

The Eurozone's growing demographic problems

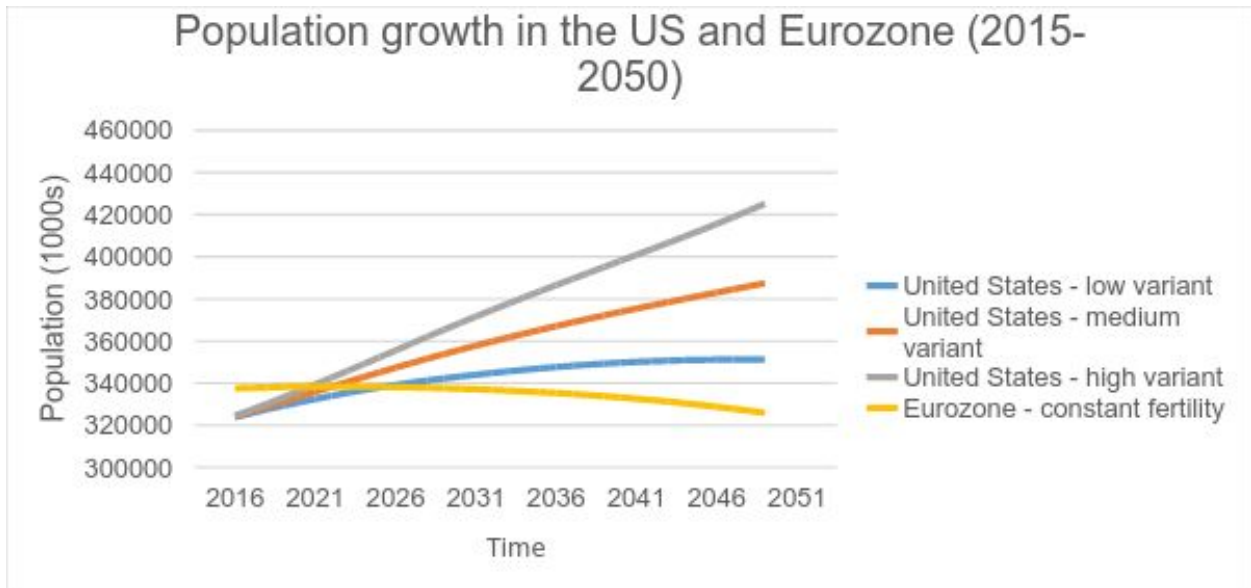
In a 2000 paper in *Foreign Affairs*, Laurence Kotlikoff and Niall Ferguson suggested that the Eurozone would not be the unqualified success story which its proponents claimed (*Foreign Affairs*, March 2000, [link](#)). They attempted to estimate the long-term sustainability of Eurozone countries' fiscal position in the light of their probable future demographics. Their research suggested that while many of the Eurozone's fiscal problems could be concealed by 'using the appropriate accounting terminology', Eurozone countries would be required either to raise taxes or reduce public expenditure in the medium-term. They also predicted the Maastricht criteria on excessive government borrowing would not be rigorously enforced, warning that 'history shows that monetary unions can be undone by fiscal imbalances' and that the single currency was liable to unravel within a decade.

It is evident that Kotlikoff and Ferguson's arguments have been substantially vindicated by subsequent events. As the IMF acknowledged in February 2014, the Maastricht criteria were ignored by Germany and France, and came to be understood as 'guidelines at best, rather than binding rules' (IMF, 12 February 2014, [link](#)). The solvency of several Eurozone states, most notably Greece, came under severe strain with the onset of the Eurozone crisis in 2009, with significant tax rises and spending cuts adopted. The single currency has only survived after the adoption of quantitative easing and permanent fiscal bailout mechanisms, which the EU Treaties seemed to forbid.

