

# The Global Savings Gap

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June 2017



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This report was first published in June 2017 © ILC-UK 2017

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# Acknowledgements

This report was kindly made possible by Prudential. The authors would also like to give special thanks to all those who came along to debate the report's early findings at roundtable events in London and Washington D.C. in November 2016 and March 2017 respectively. The advice provided was invaluable. Nevertheless, the approach, contents and findings of the final report are solely the responsibility of the report's authors.

Pension systems across the world are being placed under increasing financial pressure by rising life expectancy, ageing populations and sluggish economic growth. This report aims to explore the future of pension provision across high income countries, given the changing demographic and economic landscape. We measure and compare pension systems against the following criteria:

- 1. Future affordability:** The long term sustainability of public expenditure on pensions.
- 2. Future adequacy:** The extent to which pension systems will deliver a comfortable standard of living in retirement for those who are entering the workforce today. Any anticipated shortfall is described as a **“savings gap”**.
- 3. Intergenerational fairness:** The extent to which future generations of pensioners will be worse off in retirement than pensioners today. Any anticipated shortfall in this area is described as an **“intergenerational gap”**

In order to achieve these goals, we have undertaken **detailed analysis of OECD data** on the pension systems of high income countries, and combined this with the results of a **bespoke survey of savings behaviours in a selection of countries and regions**.

## Key findings

### *Pension systems under pressure from ageing*

Persistently slow economic growth and an increasing number of older people has resulted in **growing pressure on publicly provided pensioner spending** across the developed world. If we maintain current entitlements, this implies increased spending on older people, but in the future there will be **fewer workers relative to older people** to support this expenditure. The affordability of government spending on pensions and other forms of old age social security is therefore being brought into question.

In the face of these fiscal and economic pressures, some high income countries are already reducing the generosity of state provision, while others have plans to do so in the near future. But unless individuals are able to supplement reduced public provision with income from their own pension savings or through other collective savings schemes, they are **likely to face significant income shortfalls in retirement**.

### *Simply relying on public provision will not be enough for an adequate retirement*

We find that a reliance on public provision plus any current mandatory pension schemes will only be sufficient to deliver adequate retirement incomes in **3 out of the 30 countries and regions** we explored for this report.

Individuals are likely to need to save the most in those countries with the least generous, yet most affordable, state provision. For this reason, Singapore and Hong Kong have some of the largest savings gaps when looking at amounts needed to save as a proportion of earnings. We estimate that the average individual will need to **save an additional 12.5% and 15% of earnings respectively in order to live adequately in retirement**. This is despite both territories already exhibiting high personal savings rates through pension systems that compel them to save.

Similarly, in the UK, USA and Canada, **savers will need to put away between 11% and 18% of their earnings** every year in order to afford a comfortable retirement. Each of these countries has relatively widespread private pension coverage and when we modelled the likely outcomes for typical private pension savers, the savings gaps shrunk considerably. However, **a substantial**

**proportion of the working age population does not save for retirement, while many of those that do save, fail to save enough.**

There are a number of pension systems that do particularly well from having **both a public pension component as well as a mandatory or quasi mandatory pension savings** component. The Netherlands is an interesting exponent of this model - it is not projected to have any retirement income shortfall for average earners. Similarly, Denmark's pension system does well, supported by high contribution rates to mandatory occupational pension schemes, with strong employer contributions, as well as coverage through supplementary voluntary schemes.

*Almost all developed countries face an intergenerational savings gap*

**28 of the 30 countries and regions we explored face an intergenerational savings gap.**

The average amount that someone entering the workforce today will have to save to enjoy the same retirement income adequacy as current retirees is around **\$5,080 or 12.6% of earnings**. Unfortunately, current savings behaviours suggest this is unlikely. Even after accounting for expected saving into private pension schemes for those countries where such schemes are prevalent, **today's twentysomethings are projected to do worse than current retirees. This is true for all OECD countries.**

**If people fail to save in the USA and UK, we project that they will face an intergenerational gap in excess of \$10,000 a year (over 20% of earnings).** Anticipated savings behaviours in the US and UK reduce the gap but do not erase it altogether. **France faces the biggest intergenerational savings gap** of all countries explored in this report (**26% of earnings**). This is because current pensioners enjoy substantial income in retirement relative to their pre-retirement earnings, and we model anticipated reforms to reduce the generosity of state support over the coming decades.

**How can we support affordable pension systems that deliver adequate retirement incomes?**

*Raising private pension coverage and contributions*

Supporting widespread savings into occupational pension schemes is a critical pillar of any sustainable pension system. Two public policy options look to be particularly successful in this regard, one which compels people to save as per the Singaporean, Hong Kong and French systems and another which "nudges" people to save as per the UK's auto-enrolment system. **Simply hoping that people will save is unlikely to be sufficient.**

*Raising financial capability*

With increasing emphasis on personal responsibility for retirement planning, people will need to be able to understand the benefits of deferring consumption for a later date, the value of investing in assets other than cash, the importance of asset diversification, and the virtues of buying some form of longevity insurance at the point of retirement. Therefore, **in the long run, raising the financial capability of individuals will be very important in determining good outcomes** for consumers.

*Utilising advice and technology to support better financial decision making*

Raising capability does not just happen overnight. This must be supported by a financial advice market that works for the many and not the few, in conjunction **with new advice models that utilise technological advancements such as robo advice** to make advice more accessible, understandable and cost effective. Finally, there will always be people who are inert and do nothing in the face of complex decisions. **Good product defaults** that avoid the worst outcomes will be important in this regard.

