bullion dollars of gold to central banks and central banks are losing money big money. In order to solve this problem, central banks should demand repayment from bullion banks. There is another fear that the official gold holdings might decline in physical terms as a proportion of central banks' reserve asset. The main reason of this decline might be all newly mined gold that has been used in jewellery fabrication, industrial uses and private saving. In this manner, none of the newly mined gold might not been absorbed by the official sector (WGC, 2003).

In recent years, as the amount of central banks' both sales and lending increased, the official sector's holdings as percentage of total above-ground stocks decreased from about 30% in 1996 to 23% in 2000. The central banks across the world were holding about 33,000 tonnes in 2000 which was 36,000 tonnes in 1991 (Reddy, 2002, p.1). The decreasing trend in the central banks' gold reserves can be clearly seen in table 3.1. According to table, gold reserves of central banks in 2001 were lower than in 1975.

Table 3.1 Gold reserves of central banks and governments (IMF, 2003)

	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001
All countries[4]	1,019	953	949	939	909	906	890	966	940	951	941
US	275	264	263	262	262	262	262	262	262	262	262
Belgium	42	34	34	30	20	15	15	9	8	8	8
Canada	22	21	20	15	3	3	3	2	2	1	1
France	101	81	82	82	82	82	82	102	97	97	97
Germany[5]	118	95	95	95	95	95	95	119	111	111	111
Italy	82	65	67	67	67	67	67	83	79	79	79
Japan	21	24	24	24	24	24	24	24	24	24	25
Netherlands	54	44	44	44	35	35	27	34	31	29	28
Switzerland	83	83	83	83	83	83	83	83	83	78	71
UK	21	19	19	19	18	18	18	23	20	16	11

In 2003, official holdings of gold by central banks and international organizations were about 32,000 tonnes (WGC[6], 2004). This represents about 11% of total official reserves and about 23% of the total above-ground stocks of gold in the world. The official sector is carrying on reducing its gold stocks. The disposals by central banks accounted for an average 13% of annual supply of the gold market (GFMS, 2003). WGO (2005) states the world official gold holdings for 2005. The US (8,136.2 tonnes), Germany (3,433.2 tonnes), IMF (3,433.2 tonnes), France (2,977.8 tonnes), Italy (2,451.8 tonnes), Switzerland (1,332.1 tonnes), Netherlands (767.5 tonnes), ECB (766.9 tonnes), Japan (765.2 tonnes) and China

[4] Covers IMF members with reported gold holdings
[5] West Germany prior to 1991
[6] WGC's objective is increasing gold demand. Its activities are essentially focused on three strategies: 1)increasing the consumption of gold used in the jewellery uses.2)establishing gold as a unique asset class for investment 3)ensuring the recognition of gold as money and encouraging central banks to hold gold in their reserves (WGC, 2003).

(600 tonnes) were respectively top ten countries that have highest gold holdings in 2005. Turkey was the 29th country with 161.1 tonnes of gold reserves.

3.2.1.3. Gold producer hedging

Historically, gold producer hedging activity has resulted in an accelerated supply of gold to the market as producers have sold forward their production to lock-in higher price for future output. Companies have bought back ounces when circumstances have proved advantageous, as well as selling gold in to hedging contracts as they expire without simultaneously taking out new contracts for future gold output sales. This practice is expected to continue into the foreseeable future as interest rates remain low and the gold price high, thus reducing the incentive for gold producers to sell forward. The fall in dehedging will occur as some producers move to lock in forward prices to secure revenue streams for expansions and new project development. As gold mine projects move ahead due to the higher price and gold mine output begins to grow, it is expected that hedging activity will rise again (EIU ViewsWire, 2004, p.4).

3.2.2. Gold maintenance

It is easy to buy, sell and store gold. It is available at coin and precious metals dealers, selected banks and brokerage firms around the world. The weight and the purity of gold coins and bars are precisely controlled and standardised by international refiners and mints. Their aim is to supply gold that will allow to buy with confidence and to sell with ease gold bullion products are based on the underlying price of gold plus a small premium. There are basically three forms of gold maintenance. These are gold bars, gold coins and finally the gold.

i) Gold bars: International refiners make it convenient for investors to own bullion by offering bars in a variety of weights and sizes, ranging from one troy ounce to 400 troy ounces. Broker commissions on buying and selling gold bars are minimal. In most cases, purchasing bars is the most cost efficient means of owning gold. Gold bullion bars can be purchased from selected commercial banks, brokerage houses and precious metals dealers.

ii) Gold coins: Gold bullion coins are the most popular type by the investors because, they combine intrinsic value with artistic beauty. The bullion coin represents a saving in pure gold. According to its legal tender, the country of origin guarantees its authenticity. Its true value depends on its gold content and daily price of gold. Bullion coins are minted in a variety of weights ranging from half an ounce to 1 kilogram. They can be easily bought and sold virtually anywhere in the world. The prices for coins are quoted daily in most of the world's newspapers and based on the underlying price of gold plus a small premium.

iii) Gold money: Gold money is a digital gold currency that can be spent electronically like a currency. It is the simplest way to buy and sell gold. It has built a secure, cost-effective, transaction system. It circulates gold ownership electronically while the gold stays in a secured vault. Gold money is different from other currencies whose values vanish over time. It is a time-honoured asset that is instantly exchangeable. The value of gold grams rises and falls against other currencies. The discipline behind Gold Money is free market and the openness of digital networks. Gold Money is a reborn of gold digitally in 21st century. Each gram of digital gold (gold gram) represents the ownership of one gram of pure gold in allocated storage in a high security vault in London. Gold money is ideal for e-commerce because payments are made with a click of mouse. Using gold money provides different advantages such as all payments are instant, non-reputable and irreversible. It is also global

and cost effective with its low transaction fee (maximum payment fee is about 1$) (Gold Money, 2002, p.3).

3.2.3. Gold supplying countries

The major gold supplying countries are South Africa, the US, Canada, Austria, China, Hong Kong, Brazil, Indonesia, Dubai and Russia.

i) **South Africa:** Six of the top fifteen gold producing firms are located in Africa. The volume of South African Gold Exchange was $597,629,000 in 1997. Most of the gold that is produced in South Africa is sold to Zurich Gold Exchange. South Africa is the world's biggest and cheapest gold producing country, but in recent years, its gold production decreased. The main reason was the decreasing gold mining expenses in the world. Accordingly, in an environment that gold price has a decreasing trend, a gold mine that has high costs started to close their business. There are two types of gold mining expenses; cash expenses such as amortization and total expenses that include all the costs needed for the production. According to cash expenses, South Africa is the most expensive country in the world. On the other hand, according to total expenses, South Africa is the cheapest gold mining country in the world (IGE, 2000, p.14).

ii) **The United States:** Four of the world's top fifteen gold producing companies are located in the US and they are carrying on their production activities in different countries. In the last ten years, opposite to South Africa, the US's gold production increased. The main reason of this increase is related with cash gold mining expenses. The US is one of the cheapest gold producing countries in the world. In 1999, the average gold production expense was 200$/ounces in the world but, it was 181$/ounces in the US (IGE, 2000, p.23).

ii) Canada: Canada has both rich gold mines and important gold mining companies. Canadian precious mining sector is mostly under the control of gold mining companies. Canadian gold mining companies are carrying on their operations in different countries and also, making gold transactions in the international gold exchange markets in order to protect their gold from price risks. In 1999, the average cash gold production expense was 2000$/ounces in the world but, it was 195$/ounces in Canada (IGE, 2000, p.23). There is not any international Canadian exchange market where precious metal trading is made. Canadian gold mining companies are carrying on their stock exchange operations in the Toronto Exchange

iv) Australia: Austria is the world's third biggest gold producing country. In Austria, there are few gold mining companies but, these companies have important impact on the Austrian economy. Sydney Futures Exchange has connection with NYMEX, COMEX exchanges that are found in the US. This means that investors have chance to make gold transactions in NYMEX, COMEX Exchanges from Sydney Exchange. Fifteen years ago, there were lots of cheap gold mines in Austria. But, in recent years, the efficiency of these mines is decreased and gold mining expenses increased. In 1999, the average world gold production expense was 200$/ounces but, it was 208$/ounces in Austria. As a result, Austrian gold mining companies hedged most of their gold production in order to protect themselves against the future risks (IGE, 2000, p.27).

v) China and Hong Kong: Chinese government was determining the gold price independent from the international gold market in 1990s. Chinese central bank announced that it will buy 10% less than international prices from its gold miners in 1999. In this manner, Chinese central bank arranged its local prices according to the changes in the international prices but, Chinese prices were below the international prices. As a result, gold miners started to sell their gold illegally in the domestic market or outside the China (IGE,

2000, p.31). Since 2003, China has allowed domestic and foreign companies to enter the gold market to enter the gold jewellery business with abandoning a regulation that required them to secure a licence. According to the latest China Gold Association results, gold production has risen 5,94% year on year in China. Chinese gold production reached to 93,351 tonnes in 2004 (WGC, 2004, p.1). China supplies most of its jewellery demand from its domestic production and the rest is supplied through imports from Hong Kong that is another important gold trade centre of that region. Hong Kong mostly supplies its gold demand from its domestic gold mining. Furthermore, it is the one of the world's leading country in gold exporting Honk Kong Gold Exchange was established in 1918.

vi) Brazil: Brazil is an important gold mining country at the centre of Latin American gold trade. Bolsa de Mercadorias & Futures Exchange established in 1986. In 1988, some regulations are done in order to increase trade volumes of these exchanges. Bolsa de Mercadorias & Futures Exchange agreed with other Brazilian exchanges on establishing a national gold exchange. In Brazil, gold mining is done both legally and illegally. At the end of 80's, annual gold mining was above 100 tonnes. But, after 1997, this number decreased to below 60 tonnes (IGE, 2000, p.47). The main reason of this decrease was the liberalization of the gold market that demonstrated illegal gold mining. When the profits of the illegal gold mining decreased, it directly effected the illegal gold producing.

vii) Indonesia: There are rich gold mines and highly developed jewellery sector in Indonesia. In 1985, Indonesia's national currency Rupiah has devaluated 45%. As a result of this, gold demand increased in rural areas. As the rate of inflation increased and Rupiah lost its value, saving demand for gold increased to protect savings. In short term, demand for gold was based on saving purposes but, in long term, gold was demanded as jewellery. Jewellery gold demand was a symbol of richness. In recent years, Indonesia's gold production increased as a result of two reasons. The first reason is Indonesia's increasing gold demand. The second

reason is world's largest gold mining companies which are preferred to operate their gold production activities in Indonesia. These companies prefer Indonesia because of its cheap gold production expenses. Indonesian gold market is really attractive for the international investors. Investors can easily buy or sell their gold in the Indonesian gold market. In 1994, with liberalization, gold trade restrictions were abolished such as, rate of taxes were rearranged. The reforms affected the Indonesian gold market positively (IGE, 2000, p.48). In 2004, there was a reduction in Indonesian gold production but, in 2005, returned to normal levels.

viii) Dubai: Dubai has the highest gold export rate among the Middle East countries. Dubai's approximately 80% of exports are sent to India and Pakistan. Furthermore, most of the companies that are carrying on their gold trade in the Gulf States mostly supply their gold from Dubai. Indian gold importing became legal in 1992 and most of the gold supplied from Dubai. As a result, Dubai's gold exports increased from 150 tonnes to 275 tonnes (IGE, 2000, p.72). Dubai also exports its gold bullion to Egypt since 1996.

ix) Russia: Until 1999, Russian's gold mining was in a decreasing trend. It was 138 tonnes, 127 tonnes and 138 tonnes in 1999, 1998 and 1997 respectively. The main reason of this decrease was the government intervention on the gold mining and gold trade. In 1990s, Russian gold mining sector lived an important crisis. The crises once again proved that gold industry should be liberal. The commercial banks were needed state permission in order to sell their gold in the international gold market and precious metal export was under the state control. At the end of 1990's, trade liberalization reforms started in Russia. Two important commercial banks were given authority to export gold. As a result of these reforms, Russia's gold production increased more than 3.5 tonnes in the first half of 2004. With unionization of the gold producers, Russia's total production reached to 61.822 tonnes (WGC, 2004, p.1).

3.2.4. Evolution of the world gold supply

This section will evaluate the world gold supply since 1999s. The first area of concern will be the mine production. Later, official sector sales and producer hedging will be examined.

Mine production was almost flat during the 1990s. It was an average at 2,550 tonnes during 1988-2000. In the latter half of the decade, it gradually went up. Mine production was more than 2.600 tonnes in 2001. But, in 2002, it fell to 2,543 tonnes for the first time since 1994. In 2004, the total production was less than 2.400 tonnes. The main reason of this decrease was landslides in 2003 and the mining of lower grades. As a result of lack of exploration expenditure, in the 1990s, and the inherent delays between discovery and production, the gold supply remained inelastic and reduced slowly. In 2004, high gold mine supply obtained from Austria, Russia, China, Peru, Tanzania and Mali. But, it was slightly offset by lower output from South Africa, the US, Canada and Indonesia (EIU ViewsWire, 2004, p.3).

The official sector sales and producer hedging recorded substantial increases, which was around 450 to 500 tonnes in 2000. Until 2000, supply from hedging ranged from a low of 100 to a high of 500 tonnes, in each year. The official sector sales, which amounted to 130 tonnes in 1994, progressively went up and reached to 470 tonnes in 2000. More importantly, the official sector leasing, which was below 1,000 tonnes in 1991, increased to 4,800 tonnes in 2000. The official sector leasing added liquidity to the gold market with some impact on prices. In 2002, central banks supplied 13% of the gold market (GFMS[7], 2003, p.1). The scrap gold supply increased to 778 tonnes in 2002 and scrap volumes jumped to 835 tonnes in 2003.

[7] GFMS Ltd is an independently owned precious metals consultancy, specialising in research into the global gold, silver, platinum and palladium markets. GFMS is based in London, but has representation in Australia, China, India and Russia

In the first quarter of 2005, the total world supply of gold was 23% higher than it was at the same time in 2004. Although, there was a small increase in mine output, the main source of supply was an increase in central bank sales and a reduction in de-hedging by gold mining companies. Net central bank sales were more than double the levels seen at the same time in 2004 (WGC, 2005, p.1).

3.3. Demand for Gold

Demand for gold is very much harder to evaluate than production process. Production is concentrated in a relatively small number of mines but, demand is distributed throughout the world. There are many analyses done in order to determine the factors that are affecting the demand for gold. In one study, the parameters such as GDP, ratio of household financial savings to national product, domestic price of gold, GDP deflator, index of ordinary share prices and the difference between domestic and foreign price of gold as percentage of international prices were taken. According to that study, gold imports tend to be higher when domestic gold prices rise relative to those of ordinary shares and international gold prices (Vaidyanathan, 1999, cited in Reddy, 2002).

Another study has tested five factors for their influence on demand for gold. These factors are, generation of large market surplus in rural areas as a result of all round increase in agricultural production, unaccounted income/wealth generated mainly in the service sector, comparative rate of return available on alternative financial assets like bank deposits, small saving schemes etc., price variation in gold and price of other commodities. The study led to the conclusion that the first two factors such as, rural surplus and unaccounted income in the service sector have far more influence on gold demand than the other factors (A DRG study, 1992, cited Reddy, 2002). There are mainly three major sources of demand for gold. These

are; *(i)* private purposes that contain jewellery fabrication and industrial applications, *(ii)* governments and central banks, and *(iii)* saving purposes. The following sections will explain these sources of demand for gold in more detail.

3.3.1. Private purposes

Private demand for gold can be analysed by explaining both jewellery fabrication and industrial application. Firstly, the jewellery fabrication will be studied. Gold's function as an adornment, as jewellery, has been developing over the long years of its history. Jewellery industry is the largest source of the gold demand. About 75% of the gold produced in the world's mines goes to jewellery production (Only Gold, 2003, p.1). Gold's workability, unique beauty, universal appeal, its ability to engage and enrich make this rare precious metal the favourite of jewellers all over the world.

The demand for gold as a jewellery differs among developed and developing countries. For example, consumers in the developed countries demand for gold only as jewellery. On the other hand, in the developing countries gold is also demanded for saving purposes. In the developing countries jewellery is also considered as a form of saving for future times. Besides, the main difference between developed and developing countries is that in the developing countries, jewellery consumers prefer to sell their gold when they face with economic difficulty or gold prices increase. For example, at the end of 1980's, the Middle East countries had a high decrease in petroleum prices that resulted as an increase in the scrap gold supply. Therefore, it is well known that the demand for gold has a direct relation with the economic growth and level of welfare. When people get richer their welfare also increases accordingly, their consumption of both luxury good and jewellery increases (IGE, 1999, p.21).

Gold is world's one of the most useful elements that is also demanded for industrial applications. Gold is highly malleable and ductile that can be easily hammered into thin sheets and stretched into very thin wire. Gold has many other applications in a variety of industries such as; aerospace, medicine, electronics and dentistry. The electronics industry uses gold to the manufacture computers, telephones, televisions and other kinds of equipment. Gold resists chemical changes which help it to avoid tarnishing and it is the only metal that forms no oxide on its surface in air at normal temperatures. Gold's unique properties provide superior electrical conducting qualities and corrosion resistance, which are required in the manufacture of sophisticated electronic circuitry.

In dentistry, gold alloys are popular because they are highly resistant to corrosion and tarnish. For this reason, gold alloys are used for crowns, bridges, gold inlays and partial dentures. Dental amalgams containing high percentages of gold are still desirable as crowns although, rapidly being replaced with less-expensive alternatives. Gold is a soft metal and its use in crown lessens the stress put on the opposing tooth in the act of chewing. Gold also has medical uses. An isotope of gold is used in treating some cancers and other diseases (Only Gold, 2003, p.1).

3.3.2. Reserve purposes

The next source of gold demand is for reserve purposes of the governments and the central banks. They have been major gold holders for more than 100 years and they are expected to retain larger stocks in the future. It is clear that central banks started building up their stocks of gold since the period of the classical gold standard. As the previous chapter examined the history of monetary regimes in detail, under the classical gold standard, the amount of money in circulation was linked to the countries gold stock. With this system, gold

gained importance as reserve asset. Countries demanded gold in order to maintain the convertibility between the amount of money in circulation and the gold stock.

