Juan F. Jimeno
Economist
Banco de España

Debt overhang and structural trends: Towards persistent stagnation?

1 Introduction

The recovery from the Great Recession and the subsequent events that initiated the European debt crisis is being very slow. There are not previous episodes of recoveries after recessions, with financial crises or not, when advanced economies showed such a low growth recovery and large negative deviations from projected trends before the crisis. Deleveraging (in the corporate, household, and public sectors) is also taking place very slowly, if anyhow at all.[1] The current macroeconomic scenario seems exceptional in many senses. Among other fears, there are growing concerns about the effects of the crisis on potential output and potential growth (IMF, 2015; Blanchard et al., 2015).

When interpreting these events, there seem to be at least two positions. One is that, because of its global nature and the great size of the leveraging accumulated during the pre-crisis period, rebalancing and deleveraging after the last crisis may take more time than history teaches about the consequences of financial crisis (Reinhart and Roggoff, 2010). A more lasting crisis may give scope for more substantial hysteresis effects and, hence the recovery may be subdued for some time.

Another, more pessimistic, view is that the world economy is bound to enter into a new era of lower or even vanishing growth due to some structural trends that were already present in the pre-crisis period, but they were somehow neglected in the bubbly, expansionary context that generated the dismal economic and financial situation that we are going through. In this gloomy scenario it is very likely the natural rate of interest becomes substantially negative and, if macropolicies are not able or willing to accommodate such a negative rate, the economy is bound to suffer for a persistent shortfall of demand and high unemployment. This is the view that has been associated to the revival of the "secular stagnation hypothesis".[2]

Here, I will argue that the recovery from the crisis is being so slow and seems so problematic, even after the recent upsurge in GDP growth, as a result of the interplay between the debt legacy of the crisis and the structural factors that could slow down economic growth. The interactions go both ways: Structural factors that slow down economic growth in the medium and long-run make deleveraging more difficult and costly, and, on the other hand, adapting to a low growth scenario is made more difficult by the debt overhang generated by the financial crisis.

These structural factors are basically three. One is the declining working age population in many countries, in particular, in Europe. The second is

[1] *See Butiglione, Lane, Reichlin and Reinhart (2014).*

[2] *See Summers (2014) and CEPR (2014).*

population ageing, also expected to be exceptional in Europe. Finally, there is some uncertainty about the extent to which technological progress-based productivity growth can compensate for the demographic trends. In what follows, I will review some theoretical underpinnings of the consequences of the interaction between high debt, low working age population growth, population ageing, vanishing productivity growth, and briefly document in which situation European economies are in these regards.

2 Why the debt overhang could be this time more problematic: Some theoretical considerations

The idea that the demographic prospects and low current and future productivity growth may be the reasons for the slow recovery may seem, at first glance, a bit overstretched. After all, even with declining working age population, in Europe there is high unemployment in many countries and participation rates increased along the crisis (Boeri and Jimeno, 2015), so that there is plenty of labour supply available to give impulse to the recovery.

However, there are reasons to believe that demographic and technological factors could enhance the consequences of the credit cycle and that, together with the deleveraging pressure, may bring the economy into a persistent stagnation. Recently, Eggertsson and Mehrotra (2014) have shown, using a very simple OLG model, how a "secular stagnation equilibrium", with negative interest rates below what monetary policy could deliver, can arise after a deleveraging shock. There are also some papers in the computable large OLG and DSGE approaches, highlighting the role of demographics and productivity growth at determining the natural interest rate and inflation (Kara and von Thaden, 2014; Carvalho and Ferrero, 2014).

In a recent paper (Jimeno, 2015), I have extended the simple OLG model used by Eggertsson and Mehrotra (2014) to consider the interaction between deleveraging, the decline of working age population, and population ageing in a context of low productivity growth and high public debt. I consider three generations: i) a young generation that is credit constrained, does not produce, receives no income, and, hence, consume their borrowings, ii) a middle generation that provides labour, receives all income (labour earnings and capital income, and saves to pay for debt accumulated while young, to buy capital, to lend to the young generation and to hold public bonds, and iii) An old generation consumes all of its savings (plus interest receipts) and government transfers.

In a nutshell, the main mechanisms that determine the effects of deleveraging and supply shocks in this framework, some well-known, others less emphasized before the current revival of the secular stagnation hypothesis, are the following:

- As population growth falls, the natural interest rate also falls. Given the current productivity growth rates registered in advanced countries

(around 1% TFP), the natural interest rate can be significantly negative even with constant population.
- Population ageing implies that there are less young people demanding credit. Moreover, expected transfers to the old generation (for constant public debt) also fall. This is even more so if sustainability of public debt is dubious to begin with.
- A higher current productivity growth rate increases savings. The middle generation pays for its debt accumulated while the youth uses a lower fraction of its income.
- A higher expected productivity growth decreases savings, and expected transfers to the old generation are higher.
- A decrease in the price of capital or a higher depreciation rate pushes the equilibrium real interest rate downwards.
- Fiscal policy has only effects through impact on productivity growth or by changing intergenerational transfers.