### *Facilitating longer working lives*

While raising pensionable age might be the easiest and most effective incentive to support longer working lives in many pension systems, it can have **unintended side effects**, including increasing the number of people who leave the workforce before reaching this age.

Widespread adoption of **flexible working practises** might help to prevent the retirement “cliff edge”. But for those who do drop out early, there may also be a mixture of public and private sector solutions including forms of **unemployment insurance**, which could be targeted specifically at this group and act as a bridging mechanism between leaving work early and retirement.

### *Reducing inequality of retirement outcomes*

Some individuals may have extended periods of unemployment, inactivity or experience low earnings throughout their working lives. They may not, therefore, be able to save for a pension, or if they do, they may not be able to put much away for retirement. Clearly, any action to compensate the disadvantaged **will need to be affordable in the long run**, while also going with the grain of an overarching policy framework which incentivises saving. This largely rules out a hike in the value of universal pensioner benefits, but **may be consistent with a system of more generous means tested support** for those who faced low incomes during working life.

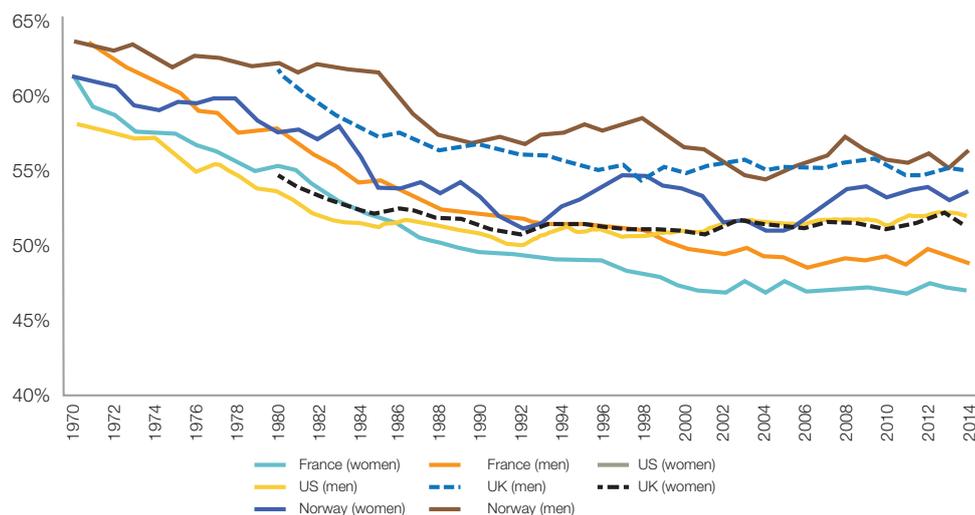
# Introduction

Between the two world wars, the famous economist John Maynard Keynes published a short but powerful essay called the “Economic possibilities for our grandchildren”. In it, he foresaw a future where the struggle for subsistence was over and where rising productivity had enabled a vastly shorter working day that was just three hours long. As a result, it would be a world, he thought, where people would be able to enjoy leisure and abundance, where they would be able to “keep alive, and cultivate into a fuller perfection, the art of life itself”<sup>1</sup>. This ideal state of the world would be called “economic bliss”.

It is now nearly 90 years since Keynes’ vision. The birth and expansion of welfare states in the aftermath of WWII, coupled with rapid technological advances and the roll-out of mass education, paved the way for a golden age of dramatic social and economic progress. During this time, great strides were made in reducing poverty across the globe. Literacy rates boomed, while child mortality was driven down and life expectancy soared. It was during this time that robust publicly provided pensions became the norm across many, though not all, developed nations, and pensionable ages were commonly set at between 60 and 65 years of age.

These developments have taken us closer to Keynes’ vision of economic bliss than is often realised. Many people who have entered retirement over the last decade or so across high income countries will spend almost as many years out of work as they did in it (see chart). This shift towards increased leisure time has been driven by reduced working hours, younger ages of labour market exit and rising life expectancy. Not all countries will have benefitted in this way, and there is clearly a diversity of outcomes for people within countries too, but no one could argue that we have not, at least on average, radically increased the amount of leisure time people can expect to enjoy. For many, the abundance came, the pressing question now, is whether we can keep it?

**Figure 1: Estimate proportion of adult years spent in work by year of labour market exit**



Source: OECD and author’s calculations.

Many high income countries are now facing a testing predicament. The factors that made robust publicly provided pensions affordable in the past are stalling or reversing. Furthermore, the exodus of the baby boomer generation from the workforce into retirement has led to a swell in public expenditure on pensioners, but the workforce may be too small to sustain such an increase. Dramatic productivity gains could support higher public spending, but we have not yet delivered an industrial revolution capable of bringing such substantive gains, while the other key

<sup>1</sup> Keynes, J.M., 1933. Economic possibilities for our grandchildren (1930). *Essays in persuasion*, pp.358-73.

driver of previous growth and prosperity - mass education - has already been achieved<sup>2</sup>.

In today's world, many governments are stuck between a rock and a hard place, having to choose between reforming current pension systems to ensure their sustainability which is politically difficult, or maintaining the status quo which may ultimately risk bankrupting the state. But while reform might be necessary to ensure pension system sustainability, where does this leave individual pensioners? We certainly don't want to return to the past when older people were poor and destitute, unable to work and without security of income in later life. This would represent a dramatic reversal of decades of real progress. In this context, future pension systems will need to balance the need to be sustainable on the one hand, against the need to support adequate retirement incomes on the other. But pension systems must also support outcomes that are fair across generations. Indeed, consistent with Keynes' vision of our grandchildren's economic prospects, there is a need to understand how future generations can be supported to be better off in retirement than today's retirees.