The Bank of England was at the centre of the system and commanded such a universal confidence that it actually heeded very little gold. In 1870, the reserves of the Bank of England were 161 tonnes and in 1923 it was increased to 248 tonnes. As shown table 3.2, some other countries had accumulated much larger stocks. For example, US had 2,293 tonnes, Russia 1,233 tonnes, France 1,030 tonnes, Germany 439 tonnes, Austria 378 tonnes, Italy 355 tonnes, Australia 309 tonnes of gold. The world's total official gold reserves were estimated to have been about 8,000 tonnes in 1913. It was 700 tonnes in 1879 (WGC, 2003). This shows how successfully the system was operated during the prewar period.

Between the two world wars, most gold had always been held privately. Gold was circulating as a currency among citizens and across borders in commercial trade transactions. After World War I, gold started to be used as a weapon in economic competition. This shows that gold was an important reserve asset providing both economic and political power in the international arena. In 1934, the US devaluated the dollar in terms of gold and the price of gold increased from $ 20.67 an ounce to $ 35 an ounce. This new official price overvalued gold and caused gold holders around the world to sell their holdings to the US. The US official holdings rose from 6,000 tonnes in 1925 to 18,000 tonnes at the end of World War II. The US had about 65% of all its official stocks of gold. In 1960, US's official gold stocks were about 38,000 tonnes and accounted for about 50% of all above ground stocks.

Before the Bretton Woods system, central banks kept gold in their stocks in order to maintain the fixed official dollar price of gold and dollar convertibility. Gold was the foundation of the international monetary system. During the Bretton Woods system, there were no direct link between gold holdings and national money supplies. But, gold was still the primary reserve asset. Central banks could convert dollar balances in to gold at the official

price. Therefore, gold provides the "anchor" to which all currencies of member countries were linked directly or indirectly. But, central banks created more money than consistent prices. The fixed official gold prices again become unrealistic.

The US as the pivot of the system was faced with the choice of deflating, devaluing or abandoning the system. In 1971, it abandoned the system with "closing the gold window". During the previous twenty years, there had been a big shift in the ownership of official gold holdings. The post-war recovery of Europe and undervalued exchange rates generated large payment surpluses for Germany, France and other European countries. These countries were widening deficits for the US. These deficits were partly financed by gold transfers. Thus, US gold reserves decreased from 20,000 tonnes in 1950 to 9,000 tonnes in 1971 (WGC, 2003).

When the convertibility of dollar in to gold was suspended in 1971, the world entered the present floating exchange rate regime. Gold's role has changed from being at the centre of the system to being only a reserve asset. In 1978, the IMF has forbidden countries to peg their currencies to gold. This was a kind of anti-gold standard. During the 80s and 90s, central banks began re-appraising the role of gold in their external reserves. The movement of central bank independence led some of them to put more emphasis on the current yield on their reserve portfolios. Gold was an asset that earns no interest and central banks engaged to the lending market. For this purpose, some central banks decided to reduce their gold holdings by 10% between 1980 and 1999. In 1999, a group of European central banks agreed to limit disposals to 400 tonnes a year for five years. They also set a ceiling on the volume of gold lend to the market and reaffirmed their confidence in the future of gold as a reserve asset. In 1999, they stabilize their price to $252 an ounce.

As stated before, the monetary systems had changed but the gold demand for reserve purposes stayed constant. The main reason behind central banks gold demand is increasing their official reserves for the unknown future. There are 173 central banks in the world and

approximately hundred of them hold significant quantities of gold. Furthermore, in 2003, central banks and other institutions hold more than 32,000 tonnes of gold. Central banks decide how much gold will be hold in their reserves in the light of their particular circumstances. Motives for holding gold will be explained in the next section. However, countries that are facing particular volatility in their economic and political circumstances will be considered with the level of gold in their reserves. The international gold reserve average is about 11-12% at current market prices. But, in the EU it is over 25% and the US hold around 60% of its reserves in gold (WGC, 2003). In addition to these, gold plays a central role for the IMF. It is one of the largest official gold holders of the world. IMF's gold holdings are 103.4 million ounces which is amounted to $38.4 billion (IMF, 2003).

There are many central banks that significantly emphasises the importance of gold as a reserve. According to the Tietmeyer (cited in WGC, 2001, p.1), 15% of the European central banks' total reserves that amounts nearly 40 billion Euros is held in gold. He explains the key function of gold in monetary policy as a reserve asset. He said: "after all, they contribute to the strengthening of confidence in a currency, and also to credibility of central banks. It is not only the scale of the official reserves backing a currency, but also their composition that is important. In this connection, gold reserves may constitute especially confidence inspiring element". He emphases the importance of gold in central banks reserves in order to maintain public confidence. Sokolov (cited in WGC, 2001, p.1), said that the major aim of Bank of Russia holding gold in its reserve portfolio is lowering investment risks. He added that gold accounted for 10.5% of Russia's total reserves. This ratio is helping to meet one of the central bank's major aims in reserve asset management, which is safety. For this propose, the Bank of Russia and other central banks do not lowering the gold component in their reserves. He said: "for Russia, holding a substantial quantity of gold in reserves is an automatic compensating mechanism for keeping the value of the overall reserve portfolio stable".

3.3.2.1. Motives for holding gold

The main purpose of this section is to examine why central banks are holding gold in their reserves. There are good reasons for countries continuing to hold gold as part of their reserves. The following are the main reasons why central banks now hold gold and these reasons are classified by World Gold Council as follows (WGC, 2003):

1. Diversification: The addition of gold to a portfolio brings significant benefits in terms of risk which do not depend on what the gold price might be at any given moment in time. Returns of gold tend to be negatively correlated to other financial assets. A strategy of reserve diversification will provide a less volatile return than one based on a single asset.

2. Economic security: Gold is a unique asset that is no one else's liability. The value of currencies held in reserves depends on the economic policies of the issuing government. Gold is not directly influenced by the economic policies of the certain country. Its status cannot be undermined by inflation in a reserve currency country. Gold has maintained its value in terms of real purchasing power in the long run and it is part of the central banks' reserves.

3. Physical security: In the past, countries imposed exchange controls to affect the free transfer of their currencies and to prevent other countries accessing their cash or securities. If external reserves are held entirely in the form of financial instruments or bank deposits denominated in the currency of a reserve centre, they are vulnerable to such freezes. Therefore, gold holdings are one possibility that eliminates these kinds of dangers and guarantees stability in the international market. Gold holding as a physical security also favoured by one of Greenspan' speech in the congress (cited in WGC, 2001) as follows:

".... Gold still represents the ultimate form of payments in the world. It's interesting that Germany could buy materials during the war only with gold. In extremes fiat money is

accepted by nobody and gold is always accepted and is the ultimate means of payment and is perceived to be an element of stability in the currency and is the ultimate value of the currency. And that historically has always been the reason why governments hold gold."

Therefore, where appropriately located, gold is much less vulnerable. Gold is providing total and incontrovertible liquidity.

4. Unexpected needs: The countries may need liquid resources for emergencies. Gold is liquid and universally acceptable as a means of payment. Owning gold is having an option against unknown future such as war, unexpected inflation and crises.

5. Confidence: The public takes confidence from knowing that its government holds gold. Gold is an indestructible asset and not prone to inflationary worries overhanging paper money. As currencies are not exchangeable for gold on one to one basis, the presence of gold demonstrates that there is something more solid underlying the pieces of paper used for everyday transaction. In 1999, the European Central Bank chose to hold 15% of its centralised external reserves in the form of gold. In addition, in 1995, the IMF's Executive Board recognised that gold gave a "fundamental strength" to its own balance sheet (WGC, 2003, p.3). Today, central banks are still giving importance to their gold holdings.

6. Income: Gold is sometimes described as a non income-earning asset. But, there is a gold lending market and it can also be traded to generate profits. For example, central banks want to use all of the gold they hold to generate profit. They trade their gold in the lending market.

7. Store of value: Over the course of decades and even centuries, it has been shown that gold has maintained its purchasing power in real times. In bad economic conditions gold was always a safe haven for the investors. Gold was always popular and it never lost its popularity.

3.3.3. Saving purposes

Owning gold and gold bullion coins can benefit investors in a number of ways. During 1980's, the performance of gold as a saving alternative was mostly dominated by stocks and bonds (Johnson, et. al., 1997, p.94). Other factors that affect the performance of gold are inflation, foreign currency, political and economic instabilities. Gold bullion is a long-term store of value, highly liquid and internationally recognised asset. It can diversify and stabilise portfolio and protect it against stock market fluctuations. In this section, first area of concern will be the role of gold as an important investment tool. Also, the reasons for investors to hold gold will be stated. Next, working of gold market and its special features will be examined. Later on, the role of gold in portfolio management as a hedging instrument will be mentioned with examples from the history. Moreover, gold's main differences from other type of assets will be stated. The section also emphases the arguments about gold whether it is a commodity asset or monetary asset. At the end of the section, the major differences between gold and cash will be stated.

3.3.3.1. Gold as a saving tool

Gold is an alternative saving tool for the investors since 1970's. In today's uncertain economic conditions, many investors hold gold for safety, security and privacy purposes. Gold is defined as the world's main trading currency. Furthermore, gold is an important secure asset that can be tapped at any time under any circumstances. It is easy to buy, sell, store and transport gold in the gold market 24 hours a day. The important features of the gold market are (WGC, 2003): (1) *Accessibility*: Gold is tradable in any amount and on an established exchange. (2) *Ownership in the gold*: Because of gold's structure that a separate

bare trust is set up for each investor, the investor actually owns the gold. (3) *Liquidity*: Any amount of gold can be bought/sold so long as the appropriate amount of gold bullion can be bought/sold in the international market. (4) *Low fees*: A monthly fee that is charged to cover storage, insurance and operating costs is low. Traditionally, access to the gold market has been through:

1. Investment in physical gold, usually as gold coins or small bars. For larger quantities, by way of the over the counter market.
2. Gold futures and options.
3. Gold mining equities, often packaged in gold-oriented mutual funds (WGC, 2003).

Table 3.2 Market capitalisation of NYSE and gold market (NYSE, World Federation of Exchanges, 2004, p.2)

Market	**Market capitalisation (US $ million)**	**Turnover (US $ million)**	**Multiple**
NYSE	8,620,702	9,893,070	1.15
Gold	1,539,717	4,496,875	2.92

The table 3.2 shows the combined market capitalisation of the New York Stock Exchange constituent stocks between March 2002 and 2003. The multiple is a simple division of turnover by market capitalisation. According to table 3.2, the gold market was only some 18% of the size of the NYSE by market capitalisation in 2003. But, gold market was more than 2.5 times liquid in terms of turnover. Although the gold market is small by comparison with other capital markets, it is deeper and more liquid. The size should not be confused with liquidity. Gold is a good investment alternative for the investors. There are three reasons for investors to invest in gold: (i) Investing in different class of portfolio assets to improve stability and predictability of returns. (ii) Preserving wealth and maintaining long term value. (iii) Eliminating risk factors that effect price performance.

As it has been stated in the previous chapter, exchange rates at the major currencies started to float with the final breakdown of the Bretton Woods system in 1971. They varied

against each other continuously and this situation created both danger and opportunity for the investors. The danger was that international traders and investors could make substantial losses as a result of currency fluctuations over which they could have no influence. The opportunity was two sided. They could protect themselves against these risks or they could actively seek to profit from them (Capie et.al., 2004, p.5).

It has been stated that investors looked for currencies which they could regard as "safe havens". But, even the most apparently safe of currencies was subject to economic and political risks. Accordingly, there was increased interest in ways to hedge these risks. Among these ways investment in gold was one of alternatives to hedge risk. Historically, investors have sought financial shelter from inflation and political instability through investing in gold (Davidson et. al., 2002, p.287). Capie et.al. (2004) stated that if one thing provides a hedge against another, it provides protection against in the price of the other good or asset. Because, their respective price movements reliably offset each other. It has long been thought that gold was a good protection against depreciation in a currency's value both against inflation and other currencies

Additionally, in inflationary and deflationary times, especially in longer time horizons, gold keeps its purchasing power. The value of gold, in terms of real goods and services that it can buy, remains remarkably stable when the purchasing power of many currencies decline. That is why gold counters the effects of inflation and currency fluctuations. There are many studies that show why investors prefer gold against other commodities. One of the major reasons is that gold is always winner during inflation. Between 1968 and 1979, gold was 19.4% when compared to foreign currencies (6.4%), corporate bonds (5.8%) and stocks (3.1%) (Gold Information Network, 2003). Moreover, Harmston (1998) explained the long term historical role of gold as a saving purpose, in spite of price fluctuations, as follows (cited in WGC, 2003):

1. Gold has consistently reverted to its historic purchasing power parity,
2. Gold has proved to an effective preserve of wealth, and
3. During periods of financial, economic and social turmoil, gold has been a safe refuge when the value of other assets was all about destroys.

Gold does not depend on someone else's ability to pay. For example, a government bond depends on a particular government's ability to pay interest and repay the principle. Therefore, the government bonds have counter-party risk. Gold is defined as a financial asset that is not matched by a liability. Furthermore, it can provide insurance against extreme movements on the value of traditional asset classes that can happen in unsettled times. There are some examples from history that why societies and even governments prefer holding and investing in gold. These examples are summarized as follows (WGC, 2003):

1. During the 1987 stock market crash, gold proved itself the most effective way of raising cash to meet immediate needs,
2. In 1997/1998, the Government of South Korea asked its citizens to allow it to buy their gold holdings in exchange for local currency debt instruments. The Government raised over five million ounces of gold in this way which it sold for hard currency. As a result it was able to service its extreme dept,
3. The first quarter of 2002 saw a flight to gold by Japanese investors as they awaited the withdrawal of government guarantees on bank deposits,

These examples show that investors have sought financial shelter from inflation and political instability through investing in gold. Moreover, gold has important role in today's portfolio management. Gold is able to control portfolio risk when it is used as a risk management tool. The main reason of holding gold is protecting the portfolio against fluctuations in the value of any single asset class. Gold bullion is considered to have independent characteristics, compared to traditional asset classes such as equities, fixed

interest rates and cash. Gold acts as an ideal counter-balance to them. This is the main benefit of including gold as an asset class in portfolio. Gold improves the stability and predictability of returns. A study examined the relationship between the price of gold and stock price indices for markets in Europe and Japan between 1991 and 2001. There gold prices set in London and 23 stock price indices for 18 countries are used. The short-run correlation between returns on gold and returns on US stock price indices was small and negative (Smith, 2002, p.17).

Gold is not correlated with other assets because the price of gold is not driven by the same factors that drive the performance of other assets. The price of gold is generally moves in the opposite direction to equities because, its performance tends to move independently from other investments and economic indicators. For example, whenever long-term bonds and equities decline, there is tendency for gold to go up. Gold price is subject to events beyond the country's economy and subject to different forces of supply and demand from those that affect other asset classes. It has a value that is purely determined by the market. Gold is an effective portfolio diversifier and some part of the investment portfolio should be in gold as a long term hedge against inflation and protection against stock market volatility (Lawrence, 2003, p. 2-4).

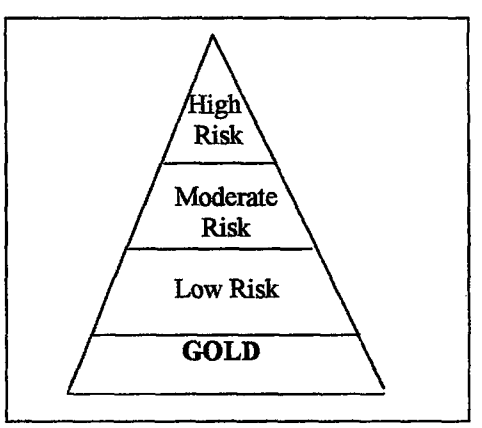

Figure 3.2 Balanced investment portfolio of gold (Gold Information Network, 2003, p.2)

Figure 3.2 shows that gold is the foundation of a properly balanced investment portfolio. Its diversification helps to protect the portfolio against economic fluctuations in the value of any asset class. In the search for effective diversification against a background of increasing converge among mainstream asset classes, investors are considering a variety of non-traditional alternative investment vehicles. Additionally, investors should give careful consideration to each of alternative investment vehicles in the light of their particular requirements. So, despite its relatively low expected returns, gold offers superior diversification with high liquidity and low cost (WGC, 2004, p.3).

There are different arguments about whether gold is a commodity or monetary asset. It has been stated that gold has a dual nature. It is both commodity asset and a monetary asset. Firstly, less than one third of gold's total accumulated holdings can be considered as a commodity asset. Gold always retains some value such as, jewellery bought for adornment and gold used in industry. The distinction between gold and commodities is important. Gold has maintained its value in after-inflation terms over the long run, while commodities have declined (Scott, 2002, p.4). Moreover, during all the years that gold was falling in price, its demand as a commodity rose. For example, demand for jewellery and as a raw material. When the price of gold began to rise, gold demand as a commodity for use in jewellery fell with the rising price. The reason of this fall was due to manufacturer's shifting to other metals.

Secondly, as much as two thirds of gold's total accumulated holdings relate to "store of value". As it has been mentioned earlier, holdings in this category include central banks reserves, private savings and jewellery bought in developing countries. This shows that gold is primarily a monetary asset. In order to understand clearly, we can consider the dollar. If an oversupply exists, its price in other currencies falls and in a freely traded market demand for it also falls. Because it is buying less that is called as an inflated. When an undersupply exists,

demand for dollar increases relative to other currencies. Because it is buying more that is called deflated. This is the same pattern that can bee seen in the gold pricing due to saving demand. When gold is in oversupply, its price depresses and consumption becomes commodity asset driven. When it is undersupply, its monetary asset quality comes to fore and its scarcity drives the price higher. It is not easy to increase gold production. It is very difficult to create an oversupply for gold as a monetary asset unlike a paper currency.

