

# The Economic Future of Europe

Change of diet or premature death?

*Jan Libich*

## Key points

- Given the long-term outlook of public finances, most countries in Europe (and elsewhere) can be compared to an overweight patient suffering from diabetes.
- A diabetes patient's body misses insulin and an ageing economy tends to be short of Treasury finance, threatening further health complications and ultimately 'premature death' or bankruptcy.
- European countries have to commit to a suitable long-term oriented diet and exercise routine, primarily for their pension and healthcare system: a diet that will cease their dependence on insulin (i.e. debt) once and for all.
- Europe needs *long-term* austerity but a *short-term* stimulus, precisely the opposite of what most European countries have done since 2010.

## The economy as a sick patient

During 2009–2012 terms like 'economic apocalypse' and 'financial Armageddon' were used frequently in relation to Europe's future (e.g. *Forbes* 2011; Pack 2012). While the heat in the European economy has subsided somewhat since then, it seems worthwhile to consider whether the use of such fatalistic terms may have been justified, and contemplate the outlook of the European economy going forward.



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This article discusses four frequently mentioned macroeconomic threats: (1) bankruptcy of public finances; (2) a protracted economic stagnation; (3) excessively high (or low) inflation; and (4) the collapse of the euro. In order to facilitate understanding of these economic scarecrows, and their linkages, we will use an analogy from the medical world.

Consider an overweight person who develops (type II) diabetes. The doctor makes clear that, in order to avoid premature death, the patient must change his lifestyle – improve his eating habits and add exercise. Rather than following the doctor’s advice, the patient has his hands tied for a day every week not to be able to take food out of the refrigerator. This is in addition to the fact that he has had his legs permanently tied since joining an elite ‘Moving is Overrated’ club. Contrary to the patient’s expectation, he does not lose weight. In fact, signs of malnutrition appear as a result of an inadequate diet. Due to the associated stress, the patient soon develops high blood pressure and his health deteriorates further.

Let us introduce the cast and characters, first giving an overview and then discussing each of the four macroeconomic threats and their relation-

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ships in more detail based on relevant research. Being ‘overweight’ is a symbol of the long-term trend (both past and predicted) of excessive government spending, especially in the pension and health care areas. This has arguably been driven

by political economy factors in most European Union (EU) countries, hand in hand with the demographic trend of ageing populations and pay-as-you-go financing schemes.

Excessive weight often leads to type II ‘diabetes’, an unsustainable setting of public finances associated with a multitude of risks. Chief among them is the danger of the patient’s and economy’s ‘premature death’ – sovereign bankruptcy with dire consequences for the country’s individuals. The post-2008 developments in the EU periphery countries have shown that the mere threat of a public debt crisis can be very disruptive to the economy and people’s lives. The ‘refrigerator’ to which our patient turns for ever-increasing amounts of food is the current young and all future generations, as they will have to deal with the resulting burden of debt.

The doctor's 'prescribed treatment' centres around conceptual long-term reforms of the pension, health care and welfare systems, which would put the government's budget on a sustainable path. Unfortunately, most European governments have prescribed exactly the opposite treatment in the aftermath of the 2008 crisis, and resorted to arbitrary spending cuts and tax increases (the so-called 'austerity measures'). Data presented below show that these have undermined the chances of an economic recovery and can thus be compared to our patient periodically 'tying his hands' in order to restrain his binge-eating habit. 'Tied legs' then symbolise a country's membership in the European monetary union and use of the common currency euro. The Eurozone's recent history has demonstrated that it is not an optimal currency area (see Mundell 1961) and that its common monetary policy hurts the economic performance of most (if not all) member countries. The two self-constraining 'tying' actions tend to lead to 'malnutrition', with the body missing many vital nutrients and vitamins. Another health complication, 'high blood pressure', then symbolises the risk of excessive money printing and high inflation, which has often been a way for indebted governments to deal with their long-term budgetary shortfalls. Through its effect on expectations, the mere prospect of this course of action tends to further destabilise the economic environment, i.e. worsen the health of the patient.<sup>1</sup>

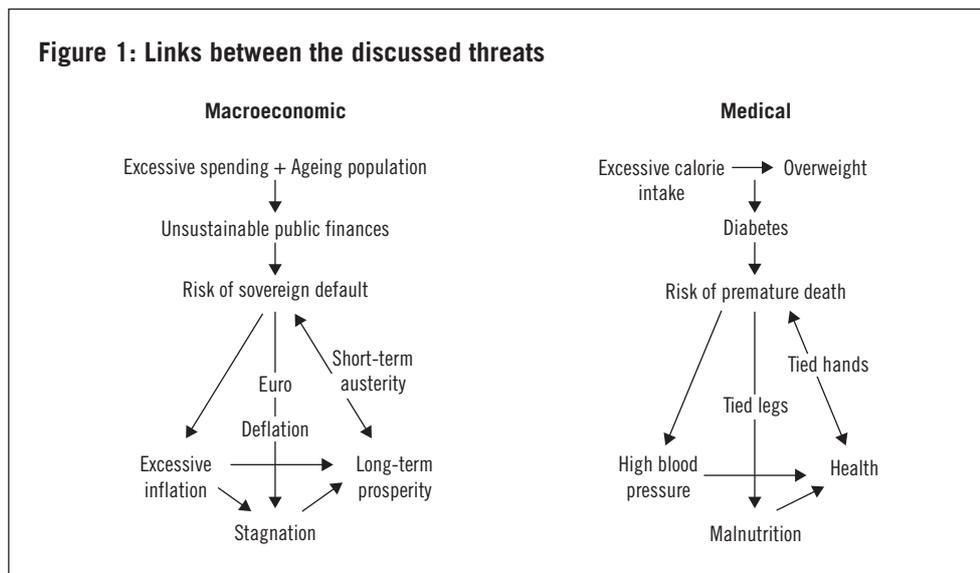
The links between the considered macroeconomic threats and the patient's health problems are summarised in Figure 1, and discussed in greater detail below. Let us acknowledge upfront that they, like our narrative, contain some over-simplifications – for example, treat the European economy as one entity, despite its diversity. We hope this is justified by our attempt to highlight the key common points and abstract from country specifics. It should also be mentioned that Europe is not alone: most other high-income nations, including the United States, face similar 'health' problems.

## Overweight

The post-2008 debt crises in several European countries captured many people's attention. What is however not discussed sufficiently, and not

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<sup>1</sup> Luckily, Europe has not (yet) taken up 'smoking', i.e. engaged in large-scale trade-restricting policies that governments are often tempted to impose in a populist effort to protect domestic jobs in an economic downturn.



dealt with effectively by European politicians, is the fiscal problem looming on the horizon. It is largely driven by the demographic trend towards an ageing population composed of two developments: increases in life expectancy and reductions in fertility.

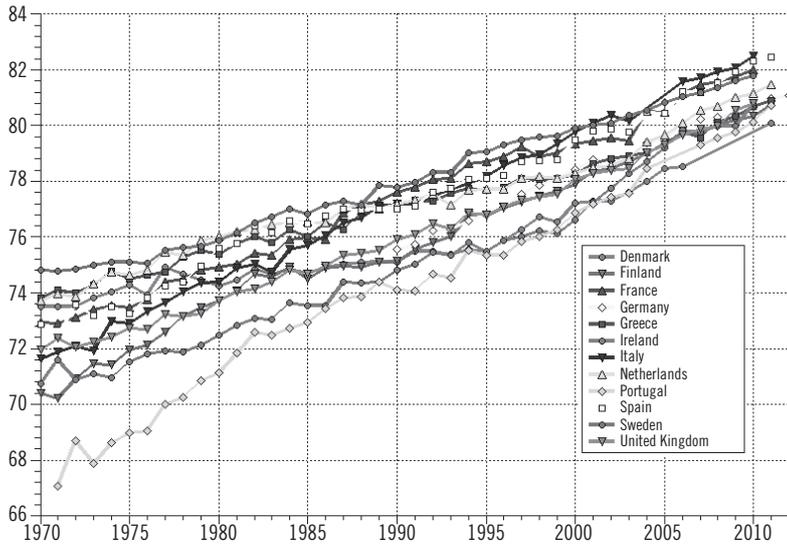
### Life expectancy

People live longer than ever before. In the countries forming the EU prior to its 2004 expansion (which we will refer to as the ‘EU-15’), life expectancy at birth increased from 71.8 to 81.5 years over the 1970–2011 period (WHO 2014). This is illustrated in Figure 2, which also shows convergence in life expectancy across EU-15 countries. In the countries joining the EU in or after 2004 (which we will refer to as the ‘New-EU’) the increase over the shorter period of 1980–2012 was from 70.2 to 76 years (WHO 2014).

