

**T.C. DOĐUŐ UNIVERSITY  
INSTITUTE OF SOCIAL SCIENCES  
FINANCIAL ECONOMICS**

**EXTERNAL PUBLIC DEBT MANAGEMENT:  
USE OF DERIVATIVE INSTRUMENTS**

**GRADUATE THESIS**

**ŐARA EPNİ  
200786005**

**SUPERVISOR  
PROF. DR. ERTAN OKTAY**

**ISTANBUL, JANUARY 2011**

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## **PREFACE**

The external debt levels, which increase due to the macroeconomic changes in the world, began to take a strategic role in the economic stabilization of developing countries. Consequently, the external public debt and risk management gained importance particularly after the 80's.

This thesis has been prepared in order to introduce and comment on the external public debt, the risk management strategies and its evaluation in Turkey. I would like to express my sincere gratitude to my supervisor Prof. Dr. Ertan Oktay. This thesis would not have been possible without the advise, support and encouragement of my supervisor Prof. Dr. Ertan Oktay.

Istanbul, October 2010

Şara ÇEPNİ

## **ABSTRACT**

Public debt is a financing tool that is frequently applied for increasing public spending in the face of increasing public costs or for financing large countrywide public investments.

There have been many different schools of thought and theory put forth on public debt from ancient times to the present day. The impossibility of achieving an equilibrium between market conditions and the understanding the state's role of the social state in the economy is a reality accepted by virtually every country today. Taken in this context, for those countries that lack the internal dynamics for public debt financing to go the route of external borrowing to cover public debt is an unusual phenomenon.

Budget deficits in developing countries have reached serious levels due to many global crisis's that have developed in International markets, and cyclical changes that occur as a result of inflationary pressures. These countries which do not have a robust economy and financial structure had to resort to foreign borrowing to finance public deficits.

This process of borrowing that gained substantial acceleration especially during 1980s, effecting the debt rates and services of developing countries' economies and thus jeopardizing the status of countries that has been the lender. This situation revealed that developing countries needed to focus on public domestic and external debt management. From this period forward, the debt management issues such as debt stock limit, risk ratio, internal and external debt sustainability gained importance for developing countries. During the same period, the derivative products emerged as a result of the studies performed in order to reduce the risks brought by borrowing in international markets. These products began to be used effectively by many developed countries to avoid risks such as exchange rate, interest rate, inflation. These products that were used in these markets grew as time went on and with the promotion of certain economic and financial institutions began to attract the attention of developing countries.

The situation in Turkey was not different than in other developing countries. Especially after 1980, the external public debt levels increased sharply by means of economic and financial reforms that had been performed during this period. The derivative instruments which ensure the risk management and which emerged in the '80s as an alternative in the public internal and external debt management only began to attract attention at the end of the 90s in Turkey and the trading volume could be increased with the opening of the Derivatives Market in 2002. But this interest remained confined only to the private sector. It is not possible to ignore the benefits that may be obtained by use of derivative instruments when the past experiences of Turkey are observed.

In this study it is explained the importance of a sound external public debt management and the advantages of use of derivative instruments within this frame. It is signified that evaluation and development of the derivative market will be advantageous, both in order for the economic development plans to be executed in a more clear way and in terms of assistance to the monetary policies to become successful.

## ÖZET

Kamu borçlanması, çoğu ülkenin gerek artan kamu harcamaları gerekse büyük kamu yatırımları karşısında sıklıkla başvurduğu bir finansman aracıdır. Kamu borçlanması ile ilgili olarak en eski iktisadi düşünce akımlarından günümüze kadar pek çok farklı düşünce ve teori ortaya konulmuştur. Günümüzde, ekonominin her zaman piyasa şartları ile dengeye gelmesinin imkansızlığı ve sosyal devlet anlayışı içerisinde devletin ekonomide rol alması gerektiği hemen hemen her ülke tarafından kabul edilen bir gerçekliktir. Bu bağlamda, gerçekleştirilen kamu harcamalarının finansmanı için gerekli iç dinamiklere sahip olmayan ülkelerin de dış borçlanmaya gitmesi oldukça olağan bir durumdur.

Uluslararası piyasalarda, gerçekleşen enflasyonist baskılar ve konjonktürel değişimler sonucunda pek çok global kriz ile karşılaşmış, gelişmekte olan ülkelerde kamu açıkları ciddi seviyelere ulaşmıştır. Sağlam bir ekonomiye ve finansal yapıya sahip olmayan bu ülkeler, kamu açıklarını yüksek miktarlarda dış borçlanmaya başvurarak kapatabilmiştir. Bu borçlanma süreci, özellikle 1980'li yıllar itibari ile oldukça fazla ivmelenme kazanmış, borç hadleri ve servisleri gelişmekte olan ülke ekonomilerini ve dolayısıyla da borç veren ülkelerin durumlarını tehlikeye sokar olmuştur. Bu durum, gelişmekte olan ülkelere kamu iç ve dış borç yönetimine odaklanılması gerekliliğini ortaya çıkarmıştır. Bu dönemden itibaren gelişmekte olan ülkeler, borç stoklarının sınırı, risk oranı ve sürdürülebilirliği gibi konulara eğilerek kamu iç ve dış borç yönetimi konusunda çalışmalar başlatmıştır.

Aynı dönemlerde, uluslararası piyasalarda borçlanmanın getirdiği riskleri azaltmak amacıyla yapılan çalışmalar sonucunda ortaya türev piyasa ürünleri çıkmış ve döviz kuru, faiz oranı, enflasyon gibi bir takım risklerin azaltılmasını sağlayan bu ürünler, kamu iç ve dış borç yönetimi kapsamında pek çok gelişmiş ülke tarafından etkin şekilde kullanılmıştır. Bu ürünlerin işlem gördüğü piyasalar gün geçtikçe büyümüş ve bazı ekonomik ve finansal kurumların da teşviki ile gelişmekte olan ülkelerin de dikkatini çekmeyi başarmıştır.

Türkiye’de de durum, gelişmekte olan ülkelerden farklı olmamıştır. Özellikle 1980’den sonra, gerçekleştirilen ekonomik ve finansal reformların etkisi ve de bu dönemde uygulanan politikalar nedeniyle kamu dış borç seviyeleri hızla artış göstermiştir. 1980’li yılların başında kamu dış borç yönetimi kavramı ile tanışan Türkiye, bir takım düzenlemeleri ve altyapı çalışmalarını gerçekleştirmiş olsa da etkin bir kamu dış borç yönetimi girişiminden ancak son on yıl için bahsetmek mümkündür. Bu son on yıl içerisinde, kamu dış borç yönetiminin gerektirdiği analizler yapılmaya başlanmış, döviz kuru, değişken faiz oranı ve vade gibi riskler göz önüne alınarak borçlanma stratejileri geliştirilmiştir. Kamu iç ve dış borç yönetiminde 80’li yıllarda bir alternatif olarak ortaya çıkan ve risk yönetimi sağlayan türev ürünler ise Türkiye’de 90’lı yılların sonunda ilgi çekmeye başlamış ve ancak 2002’de Vadeli İşlemler Piyasası’nın açılması ile işlem hacmi artmıştır. Ancak bu ilgi özel sektör ile sınırlı kalmış, kamu dış borç yönetiminde kullanıma gidilmemiştir.

Türkiye’nin geçirmiş olduğu ekonomik ve finansal krizler, geçmişte maruz kaldığı döviz kuru ve faiz oranları riskleri göz önüne alındığında türev ürünlerin kullanımı ile sağlanacak faydaları göz ardı etmek mümkün değildir. Bu nedenle, bu çalışmada kamu dış borç yönetiminin artan önemi vurgulanarak, bu bağlamda kullanılacak türev ürünlerin sağlayacağı faydalar ortaya koyulmakta, bu piyasaların gerek ekonomik kalkınma planlarının daha net şekilde yapılabilmesi, gerekse para politikalarının başarılı olmasına yardımcı olması açısından değerlendirilmesinde ve geliştirilmesinde fayda olacağı vurgulanmaktadır.

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## **INTRODUCTION**

International economic and financial markets entered into a depression cycle after the 70's. In several developed and especially developing countries, the impacts of this depression and the international crises they encountered had profound effects. The aftershocks of the crises had a deeper effect in developing countries as they could not amortize these shocks to their economies with their own existing financial resources. As a consequence, they had to confront continuous budget deficits. These uncontrollable deficits forced developing countries to use foreign financing resources in order to meet public expenses. Their borrowing needs, which rose irrepressibly, especially during the 80's, resulted in dangerous debt levels that brought high levels of risk. During these years the "public debt and risk management" terminology started to be used rather frequently. In subsequent years, this new terminology became the main topic of many articles and studies.

This study has been written within the same context with these articles and studies. This study aims to: 1) emphasize the importance of external public debt management; 2) analyze the external public debt management in Turkey; and 3) observe the benefits & loss of using derivative instruments. The required information has been researched with the use of the literature review. The combined information has been explained in four chapters. The first chapter discusses the types of public debt and explains the theories on this issue. The second chapter focuses on the "external public debt management". Within this framework, the scope of the external public debt management is explained as well as the techniques used for that purpose; particularly the focus has been on derivative instruments, by using country cases. The next chapter introduces the external public debt and borrowing in Turkey from a historical standpoint, which is followed by the external public debt management practices, the evaluation and role of derivative instruments in Turkey. A brief analyze of currency risk exposure on debt stock of Turkey is performed at the end of third chapter. In conclusion, the importance of external public debt management is underlined and the reason why this study supports the use of derivative instruments in external public

debt management is explained. The obstacles that Turkey confronts to enter derivative market and possible solutions for the evaluation of use of the derivative instruments are given in this last chapter.

## **1. PUBLIC DEBT**

In this chapter, the theoretical framework related to public debt will be outlined. For that purpose, general information about public debt will be provided first. Then, the public expenditures, the financing system and views about borrowing will be given along the schools of economic thought.

### **1.1. Public Debt**

#### **1.1.1. Public Expenditure and Finance**

Public expenditures are the total amount of purchased goods and services to fulfill the government's social, economic, political and administrative activities. The size of public expenditures varies depending on the size of the government's role in the economy. This role is greater in developing countries compared to developed countries. The major cause of this is the private sector in developing countries not geared towards making high cost investments and the government being forced to make these investments itself.

The government meets these financial requirement needs under normal circumstances with the following three sources:

1. Tax Revenue
2. Non-Tax Revenue
3. Special revenue and funds (Süngü, 2006)

However, it is observed that in general that these means of financing are insufficient to meet public expenditure most of the time. In such cases, the government is faced with budget deficits and therefore looks for alternative ways to address these shortfalls.

Some of the alternate ways the government can apply are printing money, temporary taxes and debt. However, it is not possible to print money for the countries which do not have sufficient economic power. In addition, inflation results from increasing the money supply through printing more money and is a method not favored by governments. A Temporary tax application is a practice that creates uneasiness among voters and this method has been unpopular among politicians.

The additional tax revenue reduces consumption and thus causes a decrease in investments, and as a result leads to the rise in unemployment. This is another important reason why this has not been considered. For these reasons, governments usually choose the method of borrowing as an easier way. In 80's especially in developing countries, borrowing gained momentum. Haunted by the negative effects of the OPEC oil crisis in 1973 and the increase in the cost of wages in industrialized countries, these countries resorted to borrowing (Karagöz, 2007).



### **1.1.2. Types of Public Debt**

"Public Debt" is the total amount of debt used to finance the State's previous budget deficits. (Ajil, 2006). Public debt may be classified by several methods: according to the sources "Domestic and Foreign Debt", according to the maturity "Short Term and Long-Term Debt", according to the nature "Intensive and Discretionary Debt". In the next section the debts classified according to sources will be explained.

#### **1.1.2.1. Domestic Public Debt**

Domestic public debt is part of a country's total public debt that is owed to creditors who are citizens of that country at a given period. With domestic borrowing, there is no increase in source, only purchasing power is exchanged between the private and public sectors (Karluk, 1999, pg. 140).

Public domestic borrowing is divided into 3 groups: short, medium and long-term liabilities. Short-term (floating) debts generally come from the treasury and seek to resolve the differences between liabilities and expenses arising from payment timing difficulties, and are used also to reduce the higher interest rates that would occur to reduce the interest burden. The government for Short-term borrowing uses "money market" and for long-term borrowing utilizes the "capital markets" (Karluk, 1999, pg. 140).