Against this backdrop, this report explores the future of pension provision across high income countries and regions in light of demographic and economic change. Its principal aim is to identify how different pension systems compare with one another, both in terms of their future affordability, as well as their potential to promote and sustain a comfortable standard of living in later life. In addition, we seek to understand whether future generations of pensioners in different countries will be worse off in retirement than today's. Together, our comprehensive analysis of different models of pension provision enables us to draw conclusions about what features work well, and to develop solutions for measures that address common challenges facing pension systems worldwide.

The report is structured in five parts:

**Part 1** explores the economic and demographic reality facing many pension systems and the case for reform.

**Part 2** outlines our approach and methods to comparing pension systems and introduces our headline findings from the comparative analysis on adequacy and intergenerational fairness.

**Parts 3** provides in-depth case studies on five countries and regions: the USA, UK, France, Singapore and Hong Kong. This includes the findings from our bespoke survey of 5000 people.

**Part 4** highlights some of the common challenges facing pension systems, and uses lessons from the case studies to outline some potential solutions.

**Part 5** concludes the report.

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<sup>2</sup>For more on the productivity arguments see: Gordon, Robert J. 2016. The Rise and Fall of American Growth: The U.S. Standard of Living Since the Civil War. Princeton: Princeton University Press.

# Part1

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# Background: Personal savings as a response to population ageing

## About this chapter

*Saving for retirement is becoming increasingly important for both the individual saver as well as for the sustainability of public finances. Longer lives are leading to longer periods of time in retirement, but governments may not be able to afford to pay state pensions and other retirement benefits over extended periods, particularly with growth in the working age population stagnating. With countries reducing the generosity of state provision, individuals will increasingly need to supplement any public provision with income from their own savings if they are to live comfortably in retirement. In this context, this chapter traces the evolution and economic implications of demographic change before introducing the savings challenge.*

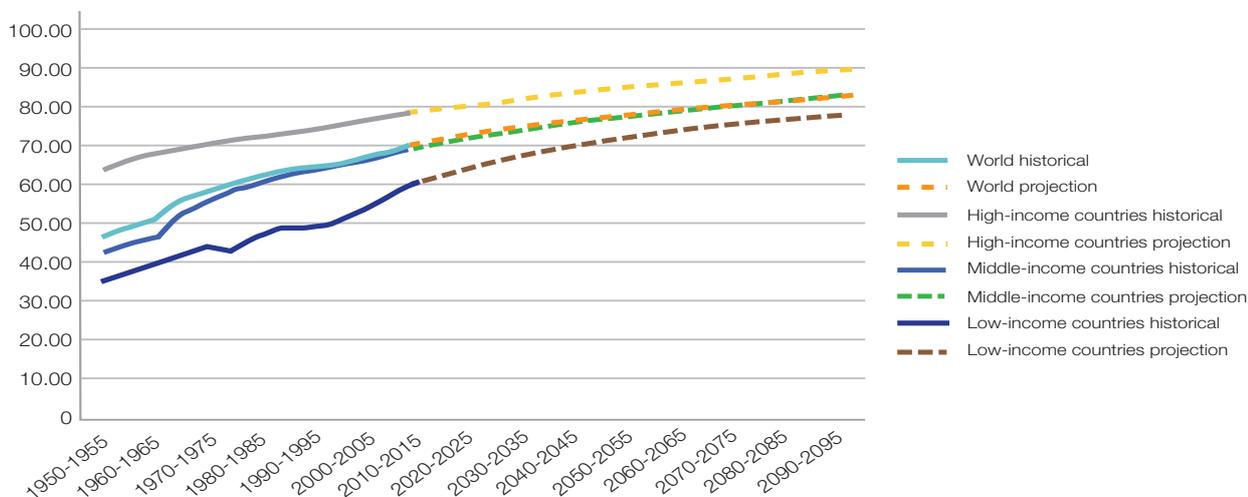
## Tracing the demographic shift

Population ageing is fast becoming one of the greatest economic and social challenges of our time. It is characterised by rising median ages of populations and a growing number of older people relative to working age people. Governments and the societies they serve are only just beginning to confront the impact that ageing will have on public finances and economic activity. Yet crucially, population ageing is not just a developed world issue, but one that is truly global in nature, and one that is set to intensify in the coming decades.

### *What is driving the demographic shift?*

Improvements in life expectancy have been a spectacular social achievement over the last century. Between 1950 and 2015, in high-income countries, life expectancy rose from around 65 to 80 years old. This is projected to rise another 10 years by the end of this century. However, gains in life expectancy have not just been the preserve of the wealthiest nations. In fact, the largest improvements in life expectancy have come in low-income nations, where life expectancy has risen from the mid-30s to just over 60 over the same period. This is set to rise to just under 80 by the end of the century. Overall global life expectancy is expected to rise to just beyond 80 during this time, which is a significant improvement on the global average life expectancy of just under 50 in 1950.

