Mind The Gap

Quantifying the pension savings gap in Europe

September 2016

AVIVA

EUROPE'S PENSION SAVINGS GAP 2016
EXECUTIVE SUMMARY

INTRODUCTION

Europe is ageing. By 2060 over a quarter (28%) of the EU's population will be over 65.

This report updates Aviva's landmark Mind the Gap analysis illustrating the potential scale of Europe's pension savings gap. It aims to provide a broad estimate to stimulate debate on the scale of the challenge and how to address this. Whilst these figures are only an indication and not a prediction, there are trends that can be seen.

EUROPE'S PENSION SAVINGS GAP REMAINS SUBSTANTIAL

The pension savings gap shows how much more people retiring between 2017 and 2057 need to save each year to achieve an adequate standard of living in retirement.

This updated analysis suggests Europe may need to save an extra €2 trillion a year to close the pension savings gap. This is equivalent to around 13% of EU 2016 GDP.

As a percentage of GDP the pension savings gap currently poses the biggest challenge in Spain at 17%. Italy's gap is the lowest in proportion to its GDP at 6% but its generous state pension may not be sustainable into the future.

Since 2010 the pension savings gap has increased in countries like Ireland and Spain. Factors increasing a country's gap can include lower state pensions, state pension growth lagging behind wage growth or lower annuity rates.

Since 2010 the pension savings gap has reduced in countries such as the UK and Poland. Factors helping to reduce a country's gap can include increases in state pensions, increases in the number of people saving in private pensions or increases in the retirement age, forcing individuals to postpone retirement.

No single policy measure will close the gap alone – even radical measures like increasing the retirement age by 5 or 10 years only reduces the gap by a quarter and a half respectively. Increasing the state pension by 10% also reduces the gap by a quarter, but may not be feasible in the current fiscal climate.

THE PENSION SAVINGS GAP DIFFERS GREATLY ACROSS GENERATIONS

In Aviva's Consumer Attitudes Survey, half of those not in retirement are worried they will not have enough money to provide an adequate standard of living in retirement, but only a third are taking steps to address this.

Younger people have the greatest opportunity to address their pension savings gap, and we see this in all countries. For example in Ireland the average 30 year old needs to save an extra €5,100 a year and a 50 year old an extra €9,700 a year. Starting to save early can be key to plugging the gap.

In addition to their pensions, individuals plan to use a range of strategies to fund their retirement including their home and other properties.

A quarter of Europeans surveyed are choosing to work beyond the normal retirement age, the majority citing financial reasons as the primary cause.

CONCLUSIONS AND RECOMMENDATIONS

ACCESS: With responsibility for saving increasingly shifting to individuals, governments can increase access to pensions and prompt people to save by:

- introducing automatic enrolment with an employer contribution
- where this already exists sharing learnings and consider building on scope, adequacy and engagement

STABILITY: Pension systems need to be stable to incentivise saving:

- pension reform should be evidence-based with political consensus
- tax incentives need to be durable and understandable to win people's trust

COMMUNICATION AND INFORMATION: Governments should work with industry, the European Commission and EIOPA to improve pension information and prompt individuals to assess where they stand:

- provide citizens with a consolidated view of their pension savings and share best practice
- establish an annual pensions day / week

CAPABILITY: Individuals need skills and help to take decisions. Governments should:

- introduce financial education into the national curriculum and share best practice
- work with industry and partners to develop and share 'rules of thumb' to give people a sense of how much they need to save when

Foreword

Europe is getting older. By 2060 over a quarter of Europe's population will be over 65. This report estimates that hundreds of millions of people across Europe face a shortfall in the pensions they need for an adequate retirement. The stark fact is that across all ages and countries people need to save more for retirement. We've worked with Deloitte to estimate that across Europe as a whole the annual pension savings gap has now topped 2 trillion euros. That figure speaks for itself.

As a global insurer and asset manager, Aviva has a social purpose – and part of that purpose is to help people save for a secure and prosperous retirement.

The pension savings gap we have identified presents a huge challenge. Everyone, at every stage of their working lives, must be aware of the need to make appropriate provision for their retirement. It is a critical issue for society as a whole to help them do so. Aviva is committed to delivering solutions that work for our customers and this report offers ideas for how to help them. I hope that national governments and parliaments, supported by institutions such as the European Union and OECD, will consider our recommendations. I am confident that governments, companies and individuals can work together to bridge the gap – and that this report presents pragmatic, practical measures to help us achieve that.

Andy Briggs
Global Life Chairman, Aviva

"I am confident that governments, companies and individuals can work together to bridge the gap."

Contents

1. Introduction **6**
2. The pension savings gap across Europe remains substantial **8**
3. The pension savings gap differs greatly between generations **14**
4. Bridging the gap: helping people to help themselves **20**
5. Appendix
    a. Technical detail **24**
    b. Data annex **25**

1. Introduction

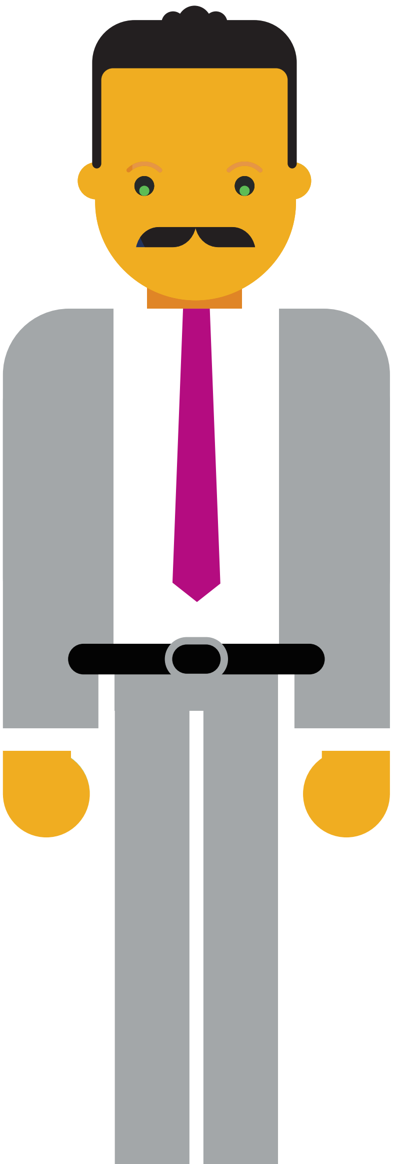
Europe is ageing. By 2060 over a quarter (28%) of the EU's population will be 65 or over[1], up from 18% today. At Aviva we're here to support our customers on their journey to retirement; to help them think carefully about what they are trying to achieve and how.

Many people regularly save into a pension over their working lives, with the expectation this will produce part, if not all, of their retirement income. This report updates Aviva's landmark *Mind the Gap* analysis from 2010, looking at whether what they're currently saving is likely to be enough to meet their needs, and if not what can be done to address this. We've called this the "pension savings gap".

What is Europe's pension savings gap?
It is how much more people who retire between 2017 and 2057 need to save each year to fill the gap between the pension they can currently expect to receive (from a possible combination of state, workplace and private pensions) and the amount people are likely to need for an adequate standard of living in retirement.

What do you need for an adequate standard of living in retirement?
We've defined this based on the concept of "replacement rates".

What is a replacement rate?
It is the percentage of the income (after tax) that you earn just before you retire that you will continue to need in retirement. Typically people do not need 100% as by this stage many people have paid off their mortgage and no longer need to save for their retirement.



Does everyone need the same?
We think this depends on how much you earn before you retire. People on lower incomes may be more dependent on their salary for day-to-day living, so for the purposes of this report we've suggested its ideal they aim for a 90% replacement rate. For mid-income earners we've said 65%. High income earners will have higher levels of disposable income beyond their everyday needs, so for these people we've based our calculations on 55% of their final salary.

What about other types of income or savings?
We've focused here on pensions as they're specifically designed to help people fund their retirement. It's important to understand just how much you may need to save to plug any potential shortfall. To address this people's plans may also then include assets such as property, investments or cash deposits – the critical thing is to think ahead for the future and that's what we hope this report will prompt people to do.