When external resources instead of internal resources are used for public financing, this can have positive and negative effects on the economy of which following :

- 1) When internal sources are utilized, this avoids dependence on foreign sources and thereby reduces the vulnerability of the economy.
- 2) Borrowing from internal sources with the national currency denominated as the debt, instead of external sources as the debt in a foreign currency denominated debt would prevent against the risk of a changing Exchange rate.
- 3) With domestic borrowing using domestic resources transfer to foreign countries is not a problem; the only problem this can reveal is the distribution of income between sectors of society.
- 4) Government bonds are the preferred way of saving funds by individuals versus private sector funds. Therefore, when the State resorts to borrowing excessively from the internal market could result in the private sector being unable to find sufficient funds due to the savings going to the State.
- 5) When the State's domestic borrowing terms rise, the depositors may be willing to loan their savings in the face of higher returns, which lead a rise in interest rate. This may lead the private sector that was willing to invest to abandon investments due to rising costs.

States to eliminate or reduce the risks of foreign borrowing will rely on internal borrowing. However, most developing countries, due to lack of sufficient domestic savings or high borrowing costs may have to rely on foreign borrowing due to their high borrowing cost.

#### **1.1.2.2. External Public Debt**

The definition given of the external debt by BIS, Eurostat, IMF, OECD, Paris Club, UNCTAD and the World Bank is: "Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to non-residents by residents of an economy" (external debt). It is possible to

classify the external debt in four categories: (1) public and publicly guaranteed debt, (2) private non-guaranteed credits, (3) central bank deposits, and (4) loans from international financial institutions such as the IMF and the World Bank.

There are two main reasons that lead states to foreign borrowing. First is the need for additional resources, and the second is payment facility in foreign currency-denominated loans (Karluk, 1999, pg. 145). Especially in developing countries, the realization of the necessary investments cannot be possible with the domestic savings or the cost of using internal resources can be very high. In such cases, the need for additional resources for these countries may have them refer to external borrowing. Additionally, in some cases, countries may experience difficulty in making external payments, independent of internal sources (Karluk, 1999, pg. 146).

Foreign borrowing has a significant impact on the economy: 1) External borrowing may be denominated in the national currency as well as foreign currencies. However, the developing countries usually do not have possibility to borrow in domestic currency since their economy is not adequately strong. Therefore, these countries usually borrow in foreign currency and are thus confronted with an exchange rate risk. 2) The countries that borrow from foreign sources make a payment on the principal money + interest at the end of a specified period. The interest on the received loans is paid by the taxes of citizens. This also means that domestic resources are transferred abroad. 3) Another important point to consider is the debt “sustainability”. The economic growth must be bigger than the interest paid for the loans to let the government to do further borrowing. In such case, the debt is sustainable. Otherwise, excessive debt levels may result in payment failure and thus, unreliability in the national and international arenas.

External debt, for providing additional resources for a country's economy and directly has an impact on it needs to be given special attention and concern by governments. Relatively external public debt management, due to foreign borrowing having such a precise structure has grown in importance since starting in the 80s to the present day.

## **1.2. Theoretical Perspectives on Public Financing and Debt**

A topic frequently discussed by economists since ancient times is the “public” and the role this plays on the economy of a country. There have been various thoughts and understandings regarding the role of the State in the economy, and the policies resulting in debt financing by a government. In the chapter below, these different perspectives and arguments are observed comparing the different ideas in the different schools of economics.

### **1.2.1. Classical Approach**

Adam Smith known as the father of modern economics published his masterpiece "An Inquiry into the Nature and Causes of the Wealth of Nations" in 1776 and this is regarded as the starting point of the classical school. The Classical School's effect lasted for over a century and the 1850s the classic school began to lose its influence with the emergence of the neo-classicism and the marginal economics approach (Çelen, Zülfüoğlu, 2008). However, the Classical doctrine differs from previous schools of thought with its systematic framework approach to the science of economics (Çelen, Zülfüoğlu, 2008).

The basis of this approach is the belief that the economy will come to equilibrium on its own, therefore any intervention by the State creates a disruptive effects on the equilibrium of the market. In this context, the dominant classical view is of "laissez-faire". Adam Smith, in the last part of his masterpiece explains his thoughts on the public debt (Çelen 2008). According to Smith, the State should assume the smallest role possible in the economy and its role should remain limited to main services such as infrastructures, defense, law and education. The reason for Adam Smith's vehement opposition for such intervention by the state is the tendency of government's extravagance. Smith points out the need to save money for extra financing of wars during peacetime. However, the saving was not possible due to the luxury lifestyle of the king and ministers. Therefore A. Smith accuses the state of being too extravagant. According to him the people can use their own resources more effectively than the state and, therefore, the State should not enter any endeavor other than main services (Kökocak 2005). This idea also brings with itself the unnecessary of borrowing: the taxes collected from the citizens would be sufficient for financing of public expenditures made for main services. This allows State to have a balanced budget at the end of year; so there would be no need to borrow. In addition, when State uses the borrowing as financing tool, this evokes the interest rates to increase and thus, the private sector is crowded-out. Borrowing may be preferred by the state as it offers a more comfortable way leading to excessive spending by the government. Governments can choose to borrow instead of going against the public's reaction by cutting the public expenditures. Moreover, the lack of ability of governments to use funds in productive areas, once again raises the need for the government not to go to borrowing for normal public expenditures (Oğuz, 2009). Government can resort to borrowing in exceptional cases such as circumstances of war, investment projects, and the loans borrowed must be short term to easily ensure the orderly repayment of the debt (Çataloluk, 2009).

David Ricardo is an important economist who provided great contributions toward classical thought through his works on income distribution and tax systems. His most important work, published in 1817 is the "Principles of Political Economy and Taxation" (Çelen, Zülfüoğlu, 2008). In this book, David Ricardo, indirectly explains his views on public debt and borrowing through taxation. He goes against borrowing to finance ordinary public expenditures and describes borrowing as still not being the best method of financing for extraordinary expenditures (Çelen, Zülfüoğlu, 2008). Ricardo's opinion is that the effect of taxation and borrowing on the economy is the same, and his opinion assumes that the citizens are visionary individuals. Individuals become aware of arising future obligations because of debt and begin to save money by reducing expenditures in this direction. This also leads to the same effect with taxation. In such a case, any increase in the country's wealth is not in question, only the wealth changing hands from the taxpayer to shifting responsibility to the lender and the passing this to the next generation. Ricardo, despite specifies that there is indifference between borrowing and taxation does highlight an important problem about borrowing: The debt limit and interest rate. According to Ricardo, the higher borrowing levels which will return to individuals as taxes would lead investors (investments) to go toward countries that do not have high payment obligation levels (Çelen, Zülfüoğlu, 2008). The interest rate issue in relation to the high amounts of borrowing will be taken by the fund holders as a risk factor and consequently, the fund holders will be willing to lend money in the face of higher interest rates. An increase in interest rates would also affect the country's economic equilibrium and negatively affect investment levels.

John Stuart Mills is another economist who made great contributions to the classical doctrine. Mill, in his work he published in 1848 entitled "Principles of Political Economy with Some of Their Applications to Social Philosophy" in the chapter "On the Influence of Government" and the section "Of a National Debt" discusses the public debt and public borrowing (Çelen, Zülfüoğlu, 2008). Mills, like other classics does not favor the borrowing. But he looks at government borrowing for productive projects rather favorably,

and in the situations where the labor force is increased and activity is brought to the markets, he advocates borrowing as adding value to the economy. He also indicates that borrowing if financed by 1 or 2 year government bonds and the payment is done through taxes that this situation would not cause any problems. Another important matter Mill underlines is the source of the debt. In case State borrows from individuals deprived of using their resources effectively, the capital is used efficiently and State provides the necessary funding without resorting to banks. Thus, the private sector when requesting financing from banks is not prohibited and new investments are not discouraged.

### **1.2.2. Neo Classical Approach**

Due to criticisms directed against the classical approach and the failure of market equilibrium, the classical doctrine has been expanded and redone with some changes. As a result, the neo-classical thought emerged after 1850 in different countries under different names. Included among the most famous neo-classical schools are the Lausanne School (L. Walras, V. Pareto), the Cambridge School (JB Clar, A. Marshall) and the Sweden School.

In contrast to the classics, the neo-classics do not believe in the constant optimization of the market; they accept that the market may be in a missing performance, so called “Market Failure” in the literature. For Neo-Classics, this market failure is due to not having a fully competitive market, the presence of external and internal economies, the obligation to provide public goods and services with zero marginal cost (<http://www.canaktan.org/ekonomi/iktisat-okullari/okullar/neo-klasik-iktisat.htm>, 18<sup>th</sup> May, 2010). Due to this failure, the neo-classics approve that the governments may have to intervene into the economical life in case there is a need and therefore they take the borrowing naturally to finance the public expenditures.

The solution that the neo-classics offer for the financing of the public expenditures is to use the borrowing method for the public investment expenses and the taxation method for the non-exhaustive and transfer expenditures.

### **1.2.3. Keynesian Approach**

A deep and staggering international crisis called “The Great Depression” arose in 1929. The effects of this crisis were so prevalent that it embraced all countries, disregarding the poor and rich countries. However, the developed countries whose economy was strictly dependent on the overall demand and international trade encountered the most destructive wave. The overall demand through the world decreased and personal income, tax revenue, profits and prices dropped. International trade plunged by a half to two-thirds and consequently the developed countries had to face the devastating effects of the crisis. Unemployment in the United States rose to 25% and in some countries the figures reached approx. 33% ([http://en.wikipedia.org/wiki/Great\\_Depression](http://en.wikipedia.org/wiki/Great_Depression), 31.10.2010).

The effects of this crisis demonstrated the failure of the classic doctrine theories which was suggesting that full employment is a normal operating level and minor departures may be experienced from this situation, and such a case that remedies would follow automatically (Barber, 2009, p. 223). The confidence in the classical theory became corrupted and alternative principles started to be assessed. It has been clearly seen that full employment may not always be possible, the interest rate may not always ensure the investment-saving equality, the wages may not always be elastic due to the syndicates and the words “supply creates its own demand” (Jean Baptiste Say, Say’S Law) may not always be valid (Süngü, 2006). Just under these circumstances that the views of John Maynard Keynes could find place among the economic thoughts.

Keynes explains his ideas about the main macro economic problems in his book “The General Theory of Employment, Interest and Money” that he formulated in 1936. In this



work, he tries to find out new frameworks for economic policies by focusing on problems that occurred during Great Depression.

Keynes focuses on short-run items while the classics are occupied with questions of long-run economic growth (Barber, 2009: 229). The wording which describes best the mentality of Keynes regarding the timing is "*In the long run we are all dead*". Keynes was right to think in this way. However, it is not possible to ignore short-run economic indicators which may affect the economy irreversibly and which may consequently cause the problems occur permanently, as proved in the Great Depression. Keynesian doctrine is based on effective demand. According to Keynes, the equilibrium of the market depends on the overall demand which will excite the investments, and relatively increase the employment. Therefore, he recommends the governments to take demand-oriented measures to maintain the economy in equilibrium. In his opinion, the market may not be always at the full employment or the demand may not always be satisfying in a way to meet the supply. On that point Keynes defends the necessity of government intervention through the market. The government can apply the policies to excite the demand and thus, avoid the stagflation and relatively unemployment. In the Keynesian theory, the main objective is to maintain the effective demand at a certain level; within this scope the borrowing becomes a normal procedure that the government may follow to meet the public expenditures. Especially during the crisis, the demand as well as the investments tends to decrease. The measure that the government can take in such a case is to increase public expenditures or to decrease taxes and choose borrowing for the financing of public expenditures. In this way, it would be possible to encourage the people to make new investments. In case the investments made do provide higher returns than the interest to be paid for the owed funds, the borrowing does not transfer any additional responsibility to the next generation, as suggested by classics (Süngü, 2006). On the contrary, it decreases the responsibility by increasing the employment levels with new investments. Additionally, the crowding-out of the private sector is out of subject even though the interest rates

increase because the expenses made by the government lead private sector to guarantee a sufficient demand for the supply provided.

The Keynesian thought waned in the 1970s, when it saw that government intervention is not sufficient to regulate the market with fiscal policies. However, it can be said that Keynesian influence never ended and this view is widely adopted by the politicians, especially because of the propaganda during elections.

#### **1.2.4. Monetarist Approach**

Looking at the 70's, it is possible to see that the Keynesian principles could not be a solid solution to avoid the intensive stagnation as well as unemployment. The increasing unemployment, inflation and uncontrollable accrual on debt expenditures originated to adopt a new concept that is improved by Milton Friedman and his followers and so called "Monetarism" (Oğuz, 2009).

The monetarists rebuff the Keynesian theory due to the expansionary fiscal policies that are offered to prevent unemployment within the economy. They find these policies defective in the long run as the governments refer to the money supply to compensate the budget deficits occurred as a consequence of the excess public expenditures. The followers of Friedman argue against the intervention of the government similarly with the classics as they believe in the existence of the "invisible hand" which is capable of providing a stable market. The intervention of the government may result in the crowding-out of the private sector due to the high interest rates and the substitution of the private sector funds by the government bonds, which is called as "portfolio crowding". However, different than the classic view, the monetarists accept that full employment is not always possible per se and therefore, they find some government interventions useful, especially aids and subventions made for the poor people. And, they favor the taxing for the financing of these public expenses. In case the government chooses to finance its expenses by borrowing, the

households will predict the upcoming additional taxes and will save money to prevent any failure in the tax payments (Süngü, 2006).