**Figure 2: Historical and projected life expectancy**

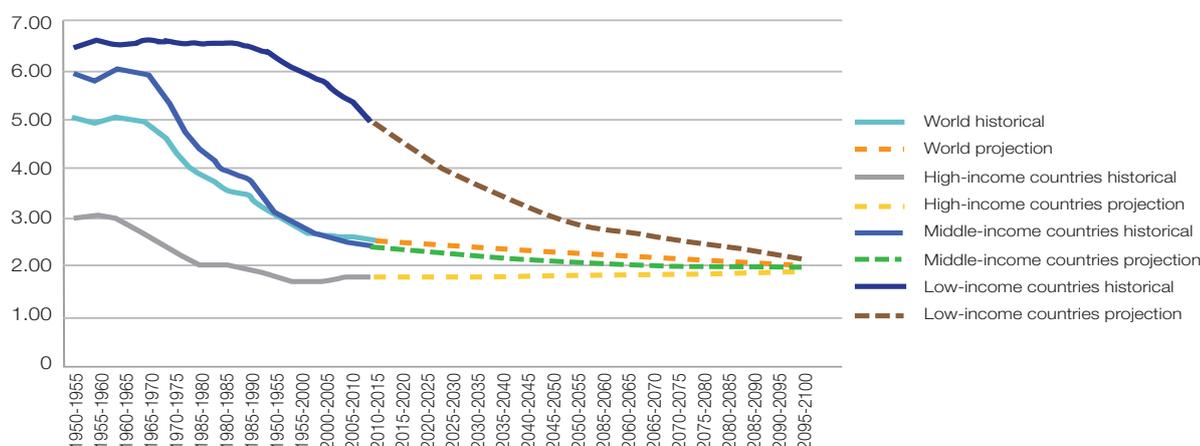


Source: ILC-UK analysis of UN Population Data

Rising wealth and great advancements in medicine and health care have made it possible for people to live longer, but rising life expectancy is only one piece in the jigsaw explaining global

ageing. Allied to longer lives have been falling fertility rates. The number of children per woman has fallen on average across the world from around 6 children per woman in 1950 to 2.5 in 2015. In high income countries, the fertility rate has fallen from around 3 to under 2 in the same time period. According to UN projections, in every economic region, the fertility rate is expected to converge on 2 children per woman by the end of the century.

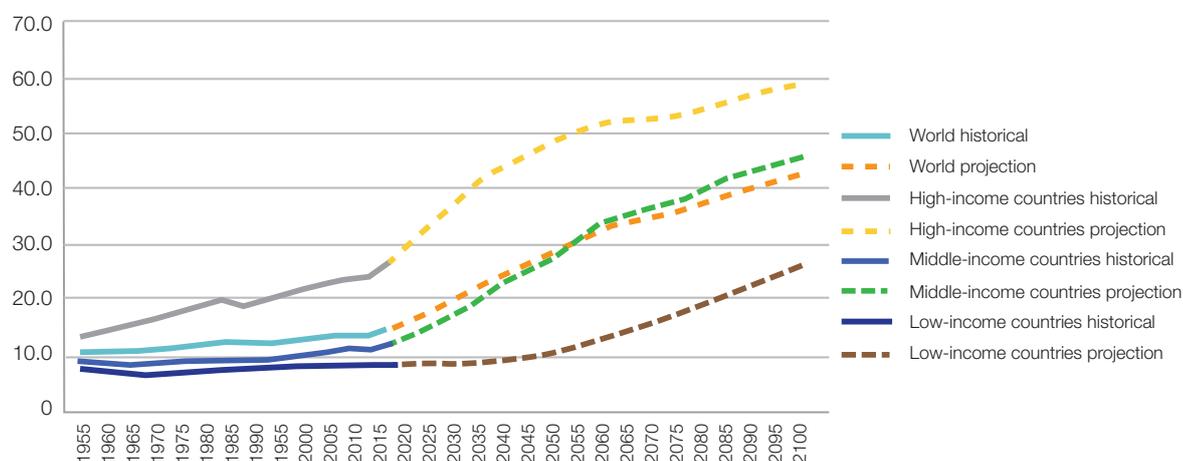
**Figure 3: Historical and projected fertility rates per woman**



Source: ILC-UK analysis of UN Population Data

The combination of increasing life expectancy and declining fertility rates are leading to an increase in the dependency ratio – rising number of older people relative to the number of working age people. As of 2015, the dependency ratio for the world was approximately 16%, a noticeable increase from 1950 when it was only 10%, however the starkest increases are yet to come. According to projections, by the end of the century, the dependency ratio will be above 40%, with the ratio in high income countries reaching almost 60%.

**Figure 4: Historical and projected old age dependency ratio**

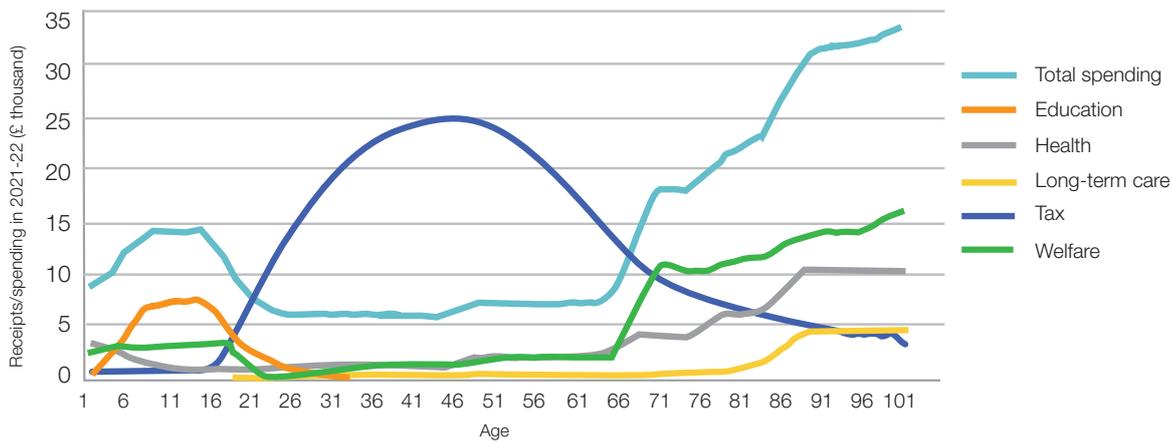


Source: ILC-UK analysis of UN Population Data

### Implications for public spending and the economy

An increase in the older population may require greater levels of government expenditure. The costs of providing pensions and pensioner benefits, health and adult social care will all likely rise due to an increase in the numbers of older people. The UK's Office for Budget Responsibility (OBR) recently illustrated this point with a chart outlining representative tax revenues and government spending for people of different ages. It shows a clear bulge in taxation for those of working age, alongside peaks in government spending at younger and particularly older ages. If such a distribution of spending by age remains the same, population ageing will lead to falling tax revenue relative to expenditure.