[1]Further, the demographic old-age dependency ratio (people aged 65 or above relative to those aged 15-64) is projected to increase from 27.8% to 50.1% in the EU between 2015 and 2060. Source: The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies (European Commission, 2015)

This report looks at the difference between people's pre-retirement income and their expected pension income to estimate if they will have enough to live on in retirement, and if not how to get there. As a general rule of thumb the OECD suggests people aim for a 70% replacement rate, which we've adapted in our methodology according to pre-retirement income levels. This level of replacement rate may not be achievable by all, but we hope that working together on our recommendations will at least help people improve on current projections.

Before moving onto the pension savings gap itself, it's interesting to stop and consider what actual replacement rates Europeans currently achieve.

In 2017 replacement rates in all the countries we've examined are expected to be below 55%. Whilst Poland (54%) and France (53%) are among the highest, some are as low as 39% (UK) or 41% (Lithuania), well below the OECD's ideal of 70%.

Figure 1 shows that there is no room for complacency even in those countries performing well now, as under-saving suggests replacement rates in nearly every country will fall further - in some cases quite precipitously. In France, as in Spain, the relatively strong replacement rate now is due to a generous state pension, but this is due to decrease and current levels of pension savings will not make up the difference. In Poland the rate is also likely to drop because state pension income is estimated to decline.

With this in mind it is clear that the pensions savings needed to make up the difference are likely to be substantial. Chapter 2 of this report quantifies the additional savings that could be needed on a European and national scale and discusses the role of governments in addressing this. Chapter 3 moves on to consider the potential pension savings gap from an individual perspective, particularly relevant at a time where people are increasingly having to take personal responsibility for saving for their future. Finally Chapter 4 highlights some of our ideas and recommendations for where governments, industry and consumers can work together to bridge the gap. There is cause for hope; reforms such as automatic enrolment have already been shown to have a significant impact on people's pension savings.

"Across Europe average pension income is currently lower than 55% of people's pre-retirement income, and this is likely to drop to 44% or below by 2047"

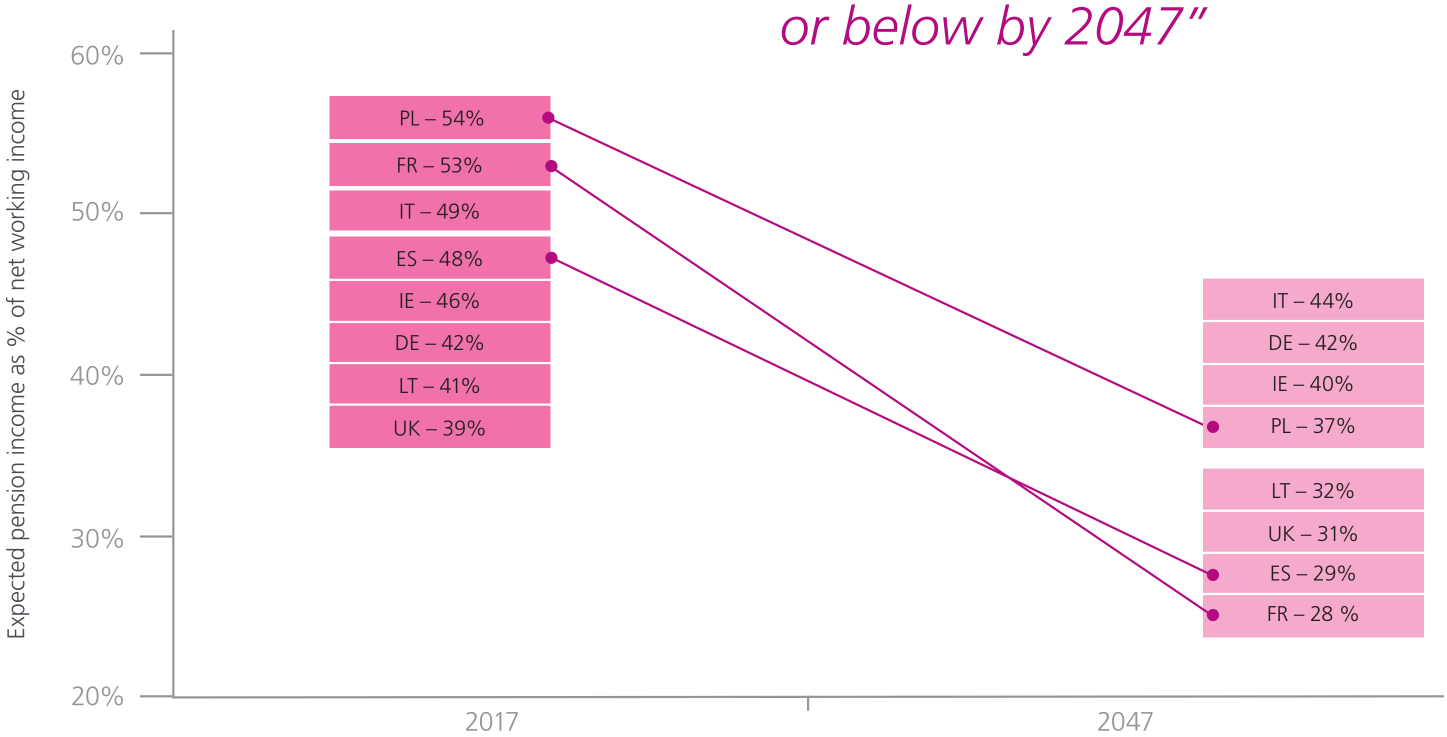


Figure 1: Average replacement rate likely to be achieved by individuals retiring across Europe in 2017 and 2047 Source: Mind the Gap (Aviva, 2016)

2. The pension savings gap across Europe remains substantial

To close the gap Europe needs to save an extra €2 trillion a year

Across Europe people retiring between 2017 and 2057 may need to save an additional €2 trillion each year to achieve an adequate income in retirement. The sheer scale of this expected shortfall, which equates on average to around 13% of 2016 GDP, emphasises the impetus for governments to focus on how best to deal with the needs of an ageing population. This chapter helps policy-makers quantify the extent of the pension savings gap in their own countries and explores the underlying drivers for these results[2].

Europe's pension savings gap

Estimated (€bn p.a.)

Figure 2: Annual pension savings gap (€bn). Source: Mind the Gap (Aviva, 2016)

As a proportion of 2016 GDP Spain currently faces the biggest pension savings gap, Italy the lowest

To allow for comparison between countries the pension savings gap can also be calculated as a percentage of each nation's 2016 GDP. For most countries studied this ranges between 11% – 15%. Spain has the highest percentage at 17%. This makes Spain's pension savings gap equal to its current government expenditure on healthcare and pensions. In the UK the pension savings gap is 13% of 2016 GDP[2], roughly the same as total UK spending on social benefits[3].

Italy is the exception with its pension savings gap sitting at 6% of 2016 GDP. The gap may be relatively low as the state provides a generous level of state pension support to its citizens – Italian public pension spending amounts to 15.8% of GDP compared to an OECD average of 7.9%.[4] However, this level of spending on state pensions may not be sustainable if it crowds out other government priorities and puts government finances under pressure.

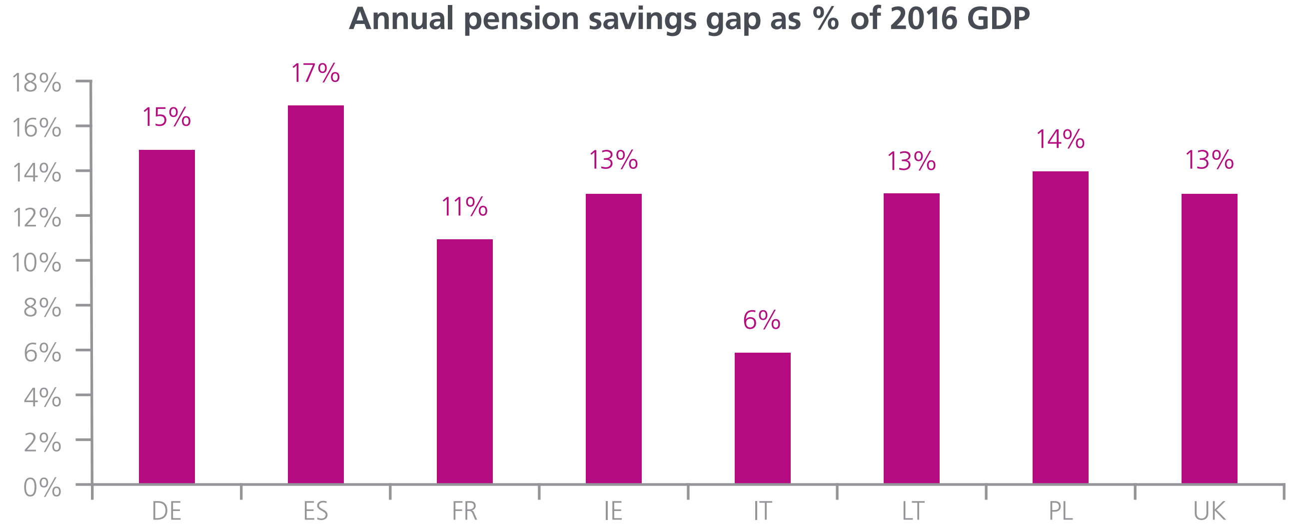


Figure 3: Annual pension savings gap as a % of 2016 GDP. Source: Mind the Gap (Aviva, 2016)

How does this compare to 2010?