Additionally, it has been argued that the gold is a monetary metal because it has constant marginal utility. While the marginal utility of every other commodity declines at a more or less rapid rate, gold has over the millennia displayed a rate of decline lower than of any other. Therefore, the demand for gold as an inflation hedge is a monetary demand. As a result, the saving demand for gold is also a monetary demand. Fekete (2003, p.7) made some generalisations about the motives behind the demand for gold. Firstly, he argued that people's monetary demand for gold is protest against the cases such as: *(i)* Low interest rates; *(ii)* Bank's loose credit policy; *(iii)* Governments' fiscal policy *(iv)* Central bank's monetary policy. Furthermore, the saving demand is the fear of devaluation, monetary depreciation or any other form of embezzlement of private wealth through monetary manipulation.

3.3.3.2. Gold versus cash

> *"Gold is very different from paper money. It has very long-term price stability, whereas currencies normally lose 90-100 per cent of their value in each century. Its price does not determine the export cost of the nation of issue. It can not be created except by an expensive mining process and small quantities; it cannot, therefore, be over-issued for political reasons, to win an election or to pay for war. It is an asset which is not represented by someone else's debt or liability. It is the only form of asset that is both liquid like a currency, and real, like property. For this reasons, it is the canary in the mine. Major changes in the world exchange system usually show up in the gold market." (Rees-Mogg, 2003, cited in WGC, 2003, p.3)*

Rightly or wrongly, investing gold is often compared to investing in cash because; it has been used as money for thousands of years (Bienkowski, 2003). Historically, gold acts as a reliable store of value because it fulfils all functions of money. It has been argued that the first difference between gold and cash is that the gold still represents the ultimate form of payment in the world. Gold is indestructible, fungible, easy to store, liquid and secure. Gold is currency without borders and it is also accepted anywhere in the world (Greenspan, 1999, WGC, 2003, p.2). In contrast, cash is not always accepted and it has borders when the government is unstable, the currency is not liquid or the government is printing too much money. Secondly, gold has scarce value when it is compared to cash. Every country does not have gold mines but, money exists in every country. Gold forces a discipline which its production process from exploration to the minting of gold bars can take years. In contrary, cash can be printed by each of the world's governments.

Finally, gold is portable, it is easy to store in an emergency and more reliable than paper money in a crisis. Both cash and gold has price risks but gold is more secure than cash. As gold is scarce and can not be "manufactured", its value can not be inflated away like paper currency. When gold is compared to cash, there are two main different ways of holding gold bullion in a bank account (1) *Unallocated Gold*: it is lent out to a third party and it earns a rate of return which is called the lease rate. (2) *Allocated gold*: It is not lent out and does not carry any credit risk on the bank or a third party. Therefore, it does not earn any income. Indeed, unallocated gold may bear a holding charge to cover the costs of storage and insurance.

Gold is more secure than cash. Investors holding gold in an allocated gold account are provided with the exact identification numbers of each gold bar they own such as; manufacturer, purity and bar number. This gold is physically segregated from other gold in the vault and this gold can be insured. In contrast, cash on deposit is not physically segregated. Your cash is mixed with other people's cash and you rely on the bank's

accounting system to record details of your cash balance correctly. You are not provided with individual serial numbers of every note held on deposit for you and often the cash is not insured.

3.3.4. Gold demanding countries

The gold demanding countries are Italy, India, Saudi Arabia, Egypt, Japan and Turkey. The geographical breakdown of demand illustrates its jewellery based nature. For example, India is the leader of gold demand because of gold's importance in Indian marriage ceremonies. The US is the second because of the broad affordability of gold jewellery for a large section of the world's richest society.

i) Italy: Italian jewellery sector has large production capacity with high quality and design. Although there is not any gold mine in Italy, jewellery sector successfully become leader of the world. As Italy does not have rich gold reserves, it is an important gold importer. Italian jewellery sector imports its row material and exports it to the world as jewellery. Italian jewellery sector is carrying on its developing trend since 1980. In 1996, jewellery sector demanded 458 tonnes of gold and exported 6.900 milliard Italian Liret (IGE, 2000, p.49). As a member of EU, Italy has an advantage of marketing its jeweller to large markets. But, in 2005, poor economic conditions resulted in consumer spending cutbacks. Thus, jewellery demand decreased 6% compared to a year earlier.

ii) India: India has a few gold productions but, there is a big demand for gold. Almost, most of the demand is supplied by imports. Indian jewellery sector is highly developed and most of the jewellery used for supplying domestic demand with little exports. As most of the jewellery used for domestic consumption, India has no competitive advantage in the international market. This is also a disadvantage in the quality improvement and creative designing. Because of high gold taxes and government restrictions, Indian gold prices

increased above world prices. In 1990, domestic gold prices were 60% higher than world prices. As a result, large amount of gold entered India with illegal ways. In 1997, with liberalisation, domestic gold prices became 20% higher than world prices. In India, there is also a large gold demand for saving purposes (IGE, 2000, p.54). In the first quarter of 2005, there was a big increase in the demand for saving compared to the same time in 2004. In India, during the religious festivals gold consumption shows a big increase. Both jewellery demand and gold prices increase during the Hindu festival season (EIU ViewsWire, 2004, p.2).

iii) Saudi Arabia: It is the biggest gold importer of the Middle East. In recent years, its gold demand increased much more than its gold reserves especially, during the hajj season. This excess demand is mostly being supplied through exports. The two factors that affect Saudi Arabia's gold demand are gold and petroleum prices. An increase in petroleum prices also increases citizen's welfare. This results also as an increase in jewellery gold demand. In the first quarter of 2005, consumer demand for gold increased 10% compared to same period in 2004. Government measures such as, reduction in customs duty are expected to increase jewellery demand in the future (WGC, 2005).

iv) Egypt: In recent years, demand for gold increased in Egypt and most of the gold demand is being supplied through exports from Saudi Arabia and Dubai. The economic improvements and the success of tourism sector affect the gold demand for jewellery. In 1994, demand for gold was 63,2 tonnes and reached to 124,8 tonnes in 1999 (IGE, 2000, p.62).

v) Japan: In Japan, most of the imported gold is demanded by jewellery and electronic sectors. Also, in recent years, gold demand for saving purposes showed an increasing trend. In 1990s, jewellery production was above 100 tonnes. After the Asian economic crises, jewellery demand decreased to 55 tonnes. On the other hand, improvements

in the electronic sector caused a boost increase in gold demand for industrial purposes. Also, there was a large gold demand for saving purposes. In 1999, gold demand for saving purposes reached to 81,8 tonnes compared to 54,6 tonnes in 1997. In 2002, jewellery demand for gold remained constant because of the weak economy. But, gold demand for saving purposes stayed alive. This shows that people demand gold for saving purposes during economic instabilities (Gold Demand Trend, 2003, p.6). In 2005, saving demand kept its increasing trend because, there was weakening in the value of yen (WGC, 2005).

vi) Turkey: The next chapter will examine the demand for gold in Turkey in more detail. The Grand bazaar is the heart of Turkish gold market and there is a high gold demand for jewellery purposes. Turkey also has large portion of foreign demand from tourists and other countries. In Turkey, gold is an important saving tool for the unknown future. The factors affecting the demand for gold also will be examined in the next chapter. In the first quarter of 2005, both jewellery and saving demand kept its increasing trend. Jewellery and saving demand rose 28% and 31% respectively compared to the same time in 2004. In the first quarter of 2005, Turkish Jewellery exports increased 26% higher than at the same time 2004. Turkish exports to the US exceeded those from Italy for the first time in 2004 (WGC, 2005).

3.3.5. Evolution of the world gold demand

Until 1995, the annual jewellery demand was 2,600 tonnes in the world. The demand for jewellery fabrication remained flat during 1988-2000 on an average at 3,250 tonnes. The table 3.3 summarizes six years of global gold demand in tonnes between 1997 and 2002 (GFMS, 2003).

Table 3.3 Six years of global gold demand in tonnes for (1997-2002) (GFMS, 2003)

USES	1997	1998	1999	2000	2001	2002	AVERAGE
JEWELLERY	3311	3181	3151	3187	3064	2727	3103
RETAIL INVES.	459	270	360	156	249	340	322
INDUSTRIAL	419	329	411	457	357	347	397
TOTAL	4189	3843	3922	3800	3770	3413	3823

The table 3.3 states that between 1997 and 2002 the main purpose of gold demand was as jewellery, which had highest tonnes than both saving and industrial purposes. According to table 3.3, between 1997 and 2002, the jewellery demand for gold decreased from 3311 tonnes to 2727 tonnes. It also recorded a decrease both in 1998 and 1999. On the other hand, it showed an increase in 2000 but, it again decreased in both 2001 and 2002. The retail saving demand for gold decreased from 459 tonnes to 340 tonnes between 1997 and 2002. In 1998, saving demand for gold showed a big decrease from 459 tonnes to 270 tonnes. In 1999, it increased but could not reach to 459 tonnes which was in 1997. In 2000, the saving demand for gold again recorded a big decrease and became 156 tonnes. On the contrary, in 2000 and 2002, it increased to 340 tonnes. The industrial demand for gold decreased from 419 tonnes to 347 tonnes between 1997 and 2001. The table states that the saving demand for gold much more fluctuated than other sources of demand between 1997 and 2001. The total demand for gold was 3843 tonnes in 1998 but, increased to 3922 tonnes in 1999. That increasing trend did not continued so long and it decreased to 3413 tonnes in 2002 (GFMS, 2003).

In the first half of 2002, whole gold demand was decreased 9% compared to 2001, in tonnage terms. In 2002, saving gold demand was slowly increased and jewellery demand was 4% below in 2001, in tonnage terms. The main reason of this decrease was the price fluctuations in many world markets. Price movements were the dominant determinant of gold demand for jewellery purposes in 2002. For example, in Asia and the Middle East, gold price fluctuations reduced the demand for buying new gold as jewellery (Gold Demand Trends, 2003, p.6).

In 2003, the saving demand was gathered momentum as political tensions increased. The stock markets remained depressed and global economy remained troubled. There was a political instability that increased gold demand for saving purposes. There was a strong consumer demand for gold in 2003. Consumer demand is physical demand that comprises purchases of gold jewellery and demands for saving purposes such as; gold bars and coins. In 2003, consumer demand increased 6% in tonnage terms compared to 2002.

Consumer demand for gold in the second quarter of 2004 was 10% higher than in 2003, in tonnage terms. In 2004, eventhough the gold price increased by 13%, jewellery demand was 644 tonnes, which was 8% higher than in 2003 (WGC, 2004). Concerns about the long term economic and political future provided a supportive environment for physical gold buying in 2004. Burton (cited in WGC, 2004, p.3) said: "the fact that consumer demand is up, for 2004, is good news for gold industry. We believe our promotional activities have clearly helped to boost demand in major markets such as; Turkey, china and India. Going forward, we believe that continued promotion is essential both to make jewellery exiting and relevant for today's consumer, and for the continued long-term health of the gold market". These results can be explained as a positive sign for the precious metal market. Latest figures from the World Gold Council show that gold demand is still growing, yet production of the precious metal is falling.

In 2005, the factors that increasing demand for gold remained largely in place. Any weakening in the price of dollar causes an increase in the gold demand for saving purposes. Saving gold demand increased in the markets such as, India, Japan, Vietnam and Turkey. The increase in gold demand was supported by political and economic uncertainties as well as favourable price movements. Additionally, any rise in the gold price causes a decrease in the gold demand for jewellery purposes. In the first quarter of 2005, the jewellery demand was 19% higher than in tonnage terms, compared to the same period in 2004. But, overall

industrial demand for gold slightly decreased in tonnage terms. The largest industrial gold demand is for electronics components and it decreased 6% year on year. The main reason of this decrease was the bad economic conditions of 2004. In contrast to electronics, decorative and other industrial uses continued to grow strongly in the first quarter of 2005 (WGC, 2005).

3.4. World Gold Prices

3.4.1. Factors affecting the gold price

As it has been mentioned earlier, the gold is the most extraordinary metal. The increased demand for gold can reduce supply, selling pressure tends to increase supply, commodity demand can be replaced by saving demand and the price can be driven higher by factors unrelated to its use as a metal (Philips, 2003, p.6). Therefore, the price of gold depends on different factors. The effects of all these factors are complex and variable. This chapter will examine the different arguments that are explaining the factors affecting the gold prices.

The price of gold is the rate of exchange between gold and national currencies. This rate of exchange is determined in world's certain gold markets such as; London, Zurich, New York and Tokyo. Both buyers and sellers of gold meet at these markets to announce the rate at which they wish to purchase or sell their gold relative to the national currency used in particular market. Through this process, the market price of gold is being determined.

It has been argued that gold prices are affected from both internal and external factors. The internal factors are changes in production and consumption. The external factors are social and political changes in the world. Beside these, the other factors that affect gold price are production costs, political environment in the gold producing country, fluctuations in the

foreign exchange rates, inflation, devaluation expectations, interest rates, central bank's intervention and their reserve management (IGE, 1999, p.50).

Determinants of the Gold Price	
	Weight
Gold Supply	**50%**
Macro-Economic Factors	**50%**
US Dollar	25%
Inflation/Commodity Prices	10%
Monetary Policies	10%
Interest Rates	5%

Figure 3.3 Determinants of the gold price (World Gold Council, 2002, p.3)

Moreover, figure 3.3 indicates that the price of gold is determined by two sets of factors. These factors are "gold supply" and "macro-economic factors". The macro economic factors are US dollar, inflation and commodity prices, monetary policies and interest rates. The US dollar is the most important macro economic factor that affects gold price. Both gold supply and macro economic factors have the same weight in determining the gold price. It has been argued that the supply of gold and the gold price are inversely related. When there is an increase in the gold supply, gold prices are starting to decrease. In the case of macro-economic factors, the US dollar is also inversely related to gold price. When there is an decrease in the price of US dollar, demand for gold and gold prices increase together. Additionally, both inflation and the price of gold move together. During the inflationary times, people demand gold for security purposes and gold price increases. Finally, interest rates are generally a positive factor in determining gold price (Scott, 2002).

There are more studies that examine the link between the gold price and macro economy. Slant and Henderson (1978) analyzed the gold price as a manifestation of the market's anticipation of government policies. Moreover, Sjaastad and Scacciavillani examined the relationship between the gold price and the exchange rate using data from 1982

to 1990. The major finding this study was that "...since the dissolution of the Bretton Woods International monetary system, floating exchange rates among the major currencies have been a major source of price instability in the gold market..." (p.879). Taylor (1998) examined the data from 1914 to 1937 and 1986 to 1996, to explore the relationship between precious metal prices and inflation. He found that precious were successful short and long-term hedge for inflation 1939 and the OPEC oil shock of 1979.

It has been argued that over the short and medium term, gold market fundamentals are supportive of stronger prices. Positive factors that increase gold prices include, reductions in producer hedging, improving demand for gold and declining in gold mine production. Moreover, global economic uncertainty, low interest rates, weakening of the US dollar, equity market fluctuations and political tensions around the world are strengthening gold's safe-heaven status (Philips, 2003, p.6).

Owners of gold have the choice of selling gold today or storing it for the future sales. This decision depends on both current and anticipated future prices. The storage of gold yields return from the price appreciation. Participants in the gold market act to maximise anticipated net revenue from the storage of gold. Gold prices change over time because of the influences of economic and political forces in the market. The possible causes of gold price movements are defined with the economic and political forces with in four categories (Abken, 1980, p. 6): First one is the *extreme political and economic uncertainty.* Times of economic turmoil and political upheaval tend to produce demand for gold to safeguard wealth. An increased gold demand is the driving force behind the increase in the price of gold. Gold is a concentrated, anonymous asset. Wealth held in the form of gold is less sensitive to government confiscation than wealth held in other forms. Second category is *flow of supply and demand for gold.* In this category, the demand for gold consists of the demands for gold originating from goods that are fabricated by using gold and the demand for gold as an asset.

On the other hand, the supply of gold consists of newly mined gold coming in the market and the gold being drawn from stocks.

The changes in flows such as, changes in the rate of commercial demand for gold affects the stock of gold insignificantly, compared to changes in rates of production and consumption on the stocks of other storable commodities. For this reason, flow supply and demand for gold have relatively small impact on the price of gold. Next one is *inflation.* The gold price is sensitive to changes in the anticipated inflation. Suppose, there is an increase in government budget deficit that will be financed largely with money creation. The public expects an increase in the long run rate of money growth and long run rate of inflation. In the new long run equilibrium, the gold price will rise at the new rate of inflation. The last category is *government auction policy.* Official gold stocks such as IMF and WGO constitute important portion of the world's gold stock. Therefore, they have potential to influence the gold price significantly, if they supply supplied sizeable quantities of gold to markets.

3.4.2. Evolution of the world gold prices

During the Bretton Woods system, there were limited fluctuations in the gold price. After the break down of the Bretton Woods system in 1973, gold prices started to increase as a result of high inflation in the world. Between 1970 and 1980, the gold prices had risen systematically due to the factors such as, cold war, OPEC crises, the inflationary pressures, underdeveloped capital markets and low return on real interest rates. In 1971, gold prices raised from $234.40 to $563.20 and generated 140.27% one year gain. Between 1971 and 1979, there were some short term fluctuations in gold price but, investors did not affected from these fluctuations (Solt et. al., 1981, p.453). Between 1973 and 1982, it was the period of gold price efficiency and investors gained benefit from keeping gold (Aggarwal et. al., 1988, p.18).

In early 1980, gold prices jumped to $850. The demand for gold has increased significantly and this also caused increase in the price of gold. During the second half of 1980s, investor's gold demand has risen and they were reluctant to sell their portfolio when the gold prices started to fall. After the Gulf War, the people started to sell their gold savings and the gold price has shown a decreasing trend (IGE, 1999, p.50).

Moreover, 1990s was a decade of low inflation, stable oil prices and rapidly expanding of world gold output. It was natural that gold made little progress at such time. As a result of the Asian financial crisis, the price of gold became 283.00 $/ounce and it was the lowest price since 1979 (IGE, 1999). It is stated that during the Asian financial crisis, the Indonesian's Rupiah lost 80% of its value against the US dollar but, gold declined only about 15%. For the Asians, gold fulfilled its traditional role as an asset that helps to protect its holders from the depreciation of the currencies (Davidson et. al., 2002, p.272).