### Fertility

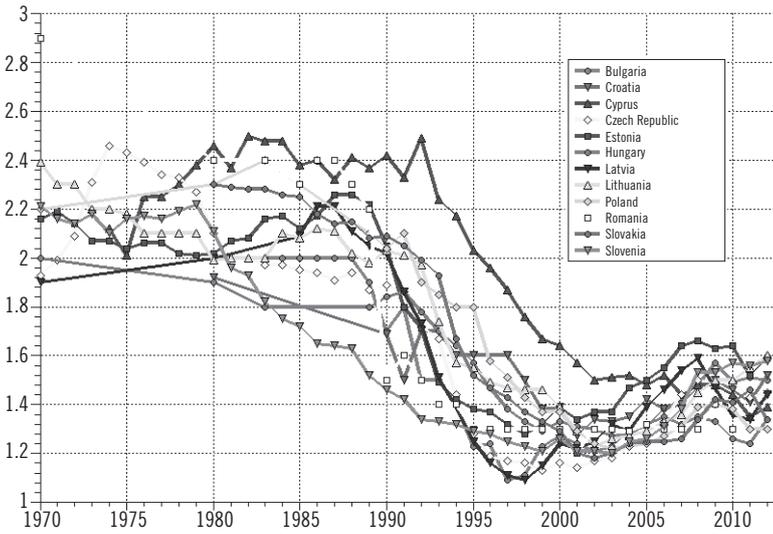
The second component of the ageing population phenomenon is a decrease in fertility. The world fertility rate – the number of children per mother – dropped from 5 in 1950 to 2.5 in 2012. In the EU-15 countries total fertility decreased from 1.78 in 1980 to 1.59 in 2011 (although the downward trend finished around 1995 and there has been a slight increase

**Figure 2: Life expectancy at birth (in years) for EU-15 countries during 1970–2011**

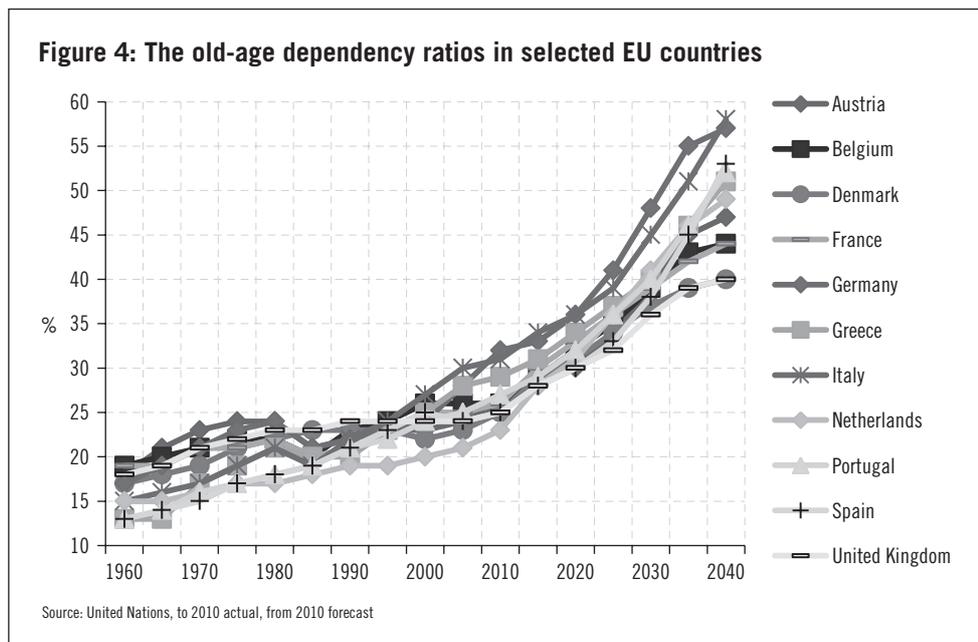


Source: WHO/Europe, European HFA database, April 2014

**Figure 3: Total fertility rate for New-EU countries during 1970–2011**



Source: WHO/Europe, European HFA database, April 2014



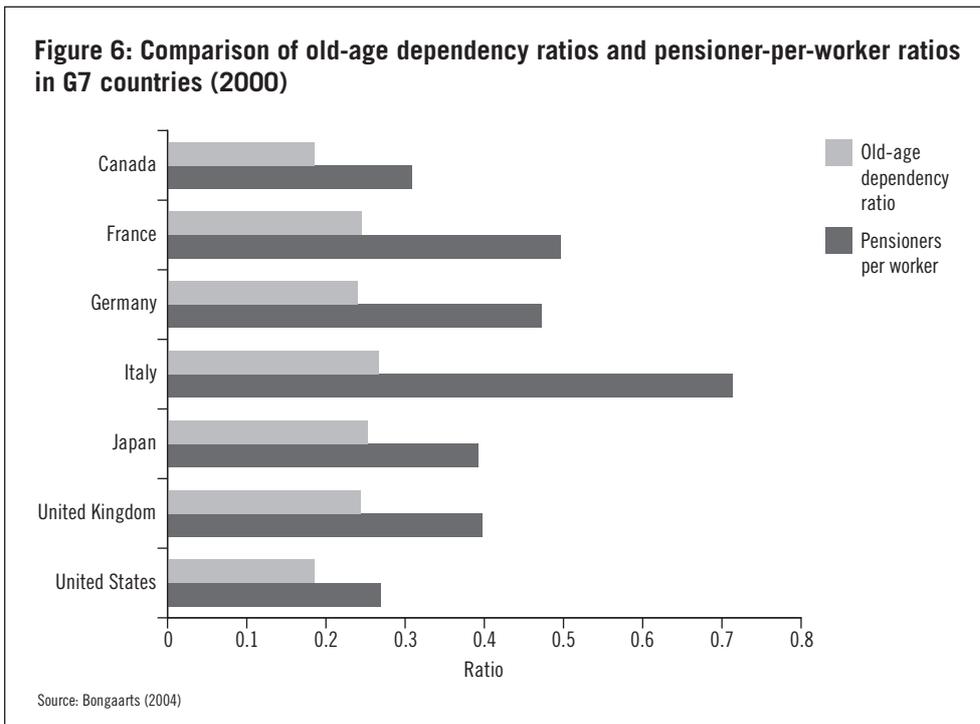
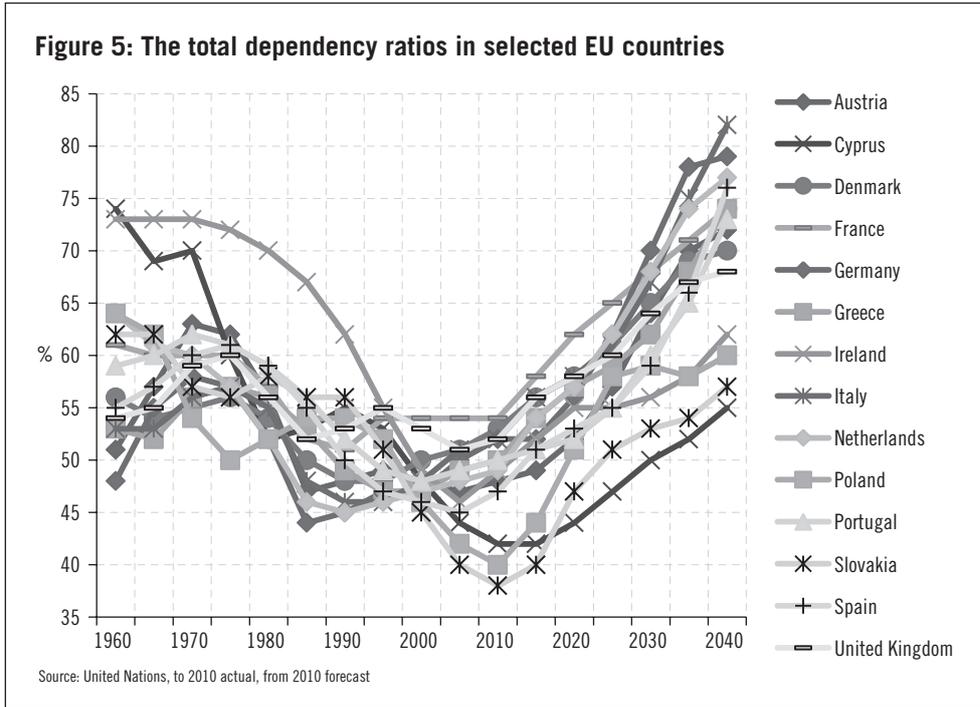
since). In the New-EU countries, total fertility dropped from 2.2 in 1980 to 1.36 in 2011 (see Figure 3). This is well below the replacement rate of 2.1.