The pension savings gap presents a long-term challenge to European countries, but it won't stand still whilst governments consider how to tackle the issue. Looking back to Aviva's *Mind the Gap* 2010 report Europe's pension savings gap has increased in six years from €1.9 trillion to €2 trillion.

Beneath this overall figure sits a diverse landscape of changes across individual countries as some see their gap increase, some decrease, and a myriad of different policy initiatives have been introduced in an attempt to address this ongoing issue.

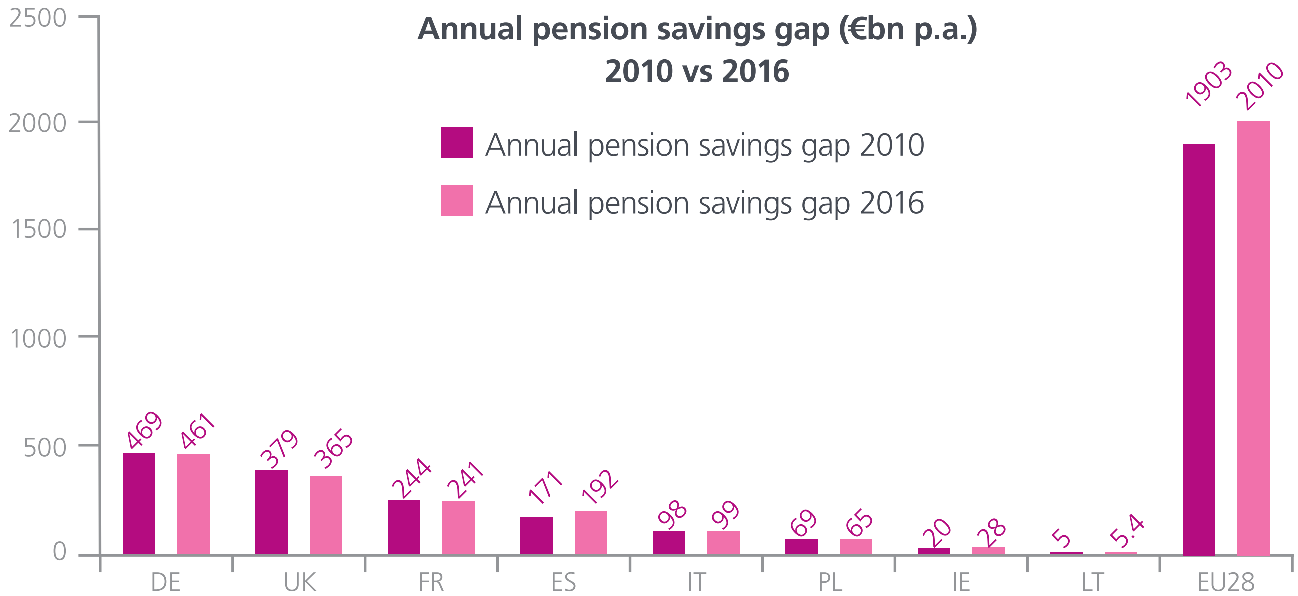


Figure 4: Annual pension savings gap comparing 2010 with 2016 in €bn. Source: Mind the Gap (Aviva, 2016)
To note: actual estimated figures for each country, not adjusted for inflation. Country inflation rates since 2010 detailed in the Appendix.

[2] The OECD estimates that Spanish public spending on pensions was 10.5% of GDP in 2011 and public spending on health was 6.3 % of GDP in 2014.
[3] The OECD estimates that the UK spent 14.08% of GDP on social benefits to households in 2015
[4] Pensions at a Glance 2015, OECD and G20 indicators. (OECD, 2015)

There are a number of factors which have contributed to the pension savings gap increasing since 2010. These include:

- reductions in the level of state pensions
- state pension growth lagging behind wage growth
- lower annuity rates
- decline in defined benefit pensions where present

Countries where the pension savings gap is bigger now than in 2010 include:

- **Ireland and Spain:** have been strongly affected by the recession in recent years. The pension savings gap has widened as these governments adopted policies freezing the state pension during the recession. Ireland has since begun to increase the State Pension in annual budgets, but this is likely to be dependent on continued economic growth.
- **Lithuania:** wage growth has outpaced pension growth.

On the opposite side some policy measures introduced since 2010 have translated into smaller pension savings gaps. These include:

- increases in the level of state pensions
- increases in the number of people saving into defined contribution pensions[5] (in some cases triggered by automatic enrolment)
- higher retirement ages (lowering the number of people retiring)

Countries where the pension savings gap is smaller now than in 2010 include:

- **The UK:** the government's pension 'triple lock' means the state pension increases every year by the highest of price inflation, earnings growth or 2.5%. The state pension age is also gradually being pushed out to 67 for both men and women from 2028 and 68 from 2046.
- **Poland:** whilst state pension levels lagged behind salary increases between 2006 and 2012, the overall pension savings gap fell helped by a reduction in the number of expected retirees due to gradual increases in retirement ages which started in 2013, aimed at reaching a uniform retirement age of 67 for men (by 2020) and women (by 2040). However, this age change is now being discussed and may be revised back downwards.

This analysis suggests that even in countries where government policies have encouraged a reduction in the pension savings gap, these actions have not yet come close to eliminating the gap completely. The Mind the Gap model allows us to explore how radical policy change would need to be to move further towards reducing the gap through one specific targeted policy.

[5] Defined contribution pensions (sometimes referred to as a 'money purchase scheme') are pension schemes in which an individual (and potentially their employer) contribute money into an individual pension scheme. The value of the scheme depends on the performance of the funds or assets that are invested in.

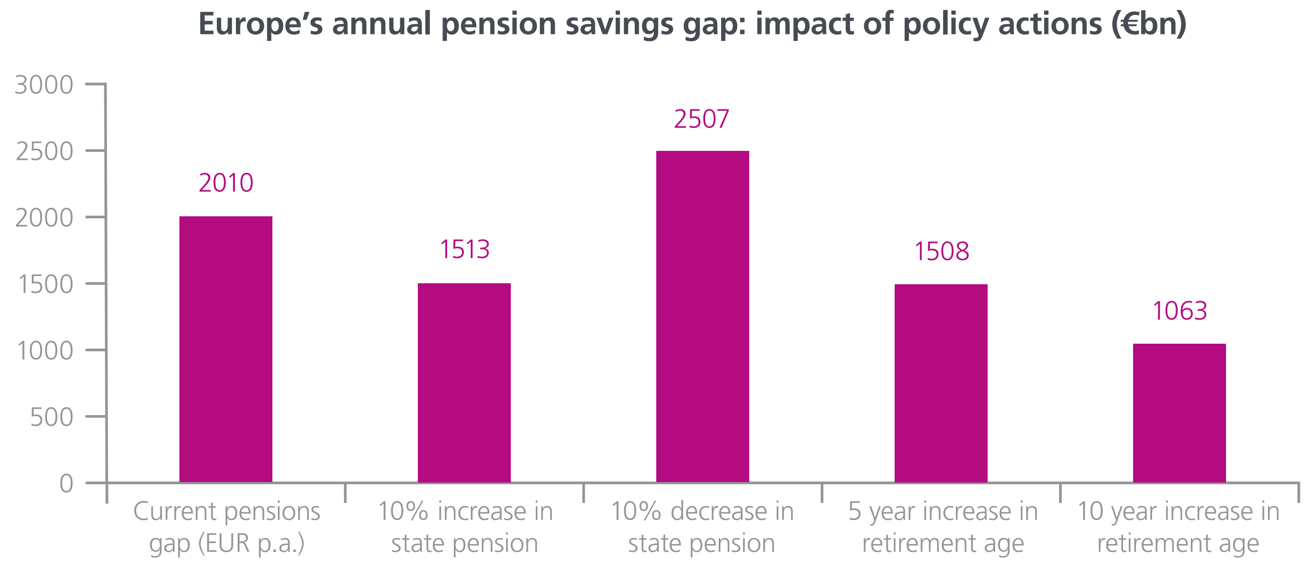


Figure 5: Impact of different government policy actions on Europe's annual pension savings gap (€bn).
Source: Mind the Gap (Aviva, 2016)

Increasing retirement ages across Europe would reduce the gap as less money is required for a shorter period in retirement. As a blunt example - **increasing the retirement age by 5 years reduces the EU gap by roughly a quarter, and by 10 years by a half.** However such drastic action raises new challenges if people have not planned early enough to retire at a later date, or if they are not healthy enough to keep working. The UK has opted to regularly review the state pension age based on people spending roughly a third of their adult life drawing a state pension. In other countries pushing the retirement age back has been less accepted as an option. In Poland for example an increased retirement age has reduced the pension savings gap but there are plans to reverse this.

