

# Chapter 6

## Fiscal risks with a focus on public debt sustainability and contingent liabilities

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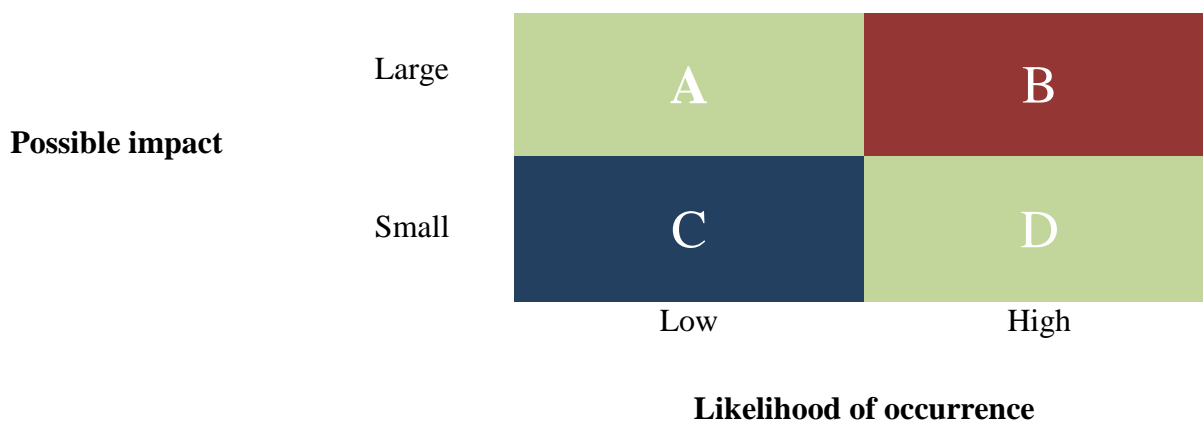
### 6.1 Introduction

Risk relates to the possibility that an outcome is different from what is originally expected. An upside risk exists when the outcome could be higher than anticipated, while a downside risk captures the possibility of a lower-than-expected realisation. Applied to public finances, downside risks to revenues entail the possibility that revenues are lower than expected, while upside risks to expenditures indicate that expenditures may exceed the forecasts. These two forms of risk are highly relevant for the assessment of public finances, as they would worsen the fiscal balance, should they materialise. These risks are also very relevant within the context of assessing the fiscal sustainability of a country. Risks may either be ‘short term’ in the sense that they relate to the near future, or ‘medium term’, associated with a horizon within the next 5 to 10 years, or ‘long term’, which views the outlook beyond 10 years.

Apart from the direction of potential impact, risks are also evaluated in terms of their probability of occurrence. Some risks may be highly likely, that is with high probability of occurrence, while others remote, that is, the probability of materialisation is very low (see Diagram 6.1).

The importance attached to each risk varies, depending on the magnitude of the eventual impact and the likelihood that it occurs. A particular risk with high probability of occurrence and large impact [cell B], deserves much closer surveillance, than a risk which is remote, and whose possible outcome is anticipated to be small [cell C]. In other intermediate situations, the low likelihood of occurrence dampens somewhat the concern from the large possible impact [cell A], whereas a high probability could be compensated for by a low eventual outcome [cell D].

**Diagram 6.1: Risk matrix**



Source: MFAC

## 6.2 Sources of fiscal risks

Fiscal projections present a baseline, that is, the most likely outcome which is being anticipated. The robustness of the forecasting exercise depends crucially on the underlying assumptions used, and on the expectation of stable economic relationships over time. To increase transparency, and help evaluate the robustness of such projections, fiscal projections are normally supplemented with a risk assessment. The main purpose of such a risk assessment is to point out specific risks, and indicate how such risks can change the baseline forecasts, should they materialise. One popular way how such risks could be presented is through the use of a fan chart. This type of chart shows the range of possible values over time and the associated probability estimates attached to such ranges under different scenarios. For example, the fan chart included in the DBP for 2017 indicated that on the basis of the macroeconomic risks considered by the MFIN, the balance of risk associated to the fiscal balance forecasts under a number of alternative scenarios was tilted slightly to the downside, with the most favourable scenario projecting a deficit of 0.3% of GDP in 2017 whereas the worst scenario envisaged a deficit of 1.2% of GDP (see Chart 6.1).<sup>42</sup>