### Ageing populations

The trends in life expectancy and fertility have led to increases in the average age of the population. Figure 4 plots the old-age dependency ratios for selected EU countries, defined as the proportion of the population aged 65 and above relative to the population aged 15–64. The figure implies that the number of potential workers relative to the elderly will continue to decline, with the main bulk of the ageing process yet to come.

Figure 4 shows that, in the early 1960s there were, on average, six to seven people in the ‘productive age’ for each person aged 65 and over. That value now is below four in the EU, and the projection for 2050 is a value around 2.2 (1.75 for Germany and Italy). Figure 5 reports a slightly different perspective, the so-called ‘total dependency ratio’ – that is, the percentage of people over 64 or under 15 relative to the rest of the population.

The figure reports an even more dramatic demographic shift. It highlights the fact that the total dependency ratio was at its trough prior to the global financial crisis – in line with the ‘global saving glut’ hypothesis



of Bernanke (2005) – and it is predicted to rise sharply in the coming decades. It gets worse, however. As Bongaarts (2004) shows, the dependency ratios substantially underestimate the adverse fiscal implications of the demographic trends. Figure 6 demonstrates that actual pensioner-per-worker ratios are much higher than old-age dependency ratios – in Germany, France and Italy, more than 100% higher.

## Diabetes and the threat of premature death

What are the economic implications of the above demographic trends? Many studies have attempted to answer this question – for example, Bloom *et al.* (2010), McMorrow and Roeger (1999), Hagemann and Nicoletti (1989). The interest in implications of declining population growth on the economy goes back to Keynes (1937) and Hansen (1939).

One general insight from the recent literature is that an ageing population does not tend to pose a major problem for the market economy as such. Labour and capital markets seem flexible and interconnected enough, so expected long-term demographic trends – the timing of which differs across countries – get reflected in expected wages and interest rates. For example, the proponents of the ‘asset meltdown hypothesis’ feared that, as the strong baby boomer generations start retiring and selling assets, their prices will collapse. Schich (2008) argues that, while this hypothesis has some relevance qualitatively, quantitatively the effect is

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likely to be fairly small for a number of reasons (such as lifetime uncertainty, bequest motive, migration and international capital flows). Börsch-Supan *et al.* (2003) estimate that, ‘As a consequence of demographic change, returns to capital will fall by roughly 0.8 percentage points until 2035 if capital flows freely within the OECD. Based on the long-term average annual return on productive capital over the last 50 years, returns are lowered from 7.7 to 6.9 percent.’

While an ageing population may not be a direct problem for the economy as such, the literature highlights its indirect adverse effects through the government sector and unsustainable public finances. As the recent experience of Greece has demonstrated, a public debt crisis, or even the

mere threat of a debt crisis, can be very costly and destabilise the rest of the (otherwise healthy) economy.

### The pay-as-you-go scheme

The problematic issue is the pay-as-you-go financing scheme, in which government spending of all kinds, including on pensions and health care, is paid for by tax revenues from the same year. No reserves are created for the future unless there is some public reserve fund that can be used in case of a revenue shortfall.<sup>2</sup>

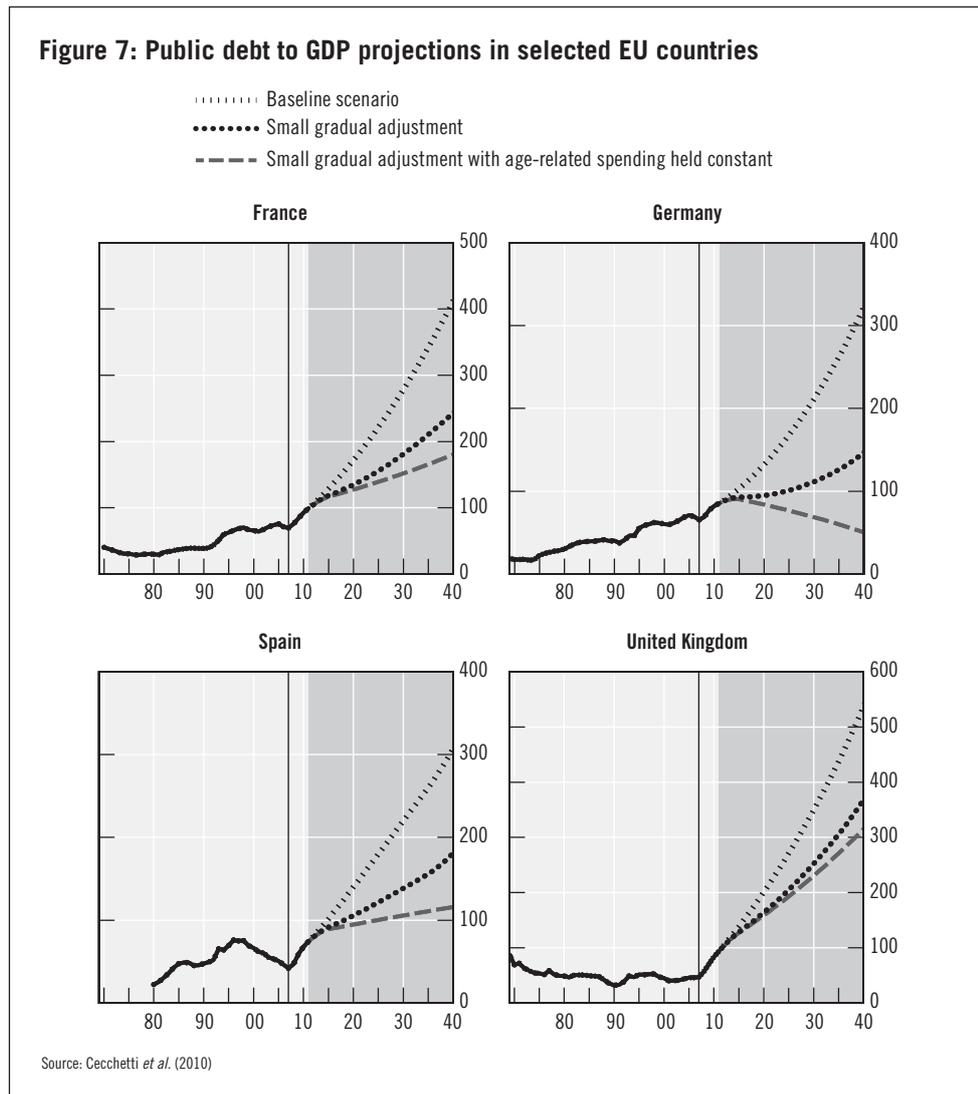
Europe's ageing population naturally introduces intertemporal imbalances into these publicly financed schemes. A rising dependency ratio leads to a fall in tax revenues (there are fewer workers), but it also leads to an increase in government expenditures on pensions and health care (there are more elderly people). As a consequence, in the pay-as-you-go system an ageing population results in growing budget deficits, accumulation of public debt, and consequently a higher likelihood of sovereign default. Such an expectation tends to have dire consequences for the economy and the well-being of individuals, even if it does not eventuate. Using our medical analogy, like a diabetes patient's body misses insulin, an ageing economy tends to be short of money in the treasury coffers. Both are therefore threatened by further health complications and, ultimately, 'premature death'.

Figure 7 shows the projections of the public debt to GDP ratio for France, Germany, Spain and the UK from Cecchetti *et al.* (2010). Under realistic assumptions, public debt is predicted to increase to unprecedented levels within three decades, not only in absolute terms but also relative to the size of the economy.