### **1.2.5. New Classical Approach**

The new classics, who are the followers of the classic doctrine and the critics of the Keynesian principles, refuse any government intervention as they do not believe in any of the economic policies that may have a real effect on employment or production.

The new classic approach explains why the economic policies do not have any effect by introducing a new theory called “rational expectations theory” (John Muth, 1961). According to this theory, each individual benefits from their own experiences and never repeats the same errors. The individuals who predict the effects of the economic policies guard against the possible results of these policies and as a consequence the government’s attempt to manipulate fails. Therefore, the new classics find the government interventions redundant and argue that a market mechanism without any intervention would get more satisfying results than the cases where the governments apply fiscal or monetary policies, even though the market mechanism cannot clear all economic problems itself (Kökocak, 2005). Robert J. Barro has an answer for the famous question “Financing with taxation or borrowing?” in his article “Are Government Bonds Net Wealth?” (1974). Barro evaluates and systematizes the ideas of Ricardo which will be called later as “Ricardian Equivalence”. According to this approach, there is no difference between taxation and borrowing; these financing methods have any impact neither on the consumption demand nor on the accumulation of the capital. Barro makes the following assumptions to reach to this theory: 1) the individuals never fall into fiscal illusion and they are aware of the upcoming taxes 2) there are fiscal links between the generations. Under these assumptions Barro submits that the citizens never spend their money by falling into fiscal illusion and that citizen’s think about the future due to family relations, which push them to save their money. Therefore the new classics stand for an economy where there exists no government

intervention or excessive public expenditures, and where public expenses are financed by the taxes.

### **1.2.6. Constitutional Political Economy and Public Choice Theory**

After World War II, a new political economy under the leadership of M. Buchanan, called “constitutional political economy” grew up based on “How to establish the Social Welfare Function” (Süngü, 2006) to find out solutions to the economical problems.

The Public Choice Theoreticians argues for the limitation of the power and the authority of the government (Oğuz, 2009). They defend the balanced budget which means the public expenses must be covered by ordinary taxes. In case a failure in balanced budget, the governments may have to refer to borrowing. The governments may use printing money to meet the payment requirements which may result in inflation increase and as a consequence in disequilibrium of the economy. In addition, the borrowing brings with itself the high interest rates which encourage individuals to lend their money instead of making investments and thus, causes the erosion of the national capital (Süngü, 2006).

### **1.2.7. Comparison of Theoretical Approaches**

#### *Comparison in terms of government intervention*

Classical, monetarist and neo-classical schools of thought, because of their faith in stability of the market itself reject government intervention. According to these schools, the role of state should be as little as possible in the economy and should just be limited to the fulfillment of basic services such as education, defense, and justice, etc. Thus, public expenditures must be maintained at the level of government revenues. Budget revenues must be achieved with an efficient and equitable taxation system which will not affect the country's income distribution. Keynesian economists believe that the market will not achieve equilibrium levels on its own without government intervention and defend

governmental intervention to achieve this as a necessary function. Especially during times of crisis and recession in the country, they put forward that demand-side policies should be followed to revitalize the economy.

*Comparison in terms of borrowing*

Classics and the monetarists, do not see borrowing to finance budget as the best method, however, but do advocate it in exceptional cases such as war and large investments as an emergency method. Classics are in favor of balancing the budget every year; under normal conditions there should be no budget deficits and excessive spending for extraordinary conditions like war should be funded by savings from peacetime. The Neo-classical and Keynesian doctrine have a different point of view about borrowing. The Neo-classical school favors borrowing in case the owed funds are canalized to new public investments. According to Keynes, borrowing must be preferred instead of taxation especially in the periods of recession to not restricting household consumption with the taxes.

*Comparison in terms of transfer of the tax burden*

Classical theorists (classical, monetarists and new classical), assumes that individuals move considering their financial and spiritual relations with the next generations. According to the classics, the payment of public expenditures that is delayed via borrowing shows up to future generations and the repayment responsibility appears as taxes. For this reason, the classics defend that a particular public expenditure that is spent be repaid within the same period. Keynesian opinion rejects the views of the classics and defends that the next generations will not have debt obligations passed on to them. According to Keynesian view, the public expenditures may be financed by borrowing within a specific period. However, the costs of goods and services that are subject to public expenditures are met by certain parties within the same time period. Hereby, the responsibility cannot be

transferred to a different period. In addition, the government expenditures and investments provide the employment to increase and thus, the responsibility toward future generations is decreased.

*Comparison in terms of effects of the borrowing on consumption*

Classical economists believe that there is a financial relation between the generations and that every individual behaves in a logical manner. Under these assumptions, financing public expenditures through borrowing does not create a difference for consumers because they anticipate future taxes and curtail consumption. Thus, there are no differences between taxation and borrowing for consumption in terms of the impact. Keynes vehemently recommends the fiscal policies. According to him the increase in public spending would have a multiplier effect that would increase consumption and bring life to the economy. Keynes believes that individuals realizing that they were going to die one day would not think of the next generations and do to this would not save but turn toward consumption.

*Comparison in terms of effects of the Public debt on private sector investments*

The classics believe that the intervention of the State (except neo-classics) would exclude the private sector and lead to a drop in investments. The Government when it decides to meet public spending through borrowing can make this happen through issuing government bonds into the market. In such a case, the private sector will also want to borrow from the market in the same way; however, the private sector will be unable to get funds as the preference of lenders will be towards government bonds (portfolio crowding out). Unable to acquire sufficient funds the private sector will not want to make investments. In addition, every time the government enters the market for government borrowing lenders will demand higher interest rates to guaranty themselves. This will cause an increase in investment costs and will deter the private sector from investing.

According to Keynes when the state increases public spending and instead of new taxes resorts to borrowing, this will encourage the people to spend money. With an increase in consumption, aggregate demand increases, so this will encourage the private sector to raise production. Even with the increased interest rates, the private sector will increase investment due to the rise in demand for goods. The increased investments will increase employment and this will provide again an increase in consumption.

## **2. EXTERNAL PUBLIC DEBT MANAGEMENT**

As the international trade increases and the countries enter a process of globalization it can be said that economic and financial crises happen more often. This is because the countries' economies and financial markets are linked with each other and the effects of crisis spread through these links. Especially after the 1970 Oil Crisis the frequency of crisis narrowed and world economy had to face more crises. The effects of these crises have been deeper whether in developed countries or in undeveloped/developing countries. However, the undeveloped or developing countries were shocked far longer than developed countries and the crises have formed a major threat for undeveloped countries.

Developed countries that have strong economic infrastructures could overcome the crisis through their own efforts and resources. However the situation has been different even worse, with undeveloped or developing countries that do not have sufficient internal resources. Many developing countries faced budget deficits due to crisis and resorted to foreign borrowing to finance the deficits. After 1980's the borrowing process became quite intense for some developing countries and these countries found themselves in debt spiral. Due to the wrong decisions of political authorities and the lack of an effective debt management system, the fragility of these economies had reached critical phases. Developed countries which knew that the deteriorating situation of developing countries would eventually endanger themselves began taking action by providing information to these countries about how to cope debt. In particular, organizations such as the IMF and the World Bank, on a regular basis began to publish instructions, documents and reports with the intent of providing information about how to establish an effective public debt management.



In this section the framework of a sound external public debt management and the vehicles to be used for an efficient management will be explained highlighting the importance of external public debt management. The derivative instruments used within modern external public debt management will be detailed and some country cases using these instruments will be given.

### **2.1. Importance of External Public Debt Management**

The international crisis had a very important influence on the improvement of the domestic and external public debt management throughout the world. Especially after the 80's, this notion began to occupy a large place in the government's views and following these years, it became one of the most important topics of international institutions and several essays have been written on this issue.

What is "public debt management"? According to The World Bank and the IMF, the definition of public debt management is as follows: "Public debt management is the process of establishing and executing a strategy for managing the government's debt in order to raise the required amount of funding, pursue its cost and risk objectives, and to meet any other public debt management goals the government may have set, such as developing and maintaining an efficient and liquid market for government securities" (Guidelines for Public Debt Management, November 21, 2002-December 9, 2003-March 21, 2001). According to this definition, it is essential to establish a sound external public debt management and the necessary framework to control the external public debt which poses a threat particularly for developing countries, reduce risks, reduce vulnerability of the economy and achieve a reliable economy.

As shown on the previous experiences poorly structured debt in terms of currency, maturity or interest rate composition, and large, unfunded liabilities had an important role in inducing or propagating economic crises in many countries (the IMF & World Bank, 2002). It is evident that the countries which do not follow the course of external debts or which do not realize the borrowing and repayment transactions by observing the possible effects of debts jeopardize their own economy. Therefore to build an effective external public debt management strategy and to act in line with this strategy has a very high importance for developing countries.

### **2.1.1. External Public Debt Management**

To better understand the importance of external public debt management it will be appropriate to address the goals and objectives of this management. In the following section, the aims and objectives of an effective public debt management as well as the necessary legal framework will be discussed.

#### **2.1.1.1. Cost Management**

“The survey conducted in 2000 by countries of the Organization for Economic Cooperation and Development (OECD) concluded that the main objective of public debt management should be to ensure that the financing needs of the public debt are met at the lowest possible cost while bearing an acceptable level of medium-to-long term risk” (ESCAP, 2006). Public debt management authorities must find the lowest cost sources of borrowing by analyzing both internal and external borrowing sources.

However, excessive focus on possible cost savings may leave the government budget exposed to several risks such as changing financial market conditions, rollover risk, currency risk, liquidity risk. Beside cost management factor, all other risk factors must be taken into account for a reliable external public debt management.

### **2.1.1.2. Planning & Risk Management**

Debt managers have to determine exactly what they need and map out a route on financing by respecting the requirements, the maximum level of risk acceptable and the economic indicators. Most of the debt managers consider the cost management as the most important issue that has to be taken into account and take their decisions overlooking the risks that the portfolio takes. However, a portfolio with excess risk evokes the increase of the vulnerability which provokes an easier fall of the economy in case of any crisis. Hence, it is important to take care of the risk levels for a sound public debt management.

At this juncture it will be useful to assign a definition to the risk and touch on its types. What is the meaning of the risk? How many risks do the managers have to confront? “Risk is defined as the possibility of an unexpected variation in the level of debt service payments, with a lower tolerance of the borrower for an increase in costs (ESCAP, 2006)”. There are several risks that may come up during the management of the public debt: Market risk, rollover risk, liquidity risk, credit risk, settlement and operational risk.

- Market risk: This risk depends on the structure of the debt. A debt stock composed of floating interest rates or foreign exchange rates may face a brutal change in the rates and may result in failure to pay back the debt due to the lack of sufficient liquid. Usually, the practices in history show that the foreign exchange risk has a stronger negative effect on the debt stock rather than the interest rate changes, as the authorities may amortize the impacts of an increase on the interest rate by intervening to the rates.

- Rollover risk: This risk appears in case the borrowing requirement becomes permanent and so, the government has the risk to fail in making payments or in case it can be rolled over only at very high costs.

- Liquidity risk: This risk is related to the market and rollover risk. The unanticipated cash flows or the difficulties to access the resources for the short-term borrowing may

cause a reduction on the liquid assets and reserves that may result in payment failure. Or, the investors who are annoyed due to the uncertainty of the current situation may go out with their portfolios, which mean the escape of the liquids from the market.

- Credit risk: This is the risk that appears when other parties would default in a settled agreement. This risk is higher on the derivative instruments' agreements and hence, it is an important issue that the debt managers have to pay attention to while entering into a swap, option transaction and to do a well evaluation about the credibility of the borrowers.

- Operational risk: This type of risk covers various risks such as those arising from transaction errors, failure of internal controls, legal risks, securities breaches and disasters affecting the normal activity of the borrower (ESCAP, 2006).

- Settlement risk: "Settlement risk is the risk that a counterparty does not deliver a security or its value in cash per agreement when the security was traded after the other counterparty or counterparties have already delivered security or cash value per the trade agreement" ([http://en.wikipedia.org/wiki/Settlement\\_risk](http://en.wikipedia.org/wiki/Settlement_risk), 31.10.2010).

### **2.1.1.3. Sustainability**

Debt is a sustainable funding source to a certain limit in accordance with countries' economic and financial structure. In short, each country has its own ratio that determines the borrowing limit. This limit may be drawn at a level where the principal and interest payments of external debt may no longer be made by the surplus acquired from new investments made through borrowing (Sari, 2004). Debt over this limit comes out of

sustainable level and also means transfer of internal resources to foreign countries.

