

A NEW DEBT INDICATOR FOR TURKEY: GENERAL GOVERNMENT NET DEBT

TÜRKİYE İÇİN YENİ BİR BORÇ GÖSTERGESİ: GENEL YÖNETİM NET BORÇ STOKU

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ABSTRACT

The purpose of this paper is to calculate the General Government Net Debt of Turkey by using harmonized set of assets and liabilities. By doing so, we aimed at analyzing how the gross debt figures differ when assets are introduced into calculations. In our analysis, we've selected 3 types of instruments; currency and deposits, securities and loans to end up with a standardized net debt indicator. Our results indicate that Turkey's indebtedness has improved in the last decade both in gross and net terms in comparison to EU countries. However, the gap between the EU average and Turkey for net debt is smaller than it is implied by the gross debt figures.

Keywords: Maastricht Debt, Net Maastricht Debt, General Government Net Debt, Debt Burden, Sovereign Debt.

ÖZ

Bu çalışma birbiriyle uyumlu varlık ve yükümlülük verileri kullanarak Türkiye'nin Genel Yönetim Net Borç Stokunun hesaplanmasına ilişkin temel bir yöntem sunmaktadır. Böylece, brüt yükümlülüklerin yanı sıra varlıklar da göz önünde bulundurulurken, brüt ve net borç arasındaki farkların analiz edilmesi amaçlanmıştır. Çalışmada standart bir net borç göstergesi oluşturulabilmesine yönelik olarak finansal hesaplarda yer alan para ve mevduatlar, borç senetleri ve kredi kalemleri kullanılmıştır. Elde edilen sonuçlar, son on yıllık dönemde AB ülkelerine kıyaslandığında Türkiye'nin borçluluğunun gerek brüt, gerekse net olarak önemli ölçüde iyileştiğini ortaya koymaktadır. Ancak AB ortalaması ile kıyaslandığında net borç stokundaki iyileşme, brüt borç stoku verilerinin ima ettiği kadar sınırlıdır.

Anahtar Kelimeler: Maastricht Borcu, Net Maastricht Borcu, Genel Yönetim Net Borcu, Borç Yükü, Kamu Borcu.

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INTRODUCTION

The recent global financial crisis deteriorated the fiscal balances of many countries. As a result of rising deficits and cumulating debt servicing obligations, the debt to GDP ratios increased substantially especially in EU countries. Use of short-term issuances in order to raise funds at lower rates also raised the share of short-term debt and increased the vulnerability of the government balance sheet even further. It worth noting that this build-up of general government gross debt over the past few years has been accompanied by a considerable accumulation of financial assets in some countries. This was partly due to governments' reinforcement of cash reserves and also governments' acquisitions of financial instruments relating to the banking sector (Eurostat, 2014b: 5).

Therefore, the balance and the harmony between the assets and liabilities deserve great attention. However, the gross debt measures which are reported by sovereigns for a long time do not take financial assets into account. For that reason, one concrete and simple way to gauge the financial health and gain insights about the sovereign balance sheet is calculating the net debt. It also constitutes a basis for comparison with peer countries. Yet, having comprehensive, reliable and standardized data plays a crucial role for assessing the financial situation in a country. Even though gross debt data is available for many sovereigns, it is hard to find net debt data which is suitable for comparison among countries.

According to the balance sheet approach, calculation of "Net Value" or "Net Debt" is derived by netting the market values of all or some selected assets and liabilities. Even though the calculation of the net value of sovereign balance sheet -computed by deducting all liabilities in the balance sheet from the market values of all tangible and intangible assets- is a comprehensive and complex analysis, net debt is calculated simply by netting the debt items by the corresponding financial assets.

In this paper, we calculated the general government net debt (or net Maastricht debt) for Turkey and used the same methodology for our comparisons with the EU countries. We believe that it serves as an accurate and appropriate indicator for Turkey, as some of the bottlenecks posed by other indicators (such as the public net debt indicator) are fixed. Thus it would also be used as a supplementary indicator for debt managers, policy makers and analysts.

1. GROSS AND NET DEBT

There are several measures for measuring the magnitude of sovereign debt in the literature. As there is an extensive area of implementation; the purpose, coverage and the methodologies of those statistics vary significantly. The broadest debt definition for a country is represented by the public gross debt statistics. Briefly, public gross debt consists of all the public entities' financial liabilities to the rest of the world in the form of debt liabilities. Debt is all liabilities that require payment(s) of interest and/or principal by the debtor to the creditor at a certain date or dates in the future. Additionally, debt includes only actual liabilities, not contingent liabilities such that contingent assets and liabilities are not recognized as financial assets and liabilities prior to the condition(s) being fulfilled (TFFS, 2013: 3). In gross debt calculations, assets are not taken into consideration. However, net debt reflects whether the public is a net debtor or creditor when the assets of the public sector are deducted from the gross debt. Yet, collecting periodic data in a specific format for the whole public sector is not an easy task. Thus, the sovereign debt concept is generally refers to the general government or central government which are narrower but easier to compile compared to the public sector. It is quite convenient as they usually have the biggest share in public sector. Similarly, it is not uncommon to encounter with different valuation techniques and different coverage of the debt instruments among countries.

There are only a few countries in the world (Australia, Iceland, and Canada) which are publishing data on public sector. Even though there is a joint database of the International Monetary Fund (IMF) and the World Bank named "public debt statistics database", the title is a bit misleading as most of the data cover central government with a few countries covering only general government (Vayvada Derya, 2015: 3). Also there is no harmony between the countries who publish general government debt such that the instrument coverages, valuation techniques and the consolidation processes are quite diverse.

Even though there is no common standard for the gross and net debt stock in the aforementioned database, the "Economy and Finance Database" of the Eurostat, fortunately, has a specific standard for the "government gross debt". This indicator is being used for monitoring the financial stance of the EU member states and its compilation is mandatory for the member states. The sectoral and instrumental coverage as well as the valuation methodology is standardized via the Excessive Deficit Procedure (EDP) of the EU Treaty. As a candidate country, Turkey's data are also compiled and disseminated within that procedure.

In that regard, for practical reasons such as using standardized and comparable data, we focused on two main debt definitions in this paper; “General Government Debt (GGD)” and the “General Government Net Debt (GGND)”.

1.1. General Government Debt

In the study, we used the Maastricht debt definition and compilation methodology for our general government debt figures. Maastricht debt is defined in Article 1, paragraph 5 of Council Regulation (EC) No: 479/2009 as the total general government consolidated gross debt at nominal value outstanding at the end of the year. General government consists of central government, state government (if applicable), local government and social security funds (if applicable). Consolidation refers to the exclusion of government debt held as assets by other general government units. Gross debt is consolidated both within and between sub-sectors of general government, implying that general government gross debt is less or equal to the sum of subsectors’ debt. Substantial consolidation amounts may occur during the consolidation process if holdings of subsectors’ government bonds are high.