There does not seem to be an exact threshold at which a country finds itself in a debt crisis – a number of factors play a role (see e.g. Pescatori *et al.* 2014). Japan has held up well with gross debt of more than 230% of GDP, whereas some European countries experienced debt pressures with a third of this value. To some extent this diversity is due to the inadequacy of the official debt statistic. In a nutshell, as the official debt statistic does

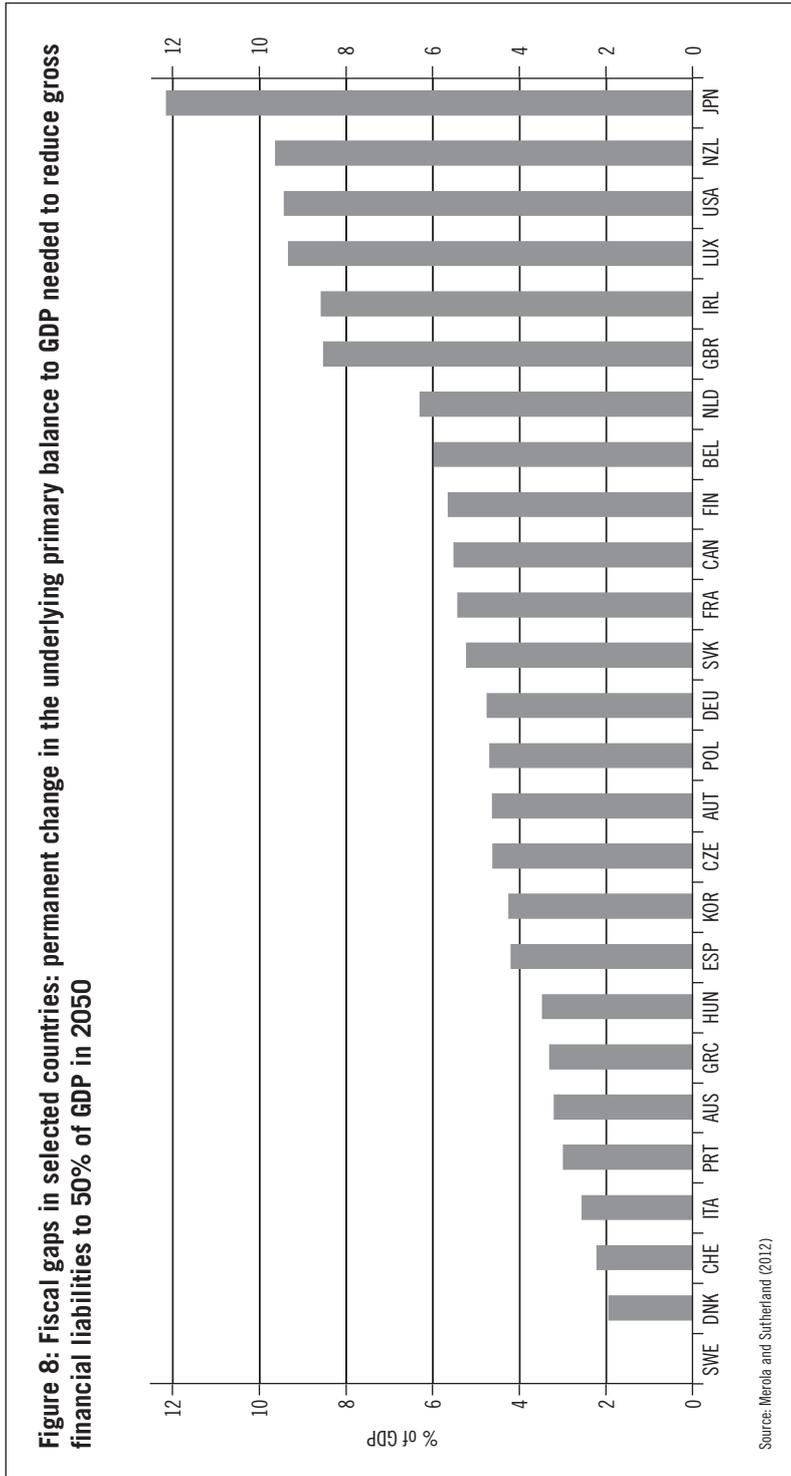
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<sup>2</sup> In the EU, only the Netherlands and France have pensions reserve funds with assets above 300 billion USD, and only Italy, Finland, Ireland and France have additional sovereign wealth funds (with accumulated assets between 6 and 28 billion USD, according to SWF Institute (2014)). This means Europe holds only a tiny fraction of the world's 15+ trillion USD of sovereign wealth funds and sovereign investment vehicles reserves.



not include all future government liabilities (for example, pension promises or implicit government guarantees for financial institutions), it tends to underestimate government indebtedness; for a summary of the argument see, e.g., Kotlikoff (2006).

As emphasised by the generational accounting literature – starting from the seminal work of Auerbach *et al.* (1991) – the more appropriate measure of government indebtedness is the ‘fiscal gap’. It is the present value of all expected future public liabilities less revenues – including items such



as promised pension payments in the public system. Figure 8 offers estimates of fiscal gaps, expressed as the permanent change in the underlying primary budget balance to GDP that is required in order to reduce gross financial liabilities to 50% of GDP by 2050. It is apparent that the adjustment needed is very large in most countries, exceeding 5% of GDP in France, Finland, Belgium and the Netherlands, and even 8% in the UK, Ireland and Luxembourg.

Nevertheless, even if one uses the official debt/GDP ratio rather than the fiscal gap, it seems widely accepted that a value significantly higher than the Japanese can hardly be sustained. It is unfortunately the level that long-term predictions show to be likely in most European countries, as well as non-European, within three decades, unless a major adjustment in the fiscal stance takes place. For example, Batini *et al.* (2011) estimate for the United States that, ‘a full elimination of the fiscal and generational imbalances would require all taxes to go up and all transfers to be cut immediately and permanently by 35 percent’. Older estimates for Europe also suggest the need for substantial fiscal adjustment, e.g. Raffelhüschen (1999).

This implies a point worth stressing, namely that it would be incorrect to attribute the dire debt projections to the 2008 financial crisis. IMF (2009) estimated that the average contribution of the crisis to the long-term fiscal imbalance was only about 10% of the contribution of ageing population-related factors. These factors and their adverse fiscal impact have been common knowledge for several decades. Furthermore, the growth in public debt largely preceded these trends, implying other (political economy) factors at play. For example, between 1970 and 2007, public debt to GDP in industrial countries doubled: from around 40% to 80% (see Cecchetti *et al.* 2010). Even in the boom period of 2004–2006, in which economies performed well above potential, there were only two EU-15 countries (Finland and Ireland) that ran budget surpluses in all three years of this period.

All this means that the patient’s weight gain has not been caused by unfortunate one-off events, but has been gradual and predictable. It has been a result of excessive calorie intake (government spending) relative to the patient’s exercise (taxes).

## The treatment

### The doctor's prescribed treatment

What is the solution to this challenging situation? In the same way that our patient's weight and diabetes problem must be solved in a conceptual way, the prescribed economic treatment for Europe is implementation of long-term reforms that take the demographic trends into account. They primarily relate to the pension, health care and welfare systems, and their aim must be to equate the government's revenues and expenditures over the long-term horizon. Put formally, good reforms need to ensure that the government's intertemporal budget constraint is satisfied, and in doing so deliver generational fairness (see e.g. Persson 1985).

**Table 1: General government pension expenditures to GDP and estimated implicit pension obligations to GDP in the euro area**

Country/area	General government pension expenditures			Estimated implicit general government pension obligations <sup>1</sup>					
	2005	2050	Change (p.p.)	Discount rate 5% p.a.			Discount rate 3% p.a.		
				2005	2050	Change (p.p.)	2005	2050	Change (p.p.)
Belgium	10.4	15.5	+5.1	165	201	+35	208	253	+45
Germany	11.1	13.1	+2.0	166	181	+16	207	228	+21
Greece	–	–	–	–	–	–	–	–	–
Spain	8.7	15.7	+7.0	147	194	+47	186	246	+60
France	12.8	14.8	+2.0	190	206	+16	237	259	+22
Ireland	4.6	11.1	+6.5	87	129	+42	110	164	+54
Italy	14.3	14.7	+0.4	207	213	+6	257	267	+10
Luxembourg	10.0	17.4	+7.4	167	217	+50	211	274	+64
Netherlands	7.4	11.2	+3.5	118	144	+26	149	182	+34
Austria	13.2	12.2	–1.0	187	184	–3	232	230	–2
Portugal	11.5	20.8	+9.3	195	257	+62	246	325	+80
Finland	10.4	13.7	+3.3	160	184	+24	200	231	+31
Slovenia	11.0	19.3	+8.3	181	230	+49	228	291	+63
<b>Euro area</b>	<b>11.5</b>	<b>14.1</b>	<b>+2.6</b>	<b>174</b>	<b>193</b>	<b>+20</b>	<b>217</b>	<b>243</b>	<b>+26</b>
<i>UK</i>	<i>6.7</i>	<i>8.6</i>	<i>+1.9</i>	<i>102</i>	<i>116</i>	<i>+14</i>	<i>128</i>	<i>146</i>	<i>+18</i>
<b>United States</b>	<b>4.7</b>	<b>6.5</b>	<b>+1.8</b>	<b>68</b>	<b>70</b>	<b>+2</b>	<b>85</b>	<b>88</b>	<b>+3</b>

Note: <sup>1</sup> Pension obligations approximated by discounting expected future pension expenditures (with discount rates of 5% and 3% p.a.) under a no-policy-change assumption. See European Commission, *The Impact of Ageing on Public Expenditure*, 2006. For the United States, the estimates are based on data for old-age, survivors', and disability insurance benefits and veterans' benefits from government as components of personal income.