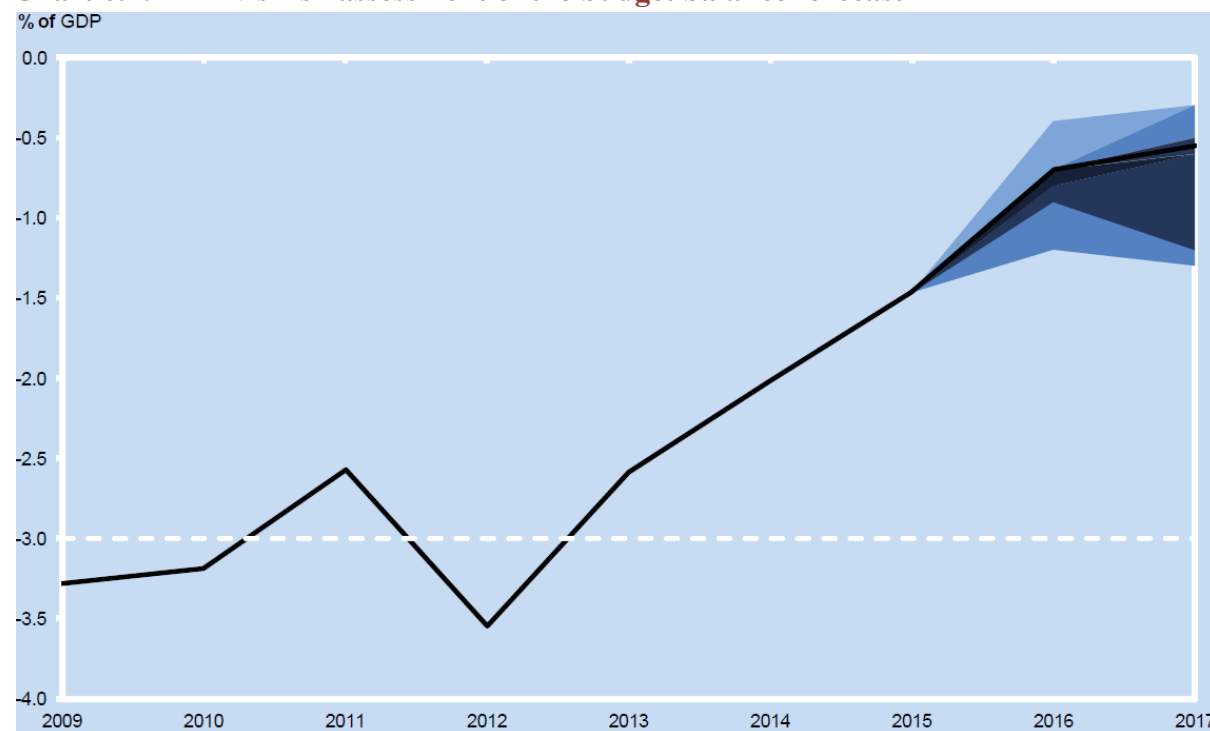
Another way by which fiscal risks can be measured is through the coefficient of variation of the total revenue to GDP ratio, which is an indicator of the relative volatility of revenue and of the associated fiscal risks.<sup>43</sup> A recent discussion paper by the COM's staff indicated that whereas in 2014 receipts from sources other than taxes accounted for slightly more than one-tenth of total government revenue in the EU, the fiscal risk emanating from the volatility of

<sup>42</sup> In the DBP and the USP, the MFIN includes only the risk assessment dealing with macroeconomic shocks.

<sup>43</sup> The coefficient of variation is a measure of spread that describes the amount of variability relative to the mean. Since the coefficient of variation is unitless, it can be used instead of the standard deviation to compare the spread of data sets that have different units or different means.

non-tax revenue is estimated to be three times higher than that from the volatility of tax revenue.<sup>44</sup>