The Eurozone still suffers from many of the same demographic and fiscal imbalances identified in 2000. In many respects, these problems have worsened since the creation of the single currency. Despite numerous promises from the EU to increase economic competitiveness, most notably in the failed Lisbon Agenda of 2000, the EU shows little sign of adopting substantive reforms to boost economic competitiveness. It is useful to pose the same question that Kotlikoff and Ferguson asked in 2000: is the Eurozone fiscally sustainable in the medium to long-term?

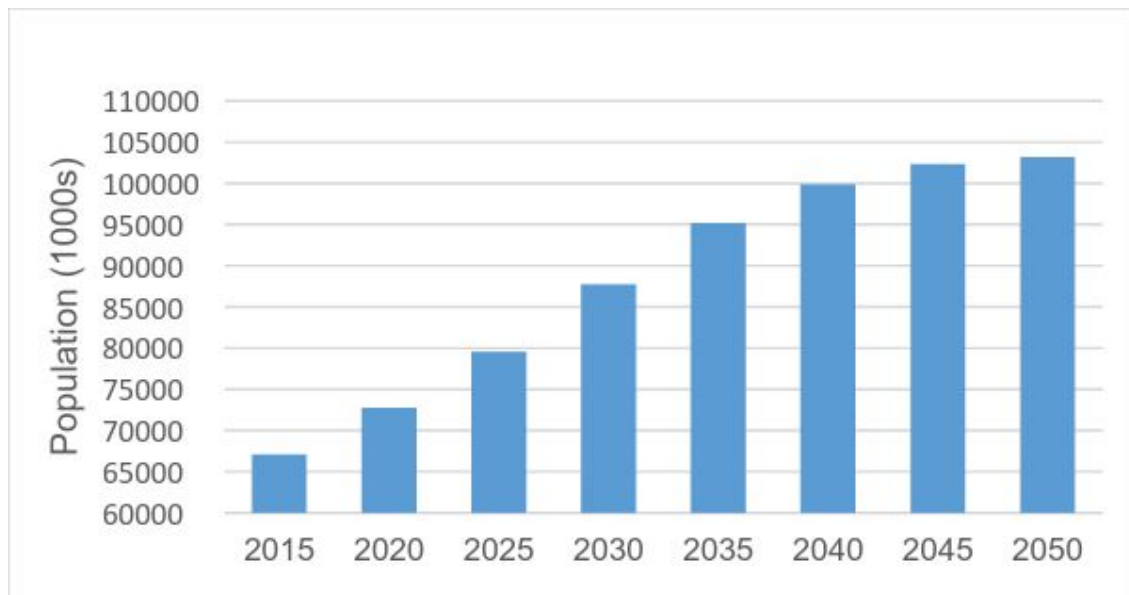
The Eurozone is in chronic demographic decline. As the graph shows, the Eurozone's population (assuming constant fertility) is projected by the UN to be stagnant and falling

over the next 35 years. By contrast, the population of the United States (whether high, medium or low forecasts are adopted) is set to grow considerably.