Source: Mink (2008)

The need for reform is all the more imperative since, in recent decades, these systems have been set up as classic ‘Ponzi’ schemes worthy of Bernard Madoff (see Yang 2014). They relied on strong population growth, and their pay-as-you-go type financing meant that the excess funds were not saved for when the strong baby boomer generations retire. They were distributed to the population at large. As a consequence, these systems are seriously underfunded going forward. For example, in terms of the pension systems in the euro area, Mink (2008) estimated implicit general government pension obligations to be 217% of GDP in 2005, and this figure to further increase to 243% of GDP in 2050 (using a 3% discount rate, see Table 1). More recent estimates show an even larger imbalance in the pension systems of EU countries – for example, Cocquemas (2013) reports public pension deficits to be above 500% of GDP for the majority of EU-15 countries.

### The patient’s self ‘healing’

Unfortunately, most governments in Europe have not taken to heart the doctor’s advice, and have prescribed exactly the opposite treatment. Instead of conceptual long-term reform, they resorted to arbitrary spending cuts and tax increases, i.e. very short-term oriented ‘austerity measures’. Their apparent intention was not to deal with the long-term demographic-induced imbalances, but to comply with the rules embedded in the corrective arm of the Growth and Stability Pact (EU 2014), and its new stricter version, the Fiscal Compact (for more details see Frankel 2013). It postulates that public debt must not exceed 60% of GDP, or at least it must be falling sufficiently towards this threshold. Furthermore, the Compact requires that government budgets be balanced or in surplus,

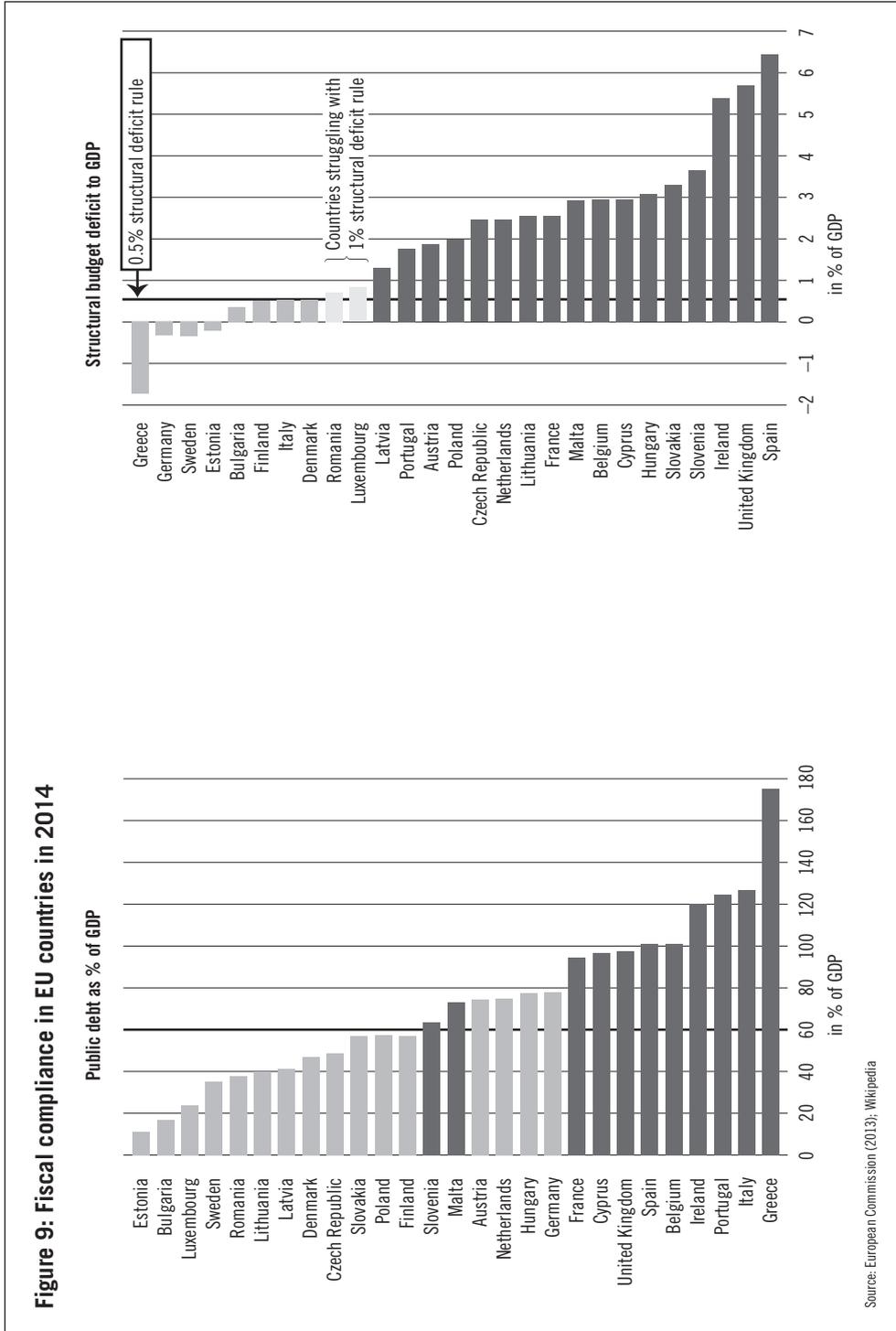
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**Most EU countries have not addressed the structural shortages in their pension and health care systems.**

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which is defined as a general budget deficit of no more than 3% of GDP and structural deficit of no more than 0.5% (or 1% if public debt is significantly below 60%).

Figure 9 reports fiscal outcomes in 2014 in regard to both rules. It shows that fiscal compliance in the EU is fairly low. Apart from the peculiar fact that, in the Compact’s balanced budget mathematics, it holds that  $0.5 \leq 0$ , it is clear that the Compact cannot deliver long-term fiscal sustainability. Among other reasons, it is because neither the demographic trends nor the