The objective of the model is to highlight these transmission mechanisms that arise from the interaction between debt, and demography and technology. A quantitative analysis would require a computable OLG model with a larger number of generations (as in Kara and von Thaden, 2014). Nevertheless, the very radical changes that we are bound to witness in demography and a gloomy scenario for productivity growth suggest that the danger of an extended period of something close to a "secular stagnation" trap is not negligible.

3 Demography, productivity growth and debt in Europe

Declining growth in working-age population and increasing weights of older people in the total population are two demographic trends that originated several decades ago. More recently, both the decline in working-age population and population ageing have accelerated. Currently, in many European countries working-age population is already falling, and will continue to fall through the rest of the century, while the ratio of people over 65 years of age to the working-age population is expected to double in the next three decades (chart 1). Admittedly, there is some uncertainty around population forecasts, but most of it arises from the size of immigration flows, and less from changing fertility rates and life expectancy. The fact that the world working-age population growth is significantly falling suggests that it is unlikely that immigration flows can significantly revert these trends, and more so in a region in which political resistance to immigration seem to be on the rise.

As highlighted by the theoretical framework sketched in the previous section, one important effect of these demographic trends on the savings-investment balance and, hence, on the natural rate of interest, is through the inter-generational transfers that governments could implement in these demographic scenarios given the current high levels of public debt-to-GDP ratios. Currently, pension expenditures in OECD countries, mostly financed by inter-generational transfers under Pay-As-You-Go pension schemes, range from around 5% of GDP, in most Anglo-Saxon countries, to over 10% of GDP, in France, Italy, and other Southern European countries. Assuming employment rates of around 65% of the working-age population, and given the demographic forecast, keeping constant the current ratios of pension expenditures to GDP would require to reduce the replacement ratios of pension benefits (i.e., the ratio of pension benefits to labour earnings) by around 10 percentage points, if the retirement age is sup-

posed to be 65 years, and by around 7 percentage points if the retirement age is supposed to increase to 70 years.[3] This implies that the current cohort of working-age population would have to save significantly more to compensate for the expected reduction of public pensions.

The increase in savings implied by demographic developments and by the outlook of diminishing future transfers to the older population would be smaller, the larger expected labour

productivity growth is. However, labour productivity growth slowed down during the Great Depression and has shown little signs of recovering to the levels registered during the golden ages of the Information and Communication Technology Revolution, even in those countries where the impact of this technological change was the highest. This lack of productivity growth has two components. One is the low investment rate being registered in most countries, which in times of rapid technological obsolescence makes the possibility of diminishing capital-labour ratios very likely. Another is lower Total Factor Productivity Growth. Since it is highly uncertain to what extent other technological advancements could make labour productivity growth to pick up in the near future, productivity gains are to be found elsewhere. Thus, structural reforms aimed at removing product and labour market distortions that impede further productivity growth are becoming the first option in this regard.

As for household debt, there are two elements to consider: its magnitude and its distribution by population age cohorts. Within the euro area, information about household debt and its distribution is available from the Eurosystem Household Finance and Consumption Survey (HFCS), whose first wave was released in 2013.[4] Table 1 provides some data regarding the debt position of household headed by individuals aged 35 to 64.[5] This is the population cohort most affected by the recent accumulation of private debt and whose future savings behaviour will be most conditioned by public debt dynamics over the next decades. As seen in the table, the proportion of household indebted is typically above 50%, reaching more than 60% in Cyprus, Germany, Spain, Netherlands, Finland and Luxembourg. As for debt-to-income ratios, these are especially high in Cyprus, Spain, the Netherlands and Portugal, although net wealth is also high in Cyprus and Luxembourg. In any case, these data suggest that private debt could be a significant burden limiting consumption growth of this population cohort.

[3] *See Jimeno (2015).*

[4] *www.ecb.europa.eu/home/html/researcher_hfcn.en.html.*

[5] *A better measurement of the speed of deleveraging in the household sector in euro area countries and of its distribution across population age cohorts will be available soon with the next wave of the HFCS that will be available at the beginning of 2016.*

4 Concluding remarks

The debt legacy of the crisis, both in terms of high private indebtedness and rising public debt-to-GDP ratios, is made especially burdensome by its coincidence with the demographic decline and dismal expectations of productivity growth, which do not give too much leeway for nominal growth. In this context, not only deleveraging will last longer and be more costly, but also the economy can enter a stagnation trap in which monetary and fiscal policies are to be constrained by the zero lower bound on policy interest rate and the financing needs of the public sector, respectively.