Maastricht debt consists of the stock of the following financial liabilities: currency and deposits (AF.2), securities other than shares, excluding financial derivatives (AF.33), and loans (AF.4), as defined in paragraphs 5.45–5.85 of European System of Accounts, 1995 (ESA 95):

$$\text{Maastricht Debt} = \text{AF.2} + \text{AF.33} + \text{AF.4}$$

Maastricht debt excludes several important liabilities such as pension liabilities, insurance technical reserves and other accounts payable. Financial derivatives are also excluded due to the lack of a principal amount to be repaid at maturity. As to liabilities in shares and other equity, which are rarely seen in government, these are not debt instruments by definition and therefore should be kept outside Maastricht liabilities (Eurostat, 2014b: 6; EC&P, 2013: 209). Moreover, it should be noted that the instrumental coverage and valuation method of the Maastricht debt stock remained unchanged for Turkey even after the ESA 2010 has come into effect replacing ESA95.

At that point, considering the difficulties in defining the public sector and data collection, we believe that “general government” is a good indicator for sovereign debt as it constitutes the main part of the public debt. Moreover, it is possible to collect detailed and standardized data for the general government in

1 AF is the abbreviation used for the coding of financial assets/liabilities in ESA.

order to make comparisons. Thus, in this study we've selected the Maastricht debt for our assessments and calculated the net debt for the general government. In the rest of the paper, general government debt refers to the Maastricht debt and the general government net debt refers to the Maastricht net debt, unless stated otherwise.

2. GENERAL GOVERNMENT NET DEBT STOCK CALCULATION

The general government gross debt data (TT, 2016a) constitute the starting point of our analysis to reach general government net debt (GGND) of Turkey. Such data are available on Turkish Treasury's web site starting from 2003 on a quarterly basis. The gross stock figures are part of financial accounts within ESA and compiled in harmony with the rules of ESA2010 and EDP. Important characteristics of the data can be summarized as follows:

Sectoral coverage: General Government (central government + extra budgetary funds + local governments + social security institutions)

Instrumental Coverage: Currency and Deposits, Securities and Loans

Valuation Method: Face Value (Council of EU, 2010: 170)

In this paper, we calculated the instrument type and maturity breakdown of the data by using the debt registry in order to have a better understanding and to make a detailed analysis of the data. We used both original and remaining maturity information for the maturity breakdown and we sorted the liabilities which have maturity less than or equal to one year as "short-term", whereas maturity more than one year is sorted as "long-term" (Eurostat, 2013: 156, Council of EU, 2010: 170). Moreover, FX liabilities are converted into TL by using USD/TL ask rate rather than bid rate in order to get rid of the discrepancy between the accounting records and the statistics. As for the GDP data, we used the revised yearly nominal GDP figures released by the Turkstat on December 12, 2016.

In order to calculate the GGND, there are mainly two data sets for the assets side. The first data set is the Financial Accounts (FA) published by the Central Bank of Turkey (CBT) on a yearly basis. Financial Accounts are one of the main pillars of the EU National Accounts Statistics and compiled according to the ESA 2010 guidelines. Data set is available on the CBT web site for the period 2009-2015 (CBT, 2016). The general government balance sheet of the FA could provide the required statistics for the asset side of the GGND.

The second data set for this purpose could be the balance sheet of the government published by the Ministry of Finance for the IMF's government finance statistics (GFS) database. The data set for the general government of Turkey is published on a yearly basis and is available on the Ministry of Finance web site for the 2008-2015 period (MoF, 2016). These statistics are compiled according to the Government Finance Statistics Manual (GFSM) 2014 guidelines. As these guidelines are harmonized with the System of National Accounts (SNA) 2008 guidelines (on which the ESA 2010 and thus the FA statistics are also based) we can say that there is a high level of consistency between the GFS and ESA Financial Accounts.

It also worth mentioning that the coverage of the general government sector is completely consistent with each other for the data sets FA, GFS and general government debt of Turkey. For that reason, in our GGND calculations we have taken the advantage of all available data sets in order to get the most detailed data as possible. To that end, we have used the asset figures from the balance sheet of government given in GFS data set thus wider period; covering 2008-2015 and we have used the maturity structure of the assets of the government balance sheet provided in FA as a proxy to estimate the maturity composition of the assets, which are not available in the GFS data. Thus, by doing so we managed to broaden the length and the composition of the data set for the asset side of the general government.

As mentioned in the previous section, there is no common agreement on the definition, sectoral coverage and the instrument types in the calculation of GGND. Ideally, the Public Sector Debt Statistics Guide for Compilers and Users (PSDS Guide) propose netting out all assets with the corresponding liability item (TFFS, 2013: 5). However, netting out the illiquid assets which could not be used swiftly in case of a financial strain lies in the center of the debate. In that regard, some countries use only the most liquid assets for net debt calculations.

This brings out the problem of defining the liquid instruments. Even though there is a general understanding about the liquid instruments, there is no common definition. Moreover, the degree of liquidity of a certain asset might change depending on the state of the economy. For example, some debt securities and even some loans, which might be quite liquid and easy to sell without any significant impact on their market prices in prosperous economic times, could be less liquid and much harder to sell in times of financial distress, when their sale might be only possible at significantly lower market prices (Eurostat, 2014b: 9). In another study,

liquid instruments are defined as follows: short-term financial assets, which are supposed to be liquid, include currency and deposits, short-term debt securities, short-term loans and other accounts receivable (Lojsch, 2011: 20). However, this definition also underlines the versatile characteristic of volatility and refers to the limitation of liquidating the financial asset without incurring (major) losses.

Against this backdrop, as the Maastricht debt is composed of three main instruments and there is a general agreement that the instruments other than credits are liquid items, we used the currency & deposits, securities and loans items in our main calculations. Therefore, we assured the use of identical instruments both on the assets and the liabilities side. This also made it possible to compare our results with the Eurostat's paper (Eurostat, 2014b: 20-22, 28-29). Moreover, in order to get rid of the inconsistency of using original maturity on the liability side and time to maturity on the asset side we calculated the remaining time to maturity breakdown of the liabilities rather than using the breakdown in original maturity provided in the EDP tables. As there is no data regarding the maturity profile for either assets or liabilities in the GFS tables of Turkey, we utilized the maturity composition of the assets given in the financial accounts². To do so, first we calculated ratios for each maturity in FA and then applied those ratios to find the distribution of the general government assets given in GFS³. For the liability side, we directly calculated the remaining maturity structure of the liabilities from the debt registries for the period 2008-2015.