External public debt managers use several “indebtedness” indicators that address the issue of debt sustainability. The most important of these indicators are short-term foreign currency debts to foreign currency reserves ratio which shows fragility of the country's economy, public debt service ratio and the ratios of public debt to GDP and tax revenue. Debt managers must define the borrowing limits and structure taking into account these ratios. And then, they have to explain the potential effects of public borrowing requirements on the economy to fiscal authorities (the IMF & World Bank, 2002).

#### **2.1.1.4. Institutional Framework**

Even though debt managers consider all risks and plan their portfolios according to public requirements, decision making will suffer without a well organized institutional structure in place. For effective debt management it is necessary to handle this task as a whole and it is indispensable to delegate the responsibilities for staff and associated accountabilities among the institutions involved on the debt management. Additionally, it is important to establish a system of clear monitoring and control policies and reporting arrangements in order to minimize the operational risks (IMF & World Bank, 2002). On this context, the debt managers should provide also the separation and coordination of debt and monetary management objectives and accountabilities.

## **2.2. External Public Debt Management Techniques**

Developing countries have to refer to the external borrowing for the compensation of the public expenditures as the internal saving levels are not sufficient to do the big investments or as they do not have an efficient tax collecting system or their economy is foreign-dependent due to the importation of the intermediate goods.

The borrowing levels are increased abundantly day to day as they tried to pay their debts by maintaining new borrowings. These over indebtedness levels that arose on the developing countries showed the necessity of a strong external public debt management.

The increasing borrowing grades implied the importance of the risk and the measures that must be taken into account against this notion. As a result the techniques which are used by the governments within the scope of the risk management are differentiated day to day.

### **2.2.1. Traditional External Public Debt Management Techniques**

The main scope of the traditional techniques is the synchronization of the inflow and outflow of foreign currency. To achieve this aim governments tend to maintain the currency reserves high, increase the export revenues and its diversity or they avoid borrowing the credits except the loans with a long run mature.

However, for the developing countries that are unable to increase their export revenues sufficiently or which do not have various means to use different kinds of loans, it is difficult to compensate the outflow foreign currencies with the currency inflow. In addition, these countries more often are exposed to high rates of interest as they have obstacles to reach the loans throughout the world because of their low credibility. Therefore, these countries mostly consent to use the loans existing in the market. They

usually do not have chance to define the interest rates or the foreign currency (Sari, 2004).

The inadequacy of the traditional techniques mentioned above and the increasing debt limits forced developing countries to find out alternative ways to decrease the risk that they take along the loans. As a consequence, the derivative market instruments have begun to be a subject of use by these countries.

### **2.2.2. Modern External Public Debt Management Techniques**

“Derivative securities are contracts that derive their value from the level of an underlying interest rate, foreign exchange rate, or price” (Gorton, Rosen, 1995). Derivatives, which are modern instruments for public debt management, have been used since the 80’s on international market. Globalization and increasing international cash flows have contributed to this development. Derivatives were first used by Denmark and Sweden within international markets with the purpose of accessing different financing sources which could have more suitable conditions. Canada has also used the swaps in its domestic market.

There are two main purposes of using the derivative instruments: 1) Reduce the borrowing cost by the management of risk of foreign currency, interest rate, good prices and security prices 2) Speculation (Akkul, 2009). The advantages of these instruments can be listed as follows: 1) Governments may get savings by using these instruments which allow the efficiency on the debt structure; 2) the credibility of the countries that are using these instruments will be much higher than other countries; 3) the usage of these instruments will provide a rational public debt management by decreasing the uncertainty on the market; 4) these instruments may decrease the negative effects of the external shocks.

The most common derivatives called as “hedging instruments” are swaps, options, forwards and futures.

#### **2.2.2.1. Swap Agreements**

The word “Swap” is the exchange or barter. Swaps are the agreements which are based on the forward transactions. These contracts provide an exchange of the cash flows belonging to both counterparties on a settled date. These contracts take place over the counter markets between the banks or the institutions and all transactions are handled by the banks.

The amount and volume of these contacts have been increased especially during the 80’s. The increasing international trade and investment volume, the volatilities on the currencies and interest rates, the acceleration of international capital flows and the arbitrage opportunities have played a greater role to this increase (Sarı, 2004).

There are many types of swaps; however they can be divided into two main categories: 1) Currency Swap; 2) Interest Rate Swap.

#### ***Currency Swaps***

The currency swap is the exchange of two different currencies by respecting the currency rate that is determined previously at the maturity date (MEGEP, 2007).

The purposes of using the currency swap are:

- ✓ To take precautions against brutal changes on the foreign currency.  
The holders of this contract protect their debts or receivables which are in a foreign currency against any negative changes on the currency. In brief, they manage the currency risk that they are exposed due to their cash flows.



- ✓ To find out the lower costly borrowing sources.

It is possible to borrow from different sources (in foreign currency) which may provide lower interest rates. In such case, it may be useful to use currency swaps to take measure against the currency risk that may pose a problem at the maturity date due to any volatility (MEGEP, 2007).

### ***Interest Rate Swaps***

“An interest rate swap is a contract under which two parties agree to pay the other’s interest obligations” (Gorton, Rosen, 1995).

The most common interest rate swaps are transactions where fixed interest rates are exchanged with the variable rates. The payments that have to be paid at the end of the maturity are calculated from the nominal principal. This means that the principal is not exchanged in the swaps. The swaps are not an investment or borrowing instrument but they are products used for hedging the risk.

### ***Swap Advantages***

There are several advantages of swap contracts:

- ✓ Swaps reduce the risks that may be occurred due to the changes in conditions.
- ✓ Swaps may provide arbitrage profits.
- ✓ Swaps reduce the costs of borrowing by providing an entrance into the more advantageous financing markets.

- ✓ Swaps may be used to avoid tax rules and some regulations. This advantage usually results from the structural differences between different countries. The investor who wants get away from the domestic limitations in their country may do the swap with an investor in another country.

### ***Swap Risks***

There are two types of risks that can be subjected to occur:

- ✓ The first one is the market risk.  
As a result of any changes on the interest rates or currency, the swaps may have a negative position for the holder of this instrument.
- ✓ The second one is the credit risk.  
The counterparties may have difficulty to fulfill the obligation of contract. In this case the swap operation totally or partially becomes worthless to the financial institution. The conclusions that may result from this credit risk are worse on the currency swaps than the interest rate swaps since the principals plus the interest rates are exchanged on the currency swaps ([www.bilgeyatirimci.com](http://www.bilgeyatirimci.com), 10 June 2010)

#### **2.2.2.2. Forward Agreements**

Forward contract is an agreement between two parties to sell or buy an asset at a predefined date at a price agreed today ([http://en.wikipedia.org/wiki/Forward\\_contract](http://en.wikipedia.org/wiki/Forward_contract), 30 October 2010). These instruments are non-standardized contracts; the conditions of agreements are defined by parties. The agreement is performed directly between parties; it is no need to use an intermediary institution for such contract.

One of the parties agrees to buy the underlying asset and assumes a long position; the other agrees to sell the underlying asset and assumes a short position. The price agreed upon is the “forward price” of contract. There are different types of forward agreements: 1) good forward agreements; 2) currency forward agreements; and 3) interest forward agreements. The main purposes of the usage of these kinds of agreements are the hedging or the speculation. However, these agreements are usually not preferred by the institutions as there is not a third party who ensures the reliability of the agreement.

### **2.2.2.3. Futures Agreements**

Future contracts are the agreements that implicate the delivery of a property for which the quantity, specifications and price are predetermined at a predefined date. Although these instruments are closely related to forward agreements, unlike forwards, futures are exchange traded and defined on standardized assets.

The main advantage of these agreements is that they protect the buyers and the sellers against any changes on the prices. The buyer of the agreement is on the “long position” and the seller is on the “short position”. In the market, the amount of the short positions and the long positions must be equal.

There are different types of future agreements: good future agreement, currency future agreement and interest rate future agreement. The future agreements take place on the exchange market. These agreements are used for 3 purposes: Speculation, Hedging and Arbitrage.

*Speculation aim:* The buyer or the seller of these agreements does not have the goal of protecting themselves against the potential changes on prices. They use these agreements to gain profit from the transactions.

*Hedging aim:* The buyer or the seller have the goal to protect themselves against any changes on the good, interest rates, currencies or stocks prices. The unique aim is to absorb the risky impacts of the price changes.

*Arbitrage aim:* The parties of such agreement have the goal to take advantage of a price difference between the future markets or between the future market and cash markets. The buyer or the seller of the agreement intends to gain money by selling a lower priced product at a higher price and thus obtain a risk-free profit (MEGEP, 2007).

#### **2.2.2.4. Option Agreements**

Options are the agreements concerning the buying or selling of an asset at a predefined price within a predefined time frame.

The buyer of an option gains the right, but not obligation, to exercise the option. However, the seller of the option has to fulfill the obligation of contract if so requested by the buyer. That is why the risk of the buyer is limited to the option premium while the seller's is unlimited. Every option has an expiration date. In case the option is not exercised by the expiration date it becomes worthless. The most important difference of the options than the other derivative instruments is the possibility to select to use or not to use the given right. The types of options are classified according to three different categories: 1) according to the expiration date 2) according to the position taken 3) according to the profitability.

##### ***Options according to the expiration date***

European options: These options can be only exercised at the expiration date. The buyer of this agreement must wait until the predefined date to exercise the option.

American options: These types of agreement can be exercised at any time between the date of purchase and the expiration date.

### ***Options according to the position taken***

Call options: The call options are the contracts between two parties which give the right to buy a particular commodity or financial instrument from the seller of the option at a predefined price within a predefined time frame.

This agreement does not obligate the buyer to exercise the buying transaction. The buyer may decide to exercise his right by comparing the price of contract with the spot price in the market. In case the price agreed upon is lower than the spot price, he can buy the asset at predefined lower price and then sell it at higher market price.

Put Options: The put options are contracts between two parties which give the right to sell a particular commodity or financial instrument to the seller of the option at a predefined price within a predefined time frame.

This agreement does not obligate the buyer of the option to exercise the selling action but it gives the right to do so. The buyer of the put option may decide to exercise his right by comparing the price of contract with the spot price in the market. In case the price agreed upon is higher than the spot price, he can buy the asset at a lower price from spot market and then sell it at higher predefined option price.

### ***Options according to profitability***

In the Money: If the price of the call option is lower than the spot price, then it is called “option in the money”. The profit is the difference between the option price and the spot price. The price of the put option must be higher than the spot price to be able to call it

“option in the money”. So, the holder of this option will have possibility to sell the asset at a higher price than the spot market price.

Out of the Money: In case the call option price is higher than the spot price it will be “out of the money” as it will be more profitable to buy the corresponding asset from the spot market. The put option which has a lower price than the spot price will be “out of the money”.

At the Money: In case the price of the option and the price of the spot market is equal, then there will not be any gain or loss for both call and put options.

### **2.3. Use of Modern Techniques in Developed Countries**

Derivatives have been traded since 1,700 BC with a working method not so different than today (Oldani, 2008). In this period the risks related to the commodity were hedged by the forward-future types of contracts. Similarly today, the companies and governments use the derivative instruments to hedge their portfolios. The statistical indicators reflect the high speed evaluation of these instruments through the international markets. According to the BIS Triennial Survey released in December 2007, the average daily turnover of interest rate and non-traditional foreign exchange derivative contracts reached \$2.1 trillion in April 2007, 71% higher than in April 2004 (Table 2.1).

Table 2.1 Global OTC Derivatives Market Turnover\* by Instrument

<b>Instrument</b>	<b>1998</b>	<b>2001</b>	<b>2004</b>	<b>2007</b>
<b>Foreign exchange instruments</b>	<b>97</b>	<b>67</b>	<b>140</b>	<b>291</b>
- Currency swap	10	7	21	80
- Options	87	60	117	212
- Other	0	0	2	0
<b>Interest rate instruments</b>	<b>265</b>	<b>489</b>	<b>1,025</b>	<b>1,686</b>
- FRAs	74	129	233	258
- Swaps	155	331	621	1,210
- Options	36	29	171	215
- Other	0	0	0	1
<b>Estimated gaps in reporting</b>	<b>13</b>	<b>19</b>	<b>55</b>	<b>113</b>
<b>Total</b>	<b>375</b>	<b>575</b>	<b>1,220</b>	<b>2,090</b>

Compiled from BIS triennial survey of foreign exchange and derivatives market activity, 2007

\* In billions of US dollars

The volume of derivative instruments used in some developed countries within the public debt management strategies are indicated in Table 2.2. It's seen that Sweden which is one of the richest economies in the world uses a big volume of derivative instruments to hedge its debt portfolio.