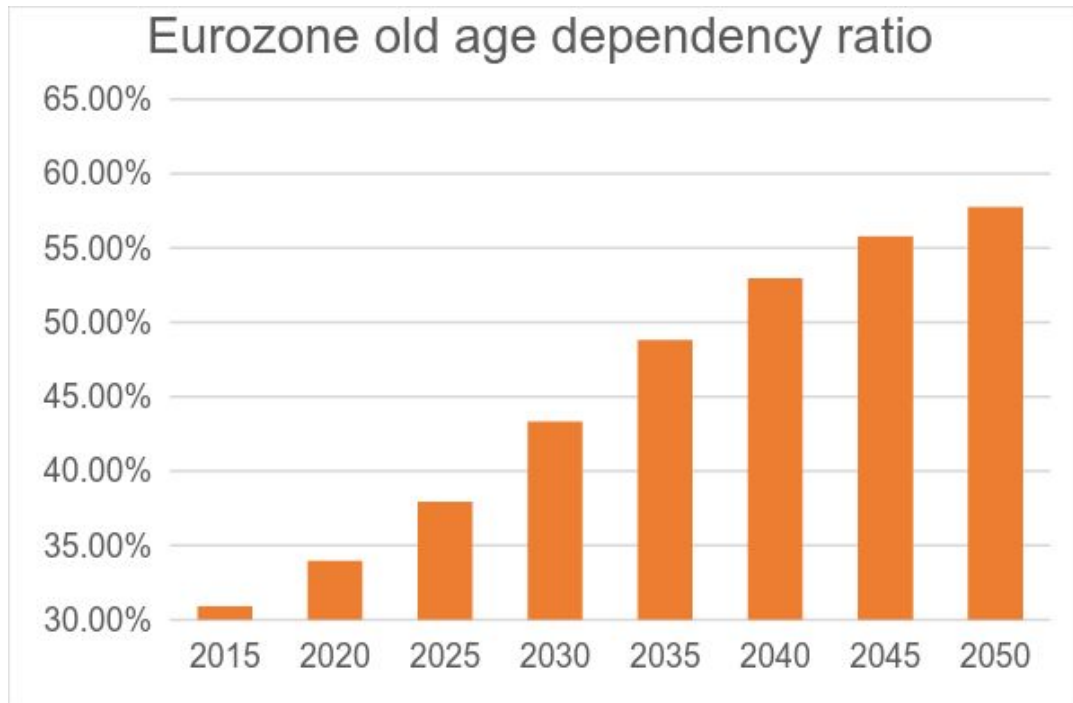
Source: UN Population Division, 2015, [link](#).

As important as the Eurozone's declining overall population will be the growing number of those aged over 65 in the currency union. The UN forecasts that the number of people over 65 will increase rapidly in the next thirty five years.



Source: UN Population Division, 2015, [link](#).

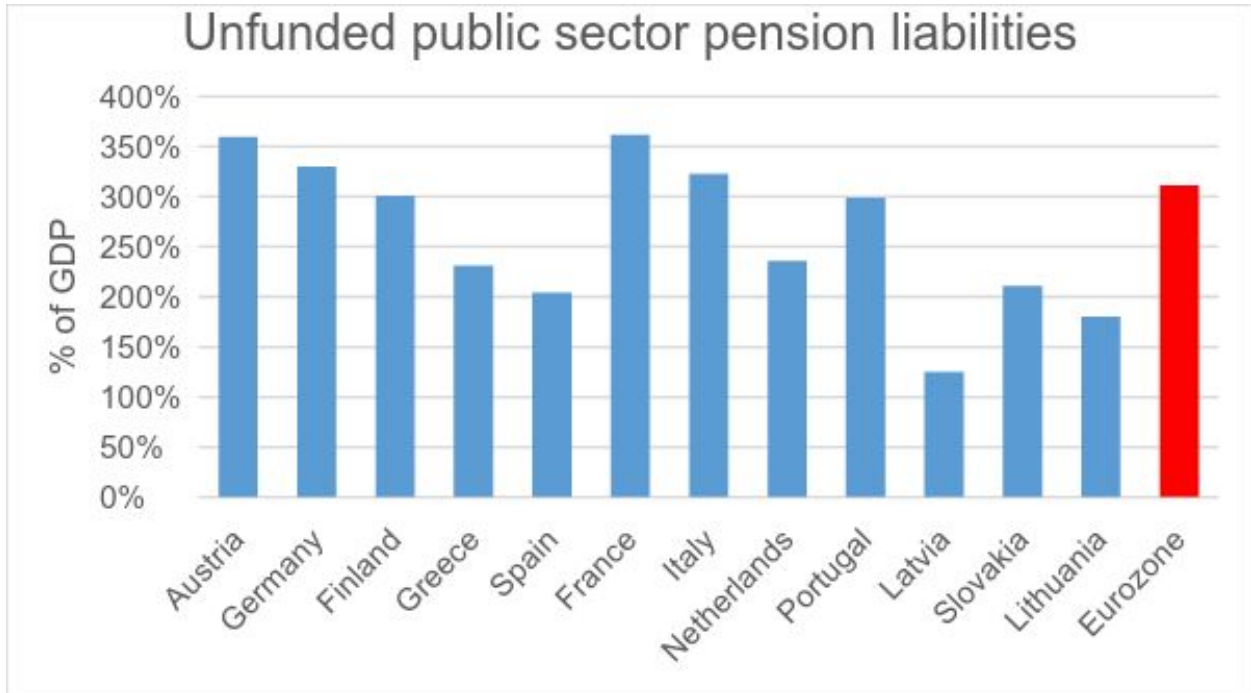
This will have considerable consequences for the productivity of Eurozone, with a large rise in the old age dependency ratio forecast by the UN by 2050. This is the number of persons aged over 65 divided by the number of persons aged between 15 and 64, which is a rough approximation for those who are economically active.