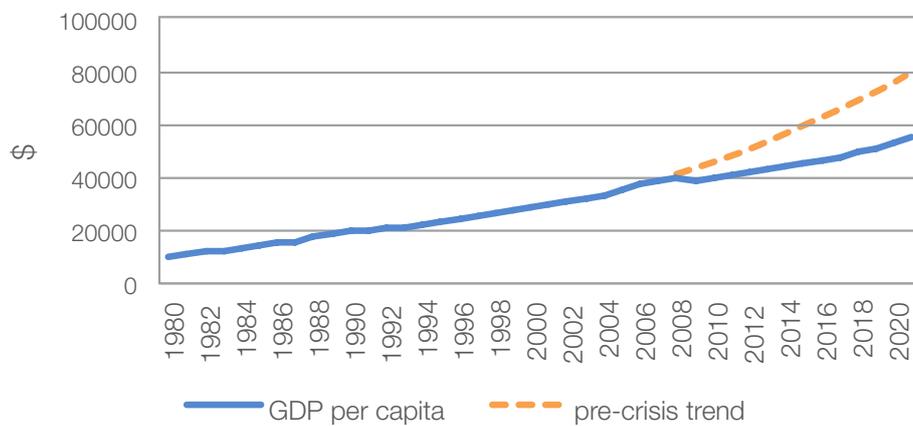
**Figure 5: Representative profiles for tax, public services and welfare spending**



Source: Office of Budget Responsibility – Fiscal sustainability report 2017

While ageing may increase government expenditure, it will also have implications for economic activity. A slowdown or fall in the numbers of working age people will slow or reduce employment levels curtailing economic potential. This may not be a problem if the workforce becomes increasingly productive to compensate for a falling or stagnating labour force, but evidence suggests that a rising elderly share of the population is associated with lower productivity per person, reduced investment and lower inflation<sup>3</sup>. These implications may already be with us. Indeed, many have argued that global ageing has underpinned persistently sluggish economic growth across many high income economies since the financial crisis of 2008<sup>4</sup>. It is worth illustrating this point in numbers. According to our calculations, economic output per person across advanced economies will be 44% lower in 2021 than we would have expected given pre-crisis trends. All of this implies that population ageing may continue to act as a drag on economic activity and therefore government tax revenues making it harder to afford an older population.

**Figure 6: GDP per capita in advanced economies**



Source: IMF and author's calculations

**Addressing the sustainability challenge through savings**

None of the adverse effects of ageing are inevitable. Critically, the distribution of spending and taxation by age may not remain the same in future. As argued in a seminal paper by Bloom, Cuning, and Fink, there are behavioural responses (such as rising female labour-force participation and increased participation of older workers) and public policy reforms (such as raising State Pension Age (SPA) and banning default retirement ages) that can mitigate the economic and fiscal consequences of population ageing<sup>5</sup>. In this context, many advanced

<sup>3</sup>See for example, J. Yoon, J. Kim and J. Lee, "Impact of Demographic Changes on Inflation and the Macro-economy," IMF working paper, Nov. 2014.

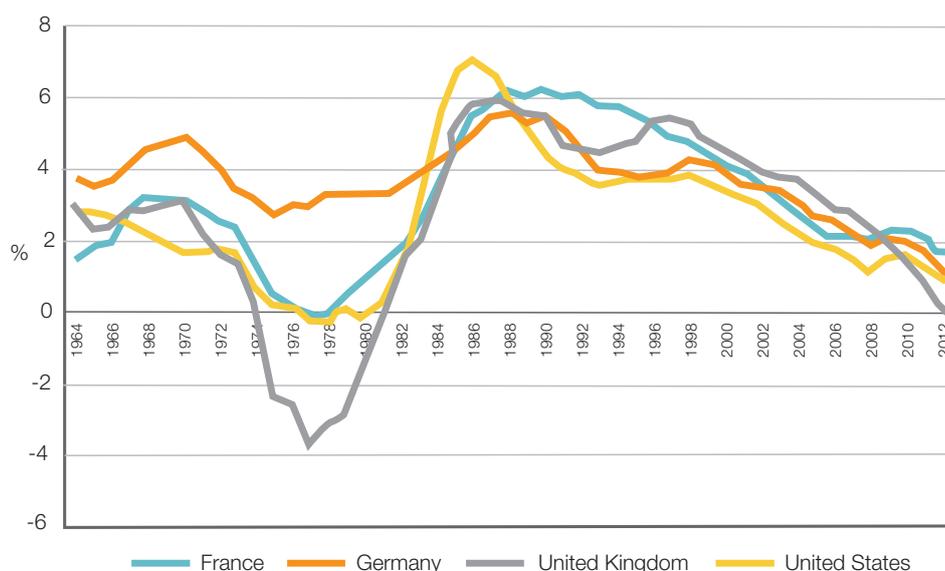
<sup>4</sup>Summers, L.H., 2014. Reflections on the 'new secular stagnation hypothesis'. *Secular stagnation: Facts, causes and cures*, pp.27-40.