Table 2.2 Derivatives by Countries

<b>Country</b>	<b>Derivative Nominal Volume (in billion €)</b>	<b>Derivative Nominal Volume/Total Debt Stock</b>
<b>Australia</b>	1.9	8.1%
<b>Belgium</b>	2.0	0.7%
<b>Denmark</b>	21.1	47.7%
<b>Ireland</b>	1.8	4.1%
<b>Sweden</b>	57.9	41.3%
<b>Canada</b>	18.7	5.1%

Source: Akkul, Ş., (2009), Kamu Borç Yönetiminde Türev Ürün Uygulamalarında Kredi Riski Yönetimi: Ülke Örneklerinin Değerlendirilmesi, *Turkey Prime Ministry Undersecretariat of Treasury Working Paper*, p.11

The derivative markets are used by the developed countries due to several reasons which can be listed as follows: 1) Risk management 2) Cost management 3) Reserve management 4) Improving primary and secondary markets (Akkul, 2009). While some of the countries use these instruments only to minimize the market risks, some of them use them for both market risks and cost profits (Table 2.3). Additionally, they intend to provide a variety on financing markets, to increase the liquidity and provide flexibility or to excite the financial markets with the use of these instruments.



Table 2.3 Purpose of Use of Derivative Instruments According to Countries

<b>Countries</b>	<b>Risk Management</b>	<b>Cost Management</b>	<b>Reserve Management</b>	<b>Improve Primary &amp;Secondary Markets</b>
<b>Denmark</b>	x	x	x	
<b>Hungary</b>	x	x		
<b>Sweden</b>	x	x		x
<b>Poland</b>	x			
<b>Australia</b>	x	x		
<b>Mexico</b>	x	x		x
<b>Canada</b>	x		x	
<b>Ireland</b>	x			
<b>Belgium</b>	x			
<b>Italy</b>	x	x		x

Source: Akkul, Ş., (2009), Kamu Borç Yönetiminde Türev Ürün Uygulamalarında Kredi Riski Yönetimi: Ülke Örneklerinin Değerlendirilmesi, *Turkey Prime Ministry Undersecretariat of Treasury Working Paper*, p.12

Derivative instruments may be used also for some special purposes. Greece case is an outstanding example to show one of these “special” purposes. According to Maastrich criteria, the budget deficit of the European Union member countries must be less than 3 percent of GDP and the debt stock must not exceed 60 percent of GDP. Within this context the case of Greece which erupted recently and which put European Union into trouble, showed that the derivatives may also be used as a “rate correction tool”. In this Greek case, Goldman Sachs devised a special kind of swap of \$10 billion by using historical exchange rates and thus enabled Greece to receive \$11 billion worth of euros. In that way Goldman Sachs arranged additional credit of up to \$1 billion for Greeks. This credit disguised as the swap contracts do not show up in the debt statistics according to the Eurostat rules. This transaction lowered Greece’s debt stock as a proportion of GDP to 103.7 percent from

105.3 percent (Martinuzzi, Katz, Thesing, 2010). Albeit the discussions related to this issue continue and the counterparties of this contract enounce that this did not allow Greece to meet the Maastricht criteria, it is evident that this “hidden” transaction caused a manipulation in the official statistics of Greece. This case shows that the transparency is a very important issue in use of derivative instruments.

In the following chapter, it will be given two country models which use the derivative instruments within the public debt management strategies. These countries are selected in regard to their public debt volume. Italy has been handled as high indebted country and Denmark as low indebted country.

### **2.3.1. Danish Model**

The main objective of the public debt management is to cover the central government's financing requirement at the lowest possible long-term borrowing costs, while taking the degree of risk into account (Denmarks Nationalbank, 2009). Denmark gave the responsibility to manage public debt to the financial institutions to achieve a healthy debt management (Piga, 2001).

These institutions began to use the interest rates and currency swaps in the debt management strategy. They ensured these instruments to be used efficiently within the public debt management as they consider the interest and currency risks as the most important risks (IMF&World Bank, 2002). The duration of the portfolio is changed with the use of interest rate swaps from long to short. In that way, the interest rate risk that may occur in the long-run is avoided. These institutions use the currency swaps to hedge their risk which may arise due to the fluctuations in exchange rates. The most used risk management instruments are dolar&euro currency swaps, interest rate swaps, swaptions (i.e. options to enter into swaps) and constant maturity swap floors. Table 2.4 shows the

volume of the derivative instruments used between years 2007-2009. It can be seen that the use of swaps increased from 16 percent to 25 percent during these 3 years. The public debt of Denmark was approximately DKK 643 billion at the end of 2009. At the same year the swaps agreements performed worth DKK 225.6 billion which corresponds to 35% of public debt. This reflects the abundant use of derivatives within Danish public debt management.

Table 2.4 The Central Government's Swap Portfolio, 2007-09 Year-End

	2007 <sup>1</sup>	2008 <sup>2</sup>	2009
Number of counterparties	20	21	19
Number of swaps	355	360	324
	Principal, DKK billion		
Interest-rate swaps, Danish kroner	65.4	64.6	52.1
Interest-rate swaps, other currencies	57.2	70.0	86.0
Currency swaps DKK-EUR, EUR-DKK	13.3	11.7	8.2
Currency swaps DKK-USD <sup>3</sup>	6.9	10.4	11.0
Currency swaps USD-EUR	-	13.2	64.9
Currency swaps, other	-	0.0	3.5
Principal, total	142.8	169.9	225.6
<sup>1</sup> Excluding swaps from the Mortgage Bank of the Kingdom of Denmark which amounted to DKK 514 million. <sup>2</sup> Excluding one swap from the Mortgage Bank of the Kingdom of Denmark which amounted to DKK 35 million. <sup>3</sup> In connection with re-lending to Danish Ship Finance.			

Source: Denmark's Nationalbank, (2009), Danish Government Borrowing and Debt, *Denmark's Nationalbank Yearly Report*, p.86

The net market value of the swap contracts are demonstrated in the Table 2.5. While the market value of the government's swap portfolio increased in 2008, it fell by DKK 1.1 billion in 2009, primarily due to the depreciation of the dollar. However, the total value is remained in positive during these 3 years. Thus, the Danish public debt managers achieved to get a positive value on the swap contracts as well as to manage the risk of the debt portfolio.

Table 2.5 Net market value of the swap portfolio

DKK billion	2007 <sup>1</sup>	2008 <sup>2</sup>	2009
Interest-rate swaps	0.1	5.2	7.7
Currency swaps	0.4	-1.5	-5.0
<b>Total</b>	<b>0.5</b>	<b>3.7</b>	<b>2.6</b>

<sup>1</sup> Excluding swaps transferred from the Mortgage Bank of the Kingdom of Denmark (market value DKK -37 million). Excluding 1 swap transferred from the Mortgage Bank of the Kingdom of Denmark (market value DKK 9 million).

Source: Denmark's Nationalbank, (2009), Danish Government Borrowing and Debt, *Denmark's Nationalbank Yearly Report*, p.87

Public debt managers prefer to do these contracts with the counterparties who have a high credit rating and they distribute the outstanding swaps on several counterparties to avoid any credit risk.

### 2.3.2. Italian Model

The Italian Treasury effectively uses derivatives to manage the several risks associated with its fund raising activity in the capital markets (Simone, 2007). The derivative instruments are used by local public authorities such as Regions, Cities, Provinces and Municipalities. There is not an explicit and complete data about the volume of the derivatives used. However, Ministry of Economy, Siniscalco could get some numbers on the activity of local public authorities even though many authorities have not accepted to provide complete data. The volume of the swaps performed by the corresponding units is indicated in Table 2.6. It's seen that the total of swaps engaged composes 38 percent of overall debt.

Table 2.6 Derivatives use by Italian local public administration

Region	Overall debt*	Swap	Up front
Piemonte	331.715.222,50	152.632.379,45	223.291,00
Lombardia	458.371.923,21	97.278.045,99	1.195.416,43
Veneto	286.171.192,51	49.012.653,48	445.047,33
Friuli Venezia Giul	357.499.369,52	148.342.418,02	0
Liguria	173.803.197,25	81.450.799,54	0
Emilia Romagna	349.023.525,95	66.348.069,61	800.000,00
Nord	1.956.584.430,94	595.064.566,09	2.663.754,76
Toscana	742.289.308,12	229.292.745,33	153.000,00
Umbria	33.623.267,04	33.791.163,27	574.000,00
Marche	176.470.759,53	39.274.213,89	519.935,71
Lazio	177.307.230,68	176.836.220,70	1.971.496,56
Centro	1.129.690.565,37	479.194.543,19	3.218.132,27
Abruzzo	280.636.879,38	134.163.691,18	2.226.427,74
Molise	40.044.999,73	12.290.025,80	250.000,00
Campania	136.754.837,98	33.902.521,29	450.000,00
Puglia	253.410.884,65	174.558.260,08	5.217.431,26
Basilicata	42.219.276,64	21.511.065,98	300.000,00
Calabria	154.272.361,40	128.317.634,48	2.786.077,63
Sicilia	62.420.854,27	32.123.408,79	705.000,00
Sardegna	178.564.898,46	15.489.062,03	0
Sud-Isole	1.148.324.992,51	552.355.669,63	11.934.936,63
<b>TOTAL</b>	<b>4.234.599.988,82</b>	<b>1.626.614.578,91</b>	<b>17.817.123,66</b>

\* net of long term financing and short term debt

Source: Oldani, C., Savona, P., (2005), Derivatives, Fiscal Policy and Financial Stability, *ICFAI Journal of Derivatives*, Vol. 2, No.3, pp. 7-25, 2005

The Ministry sets some regulations on use of derivatives: 1) Only defined types of derivatives can be traded: plain vanilla interest rate swap, interest rate cap, interest rate collar and forward rate agreements (FRAs). 2) All derivatives should be “plain vanilla” style. 3) Long and short position can be taken on swaps and FRAs, but only long position is allowed for cap and collar. 4) Counterparty in derivatives contracts should have at least the same rating of Italy (Oldani, Savona, 2005).

Table 2.7 includes some qualitative information such as types of derivatives used, characteristics of contracts, market structure, types of counterparts, rating of counterparts, costs of operations, costs savings. According to the table the cost saving rate is less than 1% which shows that the derivative instruments are not mainly used for the cost saving purpose but they are used to minimize the risk of debt portfolio.

Table 2.7 The Italian Public Sector: Derivatives Activity

<b>Types of Contracts</b>	<b>YES</b>	<b>NO</b>
Swap	X	
Option	X	
FRAs		X
Repurchase agreement		X
Forex agreement	X	
Future		X
Other	X	
<b>Characteristics of Contracts</b>		
<i>Underlying</i>		
Interest rate	X	
Exchange rate	X	
Credit		
Commodity		
Other		
<i>Market Structure</i>		
Plain vanilla	X	
Structured	X	
Exotic		
Barrier		
Knock in		
Other		
<i>Time Length</i>		
Overnight		
One week	X	
One month	X	
Six months	X	
Less than a year	X	
More than two years	X	
More than five years	X	
More than ten years	X	
<b>Type of Counterparts</b>		
Sovereign states		
Italian banks and financial interm.	X	
Foreign banks and intermediaries	X	
Italian firms		
Foreign firms		
Other		

Source: Oldani, C., Savona, P., (2005), Derivatives, Fiscal Policy and Financial Stability, *ICFAI Journal of Derivatives*, Vol. 2, No.3, pp. 7-25, 2005

Table 2.7 The Italian Public Sector: Derivatives Activity (continued)

<b>Types of Contracts</b>	YES	NO
<b>Rating of Counterparts</b>		
High rated	X	
Low rated		
No rating		
Rating is not necessary		
<b>Costs of Operations: intermediation fee (as a percentage of notional value)</b>		
Less than 1%	X	
Less than 5%		
More than 5% but less than 10%		
Less than 15%		
More than 15%		
<b>Other Costs (as a percentage of notional value)</b>		
<i>Less than 1%</i>	X	
Less than 5%		
More than 5% but less than 10%		
Less than 15%		
More than 15%		
<b>Costs saving with respect to open market operation (as a percentage of notional value)</b>		
<i>Less than 1%</i>	X	
Less than 5%		
More than 5% but less than 10%		
Less than 15%		
More than 15%		

Source: Oldani, C., Savona, P., (2005), Derivatives, Fiscal Policy and Financial Stability, *ICFAI Journal of Derivatives*, Vol. 2, No.3, pp. 7-25, 2005

Italy is a good example to show how the derivative instruments may be used as a risk-prevention factor within public debt management, even in a high indebtedness condition.



### **3. EXTERNAL PUBLIC DEBT MANAGEMENT IN TURKEY**

The oil crisis took effect in developing countries especially in the 80s. Due to the low production levels and weak economies of these countries, they had to succumb to resulting rise in oil prices and in the face of high costs caused by the price increases budget deficits have began to expand.