**Chart 6.1: MFIN’s risk assessment of the budget balance forecast**



Source: MFIN

This pattern however does not appear to apply to Malta. In fact, according to this discussion paper, an analysis of the contribution of the volatility (variance) of non-tax revenue to total revenue in proportion to the share of non-tax revenue to total revenue shows that the volatility in non-tax revenue in Malta is proportionately one of the lowest in the EU. On the other hand, the COM’s paper also showed that the coefficient of variation for tax revenue for Malta between 1995 and 2014 was 9.0% or twice the EU average of 4.5%.<sup>45</sup> In the case of non-tax revenue it was 14.9%, which was comparable to the EU average of 13.6%. Whereas in about one half of the EU members, the direction of change in tax and non-tax revenues tended to be similar (positive covariance), in the other half of EU members, including Malta, the change in tax and non-tax revenue tended to move in opposite directions (negative covariance). This negative covariance between non-tax revenue and tax revenue for Malta reduced the relative volatility of total revenue to 6.1%, which however was still higher than the EU average of 4.3%.

<sup>44</sup> Source: Mourre et al (2017) ‘Non-tax revenue in the European Union: A source of fiscal risk?’, European Economy Discussion Paper 44.

<sup>45</sup> The standard deviation provides a measure of the absolute level of volatility in revenue. The coefficient of variation is computed by dividing the standard deviation with the average value. This provides a more useful measure than the absolute volatility as it corrects for differences in the mean of the two series.

Other approaches are also discussed in the literature regarding fiscal risks. These include:

- (a) **Early Warning Indicators** which are based on leading indicators thought to be linked to fiscal vulnerabilities and which in turn are converted into an index, using the past forecast accuracy as weights. The resulting index is then compared against a threshold.
- (b) **Vector Auto Regressions (VARs)** which are used to describe the dynamic evolution of a number of variables based on their history in order to identify unsustainable patterns.
- (c) **Value at Risk (VaR)** which attempts to measure the maximum potential loss that the government could suffer at a given confidence level.
- (d) **Contingent Claims Analysis (CCA)** which provides an estimate of the market value of government's implicit and explicit support to the private sector.<sup>46</sup>

Moreover, the IMF identifies eight different sources of possible fiscal risks (see Table 6.1). These vary according to the initial source, but also in terms of the frequency of occurrence and the magnitude of the implications for public finances. International experience shows that macroeconomic shocks tend to be the most frequent, tend to be highly correlated, and may occur as a chain reaction rather than in isolation.

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<sup>46</sup> These are outlined in Discussion Paper Number 2 by the Office for Budget Responsibility titled 'What should our Fiscal risks report cover?', published in October 2016.

**Table 6.1: Possible sources of adverse fiscal risks**

Source	Explanation
Macroeconomic shocks	When economic conditions are worse than expected resulting in lower tax bases and hence tax revenues, and/or, higher expenditure commitments such as unemployment benefits.
State-owned enterprises	When the negative financial performance of companies with government shareholding requires additional state support to continue operations.
Public private partnerships	When the joint activity does not work out as originally planned resulting in the need for higher government involvement in terms of financing.
Sub-national governments	When expenditure undertaken by local councils is higher than budgeted for by the central government.
Legal cases	When the Government loses a court case resulting in the request for compensation to the other party.
Natural disasters	When additional Government services need to be deployed to offer relief from natural disasters.
Financial sector	When problems in the financial sector necessitate state intervention to safeguard financial stability.
Private non-financial companies	When private sector companies face problems, this may give rise to some form of Government assistance, for example to protect jobs.

Source: Based on IMF (2016) *Analysing and Managing Fiscal Risks – Best Practices*

### 6.3 Public Debt Sustainability

High debt levels and population ageing can pose threats to the sustainability of public finances, particularly in the medium to longer term. Indeed, the assessment of Member States' debt developments is a key component of fiscal surveillance under the SGP. To this effect, twice a year the COM prepares an internal Debt Sustainability Monitor (DSM) report which includes for each Member State, a detailed public Debt Sustainability Analysis (DSA), as well as the analysis of fiscal sustainability indicators.

The DSM framework offers an insight into the fiscal sustainability challenges in the short, medium and long run. It includes measures of the so-called S0, S1 and S2. The S0 is a composite indicator aimed at evaluating the extent to which there might be a fiscal stress risk

in the short term, based on a set of 25 fiscal, financial and competitiveness variables. The S1 is the medium term sustainability indicator which shows what additional adjustment is required, in terms of improvement in the government primary balance in structural terms over the next 5 years, in order to reach the 60% debt-to-GDP ratio within 15 years. The S2 is the long term sustainability indicator which shows the adjustment in the current primary balance in structural terms that is required in order to stabilise the debt-to-GDP over the infinite horizon.<sup>47</sup>

The DSA framework includes 5 objective criteria to determine the degree of vulnerability of countries in terms of their risks to public debt sustainability (see Box 6.1). If a country is found to be vulnerable on the basis of these criteria, apart from the standard DSA, an enhanced DSA is carried out by the COM, where additional discussions are held regarding the assumptions used for the projections and the actual risks, and the analysis is supplemented with additional sensitivity tests around the baseline public debt projections.