<sup>5</sup>For more details, see: Bloom, D., Canning, D., and Fink, G. (2010), "Implications of population ageing for economic growth" *Oxford Review of Economic Policy*, 26(4): 583-612.

countries have begun reducing the generosity of their publicly provided pension systems and enacting policies to extend working lives. But while reforms may be necessary to support the future sustainability of government finances, this could lead to rising pensioner poverty and increased intergenerational inequality if private pension saving is unable to fill the gap left behind as the state retreats.

Unfortunately, increasing private savings has been made harder due to persistently low median income growth across many developed countries in recent years as well as record low global interest rates. This has both made it tougher to save as well as harder to earn strong investment returns on those savings. As we can see from the chart below, real returns on long-dated government bonds across many countries have been consistently falling since their peak in the mid to late 1980s. Today's low bond yields are not just a function of the financial crisis and subsequent unconventional monetary policies undertaken by central banks, but are reflective of a long term weakening of many countries' economic fundamentals. As academics Dimson, Staunton and Marsh have noted, "the projections made by many asset managers, retail financial product providers, pension funds, endowments, regulators and governments are optimistic because they are based on the abnormally high returns world of the 30 years prior to the financial crisis". In turn, they believe that "overly optimistic estimates of future returns are dangerous, not only because they mislead, but also because they can mask the need for remedial action"<sup>6</sup>. In the face of persistently lower returns, the need to save more as a proportion of income becomes even more pressing.

**Figure 7: Real returns on long term government bonds (5 year rolling average)**



Source: OECD and author's calculations.

Notes: Returns are adjusted for inflation using national CPI - all items.

Allied to the economic challenges facing individuals and households, there are very real financial capability barriers which prevent people from saving even when it is in their own interest. As well as a general low level of financial literacy (i.e. understanding of financial terms such as compound interest, AER and APR), individuals suffer from inertia which prevents them from making active savings decisions as well as present bias, where people give stronger weight to payoffs that are closer to the present time<sup>7</sup>. In order to support increased personal savings and thereby ensure the adequacy of future pensioner incomes, policies and incentives are needed to overcome these considerable cognitive and psychological challenges.

<sup>6</sup> Marsh, Dimson and Staunton, "Lower your expectations to the new normal", Article for the FT <http://www.ft.com/cms/s/0/be436e04-9de6-11e2-9ccc-00144feabdc0.html#axzz3Onn480Nv>

<sup>7</sup> Lusardi, A. and Mitchell, O. (2011) 'Financial literacy around the world: an overview', *Journal of Pension Economics and Finance*, 10(4), pp. 497-508.

## Summary

This chapter has argued that population ageing is likely to both raise government expenditure while also curtailing economic activity. This poses a sustainability problem for governments which, for some, will mean reducing the generosity of state provision. But this must be offset by measures to raise personal savings if we are to avoid an increase in the future levels of pensioner poverty. Yet there are substantial economic and psychological barriers to supporting personal savings that must be overcome. In this context, the next chapter of this report explores pension systems around the world with a focus on three specific elements: affordability, adequacy and intergenerational fairness.

# Part 2

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# The international savings gap

## About this chapter

*This chapter describes the approach and methods we have taken to compare pension systems around the world before outlining our headline findings. Subsequent chapters will go into greater detail about the pension systems of five specific countries and regions – the UK, France, USA, Singapore and Hong Kong – but this chapter is concerned with presenting our headline comparative analysis.*

## Approach and methods: introducing the savings gap

As the previous chapter illustrated, population ageing poses a problem for both the state and individual. For the state, there is the challenge of affording an ever-rising pension bill, while for the individual, there is the challenge of ensuring sufficient pension wealth is accumulated to live off adequately in retirement. Linked to the issue of adequacy is the question of intergenerational fairness – which we crudely define as the extent to which younger generations are likely to have lower rates of replacement income in retirement than today's retirees. Diminished economic prospects for future retirees would represent a reversal of the substantive gains made in the latter half of the twentieth century when pensioner incomes rose and poverty rates fell. As such, our approach to comparing pension systems focuses on three core themes: **affordability, adequacy and intergenerational fairness**.

Based on the above themes, we project savings gaps for different countries under different conditions. These savings gaps illustrate how much an average individual entering the workforce today may need to save in order to secure 1) an adequate income in retirement and 2) to match the level of pension replacement rates of current retirees.

## Data and assumptions

In order to calculate the “savings gap”, we use OECD cross sectional data for 30 different countries and regions, including most OECD nations as well as Hong Kong and Singapore.

The key variables used to calculate the savings gap include:

- Net replacement rates deconstructed by public pensions, mandatory private pensions and voluntary private pensions.
- Average earnings in USD PPP for each country in order to make comparisons across countries.
- Projected life expectancy at pensionable age for those entering the workforce today.

We assume that an individual enters the workforce at the age of 20 and retires at the currently legislated pensionable age for each country. Income is needed from the age of retirement to the expected date of death which, in turn, is based on average life expectancy at the assumed point of retirement.

To calculate the savings gap, we work backwards from knowing average earnings during working life and the anticipated net replacement rate, in order to estimate how much more an individual would need to save in order to meet our “adequate” income threshold which we define as 70% for average earners. We then take the following steps:

- The net replacement rate is the amount of income a person receives in retirement expressed as a percentage of pre-retirement earnings. We apply this percentage to average earnings (shown in USD PPP) to estimate an average annual retirement income.
- We take the annual income in retirement and multiply it through by projected life expectancy, to calculate the stock of retirement wealth.