Source: UN Population Division, 2015, [link](#).

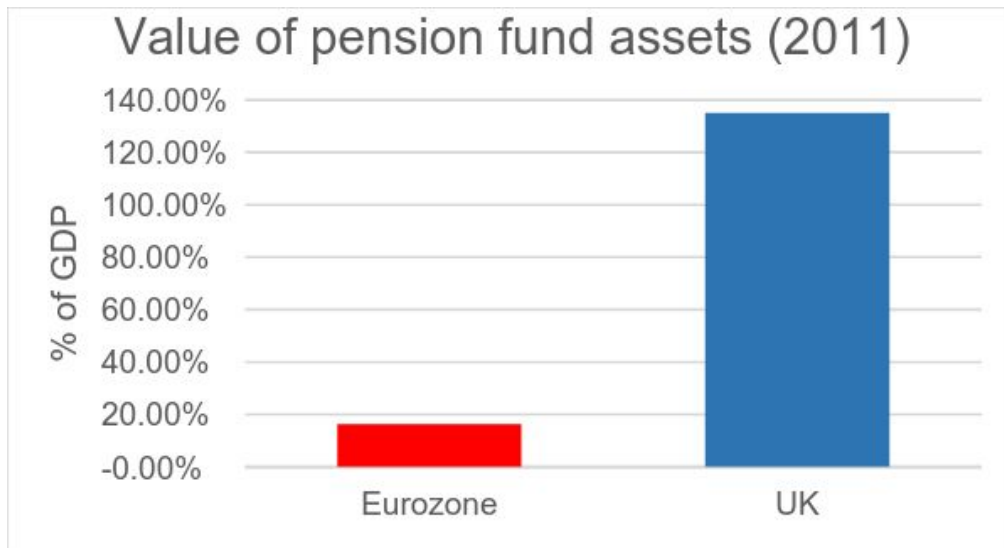
The growing cost of public pensions in the Eurozone

These demographic projections raise significant questions about the long-term economic competitiveness of Eurozone countries. Published academic estimates of unfunded public sector pension liabilities are already very large, averaging 311% for the Eurozone as a whole.