It should be noted that still there is a divergence in the valuation of the assets and the liabilities which originates from the idiosyncratic properties of the Maastricht debt stock and the asset valuation in general. Maastricht debt is calculated by using the face value (Eurostat, 2014a: 383, Council of EU, 2010: 170) whereas market value is used for the assets in the GFS and the Financial Accounts. However, as mentioned in the "Eurostat (2014b: 9)", it is also possible to use a mixture of valuation methods for financial instruments in the same measure of general government net debt. Using market value or face value for the liabilities may not make any big difference in prosperous economic times, but it could lead to significantly different results in times of sovereign debt crisis, when the market value of debt securities issued by countries perceived as in difficulties tends to

2 Although the manuals require the original maturity for financial accounts, the maturity structure which is given in the FA data of Turkey is based on the remaining maturity.

3 We used logarithmic regression in order to estimate the maturity profile of the assets for 2008 which is not available in the financial accounts. The equation based on the data for 2009-2014 is as follows: $y = 64,779 - 16,93 \ln(x)$ where the correlation coefficient = 0,6973.

significantly decrease. Similarly, the market value of assets could suffer a sharp decrease in times of financial crisis and thus considerably deviate from their face value or nominal value (Eurostat, 2014b: 9). Therefore, this difference in valuation should be considered while interpreting the results.

Briefly, we calculated the general government net debt of Turkey for the period 2008-2015 by using three liability items with face value and the corresponding asset items with market value. Our data also provides the instrument and maturity breakdown for more detailed analysis.

We also calculated the gross and net debt figures by using the Eurostat's database and analyzed the developments by individual countries as well as EU average. Greece and Croatia are excluded in our calculations as there is no available assets data for Greece and lack of data for Croatia as they became a member in 2013. For EU countries, we used the available Maastricht debt data for the liability side and the ESA Financial Accounts for the asset side which are both in line with ESA2010. GDP data are also collected from the same database which are calculated and provided within the EDP.

Finally, calculated remaining time to maturity structure (remaining maturity) of both assets and liabilities as mentioned above also made it possible to compute an alternative net debt indicator which includes only liquid assets as asserted by Lojsh (2011: 33,37,39). By using these calculations we showed the effect of using only liquid assets by comparing the figures for Turkey. However, we couldn't make comparisons due to lack of published data for other countries.

In the following sections we present our main findings based on comparison of different debt indicators for Turkey as well as cross-national data comparisons.

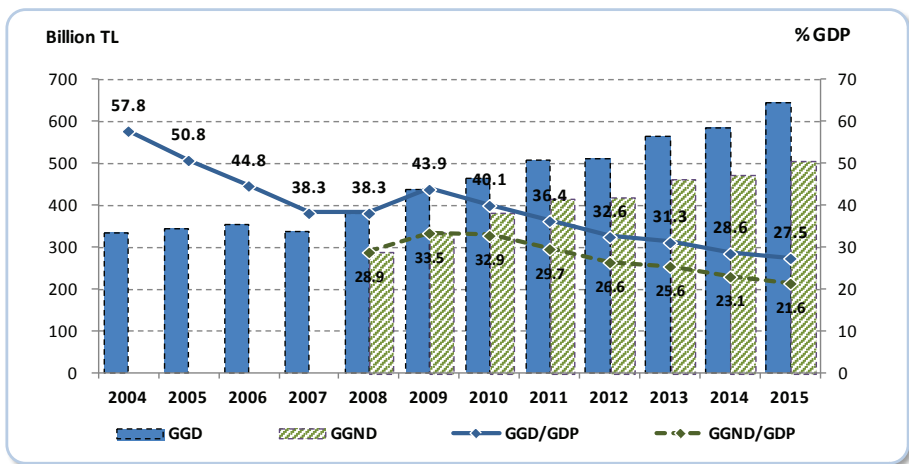
3. MAIN FINDINGS AND COMPARISONS

3.1. General Government Debt vs General Government Net Debt of Turkey

Turkey experienced severe financial crises in 2000 and 2001 which had great impact on the level and structure of the public debt. During crisis period, public debt management faced with the heavy debt burden because of rapidly growing financing needs due to financial supports provided to banking sector, shortening maturities and increasing costs. Hence, the sustainability of the public debt became controversial in this period (Cangöz and Balibek, 2012: 32). As

a matter of fact, general government debt to GDP climbed to 76.3% by the end of 2001 which also raised sustainability concerns due to increased debt burden together with deteriorating borrowing conditions. However, after the crisis, fiscal discipline in the public financial management was adopted as the main priority and significant reforms were made for strengthening the legal and organizational infrastructure and technical capacity. Fiscal discipline and the reforms allowed debt authorities to bring the debt burden back to lower levels and eliminate the sustainability problem. As it can be seen from the graph below, general government debt to GDP declined gradually and stood at 27.5% by the end of 2015. Our calculations for the GGND also follow a similar pattern with the gross debt figures as a share of GDP (Figure 1).

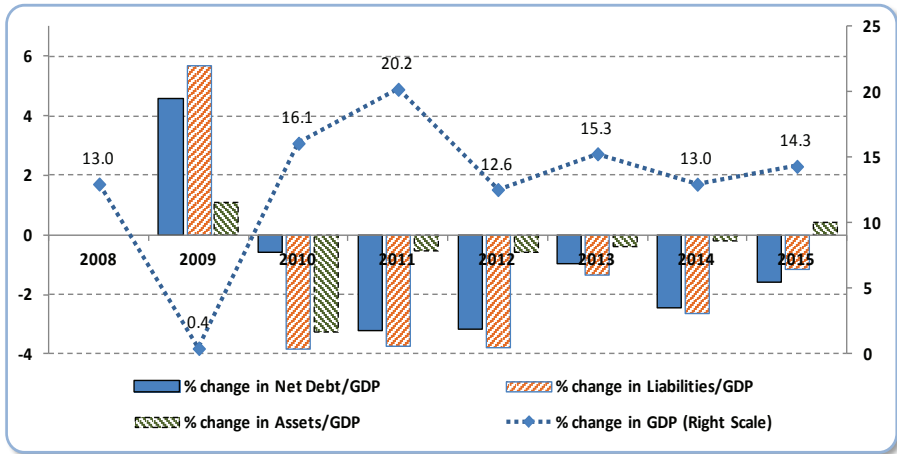
Figure 1: General Government Debt vs General Government Net Debt of Turkey



Source: GGD-TT (2016a), GGND-own calculations using TT (2016a) and MoF (2016).

Decomposing the changes in the GGND also provides important insights. As it can be seen from the figure below (Figure 2), the main factor driving the decreasing debt to GDP ratio is the nominal high growth rates. Even though the assets to GDP dropped in the 2008-2015 period, the decrease in the liabilities as a share of GDP was bigger. Therefore, the GGND to GDP ratio declined eventually.