- We then calculate how much wealth in retirement would be needed to support an adequate retirement income at 70% of average earnings.
- We take the difference between the amount of wealth required for an adequate income and the amount currently projected in order to estimate the retirement savings gap. We then divide this through by the years spent working (based on age of entering the workforce and expected SPA) in order to estimate how much additional savings a year an individual will need to accumulate in order to generate this adequate retirement income.

If the figure is positive, it means that individuals will have less income in retirement than they require to live adequately. They therefore need to consider saving more or retiring later or alternatively the state may need to provide more generous support to make up the anticipated shortfall. If the figure is negative then it implies the opposite, people may have more income in retirement than they require.

### **Focus box: How do we define an adequate retirement income?**

Researchers and policy makers typically use broad rules of thumb to define retirement income adequacy - often referring to a 70% replacement rate as an adequate retirement income. This means that someone will have a retirement income equivalent to 70% of their pre-retirement income. The rationale behind this approach is based on a strand of economic theory which assumes that individuals will choose to smooth consumption over their lifetime thereby ensuring a relatively stable standard of living<sup>8</sup>. Indeed, in a review of the literature and evidence in the USA, Biggs and Springstead note “there is no single authoritative source for 70% as the appropriate replacement rate, and indeed recommendations can be higher or lower. Rather, 70% appears to be a rough consensus among financial planners and others”<sup>9</sup>.

As an extension to the 70% rule, others have taken a more nuanced approach which is in keeping with the same principle, but accepts that a universal 70% replacement rate may not apply to all. In this context, the UK Pensions Commission set out different target replacement rates based on earning bands with the idea being that lower earners will require a higher replacement rate in retirement than higher earners<sup>10</sup>. This ensures that lower earners do not face poverty or destitution in later life. While this approach to defining adequacy has come under criticism in recent years<sup>11</sup>, no other definitions have yet taken over the baton despite some good recent attempts<sup>12</sup>. Moreover, the 70% rule and its variations have one big advantage for our purposes, it is relatively simple to understand and to measure, even across multiple countries enabling cross country comparisons. As such we use the 70% definition for those who had average wages during working life throughout this report.

### ***Incorporating anticipated private savings***

For 7 countries in our sample where voluntary private pensions cover more than 40% of the population, the OECD has projected what this means for replacement rates in retirement. As a result, this allows us to calculate the savings gaps for these 7 countries, incorporating both the state pension and anticipated private pension elements.

The inclusion of private savings led to a number of country omissions from our analysis, for the sake of comparability. The voluntary net replacement rates calculated by the OECD are based on the premise that voluntary savings are widespread (covering at least 40% of the population). Unfortunately, data was unavailable on the level and type of coverage for a number of nations,

<sup>8</sup> Modigliani, F(1966). “The Life Cycle Hypothesis of Saving, the Demand for Wealth and the Supply of Capital”. *Social Research* **33** (2): 160–217.

<sup>9</sup> Biggs, A and Springstead, G. (2008) “Alternate measures of replacement rates for social security benefits and retirement income” Social Security Bulletin, vol.68, no.2

<sup>10</sup> See DWP (2012) “Estimates of the number of people facing inadequate retirement incomes”.

<sup>11</sup> MacDonald, B.J. and Moore, K.D., 2011. Moving Beyond the Limitations of Traditional Retirement Replacement Rates.

<sup>12</sup> See for example, JRF (2014) <https://www.jrf.org.uk/report/minimum-income-standard-uk-2014>

despite private pension coverage being relatively high in each. As a result, including these nations in our study could potentially misrepresent the adequacy of their pension systems relative to other countries, thereby distorting the conclusions that we reach.

**Table 1: assumptions around growth and investment returns and regions (consistent with OECD 2016 Pensions Outlook)**

Key indicators	Growth rate
Price inflation	2%
Real earnings	1.25%
Real rate of return	3%
Real discount rate	2%

### ***Taking into account the sustainability of publicly provided pensions***

The future affordability of publicly provided pensions and old age social security is of great importance. Low growth and ageing societies are likely to put pressure on public spending in many developed and developing nations. For this reason, the current generosity of pension systems may be unsustainable over the longer term. In assessing the possible future adequacy of pension systems, we therefore need to take into account the possibility of countries scaling back state pension expenditure.

In order to model this, we honed in on those countries where public expenditure on pensions is particularly high and delivers a retirement income in excess of 60% of pre-retirement earnings (which is approximately the current OECD average). We then model what would happen to retirement incomes if the net replacement rate provided by the state either falls by 20% or converges to the current OECD average, taking the smaller value of the two to best represent a decline in the provision of publicly provided pensions.

### ***Calculating the intergenerational savings gap***

The final part of our analysis is to understand how much today's twentysomethings may need to save in order to meet the adequacy levels of today's retirees – the so called intergenerational gap. To calculate this, we first collected data from Eurostat and national statistical agencies to estimate the replacement rates of the current generation of pensioners in different countries and regions. Then we simply used this rate as our definition of an adequate income in retirement (rather than the 70% rule), and recalculated all of the savings gaps for different countries.

### ***Bringing it all together***

Finally, we combine the results of each modelling stage so that we show retirement savings gaps after taking into account private pensions for those systems where there are voluntary pension schemes that have high levels of coverage, and reductions in the generosity of state provided pensions where they are likely to be unsustainable in the long run. We do this to calculate both the adequacy savings gap and the intergenerational savings gap.