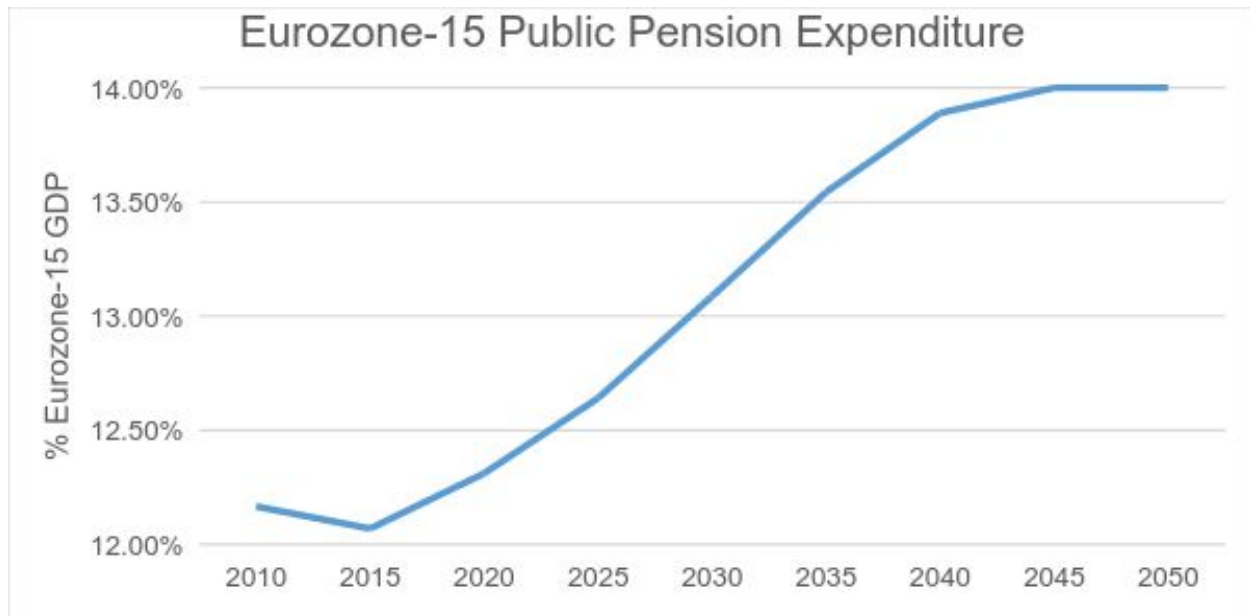
Source: Kaier & Müller, *Empirica*, 2015, [link](#).

Nor has the population of the Eurozone made significant private savings. The value of pension funds as a percentage of Eurozone GDP in 2011 was a fraction of the value of British pension funds in the same year.



Source: European Central Bank, 2016, [link](#); Office of National Statistics, 2013, [link](#).

This suggests that the burden of supporting the Eurozone's growing 65+ population will fall on the public purse, with either higher taxes or higher debt. According to OECD forecasts, public expenditure on pensions in 15 Eurozone countries is set to increase substantially in the next thirty five years. The chart below shows the outlook for the Eurozone as a whole. It should be viewed as an indication of the future direction of travel.



Source: OECD, 2013, [link](#).

The chart shows that the cost of public pension expenditure in the Eurozone is estimated to rise by 2.1% of GDP between 2015 and 2050, from 12.1% of GDP to 14.2% of GDP per year.