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### **Box 6.1: Debt Sustainability Analysis**

If one or more of the following criteria are met, countries are subjected to an enhanced DSA.

1. the country has a value of the composite indicator of short-term fiscal stress risk, S0, above the critical threshold, and/or a value of the S0 fiscal sub-index above threshold;
2. the country's current and/or forecasted gross public debt is at, or higher than, 90% of GDP;
3. the country's current and/or forecasted change in gross public debt over GDP is at, or higher than, 5 pp;
4. the country's gross financing needs are at, or higher than, 15% of GDP; or
5. the country is under a macroeconomic adjustment programme, under post-programme surveillance or enhanced surveillance as from the Two-Pack regulation.

**Source: Reproduced from**

[https://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2014/pdf/ocp200\\_en.pdf](https://ec.europa.eu/economy_finance/publications/occasional_paper/2014/pdf/ocp200_en.pdf)

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In the event that none of the criteria used to identify a vulnerable country are met, only a standard DSA would be carried out. The standard DSA relies on several tools including: deterministic and stochastic public debt projections; sensitivity analysis of key variables around baseline public debt projections; the analysis of risks relating to the financing of public debt and government contingent liabilities; financial market information; and forecast accuracy analysis.

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<sup>47</sup> The Debt Sustainability Monitor 2016 may be accessed [https://ec.europa.eu/info/publications/debt-sustainability-monitor-2016\\_en](https://ec.europa.eu/info/publications/debt-sustainability-monitor-2016_en).

The fiscal sustainability analysis is based on the S0, S1 and S2 indicators. Respectively, these capture whether countries will be facing fiscal sustainability challenges in the short-term, medium-term and long-term. In the case of the medium-term, the assessment of sustainability challenges relies on the use of both the DSA and the S1 indicator. The use of both indicators allows a comprehensive analysis of sustainability challenges, by considering fiscal risks related both to population ageing and to other risk factors affecting future debt developments.

Based on the COM’s latest DSM 2016, S0 results show that Malta would be at no risk in the short-term (see Table 6.2). When looking at the medium term horizon Malta is also deemed to be at low risk of facing sustainability challenges based on both the DSA and the S1 indicator. On the other hand, in the longer term, Malta is considered by the DSM framework to face medium risk in terms of sustainability challenges based on the S2 indicator, the main factor being the challenges associated with age-related costs, namely pensions, health care and long term care. According to the DSM, in the event that ageing costs are less favourable than projected over the longer term horizon, Malta would be facing high rather than medium risk.

**Table 6.2: Malta’s risk outlook over the short, medium and long term**

Overall short-term risk category (S0)	Overall medium-term risk category (S1/DSA)	Overall long-term risk category (S2)
LOW	LOW	MEDIUM

Source: Reproduced from [https://ec.europa.eu/info/publications/debt-sustainability-monitor-2016\\_en](https://ec.europa.eu/info/publications/debt-sustainability-monitor-2016_en)

The IMF also carried out a Public DSA of Malta which considered a number of adverse scenarios including low growth, higher borrowing costs, a deterioration in the primary balance, and a materialization of contingent liabilities.<sup>48</sup> On the basis of this analysis, the IMF concluded that “the debt dynamics are robust to most shocks, though under a contingent liability shock that is combined with a low growth scenario, the public debt ratio would increase considerably and remain elevated throughout the projected horizon. The moderate gross financing needs and the low share of debt held by non-residents limit potential liabilities.”

## 6.4 Contingent liabilities

Another potential key driver of fiscal risks is the existence and the eventual possible realisation of contingent liabilities. These are ‘obligations that do not arise unless a particular, discrete event(s) occurs in the future’.<sup>49</sup> Contingent liabilities can be ‘explicit’ in the sense of being obligations which are defined by law or contract, depending on the realisation of an identifiable event. However, they may also be of an ‘implicit’ nature. In this case, although

<sup>48</sup> Malta Staff Report for Article IV Consultation, February 2017 available on <https://www.imf.org/~media/Files/Publications/CR/2017/cr1756.ashx>.