These countries in order to eliminate increasing budget deficits went down the road of borrowing and with the rise in the level of borrowing soon found themselves in a spiral of debt. Turkey was one of the developing countries in which a similar situation emerged. Because of the liberalization movement in the '80s and borrowing needs resulted due to growing budget deficits, the public debts and the management of public debts started to become of primary importance.

In this section, debt accumulation process will be presented along the reasons on the basis of the years before reviewing the status of external public debt management in Turkey. After this, the objectives of external public debt management and the current status in Turkey will be provided.

#### **3.1. External Public Debt of Turkey**

In this section, the external public debt accumulation will be observed by respecting certain break points in Turkey's economy. In this context, the periods of prior to 1980, 1980-1989, 1990-1999 and after 2000 will be used and in the last section, external public debt numerical data evaluations will be made.

### 3.1.1. Prior to 80's

Prolonged wars during the stagnation and declining periods of the Ottoman Empire and the wars lost lead to the payment of war reparations to other countries, causing the weakening of the Treasury (Tanrıkulu, 1983). The resulting financing needs of this period, were met by debt from other states. In order to repay lender countries in an orderly manner the “Düyun-u Umumiye” was established (Tanrıkulu, 1983). However, with the collapse of the Ottoman Empire and the establishment of the Republic of Turkey this debt was taken over by the Turkish Republic. Düyun-u Umumiye debts took up a big part of Turkey's economy for a period of 25 years (Saatçi, 2007).

1929 "Great Depression" led Turkey like other countries to leave the principles of the classical doctrine and adopt Keynesian policies. The State began to take a greater role to ensure economic development. In addition, the reluctance of the private sector to invest, forced the government to directly invest and to resort to foreign borrowing for financing need. However, the nationalization policy implemented during this period (covering the years 1923-1949) and with the aim at economic growth, most of the time the State could have current account surplus (Tanrıkulu, 1983). In this way, the State could do the repayment of both the debt inherited from the Ottoman Empire as well as the debt owed from other countries without difficulties.

After 1950, the implementation of a liberal economy and a free trade policy as well as the financial aid of developed countries led the external debt in Turkey to start to grow in an uncontrolled manner. The total debt increased 410 % between the 1930 to 1960 period (Karagöz, 2007). Such a rapid increase in the debt culminated with a declaration of moratorium in 1958. And, the authorities took fiscal and monetary decisions for a “Planned Period”. During this period the State resorted again to foreign resources to achieve the growth goals. However, after the "Oil Crisis" Turkey became a country which borrow to

close growing budget deficit rather than a country which borrow to achieve the growth goals (Tanrikulu, 1983).

### **3.1.2. 1980 - 1989**

1980 was the start of a period where the reform process in financial and economic markets began in Turkey. Before 1980 Turkey exhibited the outward appearance of a closed economy. After this period a more liberal economic policy was adopted.

The large balance of payments crisis prior to 1980 brought the necessity to take several decisions (Saatçi, 2007). The government decided to reduce the state role in the economy, reduce the level of real wages, encourage the private sector and increase exports with the January 24<sup>th</sup> decisions. In this respect, Turkey left import substitution industrialization policies and began to apply the exporter policies. This program was efficiently conducted until 1988, and exports recorded a growth of 15 % per year. During the same period, revenues from tourism and remittances abroad were able to meet the debt service (Sarı, 2004). However, the contributions made to promote exports, had put the State under a serious financial burden. Due to the taxation system not being used effectively and as the debt suspensions were not enough, the Government resorted to using foreign borrowing again. Until this period Turkey only borrowed from other countries and international organizations, but after this period also borrowed in the international capital markets (Saatçi, 2007). In addition, the amount of other currencies was more than U.S. dollar in debt stock. During this period, the depreciation of the dollar against other currencies (Karagöz, 2007) as well as the use of variable interest rate in loans resulted in an exponential increase in Turkey's U.S. dollar-denominated foreign debt. According to a World Bank report published in 1990, Turkey's external debt between the years of 1982-1988, because of the cross rate had increased to 9 billion dollars. In the same report it was indicated that 48 % of the total external debt in 1988 was composed of the variable interest

rate which was 11% higher than the value recorded in the year 1984. World Bank noticed that Turkey incurred interest rate and exchange rate risks on the external public debt. Another important point that was underlined in the same report was the necessity to review futures, forwards, and options contracts as short-term risk management instruments.

As a result of high levels of external public debt reached in 1989, the government was obliged to take measures and Turkey was removed from the category of “countries under a serious debt burden” (Saatçi, 2007).

### **3.1.3. 1990 - 1999**

The most prominent feature of this period differentiating it from previous periods is the "Principle of limiting foreign borrowing to external debt service" which is introduced by Turkish Treasury beginning in 1989. Turkey's external debt burden which had reached serious levels began to retreat with careful implementation of this policy (Karagöz, 2007). Another important decision that marked this period was the "Decree No. 32 on the Protection of the Value of Turkish Currency"; published in Official Gazette No. 20249 dated 11 August 1989. This decision was the last step in the liberalization of the Turkish foreign exchange regime (Sarı, 2004). This decision allowed residents' to keep, import and export foreign currency, and get credit from abroad in kind and cash. Thus, the obstacles to a large extent in the Turkish economy were removed and the concept of "hot money" was introduced into the Turkish economy. After 1989 this concept became the main objective of governments. They applied the policies in line with this concept and as a result the debt stock increased by 61.3% over the next 4 years (Sarı, 2004). The growth process as a result of the macro-economic policies remained connected to the relationship of the current account deficit and foreign capital flows and the economic development is abandoned to foreign capital flows and world financial markets. During this period the government resorted to external borrowing to finance high public expenditures due SOEs and Consolidated State Budget deficits (Hatiboğlu, 2003, pg. 113). In this context, the foreign

debt of \$45 billion in 1991 by the end of 1993 had reached \$70 billion (Hatiboğlu, 2003, pg. 115). Short-term funds provided through external borrowing were assumed to decrease interest rate. However the budget deficits, high debt services and expectation of devaluation led to the interest rates not declining as expected by authorities. Eventually, the virtual "hot money" growth bubble resulting from the wrong policies applied culminated in a financial crisis in 1994.

After the crisis a series of stabilization policies were implemented, and measures were taken to reduce the demand and the public deficits. These policies led to positive results such as reducing import, increasing export, providing current account surplus and decreasing inflation. However, this did not last very long because of the positive results were not followed up by a stable policy and interest rates continued to rise. By 1998 the crisis in Russia added salt to the wound of all of this, and due to the international mistrust "hot money" began to leave the country. With the foreign exchange leaving the country, resulted in the increasing necessity of borrowing. In 1999, the government of the period signed a stand-by agreement with IMF and swapped the internal debt with foreign debt (Sarı, 2004). And the external debt ratio excessively increased.

#### **3.1.4. After 2000**

Another goal of the stand-by agreement that was signed on 18th December 1999 was to reduce inflation based on the exchange rate. In this program that was supported by tight fiscal policy, the Turkish Lira exchange rate was determined on a daily basis against the value of the basket of currencies (Sarı, 2004). The import volume increased day by day as exchange rate was known and the future expectations were optimistic. The Turkish Lira gained value and hence the budget deficit rose to \$9.8 Billion (Sarı, 2004). The high budget deficit led an insecure atmosphere to occur in financial markets and foreign investments to rapidly leave the country in 2000. During this period Turkey got funds from IMF and World Bank in the framework of signed agreement. But these funds were not be

sufficient to prevent the emergence of a new crisis; on the contrary, they accelerated it since the funds caused a brutal increase in import.

As a result, Turkey came face to face with the February 2001 crisis. This crisis caused 5.3 billion dollars of short-term capital to be lost (Sarı, 2004). The effects of the crisis were very deep; unemployment increased, banks got into trouble, and many firms shut down. Briefly, economy was down. The authorities were faced with open budget deficits and up to 2004 relied on external sources to close their budget deficits. After 2004, the treasury decided to borrow in Turkish Lira to reduce the risks of external borrowing and used the internal sources for financing

([http://www.muhasabenet.net/makale\\_serdar\\_aksoy\\_turkiyede%20hazine%20ve%20borc%20yonetimi.html](http://www.muhasabenet.net/makale_serdar_aksoy_turkiyede%20hazine%20ve%20borc%20yonetimi.html), 31.10.2010). The foreign borrowing began to be used only for financing the investments which must be performed for the EU harmonization Process and mostly project-based credits were used. Consequently, since 2004 the stock of foreign debt within overall public debt has been decreasing and domestic debt rate has been increasing.

### **3.1.5. General Review**

#### **3.1.5.1. Statistical Summary of the External Public Debt**

The reasons behind the accumulation of the external public debt stock of Turkey and the breaking points in terms of public debt were mentioned in the previous section. The numeric data regarding external public debt stock and external public debt stock/GDP are collected in Table 3.1. This table includes the period from 1970 to 2009. The external public debt provided in the table indicates the sum of external public debt and Central Bank debts in accordance with The Turkish Court of Accounts' 2001 report.

When the values in the table are examined it is seen that the external public debt stock increases continuously (except some years). During the years 1970-1980 (planned period)

it is observed that the external debt stock increased but the external public debt stock to GDP ratio decreased or stayed the same. The reason the ratio decreased or remained the same level was due to import substitution industrialization policies being adopted toward development goals for this period. By 1980 the import substitution policies were discarded and efforts were made to increase exports and in this context the state decreased taxes and provided subsidies for investors. This has led to using foreign sources for financing. Since the percentage of dollar through these owed debts is less than the other currencies and due to the depreciation of the dollar against other currencies, the dollar-denominated debt stock reached very high levels in the 1982-1988 periods. As a result it is observed that in this period the external public debt stock to GDP ratio is too high. At the same time frame corresponds to a period where the debts were no longer used for the development target but, they were used to close budget deficits and debts. In 1989 the government removed in law and in fact the barriers of financial markets by means of Decree No. 32, the capital markets began to be used for borrowing and the "hot money" policies began to take place. These decisions and policies provided easy access to sources of debt and this has led to an increase in external public debt stock. With "hot money" policy, Turkey became a country that was going in debt to pay existing debts and had transferred domestic resources abroad due to high interest rates. However, with the hot money entering the economy, there was an increase in domestic demand which allowed the GDP level of \$107 million to increase to \$150 million. This increase which was not a true growth led to the emergence of insecurity in the financial markets in 1994 and subsequently, Turkey encountered a financial crisis. As a result of this crisis, the External Public Debt Stock/GDP had reached the highest level of 40% since 1970, and the external public debt increased while the GDP decreased by 28%. After the crisis, the measures taken allowed for an increase in the GDP and the External Public Debt Stock/GDP stock ratio to be lowered. In 2000, external public debt increased 15% compared to the previous year. The cause of this increase was the decision taken within the framework of stand-by agreement signed with IMF in 1999. According to this decision, domestic borrowing has been substituted with foreign debt. The February 2001 crisis of Turkish Lira devaluation took the external debt stock from \$70

million in 2002 to the \$86 million level and the level of External Public Debt Stock/GDP ratio again rose to higher levels (37.21%). In 2004 the government decided to borrow in Turkish Lira instead of foreign currency. After this period, a decrease was recorded in the External Public Debt Stock/GDP ratio until 2009.