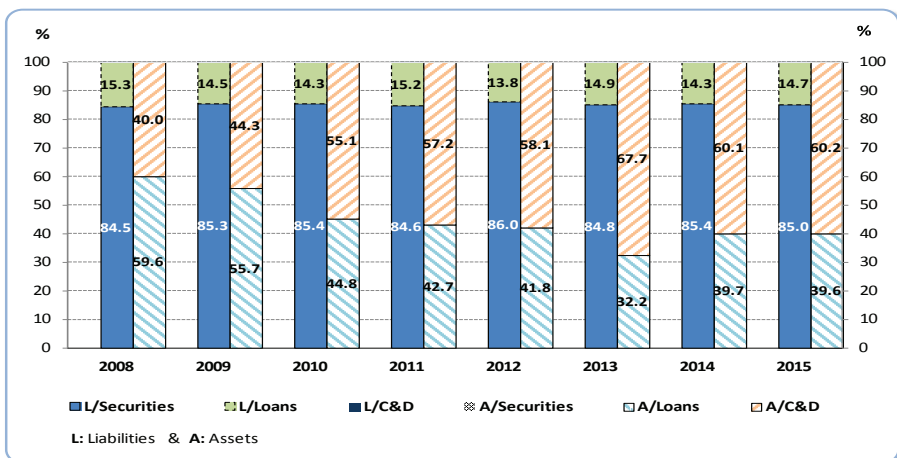
Figure 2 : Decomposition of Changes in General Government Net Debt of Turkey



Source: Own calculations using TT (2016a) and MoF (2016).

When we look at the composition of the assets and liabilities, we see that shares of the liability side remained almost unchanged in the analysis period. On the asset side, however, there is a clear shift from loans to currency and deposits which may be explained as a reflection of the financial crisis (Figure 3).

Figure 3: Instrument Composition of General Government Assets and Liabilities for Turkey



Source: Own calculations using TT (2016a) and MoF (2016).

Regarding the structure of the GGND by instrument type, we note several important factors. The most obvious change is the declining trend in debt securities.

Moreover, we can observe that the maturity structure also improved significantly and all net debt security liabilities are consisted of long-term liabilities as of 2015.

Table 1: General Government Net Debt of Turkey by Instrument Type and Original Maturity (% GDP)

	2008	2009	2010	2011	2012	2013	2014	2015
Total	28.9	33.5	32.9	29.7	26.6	25.6	23.1	21.6
Currency & Deposits	-3.7	-4.5	-3.9	-3.7	-3.5	-3.8	-3.2	-3.5
Debt Securities	32.3	37.5	34.3	30.8	28.0	26.5	24.5	23.4
ST	2.0	2.1	0.9	-0.0	0.2	-0.0	0.0	0.0
LT	30.3	35.4	33.4	30.8	27.8	26.5	24.4	23.3
Loans	0.3	0.6	2.5	2.7	2.0	2.8	1.9	1.7
ST	-3.5	-3.2	-1.2	-1.3	-1.0	-0.7	-0.6	-0.6
LT	3.8	3.8	3.7	4.0	3.0	3.5	2.5	2.3

Source: Own calculations using TT (2016a), CBT (2016) and MoF (2016).

In Table 2, we also classified the data by remaining maturity in order to check whether the maturity structure poses vulnerability and liquidity risks. Even though the share of short-term instruments has increased in comparison to Table 1, the level of short-term debt is still quite low and can be identified rather safe.

Table 2: General Government Net Debt of Turkey by Instrument Type and Remaining Maturity (% GDP)

	2008	2009	2010	2011	2012	2013	2014	2015
Total	28.9	33.5	32.9	29.7	26.6	25.6	23.1	21.6
Currency & Deposits	-3.7	-4.5	-3.9	-3.7	-3.5	-3.8	-3.2	-3.5
Debt Securities	32.3	37.5	34.3	30.8	28.0	26.5	24.5	23.4
ST	8.9	13.3	8.1	6.1	7.5	6.5	3.5	2.4
LT	23.3	24.2	26.2	24.6	20.5	20.0	21.0	21.0
Loans	0.3	0.6	2.5	2.7	2.0	2.8	1.9	1.7
ST	-3.4	-3.2	-1.1	-1.3	-0.9	-0.6	-0.6	-0.6
LT	3.7	3.7	3.7	3.9	2.9	3.5	2.5	2.2

Source: Own calculations using TT (2016a), CBT (2016) and MoF (2016).

The institutional sector composition of the GGND shows that the central government has the biggest share. Social security institutions display negative values as these entities do not have any debt liability but they hold some assets. Figures in Table 3 reflect inter-sector and intra-sector consolidated figures. In other terms, the debt securities hold by the social security institutions and the local

governments are deducted from the assets of these institutions and deducted from the liabilities of the central government as well. In that regard, as of 2015 the net debt stock to GDP of the central government is 21.8, while it is 0.4 for the local governments and the -0.6 for the social security institutions (Table 3).

Table 3: General Government Net Debt of Turkey by Institutional Sector (% GDP)

	2008	2009	2010	2011	2012	2013	2014	2015
General Government *	28.9	33.5	32.9	29.7	26.6	25.6	23.1	21.6
Central government	30.0	34.5	32.4	29.3	26.7	25.6	23.1	21.8
Local government	1.1	1.6	1.2	0.9	0.7	0.6	0.7	0.4
Social security institutions	-2.1	-2.5	-0.7	-0.5	-0.9	-0.6	-0.6	-0.6

* Consolidated

Source: Own calculations using TT (2016a) and MoF (2016)

The remaining maturity calculations in Table 2 also make it possible to make an alternative calculation of net debt (Lojisch, 2011: 33) by using the liquid assets only. In that regard, GGND figures calculated by deducting general government liquid assets (currency and deposits, securities and short term loans) from the general government liabilities are provided below (Table 4).

