General Government Debt: Key Issues to Consider
PBO Note 26 of 2018

Introduction
This Note discusses key issues regarding General Government Debt in the context of EU fiscal rules and the sustainability of public finances. This includes the discussion of interest payments, the maturity profile of existing debt and economic risk scenarios. General Government Debt means the debt liabilities (debt securities, loans, currency, etc.) of central government, local government, and government funds (e.g. social security funds), excluding debt owed by one sector of government to another.¹

EU Rules for General Government Debt
General Government Debt, which includes National debt, is central to fiscal sustainability in the Treaty on the Functioning of the European Union. This treaty sets out two main rules for the management of public finances:
• Government deficit not larger than 3% of Gross Domestic Product (GDP); and,
• Government debt not greater than 60% of GDP.

In reaction to the economic and fiscal crisis of the past decade, the EU strengthened these requirements of the treaty under the Stability and Growth Pact. A key requirement that concerns government debt is that:
• If government debt is above the 60% threshold, it must be decreased by 1/20th of the excess each year.

Ireland’s debt-to-GDP ratio was 68.4% at end-2017.² As a result, 2019 will be the first year that the debt correction rule applies to Ireland in full. The European Commission has stated that “compliance with the transitional debt rule in 2018 and with the debt reduction benchmark in 2019 is ensured” by Budget 2019.³

However, the underlying changes in the General Government Debt highlight the problem with measuring debt as a proportion of GDP. Between 2017 and 2023 General Government Debt is expected to increase by €8.1 billion or 4%. The reduction in the ratio is a function of GDP growth.

Key Messages
• Ireland’s Gross General Government debt was €201 billion in 2017, and is expected to reach €209.4 billion by 2023.
• Ireland’s debt-to-GDP ratio in 2017 was 68.4%.
• The debt-to-GNI* ratio for 2017 is 111%. This suggests Ireland’s public sector is heavily indebted.
• The Department of Finance projects that Ireland will fall under the 60% threshold for debt-to-GDP by 2020. However, the debt-to-GNI* ratio is forecast to be 93.1%.
• Interest payments in 2017 were €5.8 billion. This was 10.3% of that year’s tax revenue.
• The NTMA has followed a strategy of ‘locking-in’ low interest, long-term fixed rate bonds to create a favourable debt maturity profile.
• Based on this maturity profile, interest rate changes will have a minimal effect on the cost of servicing the national debt in the short to medium term.
• The large stock of national debt remains a macro-economic/fiscal risk, and could seriously endanger the sustainability of public finances in the event of an economic shock.

GNI* - GNI modified to extract the retained earnings of re-domiciled firms and depreciation on foreign-owned capital assets - is a better indicator of the domestic economy. Debt-to-GNI* captures the burden of public debt relative to the size of the economy more accurately than the standard debt-to-GDP measure. The debt-to-GNI* ratio for 2017 is 111% and is projected to be 93.1% in 2020, when Ireland falls below the 60% threshold for debt-to-GDP.

Development of General Government Debt
During the period between 2000 and the beginning of the economic and fiscal crisis in 2007, the absolute value of General Government Debt grew by 20%. It was €39 billion in 2000, and €47 billion in 2007. However, economic growth during this period led to the debt-to-GDP ratio dropping from 36.1% in 2000 to 23.9% in 2007 (reaching its lowest point in 2006 at 23.6%). Following the economic crisis, debt spiked to a peak

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1 Government Finance Statistics Background Notes, CSO.
2 Eurostat, General government gross debt – annual data.
4 Foreign-owned companies that change their country of residence to Ireland, normally for tax purposes.
of €215 billion in 2013. The majority of this growth was a result of the fiscal deficit, i.e. the accumulated deficit during the crisis.\(^5\) Between 2008 and 2016, the cumulative deficit was €151 billion (83% of 2017’s GNI*). Figure 1 charts the ratio of Gross Government Debt to GDP and GNI*.

Figure 1: Nominal General Government Debt (€billions) and Debt Ratios, 2000-2018 (forecast).

While the Department of Finance forecasts that the debt-to-GDP ratio is projected to be 56.5% in 2020, the debt-to-GNI* ratio at the same time is estimated to be 93.1%\(^6\). This has implications when interpreting Ireland’s current fiscal position. The debt-to-GDP ratio depicts Ireland’s debt burden as modest in an EU context (see Figure 2). However, debt-to-GNI* places Ireland as the 4th most indebted country in the EU.

Figure 2: Debt-to-GDP and GNI*, 2017, Ireland and EU27.

Alternative Measures of the Debt Burden

Considering the difficulty inherent in using headline economic output indicators as a measure for Ireland’s economy, a number of other measures of the burden of government debt could be used. As Figure 3 shows, between 2007 and 2013 the Gross General Government Debt per member of the labour force increased from €20,363 to €95,578. At the same time, average earnings did not change significantly.

Figure 3: Debt per member of the labour force.

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Another useful measure is the burden of interest payments. Between 2008 and 2014, interest payments rose from €1.5 billion to €7.4 billion. As a proportion of tax revenues (see Figure 4), interest payments reached a peak of 17% of tax revenue in 2013. In 2017, interest payments, at €5.8 billion, were equal to 10.3% of tax revenue.

Figure 4: Interest payments as a proportion of tax revenue, 2000-2023.

Government revenue that is required to meet interest payments cannot be used to fund public services – in this way the level of government debt indirectly reduces the funding available for public services each year.

Source: CSO. 2018 Forecast based on Budget 2019 Economic and Fiscal Outlook.