The growing costs of public debt in the Eurozone

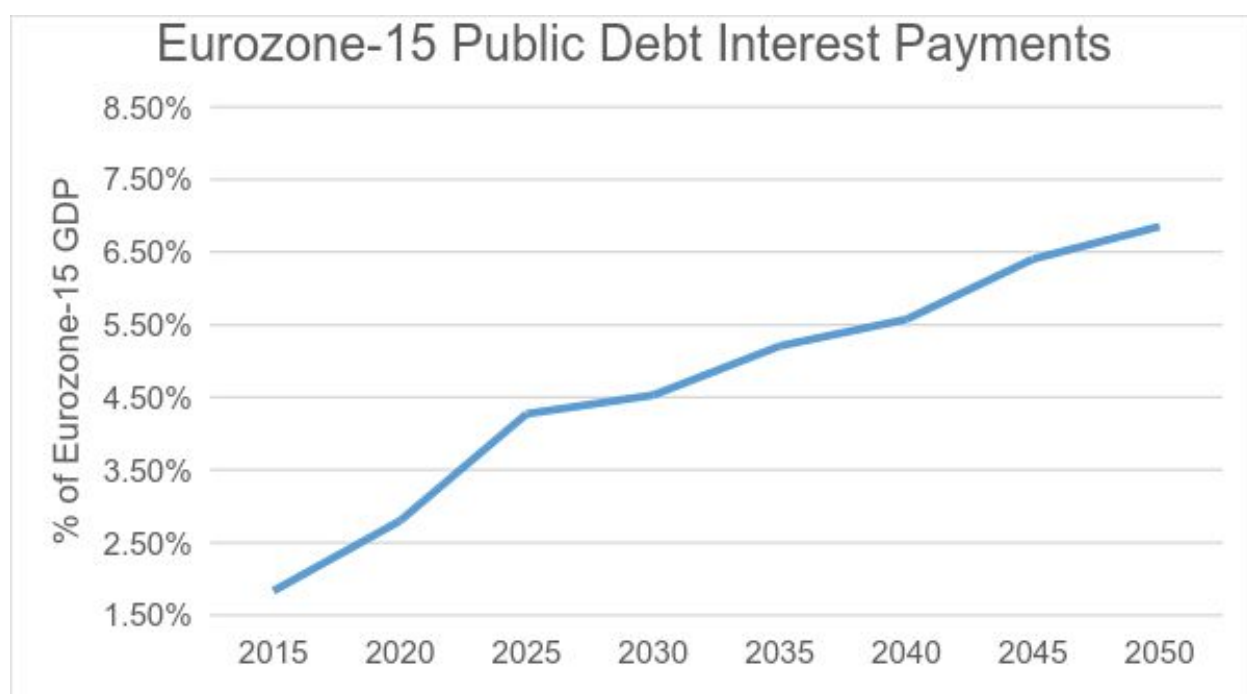
The Eurozone will also face growing problems financing its public debt (OECD, 2015, [link](#)). Some questionably assert that Eurozone countries will be able to maintain sustainable levels of public debt. For example, the European Commission expects no increase in public debts over the next ten years (European Commission, September 2014, [link](#)). These estimates are excessively optimistic.

We reach different conclusions. We assume that ten year bond yields for Eurozone countries (which approximately represent the cost of financing of public debt) will, by

2025, have returned to their 2005 levels and will remain at those levels until 2050 (ECB, 2016, [link](#)). Current yields are low in historical terms (OECD, 2012, [link](#)).

We also assume that Eurozone countries will grow at levels forecast by the OECD, and will consistently achieve primary budget balances (OECD, 2014, [link](#)). The first 15 years of the Eurozone's history suggest that the latter is not an unreasonable assumption. For example, in 2003, the Eurozone ran a primary surplus of 0.1% of GDP, while it ran primary deficits from 2009 to 2013 (ECB, 2016, [link](#)). The primary budget balance is defined by both the European Central Bank and the OECD as 'government net borrowing or net lending excluding interest payments on consolidated government liabilities' (OECD, 13 July 2005, [link](#)).

On these assumptions, the cost of servicing the public debts of Eurozone countries will rise substantially, as the chart shows.