Although there is some heterogeneity across European countries in these regards, all of them are bound to have a significant decline in working age population and a large increase of the retired population, which can only be compensated by higher productivity growth. Recently, productivity-enhancing structural reforms are being strongly advocated by many international organisations and policy institutes. According to the diagnostics in this paper, the fact that these structural reforms are again receiving so much attention is very much justified.

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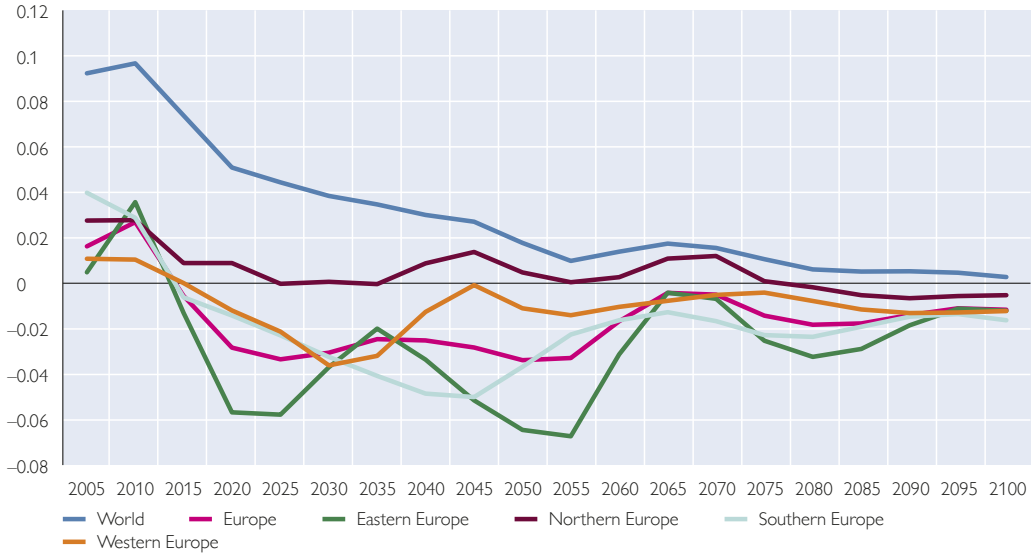
Chart 1a

Population 20–64 years of age

5-year growth rate

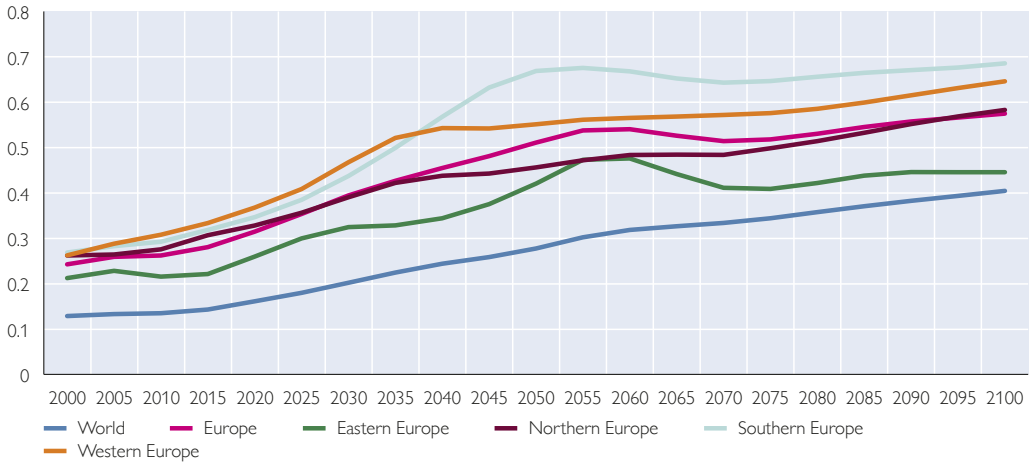


Source: United Nations, Population Division.

Chart 1b

Population over 65 years of age divided by population 20–64 years of age

ratio



Source: United Nations, Population Division.

Table 1

Financial situation of households whose person of reference is 35–64 years old

	Household indebted in %	*Debt to income ratio*	*Net wealth (median, 1,000 EUR)*
Austria	41.99	0.376	128.1
Belgium	56.35	0.656	233.0
Cyprus	76.96	1.451	349.6
Germany	59.9	0.444	77.0
Spain	60.22	0.986	205.3
Finland	68.41	0.72	118.4
France	59.2	0.583	160.5
Greece	45.38	0.511	125.0
Italy	34.39	0.538	190.5
Luxembourg	69.07	0.77	416.6
Malta	42.19	0.494	242.9
Netherlands	67.77	1.988	113.0
Portugal	49.18	1.333	85.8
Slovenia	50.61	0.29	110.7
Slovakia	29.48	0.189	65.3

Source: Eurosystem Household Finance and Consumption Survey.