The gold price was weakening slightly in 2000 and 2001 but, suddenly, it started to increase in 2002. The main reason was the invasion of Iraq by the US. In 2002, there was an increase in the geo-political tension. Dollar was weakening and gold prices increased as investors started to look for additional ways to manage their risks. In the first quarter of 2003, investor's main focus was still the war in Iraq. There was a risky atmosphere for saving. In 2003, September 11 attacks in the US also caused increased in the price of gold. Gold once more regarded as a safe haven in times of global uncertainty such as, fears of more terror attracts. In 2003, the price of gold rose up to $383/ounce and reached to maximum price in the last seven years.

3.5. Major Gold Markets of the World

There are some major gold centres that are important in working of the world gold market. The common feature of these gold centres is their interdependency. Each modern exchange market has regulatory and credit responsibility for the exchange's members. The major gold markets of the world are London, Zurich, Korea, Singapore, China and the US.

i) London: London has important role in the working of world gold market since the period that gold used as money. In the 19th century, London was at the centre of global commerce and finance. It was the source of capital for gold mining and after the gold standard, London became the centre of gold bullion trading. Today, London still keeps its important role in the world gold market. In London, gold transactions are made by the members of London Bullion Market Association (LBMA). The LBMA uses gold fixing which is a special application and it is only applied in LBMA. This is the main difference of London Bullion Market from other markets. The fixing level that is determined by LBMA accepted as a criterion by the whole world (Istanbul Gold Exchange, 2000, p.64). To determine the gold fixing, LBMA's five members come together at every operation day between the hours of 10:30 & 15:00. In today's modern finance world, gold transactions made for 24 hours and LBMA has not official opening and closing hours. Therefore, in order to protect free competition, buying and selling quotations are made between the hours of 8:00 and 17:00. In LBMA, operations are made through the telephone line which is established between the members. This system establishes quick and efficient communication between members. The price for gold that is produced by the refineries are approved by the LBMA and it is represented the in US dollars (IGE, 2000, p.67).

ii) Zurich: At the end of 1960s, Western governments maintained the fixed exchange rates of the Bretton Woods system. In 1967, Britain was forced to devalue its currency against

the US dollar. Sellers of gold bullion like South Africa, who had accumulated any sterling reserve balance, had a significant loss in US dollar terms. The crises required the complete closure of London market for 2 weeks, and it had lost substantial South African business to Zurich in Switzerland. Nowadays, it still has important role in the working of world gold market. Most of the world's physical gold trade is being made through the Zurich Gold Exchange. Every year, significant proportion of Russian and South African gold is being shipped to Switzerland.

The security of Swiss Banks' Accounts and safety deposit boxes makes Swiss gold attractive for private investors. There are basically three banks operating in this exchange that are; Credit Suisse, Swiss Bank Corporation, Union Bank of Switzerland. They use two prices, which are wholesale price and retail sale price. Retail sale price of the market is an official price that is determined by three of the banks. On the other hand, each bank determines its whole sale price independently. Additionally, in 1982, three banks established PREMEX, which is an intermediary association. The main objective of PREMEX is to ensure that the world wide operations are being done in the fastest way. The operations between the banks and PREMEX are carried on between the hours of 08:00 and 17:00 (IGE, 2000, p.69).

iii) Korea and Singapore: The name of Korea futures and options exchange is called KOFEX. Since 1995, South Korean's gold bullion imports and exports showed an increasing trend. In 1995, Korea's gold exports and imports were 209.6 and 195 tonnes respectively. Furthermore, in 1999, its exports were 415 tonnes and imports were 385.6 tonnes (IGE, 2000, p.84). Most of Korean's gold exports are sent to Hong Kong and Singapore. In recent years, Korean government's incentives that are provided to investors increased the transaction amount of KOFEX. Singapore is another important gold trading centre of the East Asia. Singapore's gold exports are sent to Indonesia, Malezia and Thailand. Singapore has a

International Monetary Exchange which has direct connection with NYMEX Exchange. The investors can make their transactions for 24 hours with Access Trading system.

iv) China: The Shanghai Gold Exchange was established in 2002. It was a key step in the liberalization of China's gold market. Currently, there are 128 domestic members in the Shanghai Gold Exchange that are producers and commercial banks. The Shanghai Gold Exchange' gold turnover was 144.41 tonnes and its gold transaction amount was 15.525 million Yuan in the first half of 2004 (WGC, 2004).

(v) The United States: In the US, gold market is really developed and in recent years, both jewellery and saving demand for gold increased. Future gold transactions are done in Comex Exchange which is the world's biggest exchange and it is also a constitution of New York Merchantile Exchange. Gold transactions can be made for 24 hours with NYMEX ACSESS electronic trading system. This technology makes US's gold market attractive for the international investors.

IV. GOLD MARKET IN TURKEY

4.1. Introduction

Financial sectors play a determinant role in integration of countries to international markets. A financial sector requires rapid, productive, accurate decisions and has a competitive structure in nature. This entails an inevitable restructuring process for developing countries like Turkey that has important advantages and disadvantages that will be identified in this chapter. The principle objective of Turkey may be to capture harmony and sustainability between the sectors by seizing the process of globalization, considering the fact that good-functioning financial market from an important indicator for development (Çitak, cited in IGE, 2000, p. 1)

Turkish precious metals market is one of the most rapidly organized sectors that became a market that competes in the international markets. Turkey is one of the important gold importers in the world. In Turkish gold market, the institutional structuring plays an effective role in converting important and scattered savings into investments (IGE, 2001). In Turkey, gold is an important asset for the saving behaviour but, the challenge is to channel a part of this wealth in to the financial system. For this propose, in recent years Turkish government made lots of reforms that will be examined in the rest of the chapter. It took a long time to bring gold which has important social and economic roles in Turkey into its current financial situation (IGE, 2002).

There might either be an economic burst or a recession yet, in both cases, gold is always most demanded and trusted safe haven for the Turkish people. Recent researches showed that public gold holding is around 5000 tonnes in Turkey (Istanbul Ticaret Odası, 2003, p.32). This chapter will examine gold supply and demand in Turkey in detail. There are some factors affecting the gold market and any changes in one of these factors are directly or indirectly affecting gold demand and supply. The chapter also will examine working of gold market in Turkey and the role and importance of Istanbul Gold Exchange.

4.2. Supply of Gold

This section examines the major sources of gold supply and institutions that promote the development of Turkey's precious metals market and precious metal imports. The main sources of gold supply in Turkey are; gold imports, scrap gold, gold mining and jewellery fabrication.

4.2.1. Gold imports

Turkey supplies most of its gold demand through imports. Yet, only members of IGE are authorized to import precious metals in Turkey. The opening of the central bank gold market in 1989 and the IGE in 1995 means that figures for gold imports are now more reliable than in earlier years. From 1989 to the opening of the exchange, the central bank was the sole supplier. Since the establishment of IGE in 1995, legal administrations allowed all Turkish gold imports pass through the exchange before being either distributed in the domestic or re-exported. Imports of gold in Turkey before 1980 were usually smuggled. Imports were 555.5 tonnes in total between 1991 and 1995 (Türkiye Ekonomi Bankası, 1996, p.38). Between

1990 and 1998, the system was gradually liberalized and Turkey became one of the world's most gold demanding countries. These figures show Turkey's important role in the international gold market. When we look at Turkey's gold import figures we see that it was above 100 tonnes continuously and sometimes it reached to 200 tonnes between 1990 and 1998. But, this trend has showed a huge fall in 1994 due to the economic crisis. During the period of crisis, there was a significant increase in scrap gold transaction and a decrease in gross national product (GNP). This resulted a significant decrease in the amount of gold imports however, in late 1995 and early 1996, imports were at their highest level for several years.

Table 4.1 Turkey's gold import figures (kg) for (1995-2004) (IGE, 2004)

Years	Total
1995	65.250
1996	135.960
1997	185.882
1998	156.890
1999	107.340
2000	205.300
2001	103.485
2002	128.905
2003	213.642
2004	175.800

Table 4.1 shows the imports of gold in kg for 1995-2004. According to the table, gold imports were 65.250 kg in 1995. This number increased both in 1996 & 1997 and reached to 185.882 kg in 1997. But, with a decreasing trend of 1998 and 1999, it dropped to 107.340 kg in 1999. In 2000, gold imports showed a big increase and reached to 205.300 kg. But in 2001 and 2002, it again showed a big decrease and dropped to 128.905 kg. In 2003, it again recovered itself and reached to 213.642 kg but, in 2004, it decreased to 175.800 kg. Until September 2005, gold imports were 231.407 kg (IGE, 2005). Between 1991 and 2001, Turkey imported 1350 tonnes of gold and it cost 15 billion dollars (Istanbul Ticaret Odası, 2003, p.35).

4.2.2. Scrap gold

Scrap has is an important source of gold for the Turkish jewellery industry. Jewellery or gold money owners are selling their gold to jewellers when there is an increase in gold price or a change in economic factors. These scrap gold melt down and after some process of refining operations, they become standard 24 carat ingots. They are once more being supplied to gold market and this is called scrap gold. In 2002, approximately 30% of demand is supplied by the scrap gold that is bought from public (IGE, 2002). The melting capacity is concentrated in Istanbul and also there are small capabilities in Ankara, İzmir, Gaziantep, Kahramanmaraş and Mersin. Scrap gold figures for 1990's are not available but, Turkish Economy Bank (1996) estimated that it was total of 205 tonnes between 1991 and 1995. During the economic crisis of 1994, there was an increase in the scrap gold.

4.2.3. Gold mining

Eventhough Turkey's gold mines are highly profitable, they are not being used efficiently for many different reasons. One possible reason might be that Turkey requires technological innovation for an increase its gold production. Alternatively, gold mining requires high investment capital. Furthermore, it is a timely process and it has high production costs in nature. Serving gold mine to market as jewellery is a long and expensive process. In 1950, the last Ottoman mines at Gümüşhane were closed and no mine was operated until 1996. Turkey's mining sector was limited by domestic investors. The sector was closed to any international investors. Enactment of reactively liberal mining law number 3213 in 1985 has allowed the foreign companies to enter the market. Since then lots of international companies have shown interest in gold mining sector in Turkey. However, these international companies

were faced with several bureaucratic problems like securing the necessary permits. Such problems also reduced their exploration activities to a minimum. As a result, there were only three foreign companies that operated in Turkey (Istanbul Ticaret Odası, 2003, p.35)

Turkey's gold mines are located in Çayeli, Cerattepe, Kişladağ and Ovacık. These mines are owned by the following companies: Eldorado Gold Corporation, Eti Holding S.A., Inmet Mining Corp, Normandy Mining Limited and Teck Cominco Limited. Etibank is producing approximately 600-700 tonnes of gold annually (Izmir Ticaret Odası, 1995, p.20). Since 1997, Uşak is an important city in gold mine searching operations. Operations are expected to start in 2005 and are planed to last within 17 years, creating job opportunity for 350 employees and total production of 132 tonnes. The expected value of mined gold is approximately 2.4 billion dollars (Istanbul Ticaret Odası, 2003, p.35).

Turkey has efficient gold mines with many handicaps too. Turkey does not have enough refineries to refine newly mined minerals. Turkey has 8 mines that are ready to operate and its total gold reserve is approximately 300 tonnes (Istanbul Ticaret Odası, 2003, p.35). Alongside difficulties in gold production, Turkey is a prominent gold importer. Turkey owes its physical gold to imports reaching to 200 tonnes (6.430.148 ounces) per year. It shows that Turkey is within the top five countries with the highest demand for gold in the world, thus it has an important role in the world gold market (IGE, 1999, p.69). As Turkey is an important gold importer, it should make necessary investment in order to use its mines efficiently. It has been argued that if Turkey makes necessary investments, in ten years its annual gold production might reach to 1 billion dollars (Istanbul Ticaret Odası, 2003, p. 35).

4.2.4. Jewellery fabrication

Since 1996, Turkey is one of the largest fabricators of gold jewellery in the world. Turkey's jewellery work is between 100 and 150 tonnes annually (Turkiye Ekonomi Bankası, 1996, p.50). The dynamism of the jewellery sector is raising the international profile of Turkey's gold markets. It also makes significant contribution to the national income and employment. Employment in jewellery sector reached from 70 thousand to 300 thousand (Akman, 2004, p.23). In recent years, Turkish jewellery sector improved its products by using high technology in order to compete in international markets. With successful advertisement campaigns and international fairs Turkish jewellery products reached to the international markets.

Among these developments, there are also some problems related to market. The most important problem is inflation that also causes an increase of gold prices. The other problems are marketing & creating new markets, technological innovation, education, advertisement & promotion and lack of necessary laws. Turkish jewellery sector should always find new marketing techniques in order to compete in international markets. It also needs qualified, well educated and creative workers. Turkish jewellery sector should always focus on both domestic and foreign customer satisfaction. It needs further investments to improve itself in these areas but, these investments are costly and therefore, financial support from the government is required. Moreover, necessary legislation is needed for efficient functioning of the market and for gaining international competitiveness (Istanbul Ticaret Odası, 2003, p.36).

4.2.5. Major institutions

There are some institutions that promote the development of Turkey's precious metals market and precious metal imports. These are as follows:

i) The mint: Mint has an important role in guiding the precious metal trade. It was established by Mehmet the conqueror in 1467 in order to meet the need of money for the sprawling empire. The mint carries out its work of issuing circulation and commemorative coins, republican gold, the analysis and import-export regulation of precious mines attached to the undersecratariat of the treasury by the stipulations of the 234 numbered decree. It also has the duty to manufacture all kinds of official stamps, metal orders, badges and security documents such as passports and identity cards. The contribution of the mint to treasury was about 2 million YTL in 2000, 3.9 million YTL in 2001 and 5.2 million YTL in 2002 (The Mint, 2003). The mint, as one of the country's oldest and most rooted organizations is engaged in a multitude of activities. It every year participates, regularly at the Basel International Money Fair, Istanbul International Jewellery, Watch and Equipment Fair and in many other international fairs organized within the country and abroad. Finally, the mint also important in forming a national memory.

ii) The Istanbul Gold Exchange (IGE): It is another important institution that has influence over Turkey's precious metal imports. In 1995, the IGE was opened with the objectives of liberalising the Turkish gold sector and integrating it with international markets. Its aim was rationalising the gold imports and introduce gold-based financial instruments. IGE paved the way for the gold sector to go beyond Grand Bazaar market into an organized structure. Through these developments, Turkish gold market gained an international dimension. IGE has attained a large trading volume and secured a place in the Turkish finance

system and international gold markets. The organizational structure and the role of IGE in Turkish gold sector will be examined more in detail in the following sections.

iii) The Chamber of Istanbul Jewellers: The share of jeweller sector in the Turkish economy is significant. The jewellery sector has some problems such as; financial, marketing, technologic development, education, insurance, design and advertisement. Additionally, there are problems related with access to new markets and fall behind technological developments. The Chamber tries to find solutions to sectoral problems and develops projects to find new markets for its members. It also steer them towards exports and encourages its members for the participation in local and foreign fairs. The Chamber has given efforts for Turkey to become the world leader in precious metals exports.

iv) Istanbul Gold Refinery (IAR): IAR operates in the Grand Bazaar which has been at the heart of the gold trade and jewellery production in Turkey. Trade in the Grand Bazaar dominates the gold market in Turkey. IAR's objective is to produce gold without trace of dangerous impurities and gases. IAR supplies physical gold kilo bars for client banks in Turkey and minimises transportation and insurance costs for its clients. (Istanbul gold refinery, 2002)

4.3. Demand for Gold

Despite the recent developments in the Turkish financial market, the gold retains its traditional role for the Turkish society. Gold always keeps its popularity as jewellery for the Turkish society. Turkey is one of the top five gold demanding countries (Istanbul Ticaret Odası, 2003, p.32). Gold demand in Turkey has a unique and different characteristic. In Turkey, most of the demand for gold is due to jewellery and saving purposes. It is hard to separate demand for jewellery and saving for the reason that most people demand jewellery

for saving purposes, especially in rural areas. It is clear that gold mostly preserves its importance as a commodity for saving. While making research about gold demand, there is a critical question that must be answered "do people buy jewellery just because they are beautiful or do they have other purposes?". In Turkey, investment jewellery demand is also referred as traditional gold demand (Istanbul Ticaret Odası, 1998, p.113).

A survey of the World Gold Council tried to understand the behaviours of Turkish gold consumers. The survey showed that 44% of purchasers of gold jewellery were primarily considering its saving value. Interest in jewellery was highest among the 25-34 and 45-54 age groups. Gold demand in rural areas was higher that urban areas, and among women than men. The survey also found that younger people were preferring lower carat gold (Türkiye Ekonomi Bankası, 1996, p.58). In 1996, 62% of gold demand was only for jewellery purpose and 32% of demand was for investment purpose (IGE, 1999, p.70). Gold is part of the celebratory and financial fabric of everyday life in Turkey such as, ceremonial component of birth and weddings. It is important to look at the demand for gold more in detail.

4.3.1. The central bank of Turkey

The main purpose of this section is to examine the importance of Turkish central bank in gold market. Central bank has been important in regulating gold holdings. Therefore, it is more convenient to study under gold price. It has been argued that central bank is important for gold demand. It is also necessary to explain the relation of central bank with determination of the gold price. However, in order to avoid any repetition the discussion will be carried out more in detail in section 4.5.1. Today, half of the gold reserves are within Turkey and the rest is kept in foreign central banks. This gold reserve is generally used for foreign direct

transactions and therefore kept in gold keeping accounts of foreign central banks. Gold has an important place in the central bank's reserves.