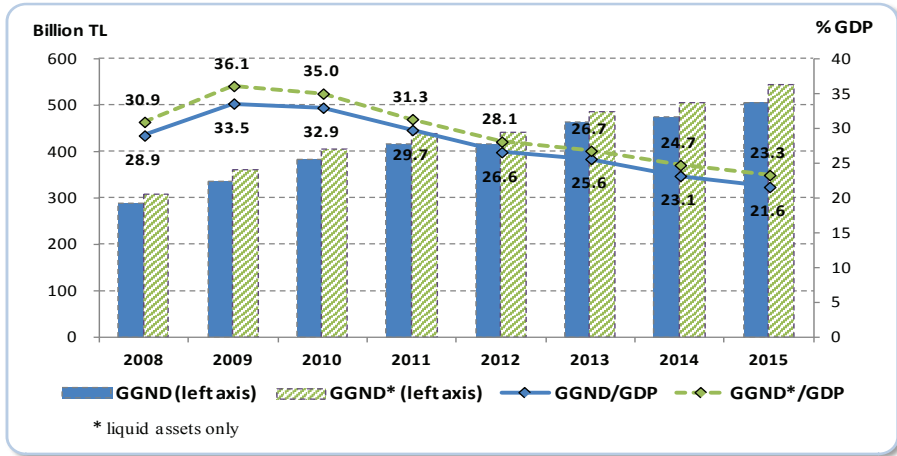
Table 4: General Government Net Debt (liquid assets only) of Turkey by Instrument Type (% GDP)

	2008	2009	2010	2011	2012	2013	2014	2015
Total	30.9	36.1	35.0	31.3	28.1	26.7	24.7	23.3
Currency & Deposits	-3.7	-4.5	-3.9	-3.7	-3.5	-3.8	-3.2	-3.5
Debt Securities	32.3	37.5	34.3	30.8	28.0	26.5	24.5	23.4
Loans	2.3	3.1	4.6	4.2	3.5	4.0	3.5	3.4

Source: Own calculations using TT (2016a) and MoF (2016).

As expected, the exclusion of the long term loan assets from the calculations leads to an increase in net loan obligations, which in turn reflects a higher net debt to GDP ratio approximately by 2 percentage points for the whole period.

Figure 4: General Government Net Debt of Turkey (all assets vs liquid assets only)



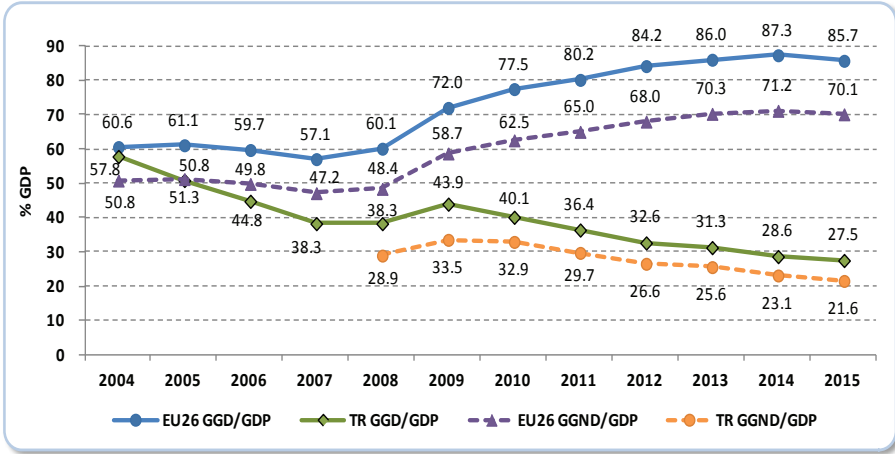
Source: Own calculations using TT (2016a) and MoF (2016).

This second approach poses a better indicator of risk when we consider the liquidity of the assets in the balance sheet. However, as there is no standard about the definition of liquidity, we used the first approach (all assets deducted from all liabilities) in the rest of the paper.

3.2. General Government Net Debt: Turkey vs EU Comparison

When we compare the general government net debt of Turkey and the average of 26 EU member countries' (EU-26) net debt, we observe a strong divergence between Turkey and the EU-26 average since 2008. Even though the financial crises led to a hike in the net debt figures for both Turkey and EU-26 in 2009, Turkey managed to return to pre-crisis levels by 2012 (Figure 5). However, for the EU, it is clear that the financial crisis took a heavy toll on the Union. In gross terms the EU average which was hovering around the 60% Maastricht criterion before 2008, rose by almost 50 percent as a share of GDP. As a result of these developments the debt burden difference between the EU and Turkey jumped to 58.2 (GGD) and 48.6 (GGND) percent as a share of GDP in 2015 (Figure 5).

Figure 5: General Government Debt and General Government Net Debt of Turkey vs EU-26



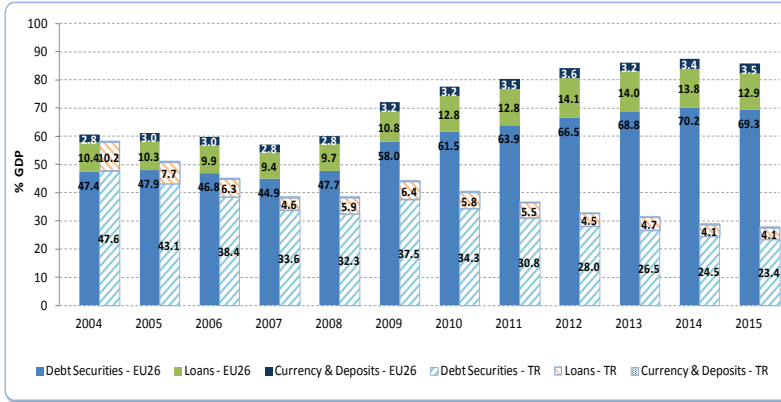
Source: TR GDD-TT(2016a), EU26 GDD and GNDD-Eurostat (2016), TR GGND-own calculations using TT (2016a) and MoF (2016).

The main factor explaining these developments are the developments regarding the trends of the general government liabilities and the growth rates. In that regard, the growth rate of liabilities was much higher than the growth rate of GDP for EU-26 after 2008. However, the GDP growth rates were higher than the growth of liabilities in Turkey especially after 2009.

In Turkey, the share of debt securities to GDP was 32.3 in 2008. As a result of the crisis it reached 37.5% in 2009 but quickly returned to its declining trend and stood at 23.4% by the end of 2015. However, the EU-26 average rose gradually from 47.7% in 2008, reaching 69.3% by the end of 2015. When we assess the share of loans to GDP in the 2008-2015 period, we see that the ratio is decreased from 5.9% to 4.1% in Turkey, whereas it increased the total debt burden by 3.2 percentage points in EU-26 (Figure 6).

Although the trend of indebtedness of Turkey and of the Union moves to the opposite directions, the composition of the instruments has almost the same pattern during the research period in such a way that the ratio of the securities in total is around 85% while the ratio of loans is around 15% for Turkey. As to EU-26 the ratio of liabilities is around 80%, ratio of loans is 16% and unlike Turkey, the ratio of currency and deposits is around 4% during 2008 to 2015.