<sup>49</sup> Source: IMF (2011) Public Sector Debt Statistics Guide for Compilers and Users.

there is no legal obligation for the government to act in cases of risk materialisation, the government is nonetheless expected to do so by the public, thus creating a sort of moral obligation. Examples of implicit guarantees include future obligations for pensions or the clean-up of liabilities of entities to be privatised, or employment support for companies in distress.

Another mode of assessing fiscal risks used by the COM in its DSA framework is by evaluating contingent liability risks arising from the banking sector. Such risks are captured indirectly through a methodology using heat maps of variables that measure banking sector vulnerabilities as well as through model estimates of the theoretical probability of significant bank losses that could impact on public finances in a simulated bank crisis.<sup>50</sup> The main vulnerability in this regard is associated to a possible high level of non-performing loans (NPL), particularly of significantly important banks, and a possible insufficient level of NPL-provisions coverage ratio. In general, the strengthening of the regulatory framework following the international financial crisis has contributed to mitigate the fiscal risks linked to the banking sector.

Council Directive 2011/85/EU on requirements for budgetary frameworks of Member States requires countries to publish relevant information on contingent liabilities with potentially large impacts on public budgets, including government guarantees (one-off or standardised), non-performing loans, and liabilities arising from the operation of public corporations.

In Malta, the bulk of explicit contingent liabilities are in the form of Government guarantees of a one-off nature.<sup>51</sup> Government guarantees are defined by Eurostat as ‘arrangements whereby the guarantor undertakes to a lender that if a borrower defaults, the guarantor will make good the loss the lender would otherwise suffer’. In turn, guarantees are considered as one-off when they are ‘individual and guarantors are not able to make a reliable estimate of the risk of calls, while being linked to debt instruments (such as loans and bonds)’.<sup>52</sup>

Total Government guarantees increased from 7.2% of GDP in 2005 to 11.8% in 2010, surging to around 16.0% in 2012 and remaining rather stable at this level up to 2015 (see Chart 6.2). However, according to the MFIN’s projections in the USP 2016-2019, the ratio is envisaged to decline to 11.9% of GDP in 2017 and to stabilise around 11.8% of GDP by 2019. This projected sharp drop in the ratio by 2019 reflects the fact that one large guarantee, related to the energy sector, was of a temporary nature.

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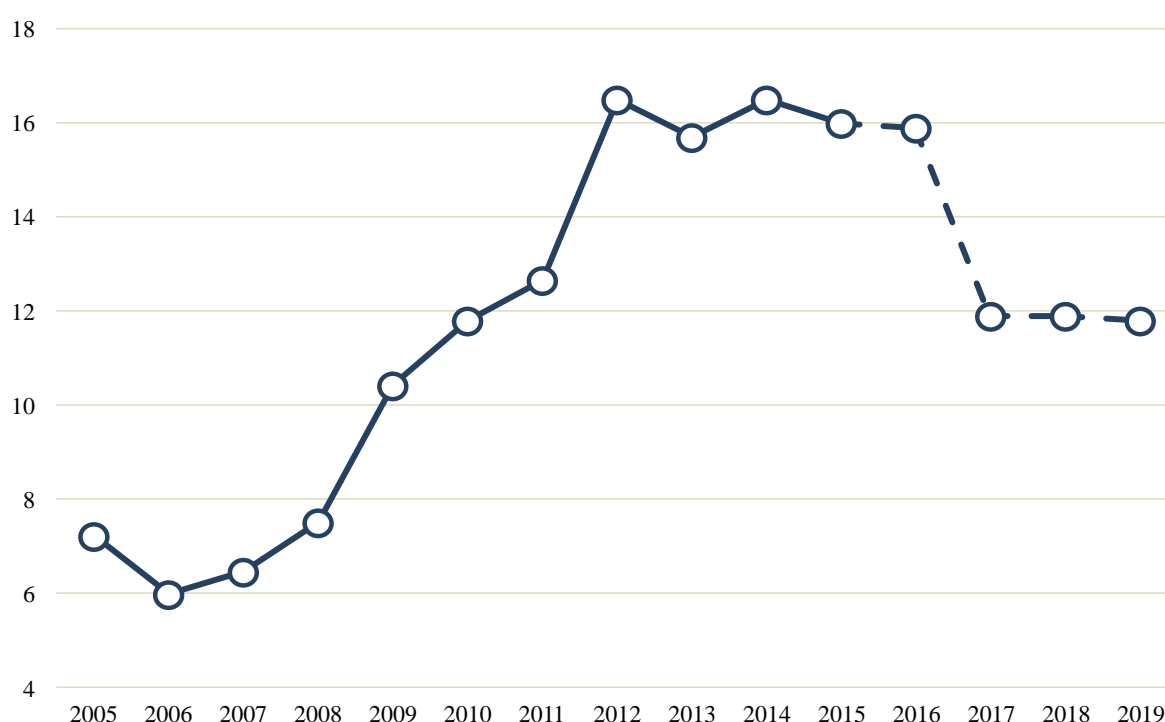
<sup>50</sup> The COM derives such simulation results using SYMBOL (SYstemic Model of Banking Originated Losses). A short explanation of the SYMBOL model is provided in Annex 4 of: [http://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2014/pdf/ocp200\\_en.pdf](http://ec.europa.eu/economy_finance/publications/occasional_paper/2014/pdf/ocp200_en.pdf).