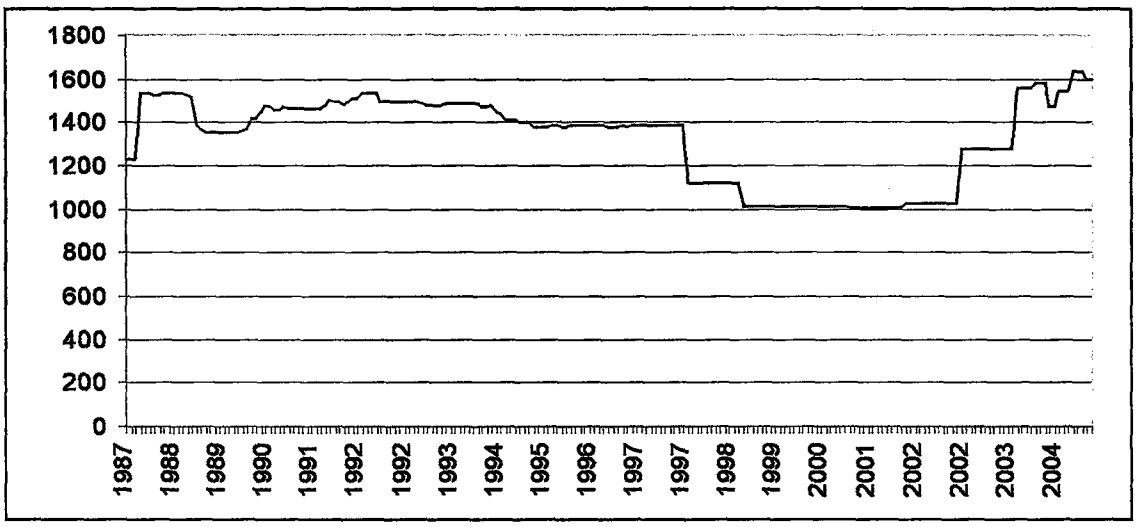

Figure 4.1 Central bank of Turkey's gold reserves in billion dollar since 1978 (Central Bank of Turkey, 2005)

The official gold reserves in Turkey were 161.1 tonnes in 2004. The percentage share held in gold of total foreign reserves is 4.4% in Turkey (WGO, 2005). Figure 4.1 shows central bank of Turkey's gold reserves since 1978. It is clear that there has been a significant reduction in the central bank reserves in the late 1990s and between 2000 and 2002. One possible explanation is that international crises such as the Asian crisis in 1997, the Russian crisis in 1998 and the financial crises of 2000 and 2001 created liquidity problems in Turkey. Thus, the central bank had to reduce gold reserves in order to overcome the liquidity problems. Iraq war in 2002 caused world wide economic and politic instability. World demand has increased significantly as a result of political instability in the Middle East. Unstable environment led the central bank to increase its gold reserves.

The rest of the section will explain why central bank of Turkey is keeping gold as a reserve asset. Central banks are holding gold reserves because of different reasons. Gold is an important strategic asset for the central banks. Chapter 3 had already explained the motives of central banks for holding as a reserve asset. These motivates are also valid for central bank of

Turkey. In Turkey's economic environment central bank has different reasons to hold gold. The first reason is risk diversification. Gold is attractive for central bank because it is negatively correlated with other assets (WGC, 2003). Gold is an economic security for the central bank against economic instability which does not relate to the government's economic policies. Gold is a security for unexpected needs and unknown future such as war, inflation and economic crises. Gold is considered as liquid holding some portion of total national reserve in gold highly preferred for its liquidity characteristic. Besides these, confidence is also another motive for holding gold. In Turkey, gold is considered as a physiologic compensatory of paper money. Accordingly, it is always central bank's priority to protection and increases its reserves. Income is another motive for holding gold in central bank's reserves. Gold can also be traded in the lending market to generate profits.

4.3.2. Saving purposes

Gold has always had a special place in popular Turkish saving patterns. Gold is an alternative investment tool for the Turkish investors. Demand for gold is highly related to the business cycle and economic performance of Turkey. In Turkey's uncertain economic environment, many investors hold gold for safety, security and privacy reasons. Turkish market cycles may change but, the public expects that gold will maintain its long term value. It is easy to buy, sell, store and transport gold in Turkish gold market in case of an economic crises. In the first quarter of 2005, saving demand rose 31% compared to the same time in 2004 (WGC, 2005).

Demand for gold as saving purposes can vary substantially from year to year. During 1980's, inflation was a serious problem and the interest rates were low. The range of hedging alternatives was limited and investing gold was only solution to protect savings from outside

factors (Istanbul Ticaret Odası, 1998, p.111). Gold is always winner during inflation. For example, Turkey experienced an important crisis in 1994. After the crises, there was a strengthening of gold demand as saving purposes. People demanded gold for security purposes because, the economy was in a bad condition and gold was an alternative investment tool. In Turkey, demand for gold may also be affected by international developments. For example, during the period Gulf war or after the September the 11th terrorist attacks people increased their demand for gold to protect their savings. It is not wrong to say that political instability of the international arena is another important factor in determining demand for gold in Turkey.

Until 1980, gold and real estate were the main instruments available to hedge against inflation. Gold's monopoly role in the financial market has ended after the introduction of saving alternatives (Akman, 2004, p.25). Since 1990's, different investment alternatives emerged with the globalization and liberalization. For example, there are variety of alternatives, ranging from company stocks to treasury bills, government bonds and foreign exchange instruments. Eventhough, there are different investment alternatives, gold is still reliable. Turkey's economic history between 1980 and 2004 explains the factors affecting the demand for gold. These factors are basically high inflation, interest rates, decrease in purchasing power and alternative saving tools (Istanbul Ticaret Odası, 1998, p.111).

Akman (2004, p.26) analyses the gold market under two areas that are gold money and jewellery. First one, gold money is especially preferred for saving purposes. People buy them to diversify risks, keep value of their money, to reduce fluctuations in the portfolio. Gold money has also an important role in Turkish gold market. Even though the gold money, in certain cases, is used as jewellery, it is seen as an important instrument for saving purposes. There are many reasons for high levels of demand for gold in Turkey. One is that, the costs of gold money products are lower in Turkey when compared to other countries. Other currencies

have higher profits nearly greater than 10%, than gold money. In Turkey, marginal profit of TL compared to gold is nearly 1 %. Thus, gold money is very liquid and depends on economic conditions. People can easily convert their gold money in to cash (Akman, 2004, p.26). Gold money sales in tonnes are shown in table 4.2.

Table 4.2 Gold money sales in tonnes for (1994-2003) (Akman, 2004, p.26)

1994	8
1995	15
1996	17
1997	21
1998	22
1999	29
2000	26
2001	28
2002	30
2003	47

Table 4.2 shows that gold money sales showed an increasing trend since 1994. During the last decade, sales reached from 15 tonnes to 47 tonnes. In 1994, gold money sales in Turkey were 8 tonnes and at the same year the amount of gold money sales in the world was 79 tonnes. This shows that Turkey's gold money sales were approximately 10% of the world gold market. In 2003, Turkey's gold money sales were 47 tonnes which was 104 tonnes in the world market. Turkey's gold market was approximately 50% of the world gold market. These mean that world's one of the most important gold money market is in Turkey. Another important gold money market after Turkey is US and its gold money sales were just 14 tonnes in 2003 (Akman, 2004, p.26). Jewellery sales decreased in 1997 but, table 4.2 shows that between 1997 and 1999 gold money sales increased from 21 tonnes to 29 tonnes. There was an economic crisis in that years and jewellery sales decreased because, people demanded gold for investment purposes so gold money sales increased.

Second area that Akman (2004) has emphasised is the jewellery purpose. The jewellery sector in Turkey has long been an important economic force. For centuries, it has been considered as the main source of savings for a large proportion of the population. It is

especially used for buying gift or personal usage. People purchase gold as a gift and as a way to make a saving at the same time. However, when people purchase gold as a gift, pureness becomes an important factor determining demand. For example, in Turkey 14, 18, 22 and 24 carat jewellers are being produced and when people buy jewellery as a gift they usually prefer 14 carat. On the other hand, they prefer 22 or 24 carat when buy for themselves. Nevertheless, jewellery is considered as alternative for saving especially in rural areas. Turkish jewellery consumers prefer to sell their gold when they face economic difficulty or when the gold prices increase.

The customer profile of Turkish jewellery buyers have different motivates. For example, since 1980s there has been a boost in jewellery demand. During 1980's, 513 tonnes of gold was used in jewellery production. This has been increased to 2806.6 tonnes to meet the increasing demand in the 1990s (Istanbul Ticaret Odası, 1998, p.109). Additionally, before 1990, Turkish customers preferred high carat jewellery such as 22 carat and most of gold demand was for saving proposes and economic security. During the period of high inflation rates, demand for gold in the society was considered as a safe way, especially in rural areas. The economic crisis of 1997 has reduced the sales of jewellery and people demanded gold ingots, rather than jewellery, for saving purpose. These show that during the period of crisis jewellery demand decreases as the demand for gold increases (Akman, 2004, p.26).

4.3.3. Jewellery purposes

Jewellery industry is the largest source of gold demand in Turkey. Turkey is the fourth jewellery demanding country after India, US, and China (Akman, 2004, p.25). Grand Bazaar is the centre of the Turkish jewellery sector since the Ottoman Empire. Economic growth and

level of wealth are directly related with gold demand. An increase in a person's income leads to an increase in his wealth thereby, the consumption of luxury goods and jewellery demand increases. In the first quarter of 2005, Jewellery demand rose 28% compared to the same time in 2004 (WGC, 2005).

Istanbul and Izmir are important centers for both domestic and foreign. Demand foreign demand is especially high in Antalya and other cities at the southern part of Turkey. Both foreign and domestic demands are highly affected from seasonal changes. For example, jewellery demand for gold increases during the first half of the year including special days such as, Valentine's Day, mother's day and the religious holidays. Additionally, demand for gold is high especially between May and September, main period of the touristy season in Turkey. During that time, jewellery demand for gold increases mostly in southern cities and Istanbul. As a result, it is not wrong to say that Turkish jewellery sector widened its borders beyond Grand bazaar. Foreign demand will be examined in section 4.3.5 in more detail.

4.3.4. Industrial purposes

Gold has many other applications in variety of industries such as dentistry, decorative purposes and the mint's medal purposes. However, consumption of gold for the industrial and decorative purposes is limited. Turkey has a developing electronics industry where many of the components requiring gold from abroad. Instead, the main usage is to decorate the tea sets so important in Turkish culture. The Sümerbank porcelain has a high consumer demand which is amounting to 15 kg of gold per year. In Turkey, gold is also demeaned for dentistry purposes. In rural Turkey, the practice of melting down coins to cover teeth still continues. It is a way of showing wealth but, it is considered as a bad taste. This practice is diminishing rather than increasing with growing prosperity (Turkiye Ekonomi Bankası, 1996, p.40).

4.3.5. Foreign demand

Most of the Turkish jewellery is demanded by the tourists. Each year, an important proportion of gold is being exported indirectly through sales to visiting tourists. The low labour costs and VAT charges make Turkish jewellery highly attractive for the foreign visitors. When it is compared to home country, Turkish jewellery products are found very cheap by the tourists. Unlike domestic demand, foreign demand for gold is not considered as means of saving purposes. The main reason of foreign demand is its character as jewellery and beauty. Germany is the main source of foreign demand that is followed by countries like Bulgaria, Holland, England, Russia, France, Greece and Belgium. The jewellery sector aims to replace the outflow of foreign currency caused by imports, with an inflow of foreign currency caused by the sale of jewellery for tourists (IGE, 1999, p.69). Until 1997, foreign demand for jewellery had an increasing trend and weighted around 65 tonnes in 1997. But, this trend has decreased between 1997 and 2000 due to series of economic crises. After 2000, there has been a recovery and the jewellery demand of tourists was 41 tonnes, 43 tonnes, 53 tonnes in 2001, 2002 and 2003 respectively. Finally, it has been increased to nearly 65 tonnes in 2004 (Akman, 2004, p.26).

Beside Europe, there are other regions like Middle East and countries of early called Soviet Union that are Turkey's other export markets. It was easy to enter these markets with limited design requirements. When the exports were increased, the quality and design of the jewellery products have improved in order to rival those found in Italy and the US. In 1990's, there was a boost in Turkish jewellery exports and the growing of Turkish jewellery sector gained momentum (Istanbul Ticaret odasi, 2003, p.34). Turkey has two main competitors in the international jewellery market that are India and Italy. India is mostly producing jewellery to supply its domestic demand. Italy, on the other hand, is the leader of jewellery exporting.

Turkey is the second jewellery exporting country Turkish jewellery sector is one of the fastest growing sectors in the world. Turkey started exporting in 1983 and its exports were about 2 tonnes in 1986. Until 1991, the amount of exports was stable around 2 to 4 tonnes and only increased to 6 tonnes in 1992. The big boost existed in 1997 and Turkey's exports reached to 14 tonnes. Because of the crisis in 1997 domestic producers decreased their operations in the domestic market. Their activities in the international market increased and exports were 27 tonnes in 1999. These years were important for the jewellery sector because, crisis did not effected jewellery sector. It survived only with increasing its exports and inflow of foreign currency increased.

Table 4.3 Turkey's gold exports in tonnes for (1999-2004) (cited in Akman, 2004, p.27)

YEARS	TOTAL
1999	27
2000	35
2001	42
2002	50
2003	53
2004	60

Table 4.3 Shows Turkey's gold exports between 1999 and 2004 in tonnes. In 2000, 2001, 2002 and 2003 Turkey's exports were 35 tonnes, 42 tonnes, 50 tonnes and 53 tonnes respectively. In 2004, Turkey's exports closed to 60 tonnes (Akman, 2004, p.26). In the first quarter of 2005, Turkish Jewellery exports increased 26% higher than at the same time 2004. Also, Turkish exports to the US exceeded those from Italy for the first time (WGC, 2005).

4.4. Istanbul Gold Exchange (IGE)

This chapter will examine IGE in more detail. The analysis will examine the establishment and legal structure of IGE in detail. The next area of concern will be rules & regulations and organizational structure of IGE. Then, the members of IGE and membership

procedures will be examined. Also, the necessary provisions that the exchange members should pay attention during their operations and the gold standards about transactions that are operated in the IGE will be examined. Later, the settlement of disputes and disciplinary provisions arise from the member's transactions and operations and finally, the major markets of IGE will be examined in detail.

4.4.1. Developments in the Turkish financial system and establishment of IGE

i) Historical development of Turkish financial system

The aim of this section is to evaluate the history and the role of gold in Turkey's financial system and to identify the improvements that were effective in creating an organized gold market in Turkey.

In 1879, gold was the main official monetary instrument and there was a dual system with silver. This monetary system ended in 1916. In 1923, the modern Turkish Republic was formed. Since the 1920's, gold coins have ceased to be used as tender, but, have continued to be struck in large quantities for those who wish to protect their wealth against inflation. Until 1980, Turkey had a closed economy, where there was strong government control. Turkish nationals were not allowed to bring gold in to the country. Since 1980s, the liberalization has marked all economic policies and there has been a change in the structure of decision for the application of free market transmission policies. This change of policy has also affected the gold market. The reforms made in 1983 and 1984 allowed the unrestricted importation of gold and provided that gold would be in compliance to the foreordained regulations.

In 1985, as it has been discussed earlier, the central bank began selling gold bars against Turkish lira. It was only after the 1989 that the central bank established the gold

market indexed to foreign currency. This brought a new dimension to gold market that the gold imported by central bank was sold to public in return for foreign currency within national borders. Free movement of capital was sustained with decree no:32 of the preservation of the value of Turkish currency scheme which was prepared in 1989. Banks, authorized firms and special finance houses were allowed to import and export gold and to trade in a gold market launched in the central bank. Authorized firms were allowed to do the following activities (Türkiye Ekonomi Bankası, 1996, p.35):

1. To import fabricated and unfabricated precious stones,
2. To make temporary imports of gold and precious stones to be exported as finished and semi-finished jewellery and,
3. To export fabricated gold jewellery.

After 1989, there was an increasingly open dialogue between the regulators and the gold industry for generating the gold trade. The new aim of the arrangements for gold was freeing the market. With the modifications made to decree no: 32 of the preservation of the value of the Turkish currency in 1993, prices as well as the import and export of gold were set free. The central bank's monopoly on the import and export of gold was ended. Temporary export of scrap for melting and refining without certification by the mint was also allowed. In 1990's, the period of re-structuralism, the major aim was to improve the gold market. The main model outlined for gold is based on the idea of promoting gold as a saving instrument.

Additionally, the government was targeted *(i)* to develop an organized system for gold, *(ii)* to establish the gold exchange, *(iii)* to revise gold banking, *(iv)* to support the jewellery sector and, *(v)* to establish a gold refinery. Some new modifications made to decree no: 32 of the preservation of the value of Turkish currency in 1993. These modifications were related to gold storage accounts and gold credits. Banks were aimed to open gold storage accounts. The same decree modified later again in 1995, stabilising the basis for gold storage accounts. It

also aimed to make arrangements for the use of credit within the country by obtaining gold credits from abroad.

ii) Establishment of IGE

In this section, there will be focus on IGE in more detail. IGE's main objective was liberalizing the Turkish gold sector and integrating it with international markets. It also aimed to introduce gold-based financial instruments. The opening of the spot gold market has provided a regulated and reliable gold market. After the IGE, local gold prices became in connection with international prices and the imported gold bars were enforced to meet generally accepted standards and fineness. Finally, the gold trading has been taken into record and the system has gained a transparent structure.

As stated before, the first legal decision concerning the establishment of IGE was made in 1993, 'general regulation concerning the foundation operation principals of precious metals exchanges' was issued by capital markets board[8]. Clause 40/A titled "foreign exchange and precious metals exchange" of the capital market law[9] stated that, "related ministries are authorized: to establish the currency and precious metals exchanges, to determine their working principles, to verify the fundamentals related to the intermediaries who are active in these exchanges and to make arrangements for the auditing and control of these exchanges and intermediaries". The legal framework developed for the establishment of the precious metals exchange was based on this clause and aimed to establish the first legislative procedures for IGE.

It has been emphazed that the capital markets board prepared the following regulations in accordance with clause 40/A of the capital market law, a "general administration of the

[8] On the basis of provision of article 40/A of code of capital markets, number 2499 as amended by law number 3794 (IGE, 2002)

establishment and business principles of the precious metals exchange". The main purpose of the regulations was providing the precious metals to be purchased and sold both easily and confidentially under free competition conditions. With the establishment of the general administration, public organs started to buy/sell precious metals predetermined by the under-secretariat of treasury. In 1993, under-secretariat of treasury prepared "basis for the issuance of membership certificates to precious metals exchange institutions, and activity conditions of the precious metals exchange brokerage companies". In 1994, the capital markets board approved the proposition of "administration of IGE" and it officially begun its operation in 1995.