Looking briefly also at the possibility of **increasing the state pension – doing so by 10% would reduce the gap by almost a quarter.** Whilst this could help move people closer to an adequate retirement income, it is a difficult choice for governments struggling to balance public finances. Even leaving state pensions at current levels will lead to significant increases in public spending: figure 5 shows the proportion of GDP spent on state pensions is already estimated to increase over the next 40 years in almost all EU countries analysed.

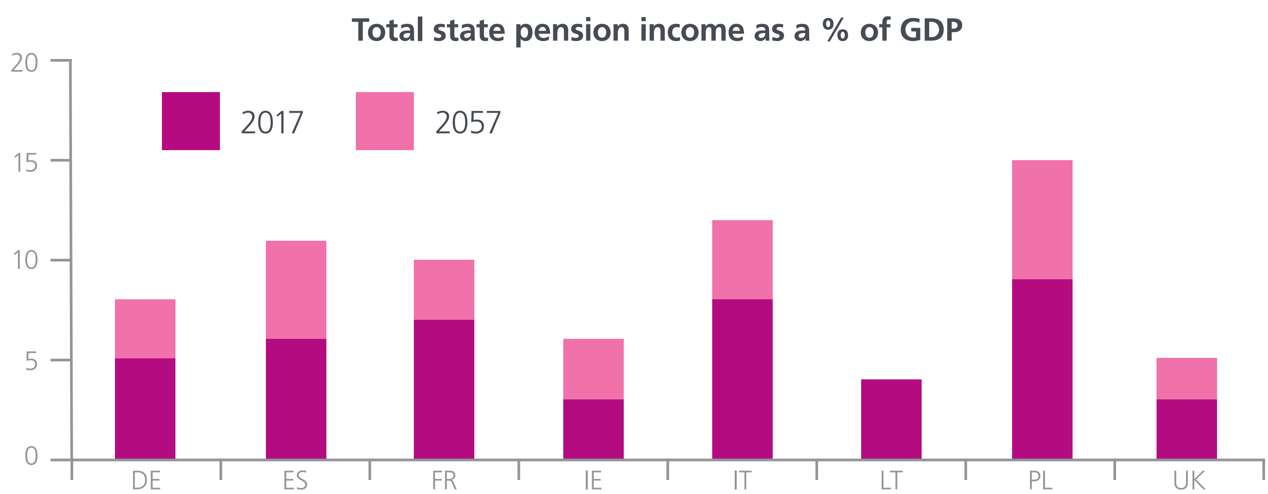


Figure 6: Total state pension income received by retirees as a proportion of GDP[6]
Source: Deloitte analysis, Projections of individuals aged over 65 (Eurostat), World Economic Outlook Database October 2015 (IMF)

It's clear that over the longer-term governments will need to consider a combination of measures to address the retirement needs of their citizens – there is no one quick fix. And because of the additional pressures on public finances individuals will also need to take more personal responsibility for saving for their future - we'll look at this in more detail in Chapter 3.

[6] Figure 6 assumes mean per capita state pension income provision and GDP remain constant from 2017; only the number of retirees varies between 2017-57. Proportion of GDP received by retirees in Lithuania drops from 4% to 3%.

Country key facts

France

-1%

Number of people retiring 2017-57	32.9 million
Annual pension savings gap (2010)	€244bn
Annual pension savings gap (2016)	€241bn
Annual pension savings gap as a % of GDP (2016)	11%

What's happening in France?

- State pension growth was more aligned to increases in salaries but has recently been frozen.
- State pension contribution rates will increase by 0.3 percentage points by 2017 for both employees and employers.

Germany

-2%

Number of people retiring 2017-57	40 million
Annual pension savings gap (2010)	€469bn
Annual pension savings gap (2016)	€461bn
Annual pension savings gap as a % of GDP (2016)	15%

What's happening in Germany?

- State pension growth has not kept up with wage growth.
- Private pension coverage has increased as more people are saving into DC pensions
- Average retirement age was 60.7 in 2010, now 62.7. The Government has legislated to increase the state pension age from 65 to 67 by 2029.

Ireland

38%

Number of people retiring 2017-57	2.3 million
Annual pension savings gap (2010)	€20bn
Annual pension savings gap (2016)	€28bn
Annual pension savings gap as a % of GDP (2016)	13%

What's happening in Ireland?

- Budget 2016 saw the first increase in State Pensions since 2009.
- State pension beneficiary age will rise from 66 currently to 67 in 2021 and 68 by 2028.

Italy

1%

Number of people retiring 2017-57	25.3 million
Annual pension savings gap (2010)	€98bn
Annual pension savings gap (2016)	€99bn
Annual pension savings gap as a % of GDP (2016)	6%

What's happening in Italy?

- State pension has declined in relation to salary growth.
- Reforms made in 2011 mean that the state pension age increases to 67 in 2021, after that it will increase with longevity. The reforms also increased the retirement age for women working in the private sector from 60 to 62 in 2012, and to 66 from 2018.
- Reforms made in 2007 increased the attractiveness of voluntary occupational pensions by offering higher incentives and automatically transferring severance payments into the fund.

Lithuania

9%

Number of people retiring 2017-57	1.4 million
Annual pension savings gap (2010)	€5bn
Annual pension savings gap (2016)	€5.4bn
Annual pension savings gap as a % of GDP (2016)	13%

What's happening in Lithuania?

- Wage growth has outpaced pension savings.
- Since 2012 the retirement age is gradually being raised and will reach 65 for both men and women by 2026.

Poland

-6%

Number of people retiring 2017-57	17.8 million
Annual pension savings gap (2010)	€69bn
Annual pension savings gap (2016)	€65bn
Annual pension savings gap as a % of GDP (2016)	14%

What's happening in Poland?

- Fewer people are projected to retire between 2017-2057 (17.8 million) than between 2011-2051 (20.3 million).
- The pension age is being gradually increased from 65 and 60 for men and women respectively to 67 for both sexes. However, this age change is now being discussed and may be revised.

Spain

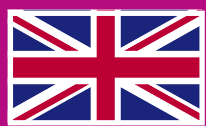
12%

Number of people retiring 2017-57	25 million
Annual pension savings gap (2010)	€171bn
Annual pension savings gap (2016)	€192bn
Annual pension savings gap as a % of GDP (2016)	17%

What's happening in Spain?

- Changes to social security law in 2011 capped the extent to which the state pension can increase.
- More people are projected to retire. In 2010 425,000 people were estimated to retire a year but in 2016 511,000 people were estimated to retire a year.

UK



-4%

Number of people retiring 2017-57	27.7 million
Annual pension savings gap (2010)	€379bn
Annual pension savings gap (2016)	€365bn
Annual pension savings gap as a % of GDP (2016)	13%

What's happening in the UK?

- The pensions 'triple lock' has increased state pensions by the higher of earnings, inflation or 2.5%.
- The introduction of automatic enrollment has resulted in an additional 6.5 million workers saving into a pension[7].
- The state pension age is also gradually being pushed out to 67 for both men and women from 2028 and 68 from 2046.