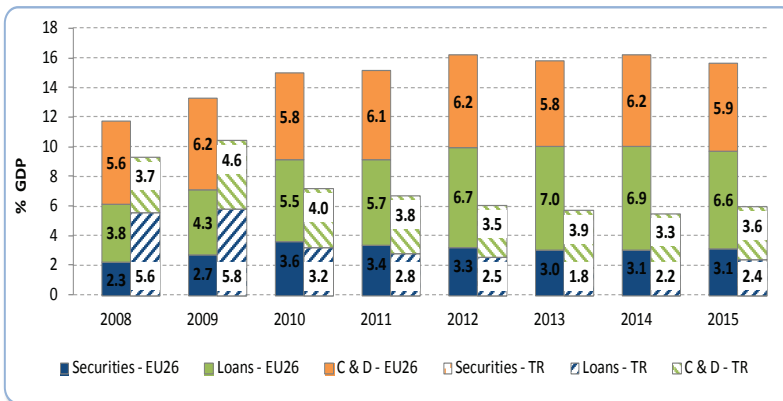
Figure 6: General Government Liabilities by Instrument Type; Turkey vs EU-26 (% GDP)



Source: EU26-Eurostat (2016), TR- own calculations using TT (2016a) and MoF (2016).

On the asset side, we should note that the assets to GDP ratio declined by 3.4 percentage points during the period 2008-2015 in Turkey (Figure 7). Nevertheless the declining trend in the liability side was much stronger and it brought the net debt figures to pre-crisis levels just in 2012 (26.6%). For the EU-26, assets increased by 3.9 percentage points in the same period, mostly due to increase in loans. However, the improvements in the asset side was not enough to compensate for the increase in liabilities, thus the net debt figure rose to 70.1% in 2015 from 48.4% in 2008.

Figure 7: General Government Assets by instrument type; Turkey vs EU 26 (% GDP)



Source: TR-MoF (2016), EU26- Eurostat (2016).

It should be noted that the gap is smaller between the EU-26 and Turkey when we compare the net debt figures instead of gross debt. Therefore, we need to underline that when the assets are taken into consideration the gap between the EU-26 and Turkey is considerably smaller than it is indicated by the gross figures.

We've summarized the developments regarding the gross and net debt of Turkey and European Union countries in the following tables. We observe that improvements on the assets and liabilities carried Turkey to the 7th place compared to the least indebted countries of EU-26 in terms of net debt (Table 5). A similar (even better) improvement can be seen regarding the nominal debt where Turkey ranks the 4th (Table 6).

Table 5: General Government Net Debt/GDP, EU Countries & Turkey

Rank	2008	2009	2010	2011	2012	2013	2014	2015
1	LU	LU	LU	LU	LU	LU	LU	LU
2	EE	EE	EE	EE	EE	EE	EE	EE
3	FI	FI	FI	FI	BG	BG	SE	SE
4	BG	BG	BG	BG	FI	SE	BG	DK
5	DK	DK	SE	SE	SE	FI	FI	BG
6	LV	SE	DK	DK	DK	DK	DK	FI
7	RO	RO	RO	CZ	CZ	LV	TR	TR
8	LT	LV	LT	RO	LV	CZ	CZ	CZ
9	SE	LT	SI	LV	TR	TR	LV	LV
10	SI	SI	CZ	TR	RO	RO	RO	RO
11	CZ	CZ	LV	SI	LT	LT	LT	LT
12	SK	SK	TR	LT	SI	SK	PL	SK
13	IE	TR	SK	SK	SK	SI	SK	PL
14	ES	ES	NL	NL	PL	PL	SI	DE
15	TR	IE	ES	PL	NL	NL	DE	SI
16	CY	NL	CY	CY	MT	DE	NL	NL
17	NL	PL	PL	ES	DE	MT	MT	MT
18	PL	CY	MT	MT	AT	AT	AT	AT
19	UK	UK	UK	DE	CY	UK	HU	EU 26
20	EU 26	AT	AT	AT	EU 26	EU 26	HU	HU
21	AT	MT	DE	UK	UK	HU	UK	UK
22	DE	EU 26	EU 26	EU 26	HU	CY	ES	IE
23	MT	DE	IE	HU	ES	ES	FR	ES
24	FR	HU	HU	FR	FR	FR	CY	FR
25	HU	FR	FR	IE	IE	IE	IE	CY
26	PT	PT	PT	BE	BE	BE	BE	BE
27	BE	BE	BE	PT	PT	PT	PT	PT
28	IT	IT	IT	IT	IT	IT	IT	IT

1: smallest, 28: largest

Source: EU Countries-Eurostat (2016), TR-own calculations using TT (2016a) and MoF (2016).

Table 6: General Government Debt/GDP, EU Countries & Turkey

Rank	2008	2009	2010	2011	2012	2013	2014	2015
1	EE	EE	EE	EE	EE	EE	EE	EE
2	BG	BG	BG	BG	BG	BG	LU	LU
3	RO	LU	LU	LU	LU	LU	BG	BG
4	LT	RO	RO	RO	TR	TR	TR	TR
5	LU	LT	LT	SE	SE	RO	RO	LV
6	LV	CZ	SE	LT	RO	LT	LT	RO
7	SI	SI	CZ	TR	LT	LV	LV	DK
8	SK	SK	SI	CZ	LV	SE	CZ	CZ
9	CZ	LV	SK	LV	CZ	DK	DK	LT
10	FI	DK	TR	SK	DK	CZ	SE	SE
11	DK	SE	DK	DK	SK	SK	PL	PL
12	SE	FI	FI	SI	FI	FI	SK	SK
13	ES	TR	LV	FI	SI	PL	FI	FI
14	TR	PL	PL	PL	PL	NL	MT	MT
15	IE	ES	CY	NL	NL	MT	NL	NL
16	CY	CY	NL	CY	MT	SI	DE	DE
17	PL	NL	ES	ES	HU	HU	HU	HU
18	UK	IE	MT	MT	CY	DE	SI	SI
19	NL	UK	UK	DE	DE	AT	AT	EU 26
20	EU 26	MT	EU 26	EU 26	AT	EU 26	EU 26	AT
21	MT	EU 26	HU	HU	EU 26	UK	UK	UK
22	DE	DE	DE	UK	UK	FR	FR	IE
23	FR	HU	FR	AT	ES	ES	ES	FR
24	AT	FR	AT	FR	FR	CY	BE	ES
25	HU	AT	IE	BE	BE	BE	IE	BE
26	PT	PT	PT	IE	IE	IE	CY	CY
27	BE	BE	BE	PT	IT	PT	PT	PT
28	IT	IT	IT	IT	PT	IT	IT	IT

1: smallest, 28: largest

Source: EU Countries-Eurostat (2016), TR-TT 2016a).