<sup>51</sup> In many other EU countries there is also the practice of awarding standardised guarantees which are guarantees that are issued in large numbers, usually for fairly small amounts, along identical lines. To date no such guarantees have been awarded in Malta.

<sup>52</sup> Source: [http://ec.europa.eu/eurostat/cache/metadata/en/gov\\_cl\\_esms.htm](http://ec.europa.eu/eurostat/cache/metadata/en/gov_cl_esms.htm).



**Chart 6.2: Total Government guarantees (% of GDP)**



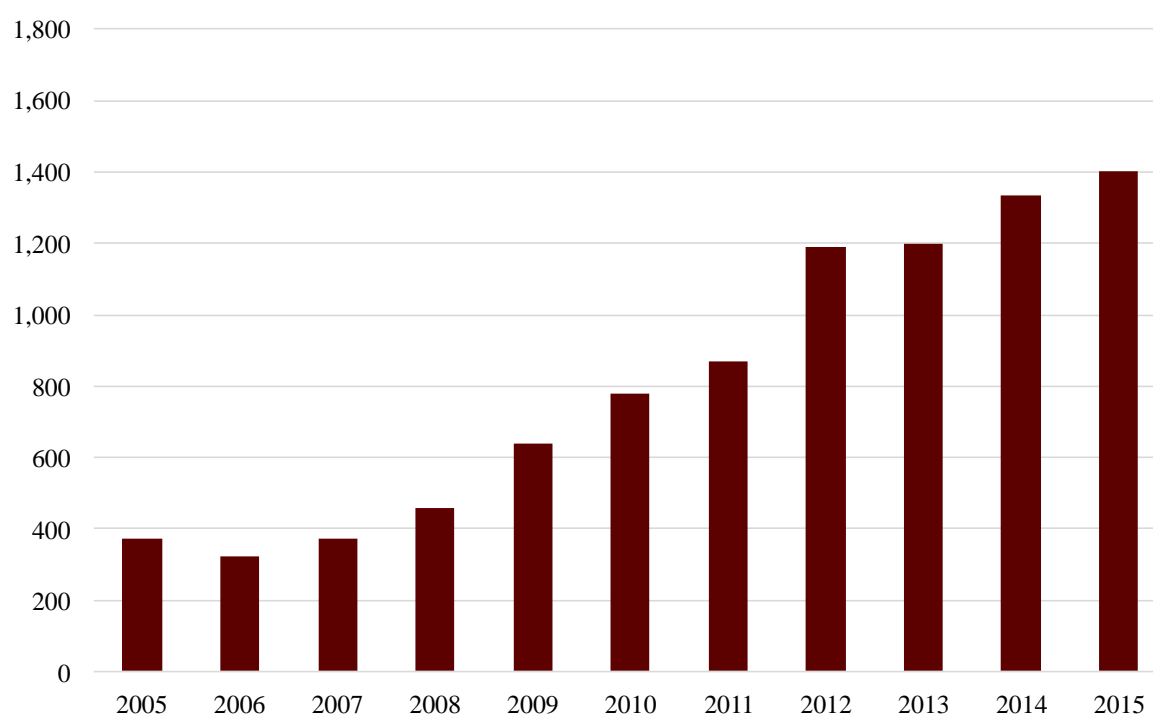
Source: Eurostat, MFIN

In absolute terms, the total volume of outstanding guarantees increased from €371.6 million in 2005 to slightly more than €1.4 billion in 2015 (see Chart 6.3). Of the latter, €812.2 million (56%) were granted to cover financing facilities by local financial institutions whereas €644.5 million (44%) were in respect of facilities by foreign institutions.

These contingent liabilities were spread over 31 letters of guarantee which were awarded in favour of 14 entities. The bulk of these guarantees were concentrated within a limited number of beneficiaries. Indeed, 8 entities accounted for 97.7% of the aggregate outstanding amount as at end 2015 (see Table 6.3). The energy sector absorbed almost two thirds of such guarantees. Other sizable guarantees related to the transport sector, water services, the industrial sector and education. In addition to these letters of guarantees, at the end of 2015 the Government had also 5 letters of comfort in favour of 4 entities for an outstanding value of €25.3 million.