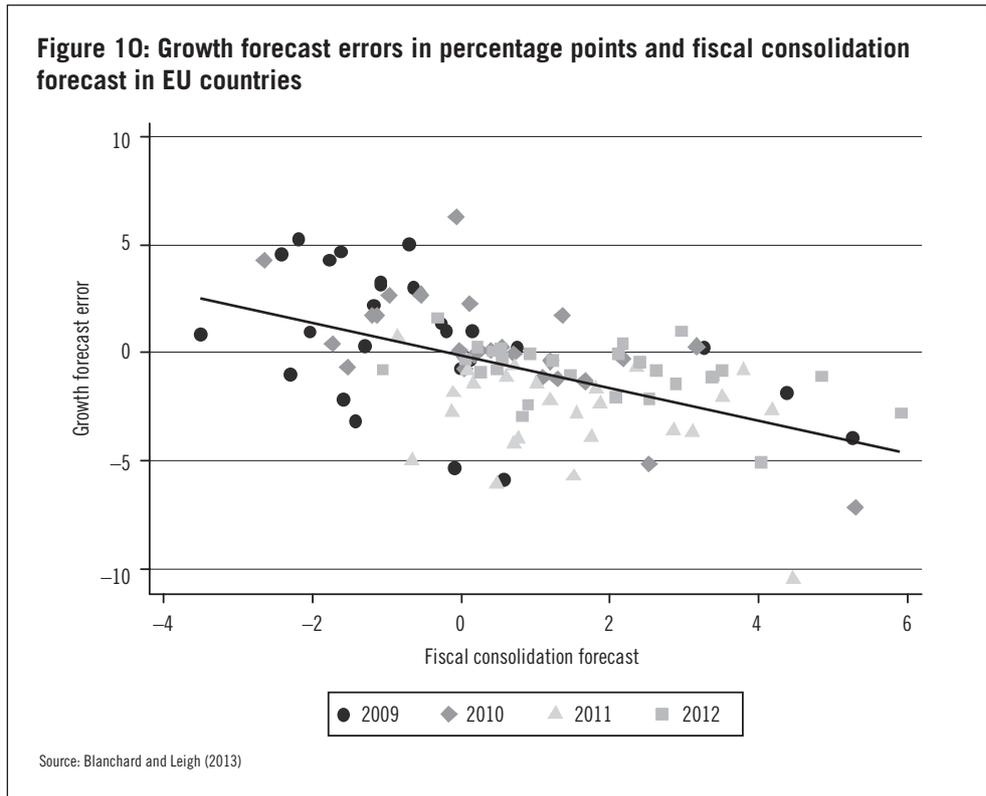


current economic weakness were factored in sufficiently by EU officials. The rules in the Fiscal Compact are defined as percentage of GDP and the comprehensive fiscal gap measure is ignored. In line with such myopic (and poorly enforced) rules, it is hardly surprising that most EU countries have not addressed the structural shortages in their pension and health care systems.

This implies two sources of uncertainty in the European economy that are arguably holding it back (apart from others such as a problematic banking sector). First, it is the long-term fiscal imbalances and likelihood of future sovereign defaults that have a negative effect on expectations and the economy. For example, Gruss and Torres (2012) conclude for the US that, ‘failing to address the fiscal imbalances associated with current federal fiscal policies for a prolonged period would result in a significant crowding-out of private investment and a severe drag on growth. Compared to adopting a reform that gradually reduces federal debt to its pre-crisis level, postponing debt stabilisation for two decades would entail a permanent output loss of about 17 percent and a welfare loss of almost 7 percent of lifetime consumption’ (see also Auerbach & Gale 2014). The uncertainty impacts most heavily on current young and future generations, whose lifetime net tax payments will have to be substantially higher than that of the current 60+ year-old generation, see Raffelhüschen (1999) for Europe and Gokhale *et al.* (2000) for the United States.

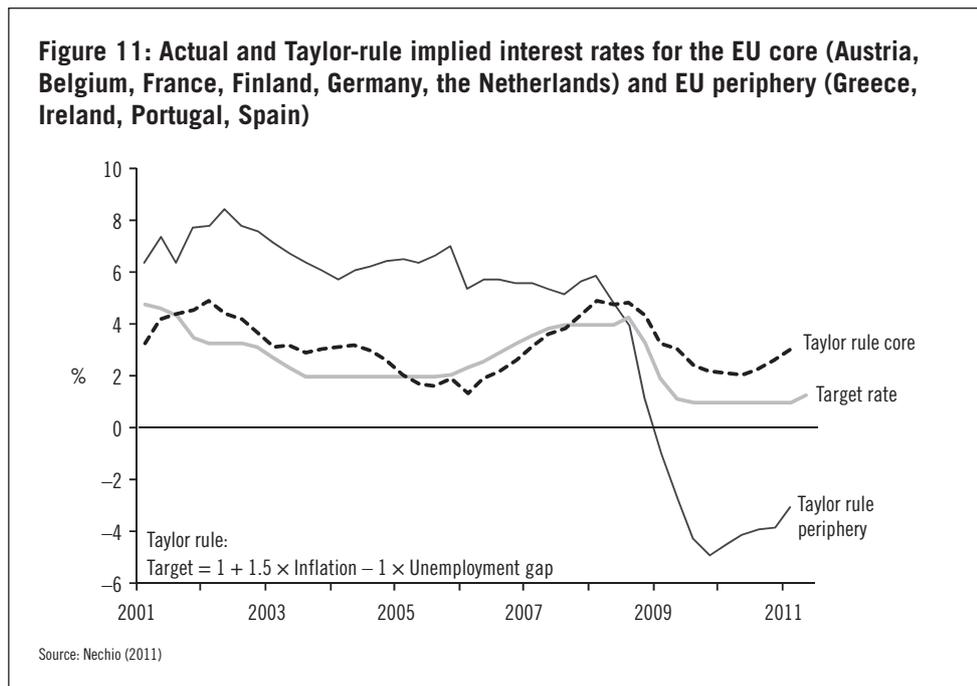
The second source of uncertainty is the effect of myopic austerity measures since 2010. While it is too early to offer conclusive evidence, the available data strongly suggest that these measures turned out to be counter-productive, see e.g. Blanchard and Leigh (2013), Busch *et al.* (2013), Liu (2013) and Oxfam (2013). The first of these papers, co-authored by the Chief Economist of the IMF, reports negative correlation between GDP growth forecast errors and fiscal consolidation forecasts (see Figure 10). It implies that a larger fiscal consolidation was associated with a lower GDP than expected.

The IMF’s admission of underestimating the size of fiscal multipliers and the cost of the post-crisis austerity was highly publicised. It appeared around the same time as the damaging critique of the influential research by Reinhart and Rogoff (2010) – research that provided the intellectual arguments for austerity in Europe. Specifically, the paper by Herndon,



Ash and Pollin (2013) identified major errors in the empirical analysis of Reinhart and Rogoff (2010), and showed that there is unlikely to be a magic threshold at the 90% debt-to-GDP level after which growth is crippled by debt. Recent research presents further evidence in this respect (see Pescatori *et al.* 2014).

Given that ill-timed and badly designed austerity measures have undermined the chances of a speedy recovery from the global financial crisis, the debt-to-GDP ratios have paradoxically increased in most EU countries over the past few years, despite budgetary savings. Such short-sighted austerity measures can therefore be compared to our patient periodically tying his hands in order to restrain himself from visiting the refrigerator. And so can be the result, which is a worsening of the economy's and the patient's health.

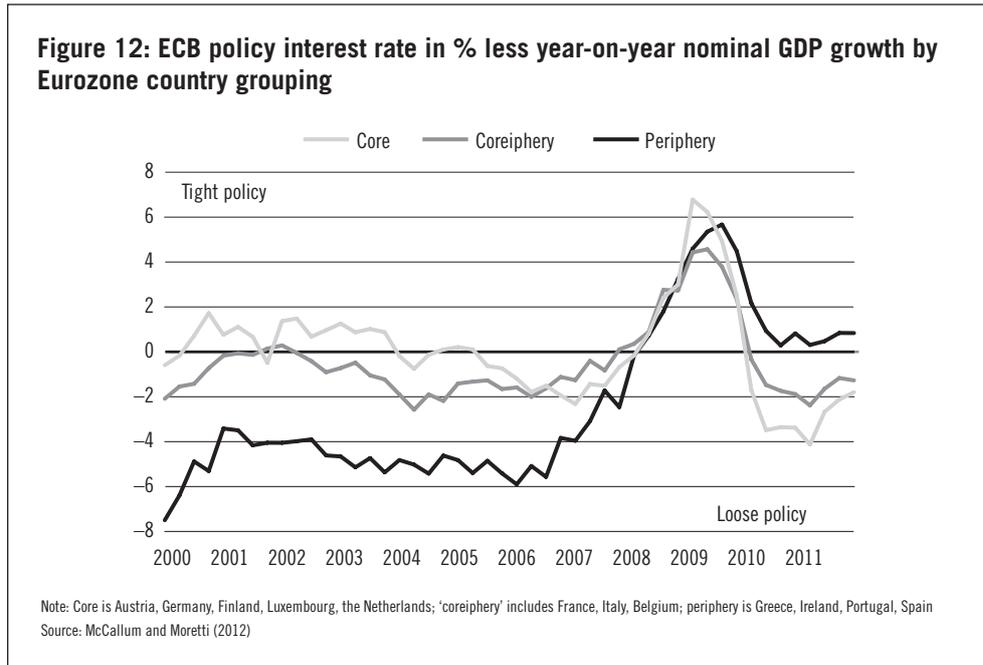


## Tied legs

In many of the euro area countries, this was further exacerbated by their tied legs, i.e. their use of the common currency euro. The past decade has provided us with ample evidence that the Eurozone is not an optimal currency area in the spirit of Mundell (1961), as the member countries' business cycles are not synchronised. Because of that, a common monetary policy and lack of exchange rate flexibility may hurt most (if not all) member countries, a problem known as 'one-size-fits-none' (for some evidence see, e.g., Geiger & Spahn 2007; Mascherini *et al.* 2007; Nechio 2011; McCallum & Moretti 2012).