[7] www.thepensionsregulator.gov.uk/press/pn16-43.aspx

3. The pension savings gap differs greatly between generations

European governments are grappling with public debt issues and an ageing population means there will be fewer workers to support the retired population. In response to these pressures, responsibility for an adequate retirement is gradually shifting from the state to individuals. This chapter accordingly investigates how much people need to save and when.

Do individuals feel ready to provide for their own retirement? And how are they planning to provide an adequate income? Alongside our estimates of the pension savings gap we're also sharing recent insights from Aviva's regular Consumer Attitudes Survey (CAS)[8] to explore how individuals feel about responding to this change.

Half of those not retired[9] are worried they will not have enough money when they retire, but only a third are taking steps to address it[10].

This "Worry-Action gap" shows that while many may be concerned about not having enough money when they retire, this does not automatically translate into action.

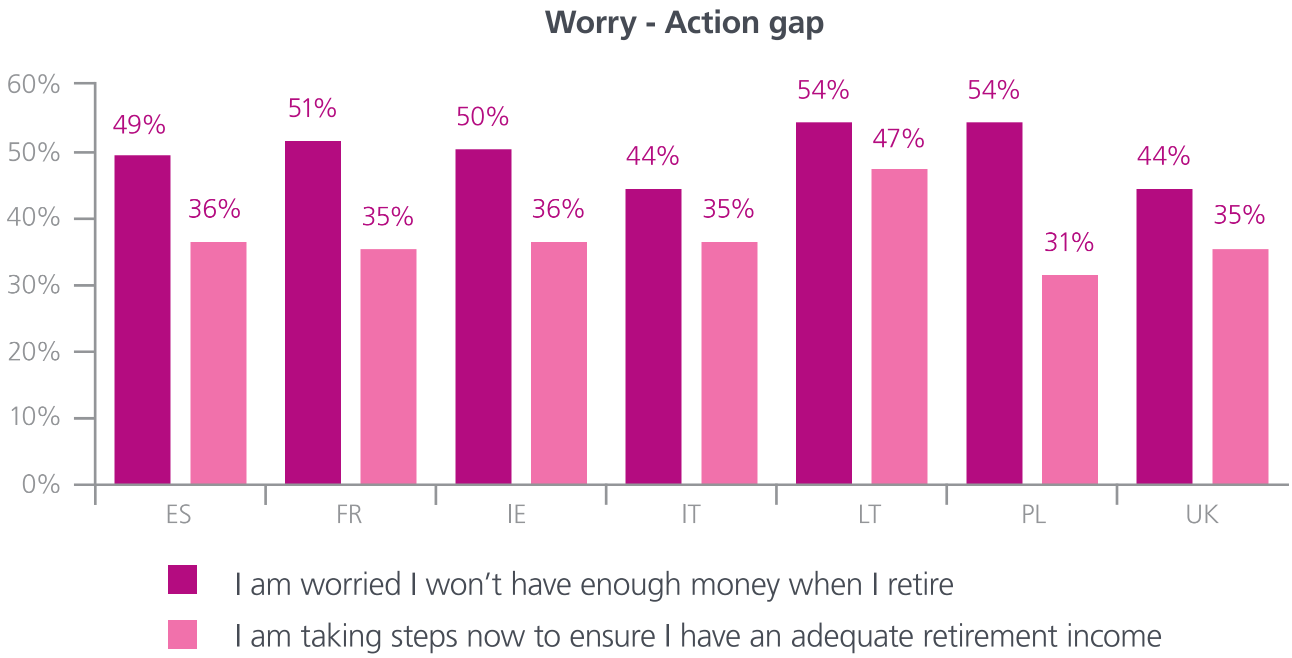


Figure 7: People's concerns about retirement vs steps they are taking now
Source: Consumer Attitudes Survey (Aviva MarNov 2015)[11].

This may be due to affordability issues but also because people may not have the facts needed to plan. To do so people need a rough idea of how much income they will need in retirement, realistic estimates of what they may get, and understanding of the effect that extra savings can have over time. Our research shows that the answers to these questions can very much depend on a person's age.

[8] Aviva's Consumer Attitudes Survey has run internationally since 2004. In that time we have asked over 300,000 people about their concerns and attitudes to savings, investments, risk, and retirement.
[9] CAS EU6: 50%, June '16.
[10] CAS EU6: 35%, June '16
[11] Q4.8 Please indicate the extent to which you agree or disagree…I am worried I won't have enough money when I retire (Those who 'agree' by country). Q4.22 Please indicate the extent to which you agree or disagree…I am taking steps now to ensure I have an adequate retirement income.

Younger people have the greatest opportunity to address their pension savings gap, but they need to start saving early

There is a consistent trend across all countries of the pension savings gap increasing over time as a person who has under-saved grows older. The amount that needs to be saved increases gradually from ages 20 to 40 but picks up at age 50. By the time a person reaches 60 there is very little time to accumulate the savings and associated returns needed before retirement. The estimate of the average per person annual pension savings gap by age in Spain in 2016 illustrates this.

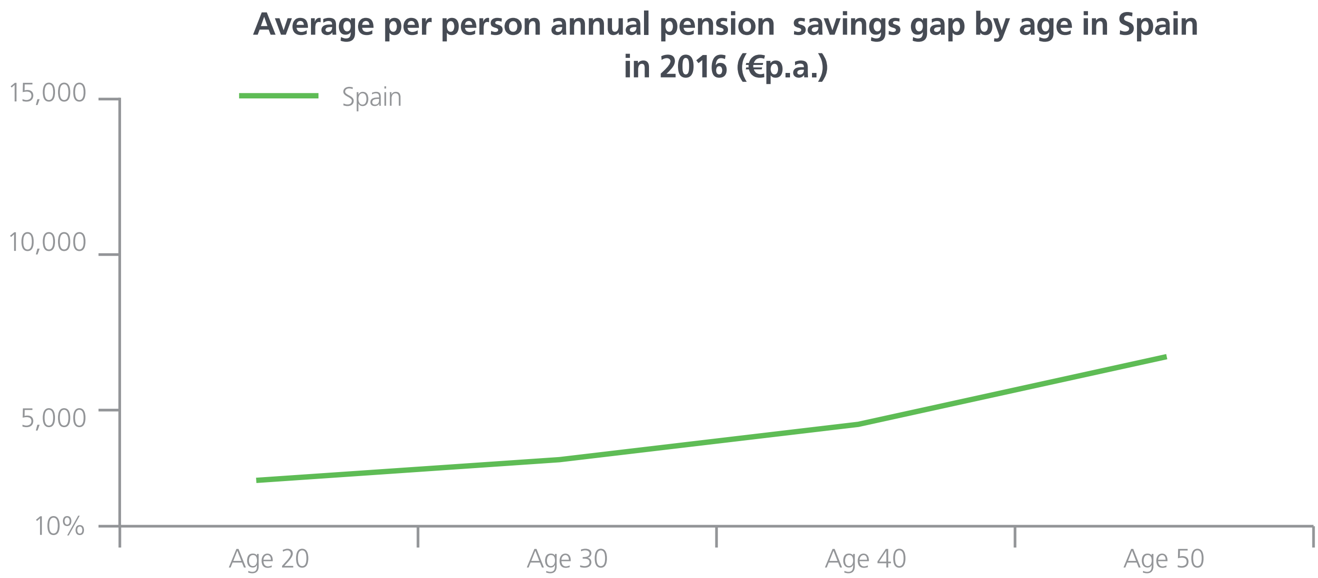


Figure 8: Average per person annual pension savings gap by age in Spain in 2016 (€ p.a.)
Source: Mind the Gap (Aviva, 2016)

The earlier a person saves the more they will benefit from the compounding effect whereby the returns they receive each year enlarge their pot of savings and therefore also the potential returns in coming years. This can be significant over the number of years people save into their pension.

If an individual is able to increase their pension savings, they may find this is further topped up by increased employer contributions and tax relief too.

For some people a prompt like this will be enough to encourage them to save more for their future - it may mean saving more into their pension, or perhaps starting saving if they don't already have one. For some it may be more difficult to achieve even if they recognise the benefits of doing so, or they may plan to use other assets to fill the gap – Figure 9 explores this in more detail. Either way it's important to encourage greater awareness of the issue and enable people to act now to take control of their future. If not they face the prospect of having a lower quality of life in retirement than they expect and may even struggle to get by in later life.

Find your gap!

How much more might individuals need to save every year to plug their pension savings gap?