In 1997, the IGE gold futures and options market was launched to meet the demand for future products of gold in Turkey, as Turkey's first derivatives market. Finally, the precious metals lending market was started its operations in 2000. Its purposes were *(i)* bringing supply and demand into an organized market, *(ii)* lowering the production costs of the jewellery sector and *(iii)* securitization of gold. These were important steps in making a strong gold market in Turkey. Turkish gold market became attractive and reliable for both domestic and international consumers for saving purposes. The opening of IGE increased gold's reliability as a good saving tool. The first nine months of the operation of IGE in 1995, there has been an exchange of 118.5 tonnes of gold (Türkiye Ekonomi Bankası, 1996, p.28).

Additionally, IGE collected both gold buyers and sellers in a one organized market where finding and buying gold became much easier and sold at a fair price. With opening of IGE, both gold supply and demand figures increased. This also positively affected the efficiency of gold trade in Turkey. A determined liberalization of the Turkish economy has resulted in the country's increasing integration with the international markets for goods, services and finance. Liberalization gave Turkey a progressively deepening financial system,

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[9] numbered 3794, dated 1992.

broad range of financial markets and, since 1995, fully functioning gold exchange. Now, it is important to look at the objectives and duties of IGE more in detail.

4.4.2. Objectives and duties of IGE

The regulation of IGE is concerning foundation and operation principles of precious metals exchanges. The aim of the present regulation is to determine the operating principles and rules of IGE. The purpose is to regulate the organization and operation of the precious metal exchanges. The IGE is authorized to ensure that the purchase and sale of precious metal is realized in a safe and stable manner. IGE also aims to provide free market conditions for the investors. It's another objective is determining and announcing the prices that does not spoil free market conditions. The regulation of IGE is based on the provisions of article 40/A of code of capital markets[11]. The regulation stipulates the principles of foundation, administration, operation monitoring and auditing of precious metal exchanges operating in Turkey. The main duties and powers of IGE are determined as follows (IGE, 2001, p.9):

1. Forming the precious metal markets to trade precious metals that were defined by the under-secretariat of treasury,
2. Launching the effective and currency markets which are complementary for the precious metals transactions in the exchange,
3. Making the legal amendments and organization for the markets,
4. Ensuring the trust and effectiveness for the purchase and sale transactions which has taken place in the exchange. The transactions should be realized under conditions of free competition, in an open and orderly manner. IGE also responsible for implementing the legal procedures stated in the regulation to members of exchange who do not obey these rules,

5. Taking necessary precautions according to the regulations in case of some extraordinarily bad events occurrence in the exchange,
6. Implementing the duties given by the board of capital market and under-secretariat of treasury.

4.4.3. Organizational structure

Figure 4.2 shows the organizational and hierarchical structure of IGE in detail. IGE consist of general assembly, board of directors, board of auditors and committees, exchange president and presidency of exchange under control of exchange president. The general assembly of exchange consists of exchange members and its supreme organ of the exchange. Board of directors consists of the exchange president assigned by the joint decisions and four members elected by the general assembly. The exchange president is the head of the board of directors at the same time (IGE, 2000, p. 18). The rest of the section will examine general assembly, board of directors, board of auditors and organization of the presidency of the exchange.

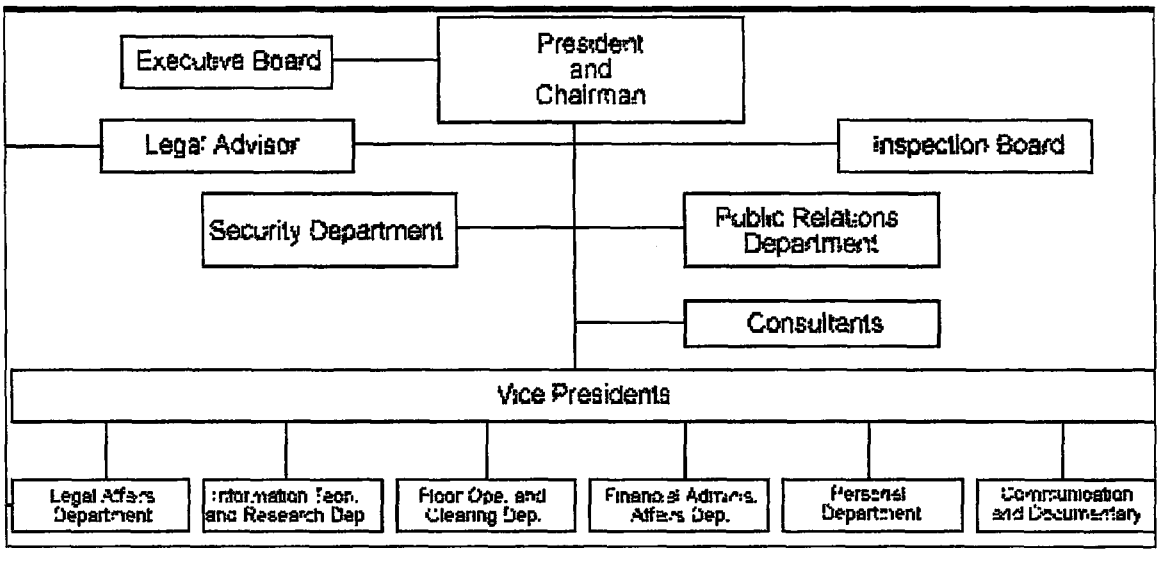

Figure 4.2. Organisation chart of IGE (IGE, 2004)

[11] Dated 28.7.1981, no.2499 as amended by law no:3794 dated 29.4.1992..

i) General assemblies: The general assemblies of the exchanges' consist of exchange members. According to article 8&9 of IGE, general assembly is the supreme organ of the exchange and it is responsible for the followings:

a) Approving the exchange regulations prepared by the board of directors,
b) Determining the general policy of the exchange and making decisions related to the management of the exchange except for the cases where the board of directors are authorized to make such decisions,
c) Examining and deciding on the annual activity report and the audit report prepared by the board of directors,
d) Examining and deciding on the balance sheet and the revenues/expense details of the exchange. Also, approving the revenue details,
e) Electing and discharging members of the board of directors. Also, deciding what is to be done for members of the board of directors and the auditors who are not discharged. Moreover, electing the members of the committees required to be elected by the general assembly,
f) Discussing and deciding on other matters included in the agenda.

General assembly convenes ordinarily on a date within the first three months of each year and this date is determined by the board of directors. General assembly may also convene extraordinary upon the invitation of the board of directors or board of auditing. The agenda of the general assembly is prepared and announced by the board of directors. The agenda and invitation letters is sent to the members of the general assembly and to persons who has right to attend the general assembly without voting right (Article 9). General assembly meetings are opened by the president. A chairman and two secretaries are elected for the presiding board. The meeting is presiding by the chairman according to the agenda. The members may cast their votes in person or by proxy. No person can present more than

one member in the general assembly. Counting and classification of the votes are made by the presiding board.

The general assembly convenes with the attendance of the absolute majority of the full number of its members. When this quorum is not obtained in the first meeting, the general assembly convenes again. Quorum for the second meeting should be at least one fourth of the full number of members. The order of the agenda may be changed by absolute majority of the full number of attendants. General assembly resolutions are taken by the majority of the votes of the members present in the general assembly. Voting may be either in written form or by raising hands as decided by the members participating in the general assembly. The results of the elections and speeches of the members of the general assembly are communicated to board of capital markets (CBM) on the first working day after they have been signed by the presiding board. Resolutions of the general assembly go into effect 15 days after they have been served to CMB.

ii) Board of directors: The exchange has a board of directors consisting of a president and four members. Three principal members of the board except the president and three reserve members are elected by the general assembly. One principal and one reserve member is appointed by the under-secretariat of treasury. Members of the board of directors are elected for a period of three years. Article 14 states the duties and powers of the board of directors that are;

a) To issue all internal regulations related to exchange,
b) To determine the principles on the basis of which the precious metals are to be traded in the exchange,
c) To ensure that the activities in the exchange are carried out orderly, in accordance with the relevant rules, laws and regulations,

d) Apart from those constituted by the general assembly, to constitute the committees prescribed by the regulations or those that is required. Also, to elect their members and determine the principles,

e) To examine and settle the disputes that may arise during transactions in the exchange,

f) To publish the exchange bulletin. Also, to ensure that the information announced by the exchange and the prices that are formed in the exchange are published regularly,

g) To prepare and issue statistics about exchange transactions,

h) To prepare the budget of the exchange and submit the same to the general assembly,

i) To recruit the staff to be employed in the exchange. Also, to prepare the final accounts and submit the same to the general assembly,

j) To ensure that the revenue of the exchange is collected and expense are disbursed,

k) To determine the persons to be authorized to sign on behalf of the exchange and the limits of their power,

l) To appoint all the staff members and transfer that power to the president of the exchange when deemed necessary,

m) To perform other duties assigned by the relevant laws and regulations.

The board of directors of the exchange meet at least once a month. Minimum four members including the president are attending to the meeting and they are invited by the president of the exchange. The auditors may attend the meetings of the board of directors without having a right to vote. Decisions are made by the majority of attending members.

iii) Board of auditors: The accounts and transactions of the exchange are audited by a board of auditors. It consists of two persons that are elected by the general assembly. The

general assembly also elects two reserve auditors. Members of the board of auditors are on duty for two years. According to article 17, the auditors are responsible for auditing the accounts and transactions of the exchange within the framework of the relevant laws, decrees and the general assembly resolutions. The auditors are not allowed to intervene in the administration. They inform their views to the presidency of the exchange in written. The board of directors are carefully examining auditor's reports and making necessary changes. Presidency of the exchange provides information and the documents as requested by the auditors. The auditor's reports are containing transactions and accounts of the exchange. At the end of each year, the auditors represent their reports to the general assembly. They also prepare interim reports and present them to the respective organs.

iv) Organization of the Presidency of the Exchange: The president of the exchange has three years of duty. The requirements of president are stated by article 48 of code of civil servant, no.657. The exchange is managed and represented by the president of the exchange in accordance with the decisions taken by the board of directors. The president of the exchange is not allowed to engage in any type of trade or assume any duties in any private or public work. The president's duty may be ended if he acts improperly and fails to perform his duties assigned by law. The exchange has some committees that are responsible for controlling the performance of the board of directors. They are also ensuring that the board of directors are realizing their duties. The principles about formation of committees, election of their members and procedures of their operation are determined by the regulations of the exchange. The qualifications, duties, responsibilities, principals and procedures of the exchange staff's operations are also determined by the regulations of the exchange. The exchange staff is not allowed to establish any direct or indirect relation with the members of the exchange, which involves interest.

4.4.4. Members of IGE

This chapter examines the members and membership procedures of IGE. Corporate persons authorized to effect the transactions related to precious metals in the exchange are called exchange members. There are 53 authorized members of the precious metals market. These members are banks (17), currency officers (23), precious metals companies (11), precious metals producing and marketing companies and individual companies (2). Precious metals lending market has 7 authorized members. These are banks (5) and currency offices (2). Futures and options market has 18 authorized members. These members are banks (11), currency officers (3), precious metals companies (2) and Istanbul stock exchange members (2) (IGE, 2005).

The kinds of activities that the exchange members are authorized to engage and the rules they should obey while carrying out activities determined by the exchange regulation. Separate membership licence for each market is given to the exchange members in order to trade. The membership licence contains the information concerning the available markets for the member to trade and other information required by the exchange. Members of exchange are obligated to obey rules and principles contained in the exchange regulations. Members must especially obey the following rules (IGE, 2000):

1. Members have to behave according to rules of good will to their customers and other members. They have to operate in compliance with laws, regulations and discipline of the exchange,
2. Members have to obey the insurance and other procedures suggested by the exchange for providing the financial and legal responsibility to their customers and third parties,
3. Members have to pay the membership admission fee, yearly membership fee, exchange commission and other fees within the required period,

4. Members have to inform the exchange about changes in partnership, management and financial situation within two working days after the occurrence,
5. Members have to allow the investigation of the exchange concerning their exchange books, to help the exchange officials in these investigations, to submit all the documents demanded by the exchange authorities,
6. Members are entitled to refuse the purchase and sale orders of customers in part or as a whole. However, such refusal is advised to the customers are their representatives immediately, without any obligation to give justification,
7. Members are responsible for all their transactions in the exchange, including delivery of precious metals and payment of its cost,
8. Members are responsible for the activities of their representatives and assistants in the framework of their duties.

4.4.5. Provisions related to the principles of transaction

This section examines the necessary provisions that the exchange members should pay attention during their operations. The first area of concern will be general provisions that give basic information about the needed standards that the precious metal should have in order to be traded in the exchange. It also gives information about how the prices are determined, delivery principles, guarantee against losses, compensation of losses and commissions. The final area of concern is the settlement of disputes and disciplinary provisions arise from the member's transactions and operations.

Precious metals that will be traded in the exchange should have some standards. These standards are determined by the under-secretariat of treasury. The gold standards related to transactions that are going to be operated in the IGE are determined according to articles 4

and 21 of the general regulation on the establishment and operating principles of the precious metals exchange. These principles are published in the official gazette[12] and they are about the regulation concerning the principles of granting precious metals exchange, membership certificate and operating conditions of the precious metals exchange brokerage houses. These principles are as follows:

1. In the valuable metals exchange; gold that is under transaction in international markets, the gold ingots that have been produced and stamped by gold refineries established in Turkey, have been given a certificate of conformity by the Under-Secretariat will be subject to transactions.
2. The features of the gold ingots shall be as follows: (a) The weight of the ingots must be minimum 10,88622 kg 24 standards (350 ounces fine gold) and maximum 13,37450 kg 24 standards (430 ounces fine gold), (b) The purity must at least be 995/1000, (c) Every ingot must bear the stamp of one refineries that are accepted by the exchange, (d) The surface of the ingots must be smooth. There must be no blisters, crust or signs of cavity and the corners of the ingot must not be sharp so as to carry and store easily.
3. Operations of purchasing and selling gold in the exchange are done with gold ingots. However, the exchange clearing centre may separately arrange the delivery and admittance of gold ingots of 1 gr, 5 gr, 10 gr, 50 gr, 100 gr, 250 gr, 500 gr, and 1 kg weight.
4. In the coverage of process principles determined by gold exchange, golden ingot, whose carat is 585/1000, above and weight is between 1-15 kg, will be processed as out of standard in exchange.

[12] Official Gazette, 1995, Number 22242

The exchange experts are responsible for controlling the purchase and sale transactions that are realized in the exchange. They are also comparing the supply and demand of precious metals entering into exchange under conditions of competition. The procedures and principles for determining the prices shall be regulated by the relevant regulations of exchange. The principles about customers and their mutual obligations with buyers are determined by the regulations of exchange. The clearing of transactions that are finalized in the exchange are becoming effective by the clearing centre. A precious metal traded in the exchange may be kept in the safekeeping centre upon demand from the members. Clearing and safekeeping centre may either be set up within the exchange itself or transferred to the banks or to other companies. The board of directors of the exchange make that decision. Procedures and principles related to the clearing and safekeeping system ensure the efficiency in payments and deliveries. Members of precious metal exchanges are obligated to deposit a guarantee in order to cover the probable losses that they may cause their customers. Amount and rate of the security to be deposited is determined either by CMB or upon the proposal of board of directors of the exchange.

The members are not allowed to trade in the exchange without depositing the prescribed guarantee. The amount of guarantee is determined by taking into consideration the volume of business and risk situation of each member of the exchange. The principles on collection of the securities, payment of unsettled amounts and utilization of such amounts are determined by the regulation of the exchange. In case the member causes a sufferance to their customers or the exchange, the member is responsible to compensate the loss. The loss is compensated from the member through one the following cases (Article 25):

1. When the loss is accepted by the member himself or,
2. Upon the advise of the relevant committee of the exchange, the board of directors decides on the loss or,

3. When the dispute is settled finally by a judicial authority.

The members receive a commission fee from their customers for each transaction they effect as a broker. Commission tariff shall be fixed by CMB upon the proposal of the board of directors of the exchange. Disputes between members of the precious metal exchanges arise from their transactions and operations are settled by the board of directors of the exchange. The decisions of the board of directors of the exchange on these disputes may be referred to administrative justice. In case a dispute is referred to the board of directors, the decisions of the board of directors are final and referred to administrative justice. The procedures according to which disputes are going to be settled are determined by the regulation of the exchange (Article 27). Members who violate the order and rules of conduct in the exchange are subject to the disciplinary penalties listed below, depending on the nature of their acts:

1. Warning,
2. Censure,
3. 5 million to 1 billion TL fine,
4. Prohibition of the member from participating in the exchange activities for a period of one to four weeks,
5. Prohibition of the member from participating in exchange activities for a period of one to six months.
6. Definite dismissal from membership.

The board of directors is authorized to give one or several of the penalties listed above by taking into consideration the nature of the situation and the acts requiring a disciplinary penalty.

4.4.6. Markets

This section gives information about the three markets of IGE. These markets are precious metals market, futures and options market and, precious metals lending market. Gold, silver, platinum and non-standard gold transactions are done in these markets. Lending and certificate transactions are in the precious metals lending market.