Figure 11 shows the ECB's target interest rate in comparison to the rate implied by the standard Taylor rule (Taylor 1993) – separately for the EU core and periphery countries. It shows that during the 2002–2006 period the optimal interest rate for the EU periphery was 5.5–8%, which was substantially higher than the optimal rate of 1.5–4% for the EU core.

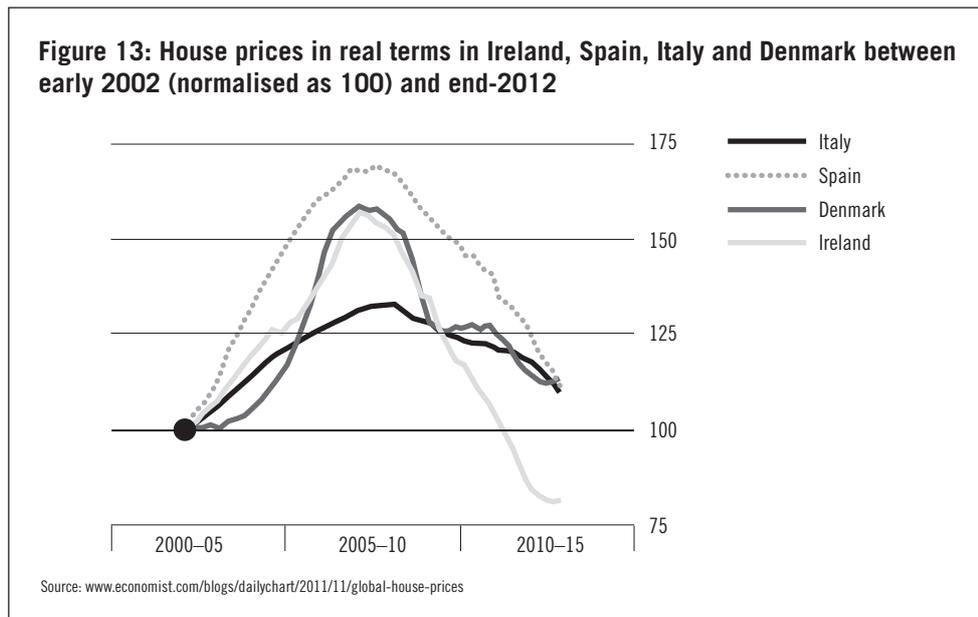
Figure 12 provides an alternative perspective using a different measure of optimal policy and a different country grouping. While it depicts



nominal GDP growth, and puts Eurozone countries into three rather than two categories, the conclusion remains the same.

Economic outcomes of the Eurozone's periphery, especially of Spain and Ireland, speak volumes about the inadequacy of the European monetary union and common monetary policy setting. Before the global crisis, these economies were growing strongly and overheating past capacity. The desirable contractionary monetary policy – the stepping on the brake in the form of higher interest rates, however, never occurred because the European Central Bank took account of the stagnation in the European core (mainly Germany and France). It is apparent in Figure 12 that the ECB's policy was too expansionary during the 2001–2005 period, and tailored to the needs of the core. Such excessively low interest rates led to higher wage and price inflation in the EU periphery, which in turn led to their loss of competitiveness against Germany and the rest of the EU core. Krugman (2012) reports the loss of Spain's competitiveness relative to Germany around 30% over the 1999–2012 period.

What was worse, such low interest rates significantly contributed to the creation of bubbles in the banking, real estate and stock markets in the periphery countries. The banking systems in Ireland, Iceland and Cyprus



ballooned out of proportion – for example, in Cyprus its assets reached 800% of GDP, and more in the other two countries. In terms of house prices, Figure 13 shows them adjusted for inflation in selected EU countries over the 2002–2012 period. The price rise from 2002 up until the start of the crisis was substantial, namely 68% in Spain, 58% in Denmark, 57% in Ireland and 33% in Italy. The subsequent drop was equally large: close to 50% in Ireland, 34% in Spain, 28% in Denmark and 17% in Italy.

It is clear that the bursting of these asset bubbles was very costly indeed. This included the direct cost of rescuing financial institutions – e.g. in Belgium and Iceland, banks that failed or received government assistance formed more than 80% of all banking assets. This meant public debt grew substantially, in Ireland from 25% of GDP to 120% of GDP over the 2008–2013 period. Greek GDP dropped by 15% over that period, and keeps falling. Unemployment in Spain increased from 8% to 26%, and to an unbelievable 56% among young people. Hand in hand with these dire macroeconomic outcomes stock markets took a serious hit. The main Greek stock index lost 80% of its value during the first five years of the crisis, the Irish one managed a comparable drop within a mere two-year period, Spanish stocks fell by half.

This meant that citizens experienced dramatic reductions in wealth. The economic downturn further led to a worsening of the outlook for public finances, and expenditure cuts in a number of areas. An individual may therefore have been negatively affected through many different channels; she may have lost her job, savings and house, as well as promised government payments. The most severe impact was arguably experienced by the low-income segment of the population.

In terms of the inappropriateness of common monetary policy and adverse effects of euro membership, the 2014 situation is just a mirror-image of the pre-crisis 2004–2007 period. The reversal of economic ‘fortune’ is apparent in Figure 12. It is now the periphery that is faltering, while the core, especially Germany, is performing at a better (although still sub-par) pace. Both current problems of the EU periphery – the bursting of asset bubbles and losing competitiveness – would be much easier to address via exchange rate adjustments and autonomous monetary policy. European periphery countries, however, no longer have these short-term stabilisation tools at their disposal. Figure 11 shows that, since 2008, the interest rate implied by the Taylor rule has been much lower for the periphery than the core. For example, in late 2009 the difference was a whopping 8 percentage points; 3% in the core compared to –5% in the periphery countries.

Given that the periphery countries can use neither monetary policy nor the exchange rate channel – the weakening of which could support their exports, as was the case with Iceland – they struggle to stimulate their moribund economies. In dealing with their liquidity trap situation they are forced to undergo a costly process of ‘internal devaluation’ – wage and price deflation accompanied by deepening stagnation (for details see European Commission 2011; Ruparel 2012).

One historical lesson to learn is that the economic boom at the EU’s periphery prior to 2008 was a blessing in disguise, in the same way the subsequent boom may turn out to be problematic for Germany further down the track. It is not clear how long the periphery countries will lie on the outskirts of Europe with its legs tied, but it is obvious that delaying the solutions increases the likelihood of euro break-up or, at a minimum, its significant depreciation.

## Further health complications

### Malnutrition

Myopic austerity measures, straitjacket imposed by euro membership, lack of long-term reforms dealing with structural imbalances and demographic changes, and the uncertainty associated with all of these problems have meant that the medium- to long-term growth prospects in Europe have deteriorated. Concerns over the possibility of a secular stagnation have thus become more prominent in recent years. For example, Krugman (2014a, 2014b) points to several avenues through which a permanent decline in economic growth could eventuate. First, decreases in the working-age population tend to result in lower investment-to-GDP ratio and hence lower rate of economic growth. Second, aggregate demand is

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**Europe may have entered a liquidity trap era with the natural rate of interest being permanently negative.**

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likely to be lower than it was prior to 2008, as the indebtedness of households and the financial sector falls to more normal levels. Third, the large capital flows from the EU core to its

periphery before the crisis, an important source of aggregate demand, are unlikely to be repeated.

Summers (2013) provides similar arguments. He believes that advanced countries may have entered a liquidity trap era with the natural rate of interest, i.e. the short-term rate underlying full employment and potential output, being permanently negative. Eggertsson and Mehrotra (2014) offer a formal model of secular stagnation, in which 'a permanent (or very persistent) slump is possible without any self-correcting force to full employment'. In their analysis the slump can be created or exacerbated by many circumstances observed in Europe currently, namely a deleveraging shock, a decrease in population growth, a rise in income inequality, as well as a reduction in the relative price of investment.

It is illuminating to present the historical parallel. The term secular stagnation was coined in 1938 by the President of the American Economic Association, Alvin Hansen (see Hansen 1939). Shortly after his speech, the Second World War broke out and resulted in large increases in government spending. These provided a boost of aggregate demand and ended concerns over secular stagnation, assisted by the post-war population boom. It seems unlikely, however, that such factors

will ‘help’ Europe and other advanced economies avoid secular stagnation this time around.