France

20 yr old	€1200
30 yr old	€1600
40 yr old	€3800
50 yr old	€7800

Germany

20 yr old	€2300
30 yr old	€3500
40 yr old	€5800
50 yr old	€10,900

Ireland

20 yr old	€4400
30 yr old	€5100
40 yr old	€6700
50 yr old	€9700

Italy

20 yr old	0[13]
30 yr old	€200[13]
40 yr old	€800[13]
50 yr old	€2700

Lithuania

20 yr old	€1200
30 yr old	€1500
40 yr old	€1900
50 yr old	€2900

Poland

20 yr old	€2100
30 yr old	€2300
40 yr old	€2800
50 yr old	€3900

Spain

20 yr old	€2700
30 yr old	€3300
40 yr old	€4400
50 yr old	€6500

UK

20 yr old	€1500
30 yr old	€3200
40 yr old	€4900
50 yr old	€8600

This is the additional amount people may need to put into their pensions on average each year to obtain an adequate standard of living in retirement based on pension savings alone

[13] Figures calculated on basis of current generous state pension provision. This will reduce in the future necessitating additional saving by individuals from as young as they are able to.

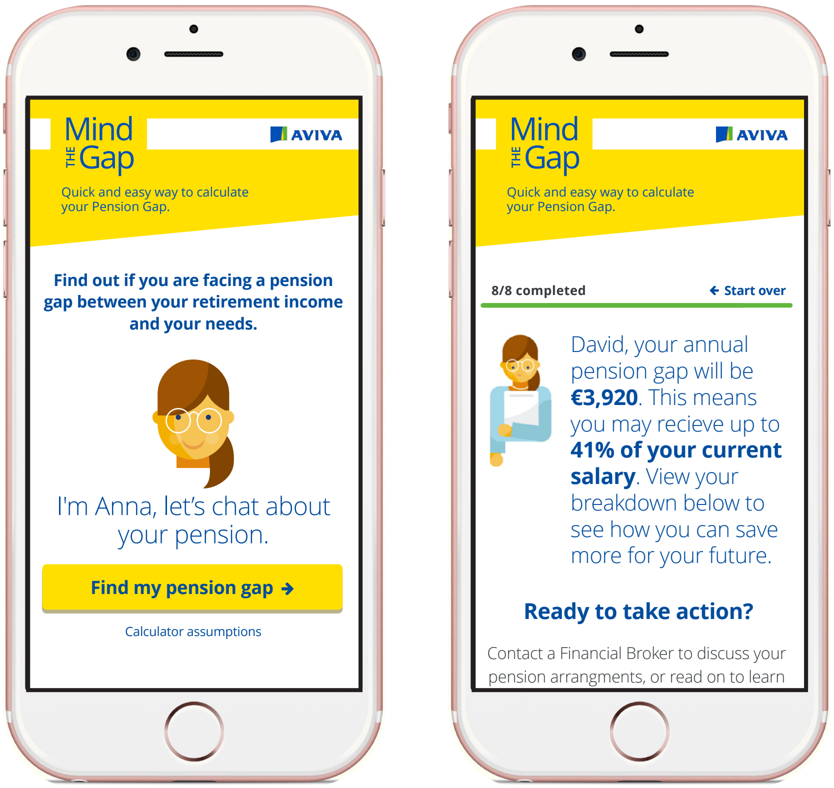
**People are unique.
Everyone's circumstances are different.**

Whilst these figures are only an indication of the pension savings gap, and not an exact prediction, there are trends that can be seen. They consistently show that saving earlier - for those who are able to – reduces the potential shortfall and cliff-edge some may otherwise face at the point they wish to retire.

And help may be at hand. If any additional contributions people make were also matched by their employer and eligible for tax relief this could mean they only need to put in perhaps half of this amount themselves.

New digital tools make it easier for people to engage with pensions

To know what's right for each individual it will be important to find out what their own gap might be. New digital tools make it easier for people to engage with their pension by, for example, checking how much money they have or estimating their retirement income. Aviva offers tools and calculators across a number of European countries to help people better understand whether their savings are on track. As technology improves it should be even easier for people to save for the long term in a way that is convenient for them.



In addition to their pensions, working individuals are planning to use a mix of strategies to fund their retirement

Whilst the primary focus of this report is people's pensions, we know from Aviva's Consumer Attitudes Survey that individuals complement these savings with a number of different strategies to provide an adequate income in later life. These different approaches are not mutually exclusive so, for example, an individual could plan to use a state pension, private pension, and other assets such as property all to contribute towards their retirement income. The charts below show the proportion of people in each country who plan to use each measure.

How will you fund your retirement?

Figure 9: AQ4P Thinking about your retirement and how you will live, which of the following will be part of how you fund your retirement?
Source: Consumer Attitudes Survey (Aviva, June 2016)

Clearly, many people plan on using the state pension to support themselves in retirement. It is notable that in Spain, 13% of individuals that are yet to retire plan on using a property other than their main home, and that Ireland and the UK have the highest proportion of people planning to draw on a private pension[15]. A sizeable proportion of people report that they will use their main home to provide an income; this is highest in Ireland at 34% of those surveyed. These individuals may plan to downsize in retirement or could be considering using equity release products to draw on the value of their house whilst continuing to live in it.

Interestingly CAS shows that a quarter of retirees[16] are also 'choosing' to work for longer. It's worth looking more closely at this question as whilst some people may be happy to do so others may resent it. Figure 10 suggests a number of different reasons, but the need for additional income comes through the strongest.

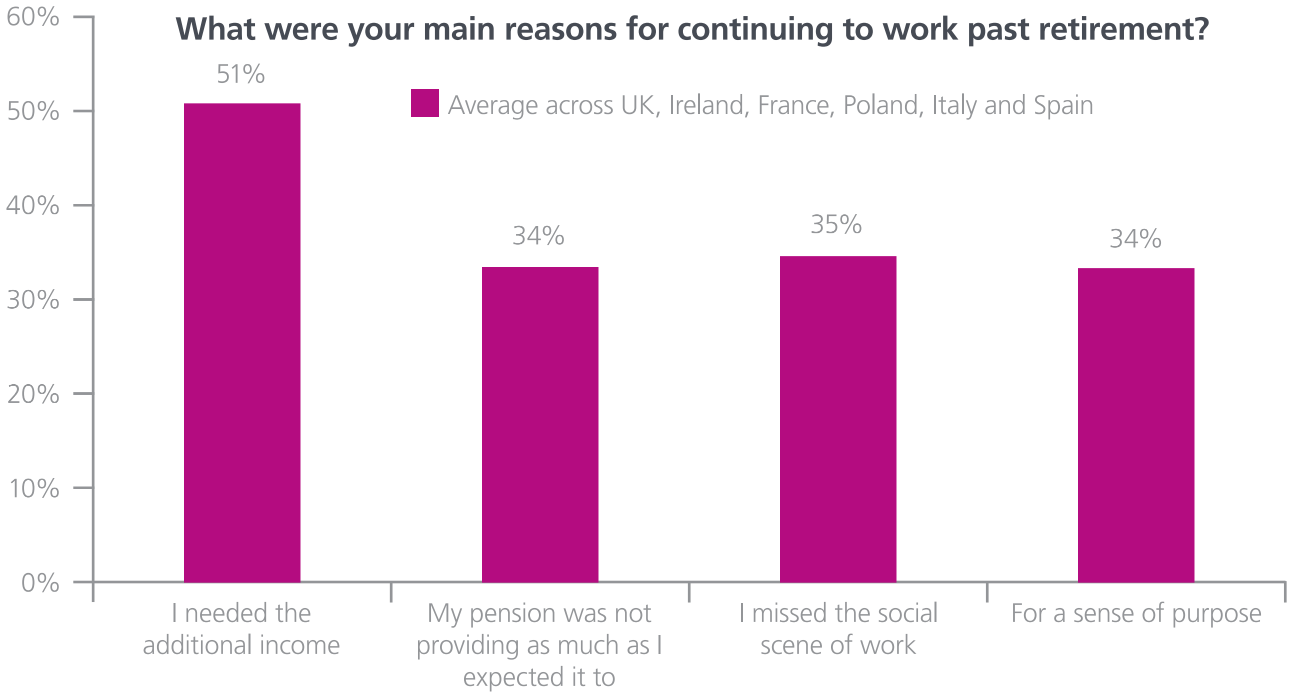


Figure 10: HTQ13, What were your main reasons for continuing to work past retirement? Source: Consumer Attitudes Survey (Aviva, June 2014)

Most people working past retirement age do so because they need additional income

To facilitate this, governments will need to create the right environment for people to work for longer. For example, compulsory retirement dates may need to be removed and already have been in some countries. Pre-retirement working practices may also start to change as people perhaps look to work fewer hours or change the nature of their work at this stage.