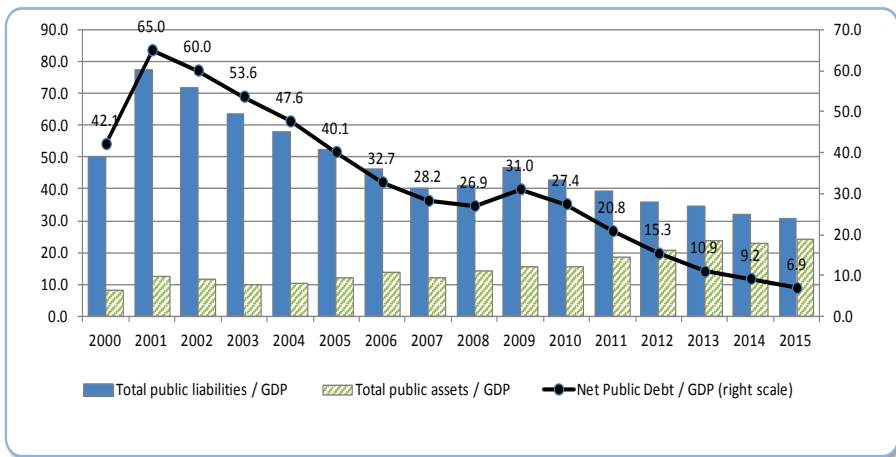
3.3. General Government Net Debt vs Public Net Debt of Turkey

The debut of the public net debt (PND) statistics in Turkey coincides with the post crisis era of the 2001. In order to reflect the effect of the assets held by public on the debt burden within the ALM framework, Turkish Treasury published the public net debt figures in 2003. It should be noted that these statistics were started to be compiled mainly from a risk management perspective in the beginning and using the limited data available at that time. However, over time international standards have been introduced and issues regarding the sector coverage, instrument coverage,

valuation, consolidation and netting procedures presentation format of the data etc. have become clear especially after the launch of the “PSDS Guide” by Task Force on Finance Statistics in 2013. Nevertheless, the format and the coverage of public net debt statistics could not be upgraded to these standards yet.

At that point, some of the important characteristics of the public net debt statistics in Turkey which are not in line with the international standards should be noted. First, “cash in circulation” is not included in total liabilities. Second, the zero coupon bonds are recorded by principal amount whereas the coupon bonds are recorded by face value. Third, there is no capital uplift for inflation indexed bonds. Moreover, each asset and liability should be netted out with the corresponding item rather than netting out total assets and liabilities. This approach, even though it doesn’t affect the total net debt figure, leads to misleading results for net values of its sub components. Based on these and on some other issues regarding the valuation and the instrument and the sector coverage, these statistics are not suitable for international comparison (Turan, 2013: 180). On the other hand, our general government net debt figures includes “cash in circulation”, uses face value for all debt instruments and reflects the effect of the capital uplift for inflation indexed bonds.

Figure 8: Public Net Debt of Turkey, (% GDP)

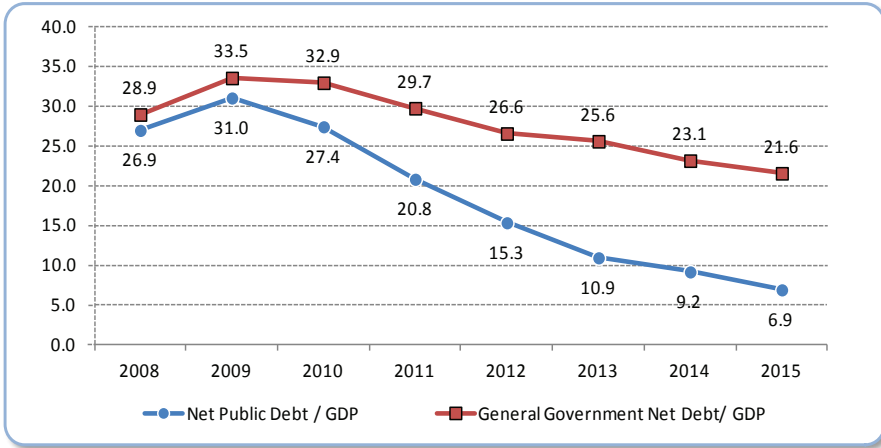


Source: TT (2016c).

In that regard, when we compare the public net debt stock and the general government net debt figures, we can see a 20 percentage points decline in the public net debt to GDP ratio from 26.9% in 2008 to 6.9% in 2015 (Figure 8).

However, as stated in the previous section, we calculate the general government net debt as 28.9% and 21.6% for 2008 and 2015 respectively. These findings indicate to only 7.4 percentage points decline in general government net debt, which is significantly less than public net debt figures (Figure 9).

Figure 9: Public Net Debt vs General Government Net Debt, (% GDP)



Source: PND-TT (2016c), GGND-own calculations using TT (2016a) and MoF (2016).

A closer look to the figures reveals that the main difference regarding the institutional coverage is the inclusion of the state owned enterprises (SOEs) and the central bank in the public net debt figures. However, the SOEs could be overlooked as their effect on the public net stock is almost null during the period 2008-2015. Thus, the main item causing the difference between the two statistics is the central bank net assets. Comparison of that item with the Central Bank analytical balance sheet indicates that some of the liabilities in the Central Bank balance sheet (mainly the TL and FX deposits of the banking sector) are not included in the public net debt figures leaving the debt to GDP ratio much lower than it should be. The instrument coverage and current representation format of the data, as published by the Turkish Treasury (Table 7), the central bank net assets in the public net debt figures are not in line with the international standards which require a gross representation of the assets and liabilities separately. Moreover, valuation method of the assets and the liabilities should be standardized.

Table 7: Net Public Debt of Turkey, (Billion TL, %GDP)

	Public Gross Domestic Debt	Public Gross Foreign Debt	Total Gross Public Debt (I)	CBT Net Assets (II)	Public Assets (III)	Unemployment Insurance Fund Net Assets (IV)	Net Public Sector Debt (I - II - III - IV)	Public Net Debt / GDP (%)
2008	295.8	112.5	408.3	60.4	41.5	38.4	268.0	26.9
2009	347.4	118.4	465.7	66.0	47.7	42.1	309.9	31.0
2010	368.9	128.2	497.1	86.2	47.2	45.9	317.8	27.4
2011	387.6	159.0	546.5	143.2	59.8	53.5	290.1	20.8
2012	408.4	154.5	562.9	189.5	71.6	61.2	240.6	15.3
2013	430.3	193.1	623.4	271.1	84.2	70.4	197.7	10.9
2014	443.4	206.8	650.2	304.4	77.4	81.4	187.1	9.2
2015	474.2	248.1	722.3	376.2	91.8	93.1	161.2	6.9

Source: TT (2016c).