4.4.6.1. Precious metals market

The first market is precious metals market and in this market standard gold, silver, platinum and non-standard gold are traded. General regulation concerning the foundation and operation principles of precious metal exchange aims to ensure that the purchase and sale of precious metal is realized in a safe and stable manner under conditions of free competition. This section firstly will give information about who can trade on the market, conduct of trading, session hours, collateral, clearing department, exchange fee, transaction units and settlement days. Later, gold transactions specifications and non-standard gold transactions specifications will be examined.

a) Who can trade on the market?: Domestic or foreign banks, precious metals companies, currency offices, precious metals producing and marketing companies and precious metals refineries can trade on the exchange. They should obtain the membership certificate from the under-secretariat of Turkish treasury and comply with the requirements set forth by the IGE board of directors. Only IGE members are eligible to import precious metals. The imported gold should be submitted to the IGE vault within three business days after the arrival.

b) Conduct of trading: The trading starts and ends with a signal from a floor expert. The members are represented by a broker on the floor who submits orders and executes

transactions. There is another broker in members' exchange office who contacts the head office. The brokers submit their order through a computer system under the supervision of exchange experts. The system automatically matches the order submitted by the buyers and sellers. The orders are listed on the screen based on price and time priority. When a match occurs the trade is automatically executed and registered. The pending orders are broadcasted worldwide beyond the trading floor through information broadcast services.

c) Session hours: The time bracket in which purchasing and selling transactions are performed within the precious metals market is referred to as a session. These sessions are carried out in two separate periods. The morning session is between the hours of 11:00-13:00, and the afternoon session is between the hours of 15:00-16:30.

d) Collateral: In order to have the right to trade on the exchange, the members have to submit two types of collaterals to the IGE. The first one is the risk collateral which covers the possible losses that a member may cause to other members or the exchange. The second one is the trading collateral which sets the upper limit on the transaction volume of a member. The collaterals can be submitted as in cash (TL or foreign currency), letter of credit, gold bars, treasury bonds and bills.

e) Clearing department: The clearing department acts as the buyer to the seller and the seller to the buyer. The clearing department takes collaterals against the risk of member default. In case a member does not fulfil its obligations the exchange asks the member to cover the losses. If this loss is not remedied the clearing department uses the member's collaterals to cover it. The clearing mechanism functions as follows; the precious metal is transferred from the seller's account in the IGE vault to the buyer's account. This is done by the clearing house. The payment must be made to the clearing department account through a liaison bank. Then the clearing is completed.

f) Exchange fee: Exchange collects a 0.00015 (one and a half to ten thousandth) trading fee both from the buyer and the seller that is 0.0006 (three to ten thousandth) in total. The trading fee doubles if the buyer and the seller is the same member. Exchange also collects a 0.0004 (four to ten thousandth) storage fee from the buyer in the delivery of the precious metal.

g) Transaction units: The trades can be executed in three currencies: YTL/gr, $/oz, EUR/oz.

h) Settlement days: YTL/gr and $/oz transactions can be settled on the same day or up to five working days. The EUR/oz transactions can be settled on the same day or the next day.

i) Gold transactions specifications

This section gives basic information about gold transactions specifications in the precious metal market. Types of orders, order amounts, minimum price fluctuations and fineness will be examined.

a) Types of orders: There are three types of orders that are normal order, large bar order and official auction. First one is normal order which is submitted for the gold bullion that was defined in the communiqué concerning gold standards and the refineries subject to transactions in the precious metals exchange[12]. Normal order consists of 1 kg gold bullion originated from an internationally accredited refinery. These refineries are stated in the LBMA list. Second one is large bar order and it is submitted for the gold bullion that was defined in the above mentioned communiqué. Large bar order consists of bullion between 350 - 430 ozs originated from an internationally accredited refinery (in LBMA list). The third one is official auction which responds to the gold sales of courts and official institutions in the exchange. Exchange is authorised to determine the rules of this type of auction.

b) Order amounts: Minimum amount for orders is 5 kg and increases by multiples of 1 kg.

[12] It is published on the Official Gazette, 1995, Number 22242

c) Minimum price fluctuations: The minimum price fluctuation in gold market is 100 TL for TL/gr quotations, 5 cent for $/oz quotations and 5 eurocents for EUR/oz quotations.

d) Fineness: The gold should have minimum 995/1000 and maximum 999.9/1000 fineness in order to be traded in the exchange.

ii) Non-standard gold transactions specifications

This section examines non-standard gold transactions specifications that the members should take in to consideration during their operations. Orders types, order amounts, minimum price fluctuations and fineness will be examined.

a) Order types: there are two types of orders which are normal order and official auction. Normal order is submitted for the non-standard gold with the purity that is defined in the Article 5 of communiqué[13]. The next type of order is official auction. This type of order responds to the non-standard gold sales of courts and official institutions in the exchange.

b) Order amounts: Minimum amount for orders is 1 kg and increases by multiples of 1 kg.

c) Minimum price fluctuations: The minimum price fluctuation is 100 TL for TL/gr quotations, 5 cents for $/oz quotations and 5 eurocents for EUR/oz quotations in non-standard gold trading.

d) Fineness: Non-standard gold that is defined in the article 5 of the communiqué concerning "gold standards and the refineries". Non-standard gold should have minimum 585/1000 fineness and should be weighing between 1-15 kgs in order to be traded in the exchange. These specifications are prepared according to fineness report given by the national mint.

[13] it concerning gold standards and the refineries subject to transactions in the precious metals exchange, issued by the republic of Turkey prime ministry under-secretariat of treasury

4.4.6.2. Futures and options market

The second market in the IGE is futures and options market which was launched in 1997. The working of futures and options market is based on articles that are published in regulation of futures and options market of the IGE. Future market is the common name for the markets on which the contracts bought, sold and price of any asset is agreed between buyer and seller. Today, the delivery or cash settlement of the underlying asset is realized at a future date. Futures markets are used for hedging, speculation and arbitrage purposes. The specification and the delivery date of these contracts are determined by the exchange and providing real price formation, risk transfer, supply-demand equilibrium, fair source distribution and effective market conditions. The purpose of this market is to establish the fundamentals of futures and options contracts based on gold and foreign currency. The principals of contracts and the conditions of membership to futures and options market ensure that the purchase and sale of these contracts are realised in a secure and stable manner under free competition conditions.

The rest of the section will examine the futures and options market in more detail. Membership procedures, types of membership, delivery, delivery premium, session hours, contract specifications, limits for positions, trading environment, mark to market, margining, fees and commissions will be examined.

a) Membership in the IGE futures and options market: The current members of the IGE spot gold market can operate on the IGE futures and options market by obtaining authorization from the capital markets board (CMB). Also the members of the Istanbul stock exchange (ISE) should obtain "brokerage license for derivatives trading" from the CMB in order to operate in this market. The current members of the IGE must pay an entry fee of $2,000 and ISE members must pay an entry fee of $60,000. All members pay a yearly fee of $500.

b) Types of membership: There are two types of clearing members that are type A and type B. Type A clearing members are authorized to carry out the clearing operations for the trades executed on their own behalf, on behalf of their customers or on behalf of market members who have a liaison agreement with this member. Type A clearing members have to establish a guaranty of $500,000 in form of a letter of credit. Type B clearing members are authorized to carry out the clearing operations for the trades executed on their own behalf only. To carry out the clearing operations of the trades executed for customer's account, type B clearing member must have a liaison agreement with a type A clearing member. Type B clearing members have to establish a guaranty of $50,000 in form of a letter of credit.

c) Delivery: The sixth business day from the end of the month is the "notification day" where the exchange notifies the members of their open positions. The members' can then close out their open positions until the last day of trading (third business day from the end of the delivery month) or declare cash settlement or choose to make physical delivery. The delivery is made within the last two business days of the delivery month. In this market, the delivery is ordinarily made in physical terms. But if the related members decide on a cash settlement and notify the clearing house then these members' open positions are closed out by cash settlement.

d) Delivery premium: If the holder of the long position decides to choose physical delivery, a physical delivery premium should be paid according to value of his position. The reason for this delivery premium is the cost of transportation and insurance added on price of gold.

e) Session hours: The session covers the period that begins with a signal given by an exchange official and ends again with a signal from the same official. The exchange is non-stop between the hours 11:00 and 16:00.

f) Contract specifications: There are some specifications that a conduct should have and these are as follows (IGE, 2000):

1. Gold futures contracts that are traded on the futures and options market of IGE has two different sizes. They are 100 ounces and 1kg,
2. The maturity of these contracts range monthly between 1 month and 12 months,
3. Gold bullion with the 995/1000 fineness is traded on this market,
4. Transactions are done in terms of Dollar, Euro or YTL,
5. The last trading day is the third working day from the end of the relevant delivery month,
6. The delivery dates are the last two working days of the relevant month.

g) Limits for positions: The upper limit for the positions that a member's customer can hold is 100 for one maturity and 250 for all maturates combined. The same upper limit for a member is 1,000 for one maturity and 5,000 for all maturates combined.

h) Trading environment: The trading is carried out in a fully automated environment. For this purpose, a computer system is developed and it is entering orders from the exchange's floor. The members can also connect to this system by remote connections through phone lines. The orders are submitted to the exchange through computer terminals. They are matched electronically according to an algorithm based on exact price and time priority. At the end of the day, members obtain reports from the system including their daily activities and general information about the market.

ı) Mark-to-market: The daily mark-to-market process is being applied to all open positions. At the end of each day, the settlement price is calculated for every contract as the weighted average price of all the trades executed for the relevant term. Based on the settlement price, the members' maintenance margins and profits or losses are calculated. Every member keeps the necessary amount in his/her account to be able to continue trading on the next business day.

j) Margining: The margin is taken to start trading on FOM is calculated for 200 open position and $500 for each open position although this figure may change according to the daily price movements in the market. But, the margin must be greater than $100,000 at all times. The margin can be in following the forms: precious metals delivered to the exchange, new Turkish Lira, effective and foreign exchange of which are determined by the board of directors, bank letters of guarantee of which their format are determined by the board of directors. The total of initial and maintenance margin is the minimum amount of funds that needs to be kept against a possible loss of value on a member's open positions.

k) Fees and commissions: A commission fee shall be paid by the customers to the members of the market according to the amount of transactions they have operated. The exchange fee that the members have to pay is $1.50 per contract. The members can charge to their customers a commission of at most 0.1% of the transaction value. These specifications are stated in the Article 44.

4.4.6.3. Precious metals lending market

The third market is the precious metals mending market which was started its operations in 2000. Its main purpose and objectives are bringing supply and demand into an organized market, lowering the production costs of the jewellery sector and securitization of gold. There are two different types of transactions that are realized on precious metals lending market. The first one is lending transactions or borrowing physical precious metals. The second one is certificate transactions by trading of certificates representing lending transactions. The purpose of regulation of the IGE precious metals lending market is to establish the rules and principles for precious metals lending and borrowing transactions. Its aim is also to regulate the buying and selling of the precious metals lending certificate issued

by the market (Article 1). The rest of the section gives more information about precious metal lending transactions and certificate transactions.

i) Precious metal lending transactions

Article 5 states that these transactions are lending or borrowing of physical precious metals by members on the supply and demand side for agreed quantity, at the agreed lending rate for determined maturity. This section examines precious metal lending transactions according to trading rules, orders, types of orders, weighing unit, price types, maturity, cash settlement, fineness, remainder payments, lending rate intervals, session hours, clearing, clearing day, commissions, default, collateral, the daily valuation of collateral and delivery.

a) Trading rules of the precious metals lending market: After brokers of various members submit their orders by calling the exchange experts, these orders are entered into computer system. The system automatically matches the orders according to price and time priority. The telephone conversations between brokers and exchange experts are recorded to be used in case of disagreement. The pending orders for different maturities which have the price and time priority are broadcasted simultaneously through information broadcast services. The amount and lending rate of the order may be seen in these services as well as cumulative data for trades. The delivery type which may be cash settlement or physical delivery will be stated by the brokers while the orders are submitted. A serial number is given to the trades existed by the matching of orders according to rules (Article 16). The data for each transaction is faxed to the counterparts after the execution. The objection period for these trades is 15 minutes. The reports concerning all trades of members are faxed to the counterparts after the end of session.

b) Orders: According to article 8 of the regulation of the IGE precious metals lending market the orders must include: (a) The name of the member which submits order, (b) The kind of the order (separable/block), (c) The type of the order (lending/borrowing), (d) The price type, (e) The kind, amount and fineness of precious metal in the order, (f) The lending rate, (g) Maturity (end of maturity), (h) The type of delivery (physical delivery or cash settlement), (ı) The number of order. The orders which are valid until the end of session can be cancelled or changed during the session.

c) Types of orders: There are two types of orders that are separable and block orders. While the amount stated in the order must be completely traded in block orders, it can be partly traded in separable orders. The amount of block orders must be at least 50 kg.

d) Weighing unit: The weighing unit for the trade is kg.

e) Price types: The price types used in payments are new Turkish Lira and Dollar.

f) Minimum amount for orders: Minimum amount for the orders is 5 kg. The amount can be increased by 1 kg.

g) Maturity: Although the maturity of the trade may be increased daily for the trades which have maturity up to one month, the maturity of the trade may be increased monthly for the trades which have maturity up to one year.

h) Cash settlement: On trading day if the parties had selected cash settlement for delivery, at expiry the borrower will pay the liability in cash to the clearing bank for the benefit of the lender.

ı) The fineness of the precious metal: Standard or non standard precious metals can be traded in the market. But, the delivery of the precious metals will be in the standard fineness which is determined by the under-secretariat of treasury.

j) Remainder payments: The remainder payments for the precious metal under 1 kg amount are charged by the currency stated in trade. Weighted average price on the last trading day in gold market is used for the calculation of remainder payments.

k) Lending rate intervals: Lending rate interval for the orders is 0,0001 (one to ten thousandth). For example, 5.02% or 5.03%.

l) Session hours: Session is non-stop between 11:00 a.m. and 4:30 p.m.

m) Clearing: The clearing of the transactions in the market is carried out by the clearing department in co-ordination with a clearing bank determined by the exchange. Lender submits the required amount of precious metals to the clearing department of exchange at the time of clearing.

n) Clearing day: The clearing date for lending transactions is the same day and for the certificate transactions it is the next day.

o) Commissions: A transaction fee of 0.0001 (one to ten thousandth) is charged separately to the lender and the borrower. Storage fee is also 0.0004 which is charged when the precious metal is withdrawn.

p) Default: Members which do not fulfil the conditions for conclusive lending and certificate transactions become defaulters. In case of non payment by the defaulter, this amount is covered by the member's collateral deposited to the exchange.

r) Collateral: The borrower can trade up to 95% value of his collateral that he submitted to the exchange. The accepted collateral for trading are; cash, precious metals, foreign currencies, letter of credit, government bills and treasury bonds.

s) The daily valuation of collateral: The collateral and the worth of trades are valued daily. If the worth of trade increases up to the 98% value of collateral, member is obliged to increase the collateral by the exchange.

t) Delivery: Borrower of the precious metal is responsible either to deliver the lender precious metal or to pay the required amount to the lender on the expiry date. The required amount may be precious metal or cash. The debts and claims are notified to the counterparts two days before the expiry date for the maturities more than two days. If the cash settlement was agreed on trading day the borrower will pay the value of the precious metals multiplied by the weighted average price of the last trading day of precious metals market. The borrower submits the required amount of precious metals to the clearing department at the time of settlement. In the case of cash settlement, borrower will pay the amount of money for the precious metals to the clearing bank on the expiry date. After the fulfilment of requirements the collateral is released.

ii) Certificate transactions

These transactions are buying or selling of certificates that represent the lender's title of the precious metal before its maturity at the market rates. First, a lending transaction must be realized on the market to create a certificate transaction because, each certificate represents the value of the physical lending transaction at the maturity. The certificates showing the claims of the lenders are produced by the system to be given to the lender as his demand. The certificate value on the trading day is the discounted value of precious metal value on the expiry date. This section examines certificate transactions according to the contents of certificates, contents of certificate trading orders, method of trading certificates, conduct of trading, clearing of certificates and settlement of certificate.

a) The contents of certificates: According to article 23, the certificate must include the followings:

1. The size of the certificate: The certificates show the value or quantity of the precious metals at the time of expiry.
2. Maturity: The expiry date should be notified in the certificate.
3. Type of delivery: It must be stated in the certificate that the delivery will be physical or cash settlement at the time of expiry.
4. Kind of precious metal: The underlying precious metal must also be notified in the certificate.

b) The contents of certificate trading orders: There are some requirements that must be involved in the certificate trading orders. According to article 25, these requirements are name of the member which submits order, type of the order (buying or selling of certificate), price or value of the order, serial number of certificate and price type.

c) Method of trading certificates: The owner of the certificate can sell the certificate before the expiry date. The buyer of this certificate has the claim of precious metal value at the time of expiry. The rates for the trading of certificates are determined according to market conditions. The buyer of the certificate can sell this certificate or wait for the expiry to get the amount of precious metal which is shown in the certificate.

d) Conduct of trading: Orders of certificates in different maturities are traded according to price and time priority. While the best bid is the one with the lowest rate, the best offer is the one with the highest rate. The best orders have the price priority. The certificates are traded at the current value for the amount of precious metals stated in the certificate.

e) Clearing of certificates: The clearing of the certificate transactions in the market is carried out by the clearing department in co-ordination with a clearing bank determined by the exchange. The clearing date for the executed certificate trades is the next day.

f) Settlement of certificate: The delivery of the precious metals or cash settlement has been fulfilled on the expiry date. The owner of the certificate has the right to get the pre-determined

amount or value of the precious metal on the expiry date. The borrower must bring the pre-determined amount to the clearing department of exchange or he must pay the pre-determined amount to the clearing bank.

4.4.7. Gold transactions

When the gold market was established in 1985, central bank began to sell gold bars against Turkish Lira. By 1989, the amount of gold transactions, in US dollar was around 9.2 tonnes. Alongside Switzerland, there were other countries like Soviet Union and South Africa that Turkey started its imports. Increased competition raised the supply of gold and in 1990, transaction amount increased to 144.4 (Izmir Ticaret Odası, 1995, p.21). Nevertheless, the amount of transaction has increased significantly after the establishment of IGE.

Table 4.4 The amount of gold transactions (tonnes), 1996-2000 (IGE, 2001, p.4)

	1996	**1997**	**1998**	**1999**	**2000**
TL/gr transactions	103	178	266	278	300
USD/oz transactions	71	113	174	214	129

Table 4.4 shows the amount of gold transaction between 1996 and 2000 in TL and US dollars. The table shows that there have been fluctuations between these periods, due to series of crises. In 1996, the amount of transaction in US dollars was 71 tonnes. It has reached to 214 tonnes in 1999 but, felt down to 129 tonnes in 2000. Moreover, figure 4.3 shows the trend of transaction volume in IGE in dollar/ounces since 1996.