The next chapter explores policy solutions which governments, pension providers and individuals can adopt to boost savings early on, to try and avoid the situation of people having to continue to work indefinitely or not having sufficient income to live on.

[15] CAS IE: 33%, UK: 39%
[16] CAS EU6: 23%, June '16

4. Bridging the gap: helping people to help themselves

Our *Mind the Gap* 2016 analysis shows that the pension savings gap is substantial and needs addressing if we are to avoid future generations struggling to get by in retirement. Whilst government action alone is unable to close the gap, we are seeing an increasing shift of responsibility to individuals to plan ahead themselves.

Policymakers can however still play a key role here, by setting a stable framework that encourages saving and provides a minimum income for all. In our calls to action we've pursued those elements we believe can help the most in this context. Alongside this civil society can contribute by engaging individuals to review their retirement plan and take action to improve it. At the same time pension providers must help by offering clearly explained, good value products.

Conclusion 1: STABILITY

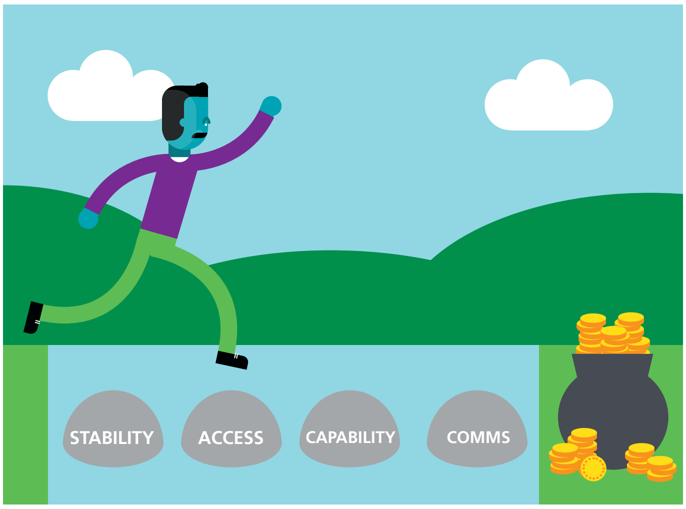
Pension systems need to be stable to incentivise saving

Given the long-term commitment pension savers are making they need to be able to trust their national system over the long term. Governments should improve or maintain the incentives in their pension frameworks, which in many countries take the form of tax relief, to give providers and savers the assurance they need to make long-term plans.

Calls to action:

1a: Pension reform should be **evidence based with political consensus.** Before reforms are undertaken a cost-benefit analysis should be undertaken including a checklist of whether the reforms will simplify the system, enable more people to save, and improve the sustainability of the national pension system.

1b: **Tax incentives need to be durable, clear and easy to understand**, otherwise people will not trust or act on them.



Conclusion 2: ACCESS

Governments should increase access to pension schemes and prompt citizens to save

The *Mind the Gap* analysis shows that inadequate pension saving is an issue across all countries and all age groups. Those best placed to still close this gap are the people who are now in their 20s and 30s. Nudging people to save at a point when it may not be at the forefront of their minds or changing their defaults (known as "choice architecture") has been shown to be very effective.

Calls to action:

2a: Governments should **consider introducing automatic enrolment** to facilitate and prompt higher savings levels, as advocated by the OECD. The UK's use of automatic enrolment has seen 6.5 million additional people[17] start saving into a pension and opt-out rates from this new policy have been low (estimated at 8% to 14%). Ireland is also currently considering taking forward its own auto-enrolment programme.

2b: Automatic enrolment schemes should **include an employer contribution**. Evidence in the UK suggests that two thirds of employees in DC schemes contribute at the rate that will get the highest matched contribution from their employer. Countries with automatic enrolment should also consider how to 'auto-escalate' an individual's contributions as and when their salary increases.

2c: The European Commission should use the European Semester (a process to advise Member States on structural reforms and the sustainability of public finances) to **make recommendations to Member States to increase pension participation**, assessing which countries' pension systems lead to the widest coverage of employer or personal pensions.

[17] www.thepensionsregulator.gov.uk/press/pn16-43.aspx

Conclusion 3: CAPABILITY

Individuals need skills and help to take better decisions about money

Governments can contribute to this by making efforts to improve financial capability. For example Spain's Central Bank and securities regulator published a revised *Plan de Educación Financiera* which is part of a larger goal of financial consumer protection and the Central Bank of Lithuania conducts a campaign with social media partners on careful borrowing (*Nepaslysk ant paskolos*) .

Calls to action:

3a: Governments should consider **introducing financial education into the national curriculum** if they have not already done so. In Ireland, for example, an education module on personal finance could be inserted into the second level CSPE curriculum.

3b: Governments and providers should together **develop and share 'rules of thumb'** to give people a sense of how much they need to save. One such concept is that an individual should save at least half of their age as a percentage of income: so a 40-year-old should save 20% of their salary into a pension.

3c: EIOPA has a duty to "review and coordinate financial literacy and education initiatives" by national regulators. It could helpfully **map and share key financial literacy interventions across Europe** so that national policymakers can invest in the best ideas.

Conclusion 4: COMMUNICATION AND INFORMATION

Governments should work with industry to improve pension information and prompt individuals to assess where they stand.

The shift from defined benefit to defined contribution pensions means that individuals are increasingly responsible for their own retirement income, but many people are not aware of this, do not have the necessary information to understand their current position and may only take action when they do so. Previous Aviva research demonstrated that consumers value a consolidated view of all of their pensions and there is increasing scope to provide this in an engaging way online[18].

Calls to action:

4a: Governments should provide their citizens with a **consolidated view of their pension savings** (across state, employer and private pensions) and an estimate of their retirement income. This could be done through an annual pension statement, as is the case in Sweden, or online as advances in digital technology should make it much easier to build these systems. This year France is rolling out an electronic account that will provide individuals with their pension information and the UK has committed to build an online 'pensions dashboard' giving people a view of all their pension saving in one place by 2019. At Aviva customers can view their pension savings with us easily 24/7 through the MyAviva app in the UK and France.

4b: Governments should **establish an annual pensions day or week** as a focus for a national conversation on saving for the long term. In Spain there is an informal 'Pensions week' where providers explain how the system works and consumers consider their options. Over time this kind of activity makes it more common place for individuals to plan for their future and discuss it with friends and family.

4c: The European Commission should continue to support efforts to create **a European pension tracking service** so that every European cross-border worker can quickly view their pension situation. This will help workers to consolidate their pensions and not lose track of their pension rights.

4d: EIOPA and the European Commission could also **share best practice on providing pension information to citizens.**

[18] Towards annual pension statements across the EU (Aviva, 2011)

5. Appendix
A. Technical detail

Methodology

We've worked with Deloitte to ensure this research uses recent, established sources and a robust methodology to estimate the pension savings gap across Europe as a whole, and in eight specific countries. It aims to provide a broad estimate of the gap across Europe to stimulate debate on the scale of the challenge and how to solve this. Since it applies to a number of different countries, with their varying pension systems, the model necessarily makes a number of assumptions (noted below) and in some cases simplifications but still aims to reach a fair and reasonable comparison for discussion.

The methodology employed to quantify the pensions gap is based on bottom up analysis of Germany, Spain, France, Ireland, Italy, Lithuania, Poland, and the UK.

The report focuses on pensions as they are designed to enable people to save for retirement over the long term. The report does not take account of other assets such as housing, cash deposits or other investments. Individuals may use these assets instead of, or on top of, pensions to provide an adequate retirement income. For example, some people may plan to use equity release to generate an income from their house.

The heterogeneity of pensions systems across Europe necessitated some degree of simplification to allow for meaningful cross-country analysis. We have classified pension's schemes into three categories:

- State pensions
- Mandatory and voluntary private sector Defined Benefit (DB) pensions
- Mandatory and voluntary private sector Defined Contribution (DC) pensions

Non-pensions products that are solely used to provide retirement income are also included in the analysis under the 'private DC pension' category. Only two examples of this were identified:

- In Germany and Spain, where insurance contracts are used specifically to provide retirement income (Private Lebensversicherung and Planes de Previsión Asegurados respectively)

The pension savings gap estimates were based on current legislation and did not include proposed or possible future reforms if not on the statute books at point of publication.