Source: PBO based on CSO and Budget 2019 Economic and Fiscal Outlook.

Source: PBO’s own calculations based on DPER Databank for 2000-2016 and forecast to 2023 based on Budget 2019 Economic and Fiscal Outlook.

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\(^6\) Budget 2019 Economic and Fiscal Outlook, p. 29.
Debt Maturity Profile and Interest Costs

The “Maturity Profile” (see Figure 5) of Ireland’s debt sets out the years in which certain volumes of debt are due to be repaid. Usually, new debt is issued to fund the repayment of existing debt. Between 2019 and 2020, some €34 billion of debt is expected to reach maturity. The majority (€30.5 billion) of this maturing debt is held in fixed rate bonds – where the interest rate payable is fixed from the issuance of the debt.

The fixed rate bonds set to mature over 2019 and 2020 were issued between 2004 and 2010. After this period, interest rates dropped dramatically, mainly due to the monetary policy of the European Central Bank. Therefore, it is likely that bonds issued between 2019 and 2021 will have a lower rate of interest than the debt they will replace.

Table 1: General Government Debt and Interest.

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGD (€bn)</td>
<td>205.9</td>
<td>209.6</td>
<td>203.3</td>
</tr>
<tr>
<td>Interest Payments (€bn)</td>
<td>5.3</td>
<td>5.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Average Interest Rate (%)</td>
<td>2.4</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>As % of Tax Revenue</td>
<td>9.2</td>
<td>8.4</td>
<td>6.9</td>
</tr>
<tr>
<td>As % of GDP</td>
<td>1.6</td>
<td>1.4</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: Budget 2019 Economic and Fiscal Outlook, Tables 15, A4 and A5.

The other way that changes to interest rates would affect expenditure is by increasing interest payable on Variable Rate Bonds. However, Ireland currently has only three of this type of bond, at a combined value of €12 billion.

Figure 5: Maturity Profile of Ireland’s Long-Term Marketable and Official Debt

Table 1 shows that over the period from 2019 to 2021, the burden of interest payments on Government Debt is forecast to decrease. During this period interest payments on debt is projected to decrease by €0.9 billion. As existing debt is replaced with debt at a lower rate of interest, the average interest rate on Ireland’s debt is expected to fall from 2.4% in 2019 to 2.2% in 2021. After then, interest payments are expected to increase slightly as monetary policy tightens.

The interest rate of these bonds is indexed to the average interest rate European banks charge to each other in bank-to-bank loans (the EURIBOR rate). As a result of the small amount held in this type of debt, interest rate changes would have a limited impact in the short term.

The NTMA is also working to cancel these Variable Rate Bonds, financed by debt issued at a fixed rate. Since 2014, €13 billion (of €25 billion) of floating rate debt has been bought from the Central Bank and cancelled by the NTMA.\(^8\)

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\(^7\) The Maturity Profile is available on the [NTMA website](https://www.ntma.ie).

\(^8\) NTMA cancels €500 million of the Irish Floating Rate Treasury Bond 2047, 24 October 2018, NTMA.
Fiscal and Macroeconomic Risks

In the Annual Debt Report, the Department of Finance models risks pertaining to the General Government Debt. The circumstances described in the previous section explain why interest rates alone do not pose a significant risk for government debt – in general, maturing bonds are at a higher interest rate than presently prevails in the market.

The Annual Debt Report 2018 projects the impact of a shock to GNI* on the level of public debt. The assumptions underlying this calculation are that:

- the GNI* shock is general in nature;
- this leads to a nominal annual growth rate for GNI* 3.5 percentage points lower than in the baseline forecast;
- Revenue is assumed to drop in line with GNI*; and,
- interest rates rise 0.10% for every 1 percentage point deterioration in the primary government budget balance.

This scenario suggests that the debt-to-GNI* ratio would be 25 percentage points higher by 2025 than current forecasts predict.

The Annual Debt Report 2017 contained another risk scenario – a combined Economic and Fiscal Shock (i.e. a large one-off increase in the stock of debt). While this is a severe risk scenario, in the Department’s own words: “A key lesson from the financial crisis is that so-called “tail-risks” can, and indeed do, materialise.” Under this combined scenario, debt-to-GDP would rebound to ca. 120%, close to its peak during the economic and fiscal crisis of the last decade. Debt-to-GNI* would be almost 200% in this scenario (higher than at any point during the recent economic and fiscal crisis). The timing of such a shock could have a non-trivial effect on the outcome. If it coincides with a significant amount of debt maturing, and a spike in interest rates, the sustainability of public finances would prove difficult to manage.

Both these scenarios show that the level of debt Ireland currently holds exposes the public finances to significant risks in the event of another economic shock. The debt-to-GDP ratio gives a flattering impression of the burden of General Government Debt upon the sustainability of public finances. For example, after the level shift in Irish GDP in 2015, the ratio of tax revenue to GDP fell from 28.5% to 23.1%.\(^9\) Improvements in the debt-to-GDP ratio do not necessarily imply a reduction in the burden of Government debt. A shock like the one in the second scenario (debt-to-GNI* rising to ca. 200%) would constrain the ability of the Government to fund public services (by increasing the burden of interest payments) on top of a potential reduction in tax revenues (in the event of GNI* growth becoming negative). The external factor of international credit conditions could have a significant effect on the outcome in this scenario. If credit tightened significantly on an international scale, as happened after the 2008 economic and fiscal crisis, the Government may struggle to raise debt on the market.

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