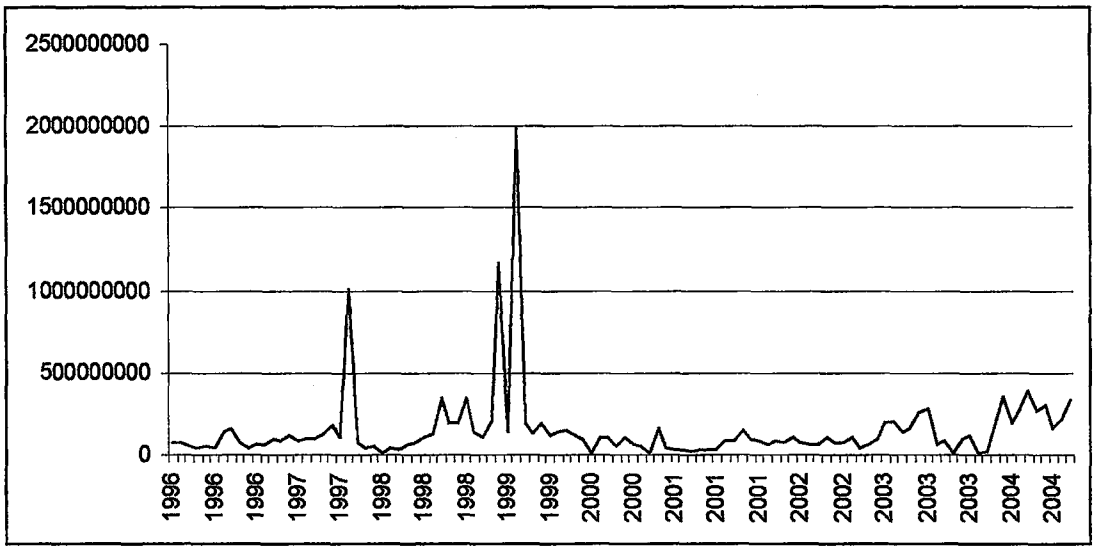

Figure 4.3 Transaction volumes in IGE in dollar/ounces, 1996-2004. (Central bank of Turkey, 2005)

According to figure 4.3, there was a boost in the transaction volume both in 1997 and 1998. As stated before, in those years there was an economic crisis and economic uncertainty in Turkey. People's gold demand for saving purposes increased and they preferred dollar/ounces against TL/gr. The figure shows that there was a sharp decrease in 2000. Also, in recent years, there is also an increasing trend when compared to the decrease in 2003.

4.4.8. An overview of the IGE

After, the establishment of IGE, gold market in Turkey became more organized and reliable. The advantages that are gained with IGE can be summarized as follows (Izmir Ticaret Odası, 1995, p.24):

1. Local and legal gold market was established;
2. Openness in gold trade was provided;
3. It became easy to watch world gold market and to adjust local prices to world prices;

4. Approximately 3000-5000 tonnes of gold canalised to the gold market in order to increase liquidity;
5. Turkish gold market became attractive for international investors; and
6. Jewellery sector gained benefit by taking gold credit with low interest rates.

Additionally, there are some factors that are required for the success of IGE. Firstly, operating of IGE should maintain international standards and IGE should have an autonomous structure. Government control in the gold market should be low and when it is necessary. The main priority of IGE should be to establish gold refineries and gold banks. The aim of gold banking should be to provide gold credit for the jewellery sector (Izmir Ticaret Odası, 1995, p.25).

On the other hand, there are also some criticisms about the working of IGE. Eventhough, Turkey's gold mines are highly profitable; they are not being used efficiently for many different reasons. One possible reason might be that gold mining requires high investment capital. IGE is supplying large portion of its gold demand through imports. This may be a disadvantage that it causes currency outflow. IGE should give more importance to establish gold refineries to decrease its imports.

As stated before, the precious metals market has 53 authorized members that are banks, currency officers, precious metals companies, precious metals producing and marketing companies, and individual companies. Precious metals lending market has 7 authorized members that are banks and currency offices. Futures and options market has 18 authorized members are that are banks, currency officers, precious metals companies and Istanbul stock exchange members. The numbers of IGE's members are low when compared to other international gold markets. For example, the Shanghai Gold Exchange, launched in 2002, has 128 members. The IGE's membership is also very low especially in the lending

and, futures and options market. IGE should focus on widening the membership in order to increase its trade volume and transaction amount.

People purchase gold for rainy days or see gold as a safe alternative for saving. However, the problem with gold market is that, unlike foreign currency, people keep gold at home for many years, keeping out the market. In Turkey, this type of gold weights a significant amount. Therefore, IGE concerned with this problem and tries to return that amount of gold back into the market. Little success was achieved so far. People, especially living in rural areas still hold their gold at home. More efforts by IGE were needed in this area (Yağıcı, 2003).

4.5. Gold Price in Turkey

Next area of concern is to examine the determination of gold prices in Turkey. Until 1980, Turkey had a closed economy and there was a strong government restriction for the supply of gold. In 1985, liberalization of the financial markets led the central bank to sell gold bars against Turkish lira and played an important role in determining the gold prices. Central bank has established the gold market indexed in Turkish Lira and used the official USD/TL rate to establish gold prices. The gold imported by central bank was used as a monetary policy instrument for the control of money supply. In 1989, central bank established the gold market indexed to foreign currency and this brought a new dimension to gold market. This time, it has been used as a monetary policy instrument to control the amount of reserve currencies, mainly the US dollar. Until 1990's, central bank was the major institution in setting gold prices. However, in 1993, import and export of gold were set free and the prices were determined by the market. The central bank's monopoly on the import and export was ended.

Gold prices on the IGE are determined by the market and generally reflected from the trends in international prices. There are different factors that are affecting the working of gold market in Turkey. These factors are the impacts of world gold market, world gold prices, volume of world gold production, central bank of Turkey's gold reserve policies, supply & demand of gold, inflation, government's economic policies, foreign exchange rates and interest rates (Izmir Ticaret Odası, 1995, p.21). In 2002 and 2003, Iraq war increased international political tension and world gold prices increased. This trend in international prices increased the gold prices in Turkey.

Gold supply is one of the factors that are affecting the gold price. Scrap gold is a way of gold supplying that has highest price elasticity. People sell their gold holdings when there is an increase in gold price. When dollar/ounce price decreases, in most cases they prefer to wait. For example, in 1980's, gold price was 850 dollar and scrap gold supply was 482 tonnes. In 1981, dollar/ounce price decreased to 600 dollars and this also caused a decrease in scrap gold supply to 232 tonnes. Moreover, gold demand for investment purpose is more elastic than industrial demand. Investment gold demand is very affective in determining gold price (Istanbul Ticaret Odası, 1998, p.109). Additionally, in Turkey, the price of gold is generally moves independently from other equities. In the Turkish people eyes, gold is different from the other traditional asset classes and acts as an ideal counter-balance to them. Gold improves the stability and predictability of the returns.

The complex side of the gold market is investors' responses to price increases or decreases. Customers' responses to price changes are related to kind of good that is bought or sold. If the good's price increases, customers will reduce their demand for that good and look for substitute good which has lower price. Dentist and electronic sectors might be given as an example of this situation. If gold prices increases, people prefer to use porcelain rather than gold in making teeth. In electronic industry, smaller computer chips are produced to decrease

costs. Fluctuations in the gold price effects investors' gold demand different than other goods. Generally, increase in gold demand causes an increase in gold price and decrease in gold demand causes a decrease in gold price. During 1970's and 1980's, gold prices increased but, also investment demand was really high. There was a continuous increase in the gold demand and it was causing price increase. In precious metals market, there are two behaviours of investor's that might give damage to them. First one is buying gold when prices are rising and selling it when prices are falling. The second one is not to convert their gold in to cash when prices are rising. They should not wait too much for prices to increase more (Istanbul Ticaret Odası, 1998, p.111).

The rest of the section will evaluate the gold prices in Turkey since 1995. Table 4.5 shows gold prices between 1995 and 2004 in TL, USD and Euro.

Table 4.5 Gold price in Turkey for 1995-2004 (IGE, 2004)

Years	TL/gr Prices	USD/oz. Prices	EURO/oz. Prices
2004	18,145,529	427.67	N/A
2003	17,003,160	357.46	317.83
2002	15,658,476	308.07	343.90
2001	8,620,689	274.72	N/A
2000	5,608,767	278.85	N/A
1999	3,788,075	277.71	N/A
1998	2,574,876	293.76	N/A
1997	1,614,225	333.48	N/A
1996	1,056,043	388.34	N/A
1995	615.877	387.26	N/A

According to table 4.5, since 1995 TL/gr prices gained a big increase from 615.877 to 18,145,529 in 2004. There were different factors that affected this increase. As stated before, the main reasons were the instabilities in the Turkish economy and international political tension. Moreover, with the establishment of IGE in 1995, gold market became more organized and reliable. Gold market became more attractive for both domestic and international investors. The demand for gold increase and also, caused increase in prices. In Turkey most of gold demand was jewellery purposes but, with the establishment of IGE, gold

demand as an investment increased. In Turkey, gold never looses its popularity and as seen in table 4.5, in most of years, gold price continued to increase.

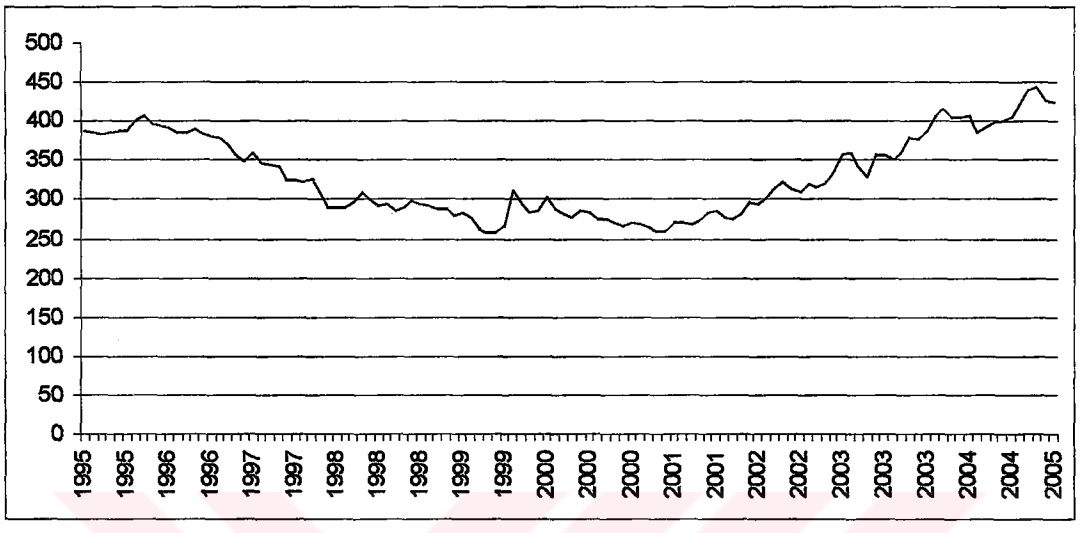

Figure 4.4 Gold price in Turkey since 1995 (dollar/ounces) (Central bank, 2005)

Moreover, figure 4.4 shows the trend of gold prices in Turkey since 1995 in dollar/ounces. Although, gold prices showed some fluctuations, there is an increasing trend since 2001. The main reason of this increase was the September 11th attacks in the US. It is obvious that in recent years, gold's role as a good investment alternative increased. The increase in investment demand for gold caused increase in prices. As stated before, people also demand gold money for investment purposes in Turkey. An increase in investment demand for gold causes an increase in the price of gold money. This section will examine the trend of gold money prices in Turkey.

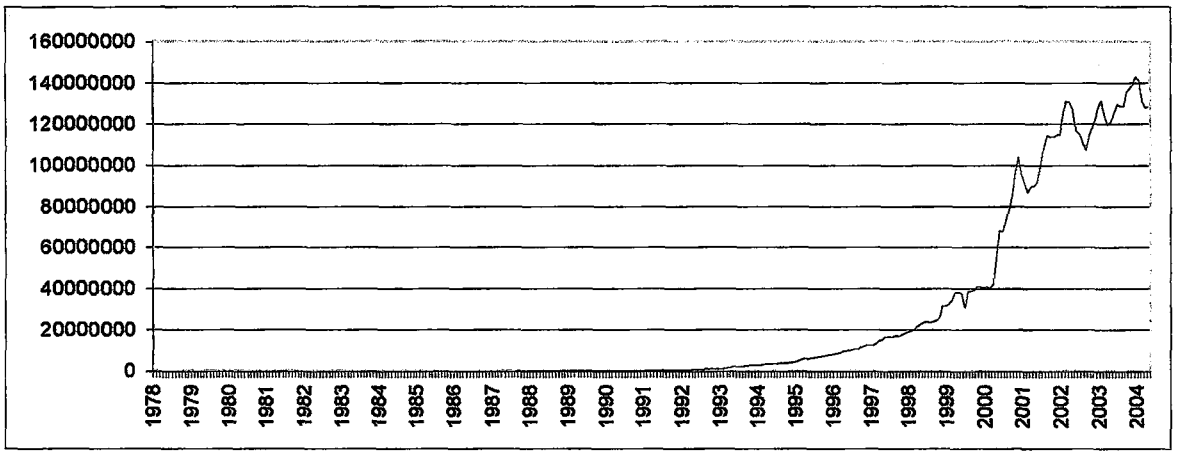

Figure 4.5 Gold money prices in TL for (1978-2004) (Central Bank, 2005)

Figure 4.5 shows the trend of gold money prices in TL since 1978. According to figure, price of gold money started to increase in 1994. After the Gulf war in 1991, the international political tension caused both economic and political uncertainty. The saving demand for gold started to increase. People demanded gold money to keep value of their money. Since 2001, there is a boost in gold money's price. It is still one of the most popular and reliable saving tools. As stated before, foreign exchange rate is another factor that affects the price of gold in Turkey. The trends of the dollar price and gold price will be examined in one figure in order to compare them.

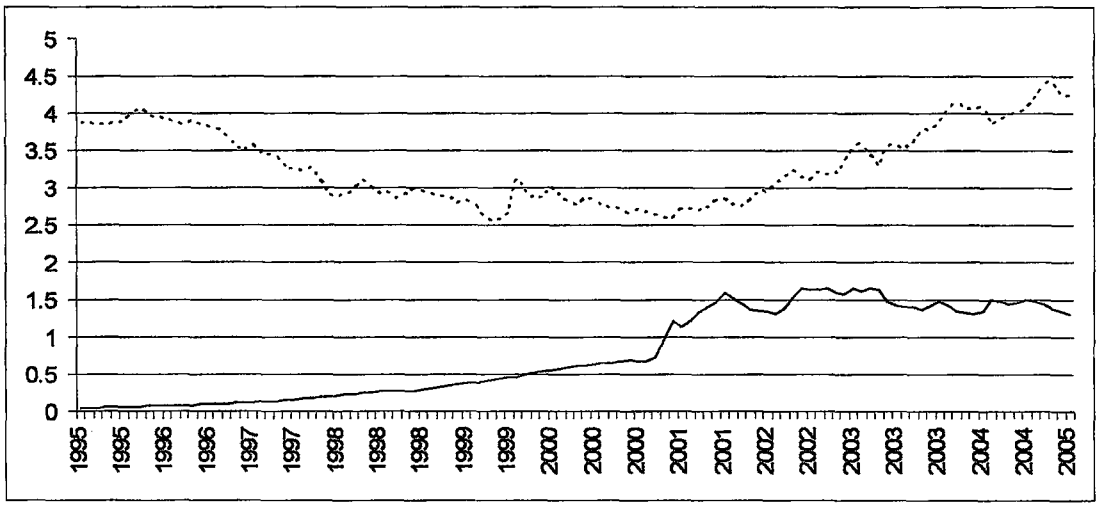

Figure 4.6 US dollar and gold prices (dollar/ounces) since 1995 (Central bank, 2005).

Figure 4.6 is showing the trend of both the US dollar and gold prices, since 1995. According to figure 4.6, the trends of dollar and gold prices are in opposite direction. When dollar decreases, gold prices increases and when dollar increases, gold prices decreases. This figure shows that when there is a decrease in the price of dollar, demand for gold increases. The main source of this demand is saving purpose because, people demand gold in order to protect value of their money. This figure also proves that gold is an alternative saving tool for dollar in Turkey.

V. CONCLUSION

This thesis focuses on the reasons why gold is still important for the Turkish economy. One reason is that, as an asset it is independent from the factors that affect other financial assets like exchange rates, bonds, stocks and etc. It is also considered as a risk management tool. This thesis provides an in-depth study for analysing the evaluation of gold market in Turkey, especially updates information since IGE was established.

This thesis specifically analyses the changes in the working of gold market in Turkey and especially determined the changes from the control of central bank to the control of IGE. Establishment of IGE was important in terms of the liberalisation of financial markets. IGE created an organised gold market and closely linked it to international markets. The factors that determine the world gold price are also valid for Turkey. However, during the period of economic instability and uncertainty gold demand showed significant movements. In Turkey, gold is seen as a traditional store of value both in urban and rural areas, having cultural issues as well as economic ones.

First question that has been asked is "what are the factors that determine the gold prices in Turkey?". The price of gold is determined by two sets of factors. These are "gold supply" and "macroeconomic factors". Factors that affect gold supply are volume of world gold production, reserve policy of the central bank in Turkey and the volume of Turkish imports. Macroeconomic factors are world gold prices, domestic and international demand for

gold, inflation rate, government's economic policies, foreign exchange rates and interest rates. This thesis shows that in case of uncertainty or instability, there is an increasing demand for gold. It is common that central bank use gold reserve as a monetary policy instrument in order to solve the liquidity problems due to international and domestic developments.

The next question that this thesis tries to answer is "What is the role of IGE in improving the Turkish gold market". IGE's main objective is liberalising the Turkish gold sector and integrating it with international markets. It also aims to introduce gold-based financial instruments. The opening of the spot gold market has provided a regulated and reliable gold market. After the IGE, local gold prices became in connection with international prices and the imported gold bars were enforced to meet generally accepted standards and fineness. Finally, the gold trading has been taken into record and the system has gained a transparent structure. However, there are also some deficiencies that has been found during this research. Firstly, Turkey has sufficient gold mining but lack of investment increased the amount of gold imports, thereby increased the dependency to foreign countries. This might also be a disadvantage especially with its high current account deficit. IGE made little progress in promoting investment in gold mining sector. Secondly, IGE is found inefficient for the reason that it failed to increase its members since its establishment. Nevertheless, private investors were reluctant to invest in long term gold holdings.

Finally, this thesis provides many areas for further research. Several empirical studies can be carried out to analyse correlation between gold prices in Turkey and various foreign currencies or other financial assets. Alternatively, comparisons may be developed between gold market in Turkey and other developing countries.

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