Data

The inputs for this analysis were based on a programme of secondary research conducted by Deloitte and review sessions held with Aviva country contacts. Data availability varied by country, however and in some cases was incomplete. To overcome this a range of proxies were developed to estimate the required inputs for the model.

Retirement age

The retirement age used is the average age of retirement in each country. Effective retirement age trends are assumed to closely reflect the schedule of state pension age increases.

Replacement rate

In Private Pensions and the Financial Crisis: How to Ensure Adequate Retirement Income from DC Pension Plans (OECD, 2009) the OECD advises that:

"A general rule of thumb is a target replacement rate of 70%, based on assuming that mortgage costs amount to one third of income and that they are generally paid off just before retiring. This target replacement rate may have to be higher for low-income people, for example 100%."

We have adjusted the replacement rate by income:

Low income (bottom 30% of incomes)	90%
Mid income (middle 40% of incomes)	65%
High income (top 30% of incomes)	55%

Return on savings

The 2010 Mind the Gap study assumed a 5% return on savings for pension fund assets. To reflect a low interest rate environment the 2016 research made a slightly more modest assumption of 4% growth. The exception is for the Irish estimate which used 3% in line with Actuarial Standard Practices. An assumption of 4% returns is reasonable given that pension fund assets tend to be invested in a mix of equities and bonds.

Inflation
The 2010 and 2016 pension savings gap figures are presented as nominal figures. They do not take account of inflation. Inflation rates over this period are set out in the table below.

	2010	2011	2012	2013	2014	2015
DE	1.1	2.5	2.1	1.6	0.8	0.1
ES	2.0	3.0	2.4	1.5	-0.2	-0.6
FR	1.7	2.3	2.2	1.0	0.6	0.1
IE	-1.6	1.2	1.9	0.5	0.3	0.0
IT	1.6	2.9	3.3	1.2	0.2	0.1
LT	1.2	4.1	3.2	1.2	0.2	-0.7
PL	2.6	3.9	3.7	0.8	0.1	-0.7
UK	3.3	4.5	2.8	2.6	1.5	0.0

Source: Eurostat, Harmonised Indices of Consumer Prices (HICPs)

Annuity rates
Mind the Gap 2010 used market specific annuity rates and reflected the rates used by Aviva at the time.

To enable more consistency and comparability between countries Mind the Gap 2016 sought to use the same annuity rate of 5% across countries where this was appropriate. This rate reflects the reality that many people may not lock into low annuity rates, which are based on risk free assets. Instead, retirement funds are likely to remain invested in real return assets including credit, equity and property. The 5% annuity rate reflects this assumption.

Exceptions are the French and Polish estimates which used the annuity rates set in national legislation. Additionally, Irish estimates assumed a return of 4.5% for Approved Retirement Funds and UK pensions were assumed to deliver a return of 4.2%.

GDP
The chart in this report showing the annual pension savings gap as a proportion of GDP uses GDP in 2016 current prices.

Consumer Attitudes to Saving
Interviewing was conducted among adults aged 18 years and over and was completed online in all markets. Data has been weighted to reflect the adult population aged 18 years and over and to ensure consistency with previous waves. Research in Lithuania was concentrated on urban areas.

The data in this report was extracted from the surveys conducted in June 2014; March, June and November 2015; and June 2016, surveying consumers in up to 17 countries including UK, Ireland, France, Poland, Spain, Italy, and Lithuania. Within fieldwork running from:

"June 2016": 7th July – 17th August.
"November 2015": 2nd October 2015 to 15th November 2015.
"June 2015": 22nd June to 23rd July.
"March 2015": 17th February to 10th April.
"June 2014": 27th May 2014 to 19th June 2014.

This research was carried out by Ipsos MORI in accordance with the requirements of the international quality standard for Market Research. ISO 20252-2012.

Figure 7: People's concerns about retirement vs steps they are taking now. Q4.8 Please indicate the extent to which you agree or disagree…I am worried I won't have enough money when I retire (Those who 'agree' by country). Q4.22 Please indicate the extent to which you agree or disagree…I am taking steps now to ensure I have an adequate retirement income

Source: Consumer Attitudes Survey (Aviva, March/Nov 2015)

Unweighted base: Q4.8: Nov '15, ES (892), FR (785), IE (881), IT (916), PL (852), UK (884). Mar '15: LT (875). Q4.22: Nov '15, ES (892), FR (785), IE (881), IT (916), PL (852), UK (884). Mar '15: LT (875)

Figure 9: AQ4P Thinking about your retirement and how you will live, which of the following will be part of how you fund your retirement? Source: Consumer Attitudes Survey (Aviva, June 2016)

Unweighted base: QQ4P: All consumers who are not retired: ES (903), FR (738), IE (871), IT (918), PL (845), UK (879).

Figure 10: HTQ13, What were your main reasons for continuing to work past retirement?

Source: Consumer Attitudes Survey (Aviva, June 2014).

Unweighted base: All who worked beyond retirement age. HTQ13: EU6 (214) made up of UK (41), IE (20), FR (26), PL (86), IT (26) and ES (15).

B. Data Annex

1. Average estimated replacement rates in 2017 and 2047

Country	Replacement rate 2017	Replacement rate 2047
DE	42%	42%
ES	48%	29%
FR	53%	28%
IE	46%	40%
IT	49%	44%
LT	41%	32%
PL	54%	37%
UK	39%	31%

2. Total annual pension savings gap: 2016 vs 2010

Country	Annual pension savings gap 2016 (€bn p.a.)	Annual pension savings gap 2010 (€bn p.a.)	2016 vs 2010 % change
DE	461	469	-2%
ES	192	171	+12%
FR	241	244	-1%
IE	28	20	+38%
IT	99	98	+1%
LT	5.4	5.0	+9%
PL	65	69	-6%
UK	365	379	-4%
Total EU28	2,010	1,903	+6%

Notes: Results for each year presented in constant prices for that year

3. Annual pension savings gap as a % of GDP

Country	Annual pension savings gap (€bn p.a.)	2016e GDP (USDbn)*	2016e GDP (€bn) +	Annual pension savings gap as a proportion of 2016e GDP
DE	461	3,473	3,146	15%
ES	192	1,265	1,146	17%
FR	241	2,488	2,254	11%
IE	28	240	218	13%
IT	99	1,868	1,692	6%
LT	5.4	45	40	13%
PL	65	509	461	14%
UK	365	3,055	2,768	13%

Notes: GDP 2016 in current prices

*Estimated 2016 value of purchasing-power-parity valuation of country DP, World +Economic Outlook Database, IMF, October 2015
+Exchange rate of USD:EUR 1:0.91 assumed

4. Number of individuals forecast to retire (millions)

Country	Number of retirees forecast to retire 2011-2051	Number of retirees forecast to retire 2017-2057
DE	40.3	40.0
ES	24.2	25.0
FR	31.0	32.9
IE	2.2	2.3
IT	31.1	25.3
PL	20.3	17.8
UK	30.8	27.7

5. Average per person indicative annual pension savings gap by age in 2016 (€000 p.a.)

Country	Age in 2016					
	All individuals retiring 2017-57 (€bn p.a.)	60	50	40	30	20
DE	11.5	35.8	10.9	5.8	3.5	2.3
ES	7.7	31.2	6.5	4.4	3.3	2.7
FR	7.3	n/a	7.8	3.8	1.6	1.2
IE	12.2	28.0	9.7	6.7	5.1	4.4
IT	3.9	22.3	2.7	0.8	0.2	0.0
LT	4.0	8.3	2.9	1.9	1.5	1.2
PL	3.6	n/a	3.9	2.8	2.3	2.1
UK	13.2	24.1	8.6	4.9	3.2	1.5

N/A – at least one segment already retired by 2017

For further information please contact -

Media relations enquiries:
Yasmin Saleh
+44 (0) 207 662 8710
+44 (0) 7800 694 312
yasmin.saleh@aviva.com

Public policy enquiries:
Victoria Roberts
+44 (0)207 662 3954
+44 (0)7800 694 836
victoria.roberts@aviva.com