Table 3.1 Gross External Debt in Turkey

	EXTERNAL PUBLIC DEBT (Million US \$)	GDP (Million US \$)	EXTERNAL PUBLIC DEBT/GDP (%)
1970	1.844,00	17.086,96	10,79
1971	2.224,00	16.256,62	13,68
1972	2.454,00	20.431,10	12,01
1973	2.866,00	25.724,38	11,14
1974	3.136,00	35.599,91	8,81
1975	3.182,00	44.633,71	7,13
1976	3.619,00	51.280,13	7,06
1977	4.438,00	58.676,81	7,56
1978	6.464,00	65.147,02	9,92
1979	11.030,00	89.394,09	12,34
1980	15.007,00	68.789,29	21,82
1981	15.241,00	71.040,02	21,45
1982	16.066,00	64.546,33	24,89
1983	16.042,00	61.678,28	26,01
1984	16.541,00	59.989,91	27,57
1985	19.539,00	67.234,95	29,06
1986	24.291,00	75.728,01	32,08
1987	31.541,00	87.172,79	36,18
1988	33.563,00	90.852,81	36,94
1989	34.859,00	107.143,35	32,53

1990-2009 data: Compiled from the statistics issued on the Turkey Treasury, from the 2010 September and 2005 November public debt management reports, GDP data: World Bank statistics



Table 3.1 Gross External Debt in Turkey (continued)

	EXTERNAL PUBLIC DEBT (Million US \$)	GDP (Million US \$)	EXTERNAL PUBLIC DEBT/GDP (%)
1990	41.504,00	150.676,29	27,55
1991	42.119,00	151.041,24	27,89
1992	42.796,00	159.095,00	26,90
1993	46.857,00	180.422,29	25,97
1994	51.473,00	130.690,17	39,39
1995	53.793,00	169.485,94	31,74
1996	52.459,00	181.475,55	28,91
1997	50.581,00	189.834,64	26,64
1998	52.827,00	269.287,10	19,62
1999	53.373,00	249.751,47	21,37
2000	62.755,00	266.567,53	23,54
2001	70.507,00	196.005,28	35,97
2002	86.537,00	232.534,56	37,21
2003	95.217,00	303.005,30	31,42
2004	97.078,00	392.166,27	24,75
2005	85.836,00	482.979,83	17,77
2006	87.265,00	530.900,09	16,44
2007	89.325,00	647.155,13	13,80
2008	92.351,00	730.337,49	12,64
2009	96.757,00	614.603,09	15,74

1990-2009 data: Compiled from the statistics issued on the Turkey Treasury, from the 2010 September and 2005 November public debt management reports

GDP data: World Bank statistics

### **3.2. External Public Debt Management in Turkey**

The importance of the external public debt management emerged at the beginning of the 80's just like in other developing countries as a result of external public debt accumulation. The increasing debt levels and the defaults on the payments (debt rescheduling) obligated the presence of a well organized and structured debt management strategy in Turkey.

The need of an external debt management strategy essentially came up during the 70's. The lack of such a control on the external indebtedness caused deeper problems during the crisis periods and the importance of healthy registration of external debts, maturity analysis, interest rates analysis, fixed-variable interest rates combination analysis, analysis of the proportion of the short-run debts in the total indebtedness, exchange rate risks as well as the exigency of building up an institutional and legislative structure surfaced before the 80's (Sarı, 2004). However, Turkey could not succeed in establishing an external debt management strategy owing to insufficient knowledge about the indebtedness and debt services (Sarı, 2004) belonging to the previous periods. After the liberalization reforms enforced with the 24 January decisions, the external debt levels began to increase very fast and herewith the practices on the external public debt management became an important issue. Within this context, the institutional and macroeconomic regulations were made during the 80's and the 90's. The balance of payment analysis, the resources analysis and the sustainability analysis of external debts have been done in the same years.

However, it would be more advisable to talk about the last ten years of Turkey's external public debt management and the risk management since there is a significant progress on these issues. With Law No 4749 "Law on Regulating Public Finance and Debt Management" issued in 2002 and "Regulation on the Principles and Procedures of Coordination and Execution of Debt and Risk Management" issued at the same year the legislative framework has been drawn for the public debt and risk management.

### 3.2.1. Objectives of External Public Debt Management

The main clauses of Law No 4749 “Law on Regulating Public Finance and Debt Management” and “Regulation on the Principles and Procedures of Coordination and Execution of Debt and Risk Management” related to public and risk management are summarized below. These items constitute the main objectives of a sound external public debt management as well as the responsibilities of the correspondent institutions which play role within external public debt management.

- a) Macroeconomic goals: Any public debt management and risk management have not to disturb or hinder the macroeconomic goals. The borrowing decisions or the payment projections have to be done in line with the macroeconomic goals.
- b) Sustainability: Sustainability is an important issue for a healthy debt and risk management. Any failure on the sustainability control may result in payment defaults or higher borrowing costs.
- c) Transparency and accountability: The decisions taken within the debt and risk management as well as the sources of all acts practiced have to be declared to avoid any speculative or undesired transactions in the economy. The transactions performed have to be well registered.
- d) Coordination with the monetary and fiscal policies: To achieve the macroeconomic goals the debt management and the monetary & fiscal policies have to be handled in coordination to avoid any negative results due to the incompatibility between the policies applied.
- e) Minimum borrowing costs: The borrowing must be done with the possible minimum costs to prevent any additional liability.

Risk management: The borrowing decisions taken by respecting solely the minimum cost goal may result with failures in case the risk of debt portfolio is ignored. A debt composed of the short-run loans may result in payment failure; a debt composed of foreign currencies may be faced with the depreciation of

domestic currency or a debt composed of floating interest rate may be exposed to the interest rate risks.

### **3.2.2. Institutional Framework of External Public Debt Management**

The institutional framework on every country differs from each other according to the debt management structure, previous experiences and problems that have been confronted (Sarı, 2004).

The main responsibility of the public debt and risk management has been assigned to the Prime Ministry Undersecretariat of Treasury over the Law no 4749 “Public Finance and Debt Management Law” issued in 2002. Additionally, some tasks have been assigned to different institutions which work in coordination with the Undersecretariat of Treasury to meet the objectives of the external debt management and risk management. There are also some institutions which have a complementary role on the public debt and risk management.

#### **3.2.2.1. Prime Ministry Undersecretariat of Treasury**

The tasks of the Undersecretariat of Treasury over the Law 4749 related to the external public debt and risk management can be listed as below:

- a) Take the foreign borrowing or donation decisions
- b) Hold negotiations about the borrowing
- c) Follow the payment projections and do the required payments
- d) Provide the funds gathered to the public or private sector institutions
- e) Give borrowing guarantees
- f) Keep the account of the debts (Sarı, 2004)

The Undersecretariat of Treasury is executing these tasks by means of its two main general directorates. “Directorate General of Foreign Economic Relations (DEİK)” is responsible of: 1) having contracts, holding negotiations, making agreements with foreign creditors within the scope of providing external financing 2) managing the external debt portfolio according to the identified criteria within the scope of providing external financing 3) giving permission to public institutions for external borrowing (<http://www.treasury.gov.tr/irj/portal/anonymous?NavigationTarget=navurl://dfb0e5c3e057ce67d5c2ae5751ee25a3>, 10.01.2011). “Directorate General of Public Finance (KAF)” is responsible of: 1) monitoring the external debts and effecting payments of the capital and interests of debts 2) accounting 3) carrying out and reporting every kind of analysis and risk assessment about public debts, Treasury guarantees and Treasury accounts receivable 3) carrying out the transactions of follow-up, commitment and register of the credits guaranteed by the Treasury and made by the Treasury to be used by the appropriation of external debts (<http://www.treasury.gov.tr/irj/portal/anonymous?NavigationTarget=navurl://dfb0e5c3e057ce67d5c2ae5751ee25a3>, 10.01.2011).

### **3.2.2.2. Central Bank of the Republic Of Turkey (TCMB)**

Although the role of the Central Bank has been decreased in comparison with the period before 1980, it has some important responsibilities that it manages through its “Communication and Foreign Relations” department. The main tasks of the Central Bank related to external public debt management are below:

- a) Manage relations with international institutions, central banks and European Union.
- b) Carry out operations subject to the mid or long term external loan agreements.
- c) Carry out operations regarding the use of loans gathered in the name of Treasury.

- d) Follow the external debts and do the pay-offs of these debts in the name of Treasury.
- e) Consult the Treasury on its relations with the domestic and external financial institutions.
- f) Report the economic improvements and international markets developments over the world in the short and long run.

### **3.2.2.3. Ministry Of Finance**

The principles and procedures related to the public debt management and accounting are handled by the Ministry of Finance together with the Undersecretariat of Treasury. The responsibilities of the Ministry of Finance can be listed as below:

- a) Transfer the loans gathered within the current year to the appropriate institutions.
- b) Regulate the basis and procedures related to the external debt management and accounting with the Undersecretariat of Treasury.
- c) Control of the investments in terms of technical and fiscal conditions with the State Planning Organization, for the external borrowing made upon DTP's incentive certificate.
- d) Incorporate the results gathered from the Undersecretariat of Treasury related to the external debt applications into the corresponding year final account draft of law (Sarı, 2004).

#### **3.2.2.4. State Planning Organization (DPT)**

The State Planning Organization contributes to the external public debt and risk management through its short and long term plans that it prepares in line with government objectives and the planned development.

The investments can be financed by foreign sources in case these investments are confirmed by State Planning Organization and they take part of annual investment program (Sarı, 2004). The State Planning Organization evaluates the domestic and external finance conditions by respecting the national development targets before preparing the borrowing plans. It indicates also how to use the loans and in which conditions these loans may be used.

### **3.3. Derivative Market in Turkey**

Until 1980 the governments followed the inward-oriented industrialization models for the development of Turkish economy. The currency and interest rates have been determined not in the market but by the Turkish Central Bank in line with the protective policies. The foreign currency exchanges have been done by banks on behalf of the Turkish Central Bank and several rules have been applied regarding the currency hold or exchange. The capital movements were restricted and the country was out of financial institutions. These protective policies continued until 24<sup>th</sup> of January, 1980. The economic instabilities that occurred during the 70's obligated the Turkish governments to review their economic and financial strategies. During that period, former Prime Minister Süleyman Demirel, asked his Undersecretary Turgut Özal to prepare a new stability program. Consequently, a new program called as "24 January Decisions" was released in a short time ([http://tr.wikipedia.org/wiki/24\\_Ocak\\_Kararlar%C4%B1](http://tr.wikipedia.org/wiki/24_Ocak_Kararlar%C4%B1), 31.10.2010).

24 January decisions became a very important step regarding the improvement of economic and financial system in Turkey. With these decisions, the existing systems have been abandoned and a financial and economic reform has been launched. The inward-oriented industrialization model has been left and an outward looking policy has been adopted. With this new point of view, the domestic and external capital movements have been liberalized. The interest rates restrictions have been removed in July 1980; since the first of May, 1980, the Turkish Central Bank began to determine the foreign currency rates on a daily basis after 1984 the foreign currency buying and selling process was liberalized

(Özalp, 2003). However, these reforms brought with it some additional risks. At this point, the governments had to put the risk management concept in their agenda. Hereby, the interest on derivative instruments was stimulated in Turkey.

In the next chapter the evaluation of derivative market in Turkey, the role of derivative instruments in public debt & risk management and the barriers that Turkey confronts to use these instruments are explained. The possible results of using these instruments as risk management factors are demonstrated by observing the currency risks faced formerly.

### **3.3.1. Improvement of Derivative Market in Turkey**

The first derivative market transactions in Turkey were the forward contracts performed in May, 1984 with the permission of Turkish Central Bank (Aşıkoğlu, Kayahan, 2008). This followed by the use of swap agreements which took place between TCMB and banks in 1985 (Aşıkoğlu, Kayahan, 2008).

Following the 2001 crisis, the free floating exchange rate regime began to be used, resulting in an uncertainty over the markets. Within the context of taking measures for this uncertainty, Istanbul Stock Exchange (İMKB) made some preparations regarding the foreign exchange derivative transactions and thus, Derivatives Exchange Inc. (VOBAŞ)



was established in 2001 (Aşıkoğlu, Kayahan, 2008) as the first exchange market in Turkey. This exchange market took the name of Derivatives Exchange (VOB) in 2005 and continued its service as a separate market in İzmir. Since the foundation until today the transaction volume of this market increased continuously.

### **3.3.2. Derivative Instruments Role in Turkey's External Public Debt Management**

The developing countries need to use the derivative instruments more than the developed countries as their public portfolios carry more risks than the developed countries portfolios due to their inefficient interest rate and foreign currency composition. While any changes in the interest rates or foreign currency may result in brutal shocks in the external debt stocks belonging to the developing countries, the same changes may slightly affect the industrialized countries' stocks. A study made by the World Bank showed that an increase of 1% in the interest rate resulted in an increase of 6 billion dollars in the debt service of developing countries (Sarı, 2004).

The situation is not different for Turkey which always had big problems with the increasing external public debt and which was exposed to the interest rate and foreign exchange risks throughout history. The derivative market, which provides risk management in external public debt management strategy, could neither be used in the public debt management nor in the private sectors due to the structural and economic obstacles existing until the last few years. These obstacles can be listed as below:

- a) Lack of a sound external public debt management: As mentioned before, this notion could be entered into the Turkish management structure in the early 80's.
- b) Insufficient country credibility: The credibility of the countries is an important issue to be able to find the corresponding funds in the international area.
- c) Inadequacy of the institutional regulations: For an orderly derivative market, it is necessary to have the required institutions and well organized management system.

This is necessary not only for the public authorities and the internal investors but it is necessary for the foreign investors which will be willing to provide the required funds.

- d) Deficiency of knowledge: The use of derivative instruments needs a high knowledge on this market. The lack of the required specialists obviated this market to be known and used on the external public debt management.