The Government received revenue fees amounting to €11.8 million during 2015 in respect of these guarantees and letters of comfort, equivalent to a premium of 0.8%. It is important that the premium charged for the provision of such guarantees reflects adequately the risks that the Government is exposing itself to.

**Chart 6.3: Government guarantees in absolute terms (EUR million)**



Source: Eurostat

**Table 6.3: Largest Government guarantees as at 31 December 2015**

Beneficiaries	EUR million	%
ElectroGas Ltd	320.5	21.6
Vault Finance Ltd	290.5	19.6
EneMalta p.l.c	280.8	18.9
Malta Freeport Corporation	200.8	13.5
Malta Industrial Parks Ltd	113.4	7.7
Petrolmal Co. Ltd.	85.0	5.7
Water Services Corporation	83.4	5.6
Foundation for Tomorrow's Schools	76.2	5.1

Source: Report by the Auditor General Public Accounts 2015, National Audit Office (NAO).

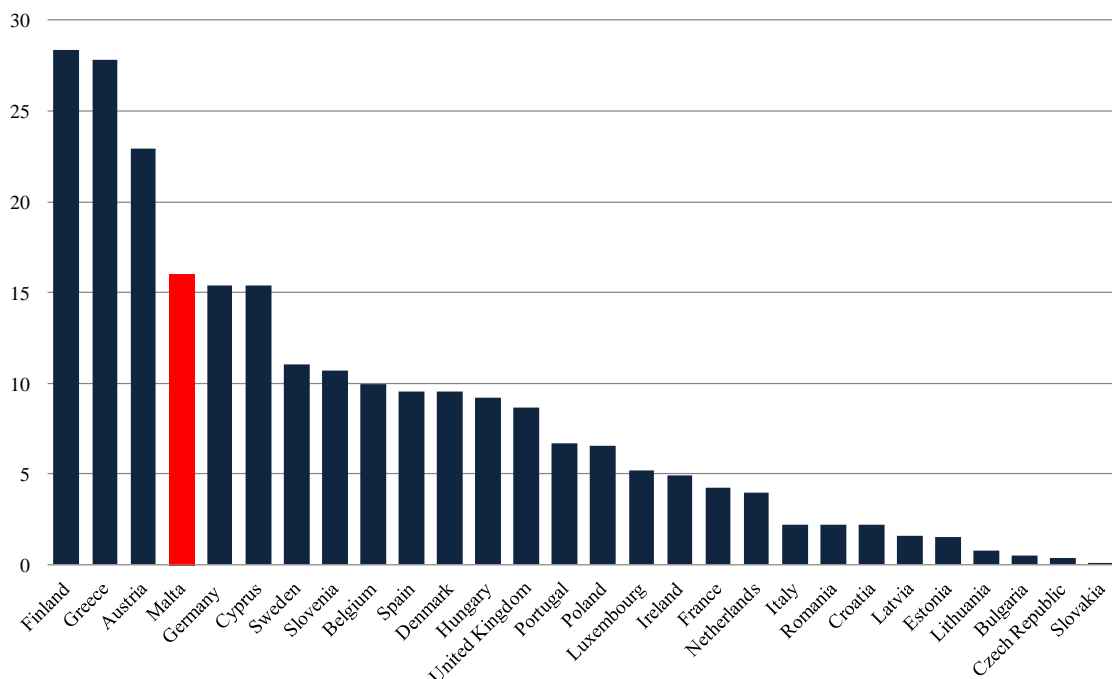
The purposes for awarding such guarantees and letters of comfort can be different. However, they are all intended as security to cover banking facilities, thereby facilitating the operations of the beneficiaries on the premise that such support is considered beneficial for the country. These include offering safeguards to private investors, facilitating borrowing procedures by