Gordon (2012) discusses alternative channels of a secular decline in GDP in high-income countries. He argues that all innovations are not created equal, and presents arguments for the fact that technological progress may, like physical capital, be subject to diminishing returns. In addition, he points to other factors that are likely to slow down economic growth, such as environmental/energy problems or growing inequality (for more detailed arguments regarding the latter, see Picketty 2014).

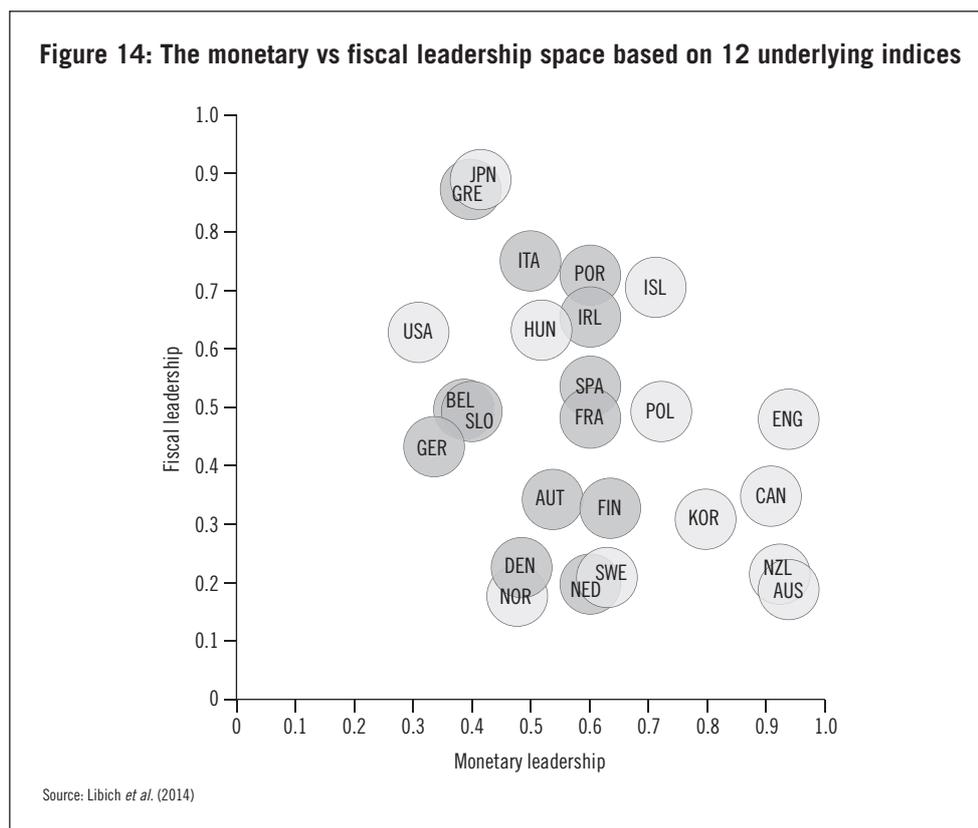
### High blood pressure

In the past, a common solution to the problems of high indebtedness and economic stagnation has been excessive money printing. From a politician’s perspective, an option with higher inflation that reduces the real value of public debt may be more appealing than the alternatives because pensioners and public-sector employees do get paid – even if only in a watered-down currency.

Unfortunately, this does not provide a viable long-term solution to the patient’s weight problem. In fact, it may constitute an additional health complication: high blood pressure. This is because it injects another layer of uncertainty regarding the patient’s (economy’s) recovery-ensuring treatment. As excessive money printing leads to higher and more variable inflation, it does not only erode the purchasing power of citizens, but it also destabilises the economic environment through its effect on expectations (see, e.g., Clark & Davig 2008).

Some may point out that modern central banks in advanced countries are formally independent from the government, and would therefore not allow a scenario with excessive inflation. Economic research, however, shows that in a situation of severe fiscal stress central banks cannot effectively prevent higher and/or more volatile inflation – no matter how conservative and independent they are. There are various channels through which fiscal excesses may spill over to monetary policy (see, e.g., the unpleasant monetarist arithmetic by Sargent and Wallace (1980) or the fiscal theory of the price level by Leeper (1991)).

Libich and Stehlík (2011) and Libich *et al.* (2014) attempt to endogenise Leeper’s active/passive policy regimes by examining the strategic interactions between the central bank and the government (the so-called game



of chicken, see also Barnett (2001), or Alesina and Tabellini (1987)). They propose a generalised concept of leadership, and quantify it for a number of countries in order to assess their likelihood of an inflationary scenario. Figure 14 reports their monetary vs fiscal leadership space, with the euro area countries indicated in grey. The probability of an inflationary solution to the long-term fiscal imbalances is the highest in the top-left-hand (fiscal dominance) corner, i.e. in Greece, the US and Japan. It is the lowest in the bottom-right hand (monetary dominance) corner, i.e. in Australia. For countries in the middle, including most of the Eurozone, the probability is somewhere in between.

Nevertheless, the game theoretic analysis of Libich *et al.* (2014) shows that, in such countries, the probability of deflation occurring in the aftermath of a major downturn is the highest. This is because neither the central bank nor the government dominate, i.e. have sufficient leverage over the other, which makes a tug of war between the two institutions

more likely. Such a policy conflict can take the form of a ‘waiting game’ in which both the government and central bank postpone needed stimulatory measures in order to induce the other institution to carry them out.

In summary, while hyperinflation – price level growth by more than 50% monthly – is very unlikely in Europe, the chances of sub-optimally high inflation in the medium to long term (e.g. 10% annually) increase significantly over time as conceptual solutions to the problems of fiscal imbalances and euro-induced inflexibility are absent. Interestingly, one of the solutions proposed for both problems is to temporarily allow slightly higher overall inflation in the Eurozone. Research suggests that a temporary increase in the European Central Bank’s (ECB) inflation target – e.g. from 2% to 4% for five years, as proposed by Schmitt-Grohé and Uribe (2013) – would have three desirable effects.

First, slightly higher inflation helps reduce the real burden of debt and thus alleviate the short-term fiscal stress facing some periphery countries. Second, a slight increase in the ECB’s inflation target would increase inflation expectations, and stimulate consumption and investment – partly offsetting the deleveraging trend of the post-crisis period. Third, such an increase would enable the Eurozone’s periphery to regain its competitiveness relative to the core. This is because slightly higher inflation can reduce real wages even in an environment of rigid nominal wages without forcing costly deflation. The implication for the Eurozone is that slightly higher inflation can now reduce the danger of significantly higher inflation in the future.

## Healthy lifestyle for prosperity

How can Europe get out of this vicious circle of poor health, inappropriate myopic treatment and worsening health? This article has argued that European politicians and voters can no longer afford to be short-sighted and ignore the underlying long-term problems. What does it mean exactly? The policy discussion is usually framed as either ‘Europe needs to save’, by those who worry about long-term fiscal imbalances, or ‘Europe needs to spend’, by those who worry about the post-2008 weakness in the economy. The needed solution is claimed to be austerity by the former group and stimulus by the latter. Our discussion has implied that such a black-and-white perspective is incomplete and in fact flawed.

We have argued that Europe needs both – to save over the long term and to spend over the short term. Put differently, it needs long-term austerity together with short-term stimulus – the exact opposite of what most EU countries have done since 2010. We discussed the fact that Europe first needs credible conceptual pensions and health care reforms that reduce the long-term (demographics driven) fiscal gap. These reforms will then calm the markets and untie the hands of EU governments to carry out stimulatory measures that deal with the sub-par recovery from the 2008 crisis.

Using our medical analogy, most European countries have to commit to a suitable diet and exercise routine for their public finances – a diet that will not just reduce their waistlines in the short term, but that will cease their dependence on insulin (i.e. debt) once and for all. Changing the budgetary lifestyle may feel uncomfortable for a while, but it will certainly be beneficial in the long term. This is both in terms of the treatment of the fiscal diabetes and in reducing uncertainty about the future.

We have argued that such a lifestyle change is likely to stimulate economic activity of households and firms, and end the post-2008 economic stagnation. By doing so, it is also likely to reduce the risk of excessively high (or low) inflation and a collapse of the euro further down the track. Needless to say, such a scenario would benefit not only the health of Europeans, but also their wallets and refrigerators.

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