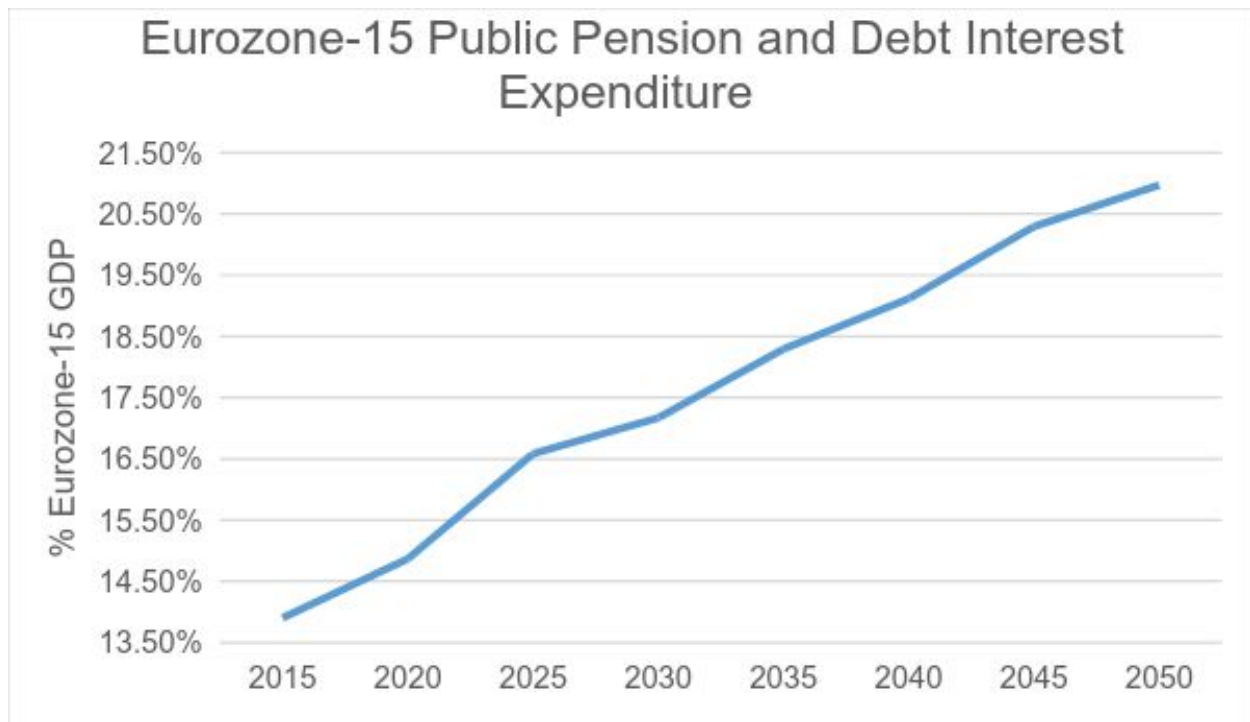


Source: OECD, ECB (see above).

The chart (which provides an indicative estimate rather than a forecast) suggests that the cost of debt interest payments will rise from 1.8% of GDP to 6.9% of GDP over the next thirty-five years.

The combined growth in future pension and debt interest expenditure

Taking the indicative estimates for future public pension and debt interest expenditure together, the Eurozone will face a growing fiscal problem in the years ahead. The chart shows the combined impact of these two factors on the Eurozone's public finances.



Source: OECD, ECB (see above).

The calculations suggest that the cost of public pensions and debt interest will rise from 13.9% of GDP in 2015 to 21.0% of GDP per year in 2050.

The cost to the public purse

The Eurozone will have to raise an additional 7.1% of GDP to meet these costs. In 2014 prices, this amounts to an additional €726 billion per year (Eurostat, 2016, [link](#)). To put this figure into perspective, it is more than five times the size of the current EU budget, and over two and a half times the total amount of taxes raised by the Federal Government of Germany in 2014 (European Commission, 2014, [link](#)). While these figures are indicative only, they do suggest that the Eurozone will be obliged to raise taxes very substantially indeed, or resort to additional borrowing.

According to Eurostat, in 2012, the Eurozone raised the proportions of GDP shown in the second column of the table below by the taxes shown in the first column (Eurostat, 2014, [link](#)).

Tax	% of GDP
All taxes	40.4
• Indirect taxes	13.3
• Direct taxes	12.7
• Social contributions	14.6

To meet the €726 billion shortfall, the EU would be obliged to raise taxes substantially.

- It would have to raise the total revenue collected from taxes by 17.6%. If direct taxes alone were relied on to achieve this, revenue from such taxes would have to increase by 56.0%.
- Alternatively, if indirect taxes were relied on exclusively, revenue from such taxes would have to rise by 53.4%.
- The alternative would be to run a permanent primary budget deficit, increasing the indebtedness of the Eurozone countries still further.

These figures are similar to those calculated by Kotlikoff and Ferguson in 2000 (*Foreign Affairs*, March 2000, [link](#)).