the private investors, re-organisation of accumulated debt and assisting with derivative transactions. Such assistance must also be compatible with existing European regulations, particularly in the area of State Aid.<sup>53</sup>

Apart from the above-mentioned one-off guarantees, other contingent liabilities are linked to the liabilities of government-controlled entities which are classified outside general government. Although such entities are classified as part of the private sector, their links with Government suggest that there could be the possibility that some form of state assistance might be made available in case of need. As at end-2015 the liabilities of government-controlled entities amounted to almost €2.0 billion. On the other hand, contingent liabilities related to Public-Private Partnerships (PPPs) are limited in Malta, and stood at €6.5 million as at 2015.

Contingent liabilities may represent an additional risk to Malta’s public finances, as frequently remarked by the COM, IMF and credit rating agencies, particularly owing to the heavy concentration of such exposure and the rather high level of outstanding amounts. Indeed, as at end 2015, Malta ranked the fourth highest within the EU in terms of the outstanding guarantees-to-GDP ratio (see Chart 6.4).<sup>54</sup>

**Chart 6.4: Government guarantees by EU Member States as at end 2015 (% of GDP)**



Source: Eurostat

<sup>53</sup> For further details on State Aid refer to [http://ec.europa.eu/competition/state\\_aid/overview/index\\_en.html](http://ec.europa.eu/competition/state_aid/overview/index_en.html).

<sup>54</sup> Figures may not be strictly comparable as countries may have different collection methods and different coverage.

**“Contingent liability realizations are correlated among each other and tend to occur during periods of growth reversals and crises, accentuating pressure on the budget during already difficult times. Countries with stronger institutions are able to better control and address the underlying risks so that they are less exposed to contingent liability realizations.”**

Bova et al (2016), *The Fiscal Costs of Contingent Liabilities: A New Dataset*, IMF Working Paper 16/14.

## 6.5 Conclusion

In the aftermath of the international sovereign debt crisis, there has been a broad-based strengthening in the governance system regarding the EU fiscal framework alongside an accentuation of focus on more thorough risk management mechanisms to safeguard fiscal sustainability.

Government guarantees in Malta are relatively high when compared to other EU countries. An important factor with regard to government guarantees is that they are usually of limited or low concern during expansionary periods but may become problematic in the eventuality of an economic downturn. Contingent liabilities, whether explicit or implicit, can occasionally materialise. Indeed, as documented by the IMF, there were at least three significant instances where contingent liabilities of a significant nature materialised in Malta.<sup>55</sup>

It is thus important to maintain the levels of risks linked to contingent liabilities within pre-defined prudential limits. It is also important that when the Government is offering some form of insurance, the associated risks of moral hazard are adequately addressed.<sup>56</sup> It will therefore be desirable to introduce legislation providing for an appropriate framework governing the monitoring of risks and controls on the issuance of Government guarantees. Legislative proposals towards this end are at an advanced stage which should contribute significantly to the introduction of a more robust fiscal governance mechanism. Better controls and risk management of outstanding government guarantees, coupled with a declining public debt-to-GDP ratio, would be highly instrumental in enhancing Malta’s medium and long term fiscal sustainability, thereby also offering the opportunity for the country’s credit rating to improve further.

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<sup>55</sup> For further details about the estimated effects refer to Bova et al (2016) ‘The Fiscal Costs of Contingent Liabilities: A New Dataset’, IMF Working Paper WP/16/14.

<sup>56</sup> Moral hazard relates to the lack of incentive to guard against risk when an organisation is protected from its consequences.