In conclusion, different valuation methodologies (nominal valuation, valuation with market price, valuation with face value and valuation with issue price for different items of assets and liabilities) used for the public net debt statistics needs to be fixed. For that reason, in order to overcome these problems, we used face value for all liabilities and nominal value for all assets for GGND. Therefore, we believe that our calculation method for the GGND debt stands as a much better tool as it overcomes valuation and coverage issues in the public net debt statistics. In addition, GGND also enables for cross-national comparison.

3.4. General Government Net Debt vs Net Worth Comparison for Turkey

Net financial worth (NFW) is calculated by taking the difference between the financial assets and the financial liabilities. It worth noting that the financial assets do not cover non-financial assets such as real estate, equipment, machinery, vehicles etc. On the other hand, all financial assets and liabilities cover all types contractual and non-contractual items including currency and deposits, securities other than shares, loans, shares and other equity, insurance technical reserves, financial derivatives and other accounts receivables.

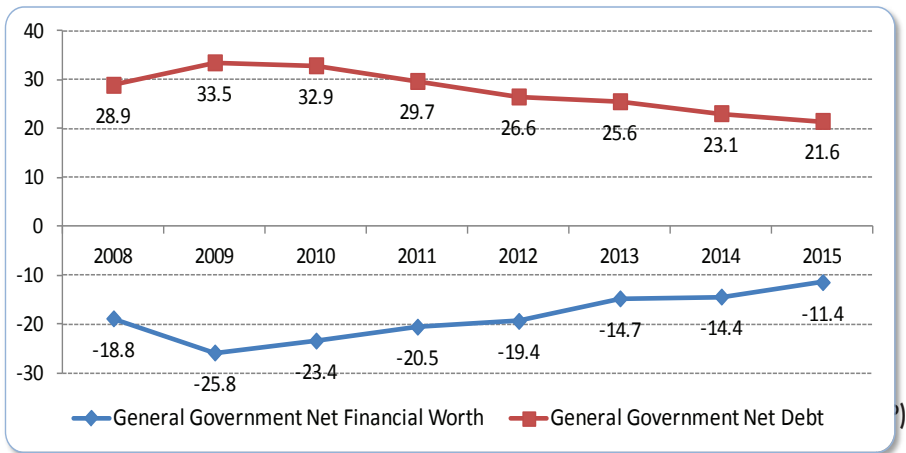
Table 8 presents the NFW of Turkey, which is derived from GFS data, during the period 2008-2015. Although the instrument coverage is wider for both assets and liabilities, results show the similar pattern with GGND. We can see the effects of the crises in 2008 and the results of the precaution policies afterwards as well.

Table 8: Net Financial Worth of Turkey, (% GDP)

	2008	2009	2010	2011	2012	2013	2014	2015
Total Financial Assets	25.0	27.9	27.4	25.2	23.5	20.1	19.1	19.9
Total Financial Liabilities	43.8	53.8	50.8	45.8	42.9	34.9	33.5	31.4
Net Financial Worth	-18.8	-25.8	-23.4	-20.5	-19.4	-14.7	-14.4	-11.4

Source: MoF (2016).

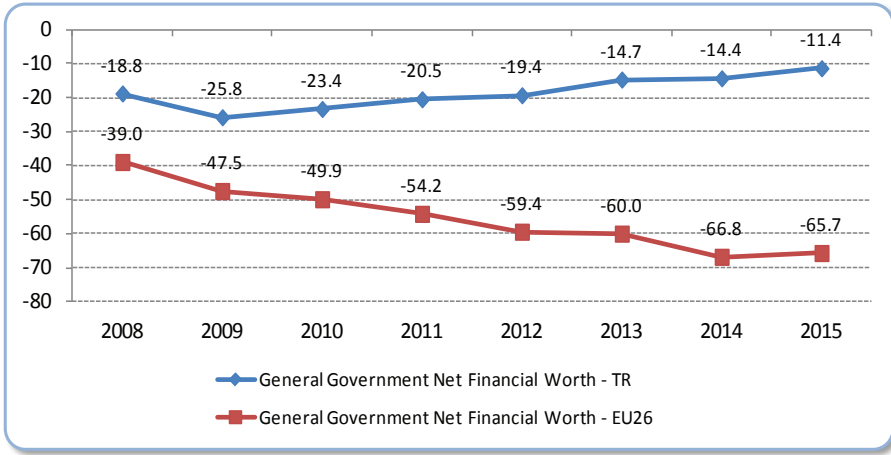
One important result is that the GGND continued to decline in the 2009-2015 period while the NFW continued to improve in the same period. This result indicates that the improvement in the GGND was achieved without depleting the financial assets (Figure 10). Therefore, we can conclude that the non-financial assets, mainly the privatization revenues of USD 30,5 billion during 2009-2015 (TT, 2016b), has made a significant contribution to the declining trend in GGND.

Figure 10: General Government Net Financial Worth

Source: GGNFW-MoF (2016), GGND-own calculations using TT (2016a) and MoF (2016).

When we compare the NFW figures of EU-26 and Turkey, we can observe that the gap has continued to widen after the financial crisis (Figure 11). In Turkey, yearly increases in the financial assets were higher than the increase in financial liabilities. However, for the EU-26, the situation was vice-versa. Therefore, accompanied with the relatively higher growth rates in Turkey, the ratio of NFW to GDP improved significantly in Turkey in comparison to EU-26.

Figure 11: Net Financial Worth: TR vs EU-26, (% GDP)



Source: GGNFW-MoF (2016), EU26-Eurostat (2016).

CONCLUSION

In this paper, we have calculated the general government net debt stock of Turkey by using harmonized set of assets and liabilities. To that end, we have selected currency and deposits, securities and loans from financial accounts to come up with a standardized net debt indicator. Therefore, we got the opportunity to analyze the effect of assets on gross debt figures and compare the developments with the EU countries. We believe that our GGND figures provide a better and more appropriate measure for Turkey in terms of net debt stock, as some of the bottlenecks posed by other indicators, especially the constraints of public net debt stock, are fixed in our calculations. In addition, our alternative calculation for the GGND, by using only the liquid assets could provide some additional insight about the repayment capacity and the risk profile of the country.

Our results indicate that Turkey's indebtedness has improved significantly in the last decade in comparison to EU countries thanks to fiscal discipline, reforms in debt management and high privatization revenues accompanied by high growth rates. In terms of net debt, Turkey became the 7th least indebted country in 2015 compared to its 15th ranking in 2008 among other EU countries. However, the gap between the EU and Turkey is smaller than it is implied by the gross debt figures. Moreover, the net debt stock is quite higher than the level that is implied by the public net debt stock. At that point, we believe that it would be useful either

to apply the international standards to the public net debt statistics or replace the indicator with general government net debt indicator. The latter might not be the best option but would serve as a much better tool for analyzing the debt burden within the scope of the general government.

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