Due to all of these obstacles, the use of derivative instruments on the public debt management was unable to go beyond some attempts by the Central Bank, who used the foreign exchange options to hedge or limit exposures in the 80's (World Bank, June 1990). Most of these obstacles have been overcome by passing to a settled market with the foundation of Turkish Derivatives Exchange in 2002. With this new regulation the volume of the transactions performed in this market started to increase through the performance of the banks and companies. However, these hedging instruments could not take place in the external public debt management. The authorities preferred to use the traditional techniques in public debt management. With this point of view the Undersecretariat of Treasury adopted the "strategic standard" in 2003. In line with this standard, the foreign currency rates on the debt stock have been decreased over the years and thus, the exposure to the currency risk has been decreased. In Figure 3.2 the dark colored bars shows the values of foreign currency borrowing, while the lighter colored bars shows the Turkish Lira borrowing. It is clearly seen that there is an increase in TL-denominated debt stock since 2003. At the same time, the interest structure has been changed. The fixed interest rate percentage has been increased through the debt stock to decrease the exposure to the interest rate risk.

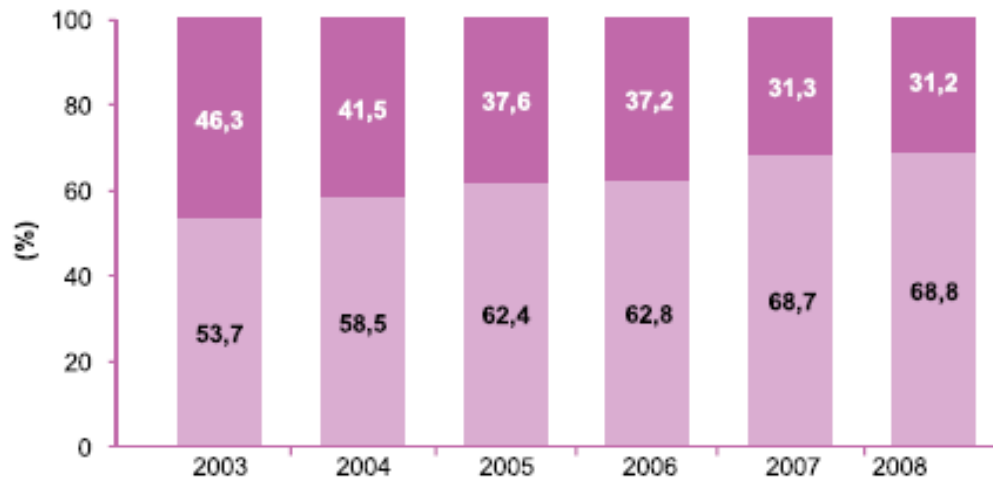


Figure 3.1 Foreign currency rates within the external debt stock of Turkey (Turkey Prime Ministry Undersecretariat of Treasury, Public Debt Management Report 2008, p.39)

### 3.3.3. Analyze of Currency Risk Exposure of External Debt in Turkey

The external public borrowing is a frequent instrument that Turkey is using for the financing of budget deficits or for specific investment projects that need high amounts of capital. Public debt has a big influence on macroeconomic balances and health of economy. Hereby, it is important to keep these external debts under control and hinder any brutal changes which may result in sharp increase of external debt stock. With this point of view, most of developed countries use derivative instruments to hedge their debt portfolios and protect themselves against any unexpected and undesirable situations. However, the use of these instruments is not popular in Turkey as mentioned in the previous paragraphs. At this point, it may be useful to observe the risks that Turkey was exposed in past without any measures taken against the possible risks.

The derivative instruments may be used to hedge both interest rate and exchange rate risks. Since the exchange risk has greater impacts on debt stocks, the currency risk will be examined in this analyze. Table 3.3 lists the external debt service<sup>1</sup> of Turkey between the years 1983 and 2010, the U.S. dollar exchange rates as well as increase/decrease in external debt service due to the exchange rate changes. When looking at foreign exchange rates, it can be easily recognized that the Turkish Lira depreciated against U.S. dollar until 2003 which means a continuous increase in external debt. It is seen that this increase reaches very high percentages among 20 years. Especially during the crisis periods such as 1994 and 2001, this situation becomes more distinctive. The external debt stocks belonging to these periods increased respectively over 170% and 96%. The average percentage of this increase during 27 years is approx. 44%.

These figures explicitly demonstrate how Turkish debt portfolio is/was exposed to risks without any hedging strategy. It would be possible to protect debt portfolio against big loss by entering into foreign currency swap, forward, future or option agreements. Once the foreign exchange rate is fixed to a predefined value, it would be possible to avoid at least some of these losses and to hinder any liquidity risk which may come up due to unexpected raise in external debt payments.

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<sup>1</sup> The figures listed are expressed in US dollars. However, these services compose of different foreign currencies. The evaluation will be performed through the US dollar values as the composition of debt services are disclosed by the authorities.

Table 3.2 Effects of Exchange Differences on the External Debt Service

Years	External Debt Service (Million \$)*	Exchange Rate	Increase in External Debt Service** (%)
1983	3.832,00	224,00	
1984	3.730,00	364,90	62,90
1985	4.216,00	518,30	42,04
1986	4.685,00	669,40	29,15
1987	5.517,00	855,70	27,83
1988	7.158,00	1.420,80	66,04
1989	7.182,00	2.120,80	49,27
1990	7.302,00	2.607,60	22,95
1991	7.561,00	4.169,90	59,91
1992	8.733,00	6.887,50	65,17
1993	8.227,00	10.986,00	59,51
1994	9.993,00	29.704,30	170,38
1995	11.897,00	45.673,50	53,76
1996	11.418,00	81.083,60	77,53
1997	12.418,00	151.429,00	86,76
1998	16.513,00	260.040,10	71,72
1999	18.316,00	420.126,20	61,56
2000	21.937,00	623.704,00	48,46
2001	24.623,00	1.225.411,80	96,47
2002	28.851,00	1.505.839,50	22,88
2003	27.804,00	1.493.067,80	-0,85
2004	30.481,00	1.422.341,20	-4,74
2005	36.399,00	1,34	-5,73
2006	40.070,00	1,43	6,73
2007	48.680,00	1,30	-9,06
2008	53.379,00	1,29	-0,66
2009	57.899,00	1,55	19,66
2010	58.454,00	1,49	-3,83
* It includes overall external debt service including the non-public debts			
** According to the previous year's rate			
(1) The table is compiled from the table statistics issued on DPT and Turkish Republic of Prime Ministry Undersecretariat of Treasury web site.			
(2) The figures are expressed in YTL after 2004.			

#### 4. CONCLUSION

The World entered a phase of globalization after World War II, rapidly picking up speed after the downfall of Communism and the end of the Cold War. Globalization removed barriers between national borders in order to facilitate the flow of goods and services, knowledge and capital. This global network forced countries not just to take their own economies and financial stability into account, but made it obligatory also to take other countries economics and stability into the equation also.

In 1972, after the breakdown of the "Bretton Woods" fixed exchange rate system, exchange rates began to be determined according to market demand. After this period, fluctuations in the exchange rates and interest rates disrupted the level of economic stability of countries leading to the emergence of risks. The countries tried to find new financial instruments and strategies to avoid risks. Especially since the 1980's the "risk management" concept has become of great importance and this approach has established a new framework; "derivative market". Public authorities and private sector have shown considerable interest in derivative products that allow the measurement of risk and retention. These products have been used in many developed countries, in order to eliminate the negative effects of foreign debt.

The more frequent international crises and the lack of a sound economy forced the developing countries to borrow for financing of public expenditures. And borrowing especially in these countries has been growing exponentially since 1980. The "over-indebtedness" limits began to derange the developed countries which were concerned about the future of international trade. Therefore most developed countries decided to help the developing countries to create a sound debt system. In this context, since the early 1990s, the modern public debt management techniques have attracted the interest of developing countries, with promotion of developed countries and international institutions like the IMF and World Bank.

Borrowing from foreign sources can bring quite large negative effects of exchange rate risks. Effects of international economic and financial crisis are much bigger for the countries which have foreign denominated debt portfolio since the national currency may lose in value and thus, cause an exponential growth of debt. Therefore, derivative products may be used as a risk aversion instrument for developing countries. However, the developing countries meet with some obstacles to get into the derivative market. One of these obstacles is the credit rating. The counterparties expect each other to have a certain level of credit rating to agree on a derivative instrument. This credit rating is assessed by credit rating agencies such as Standard & Poor's, Moody's and Fitch. The credit rating for economies that do not show a sufficient level of development and following reliable economic courses for developing countries is generally a low score. Therefore, these countries usually cannot find a counterparty which is willing to enter into an agreement with them. A second obstacle is the lack of demand for the national currencies of these countries. In other words, the developing countries cannot find the required instruments for their national currency. Another obstacle to the use of derivative products is the high level of knowledge that is needed to use them. In developing countries one of the major difficulties is the workforce not being sufficient in this area and finally the necessary financial and legal framework needs to be in place to use these products.

When the situation in Turkey is evaluated in terms of the external public debt and derivative market practices, the history of external public debts extends back to the last period of the Ottoman Empire. However, before 1980, the debt was at levels that could be paid by domestic savings and, there was a major shift after this period. The January 24<sup>th</sup> decisions by the Government intended to change the economic strategy of import substitution policies to a more liberal economy. During this period, there was removal process of obstacles to domestic and international movements of foreign exchange and capital flows. In addition, subsidies were given to encourage the private sector to head the production, but due to faulty system of taxation this has increased budget deficit. State began to borrow from capital markets to finance this budget deficit. The sudden rise in

external public debt, highlighted the need of the financial authorities to focus on the management of public debt, and in this context this increased interest in alternative risk management tools. With the establishment of the Turkish Derivatives Exchange in 2002 derivative products received even more interest. However, this interest has been limited to the private sector.

Today, traditional methods are applied in external public debt management. In order to eliminate the problem of liquidity a high level of foreign exchange reserves are kept. IMF and World Bank loans are applied as little as possible to reduce the share of foreign currency debt stock and the domestic sources are used for borrowing. In addition, the debt is carried on fixed interest rates rather than variable interest rates. Thus, the borrowing would eliminate the possibility of exchange rate and interest rate risks. There is no doubt that these methods are an effective risk management tool. However, situations such as if domestic savings are not being enough or if interest rates raise the cost of borrowing, the state, again is likely to resort to foreign borrowing.

When observed the economic history in Turkey it is seen that the external debt portfolio was usually exposed to risks and the state could not avoid big loss due to interest and especially foreign exchange risks. Between the years 1983-2002 the continuous depreciation of Turkish Lira against US dollar resulted in high increase of debt service. Consequently, the rates such as 66%, 170%, 86%, 71% and 96% were recorded as loss. Lack of any measure against the risks and necessity to resort to foreign borrowing exposed Turkey to big wealth loss. These risks might be hindered by use of derivative instruments. Swap, forward, future or option contracts could let government to know the future cash flows a priori since foreign exchange rates could be pre-defined within the frame of these agreements. In addition, the high increases in debt stock could be avoided by fixing the exchange rate.



Authorities need to prepare for such scenarios that have occurred in the past and take measures against the risks of foreign borrowing. In this context, using derivative instruments within external public debt management strategies will be a positive step to minimize potential risks. In addition, the effective use of these products will increase the borrowing capacity and will be able to raise liquidity. It will be possible also to eliminate the exchange rate and interest rate risks uncertainties brought by the monetary and fiscal policies as well as speculative movements. Thus, forecasted development plans will be implemented more effectively. Finally, with entry into the derivative market also allows entry the provision of international goods and financial markets.

However, as described above entry into these markets must meet certain conditions. In the countries where the derivative products are used the most such as Sweden, Ireland and Canada's credit rating is AAA. Turkey's credit rating according to Standard & Poor's institution is BB +. High credit rating is an important factor for entering derivative markets. Moreover, a labor force with an inadequate knowledge about derivative markets is a concern for distress. The workforce of public debt management authorities must be educated on this issue. The most difficult situation for Turkey is the lack of demand for Turkish Lira in international derivative markets. Turkey uses foreign currency for both imports and exports. Therefore the countries do not need Turkish Lira for trade. This makes Turkish Lira an inconvertible currency in the international area. The USA and EU have the largest trade volumes. That's why mainly two currencies (i.e. US dollar and Euro) are used in international trade. In this context, for the Turkish Lira to be used in international trade, signing bilateral trade agreements has a vital importance. Like the trade agreements with Russia and China, bilateral agreements with other countries would reduce the pressure of the Euro and the Dollar in our trade and increase demand for Turkish Lira.

Each country may need to resort to foreign borrowing to finance large investments or to close budget deficits. The important point is which instruments will be used and how will the borrowing be done. A debt stock that is unmanaged and untaken measures against

risks could cause major problems on a country. Therefore, each country should set up an effective and sound external public debt management system to manage and minimize the risks and protect the health of the national economy. Within this goal, especially the developing countries where these risks are greater must evaluate the new debt management techniques. It is not reliable for any country to leave foreign debt stock exposed to risks.

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