## Headline findings: The international savings challenge

### *Private savings and state support needed to close the adequacy gap*

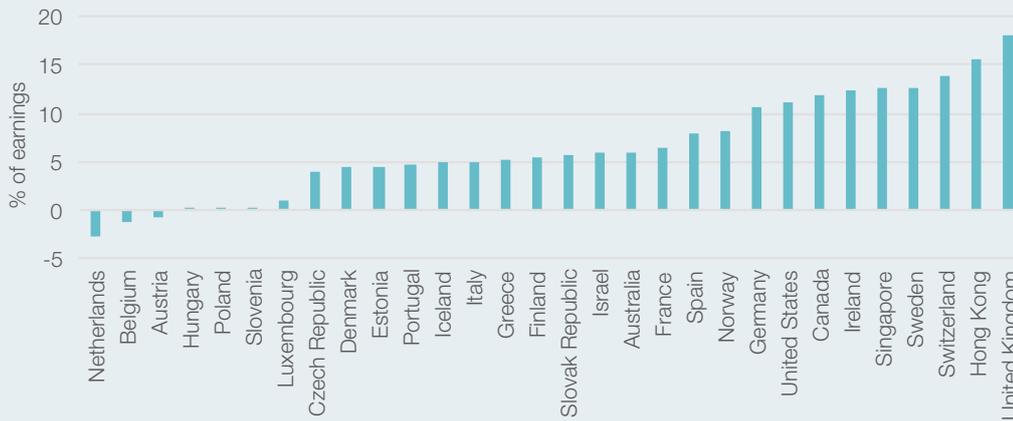
Today's workers face inadequate incomes in later life. In total, we project that the average earner in 27 out of 30 countries and regions will face an income shortfall in retirement using the benchmark 70% replacement rate, when private savings are excluded from analysis. The UK is the worst performing country in this scenario, requiring 18% of annual income to be saved each year to ensure an adequate income. When incorporating private savings into the modelling, 24 out of 30 countries and regions face an income shortfall. Of these, Singapore and Hong Kong are among the worst performers when looking at the shortfall as a proportion of average earnings. We estimate that individuals in these regions need to save an additional 12.5% and 15% of earnings respectively in order to close the adequacy gap. This is despite both countries already exhibiting high personal savings rates.

In most OECD countries, private pension saving will be important to securing an adequate income in retirement. But this is particularly the case in those countries where state provision for retirement is not that generous. In the UK, USA and Canada, savers will need to put away between 11% and 18% of their earnings every year in order to afford a comfortable retirement. Each of these countries has relatively widespread private pension coverage, but still a substantial proportion of the working age population does not save for retirement, while many of those that do save, fail to save enough. When we modelled the likely outcomes for typical pension savers (rather than non-savers) in each of these systems, the savings gaps shrunk considerably, showing how important such saving will be for future retirement prospects in these countries.

There are a number of pension systems that do particularly well from having both a public pension component as well as a mandatory or quasi mandatory pensions saving component. The Netherlands is an interesting exponent of this model - it is not projected to have any retirement income shortfall for average earners. While occupational pension provision in the Netherlands is not strictly mandatory, around 4 in 5 occupational scheme members are covered by mandatory sector-wide pension funds. Similarly, Denmark's pension system does well, supported by high contribution rates to mandatory occupational pension schemes, with strong employer contributions, as well as coverage through supplementary voluntary pension schemes. Slovenia is also an interesting example of a strong three tier system, with a Pay-As-You-Go pension, combined with mandatory occupational pensions for some sectors of the economy and a developing voluntary private pension market. Belgium does well as a result of strong company and industry-wide pension schemes which have relatively good coverage and high employer contributions which help to supplement an already relatively generous public pension.

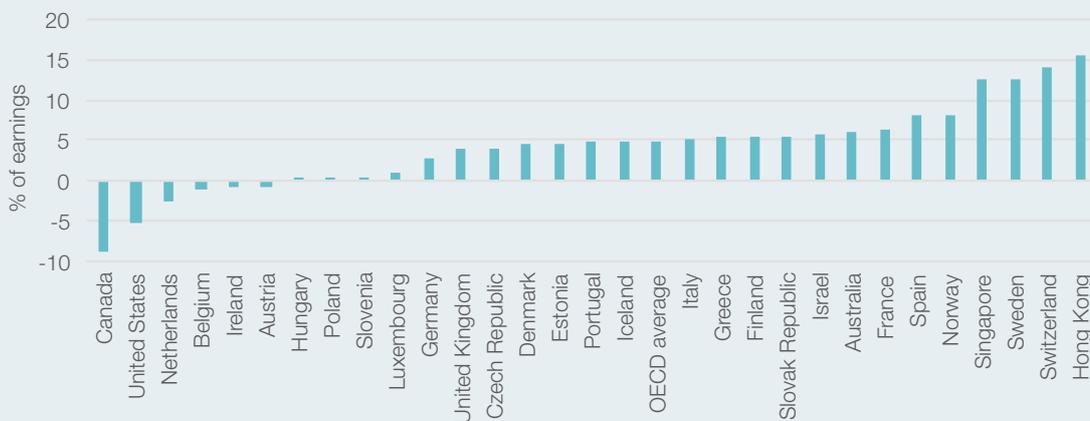
Finally, France has been able to secure very high levels of adequacy for current retirees thanks in part to generous state provision coupled with widespread mandatory occupational coverage. But, as this report will later reveal, there are question marks about the French system's affordability, and so we project reforms that negatively impact on the retirement income adequacy of future pensioners with adverse implications for retirement income and most spectacularly intergenerational fairness.

**Figure 8: Adequacy gap excluding voluntary savings**



Source: Author's analysis and OECD

**Figure 9: Adequacy gap including voluntary savings**



Source: Author's analysis and OECD

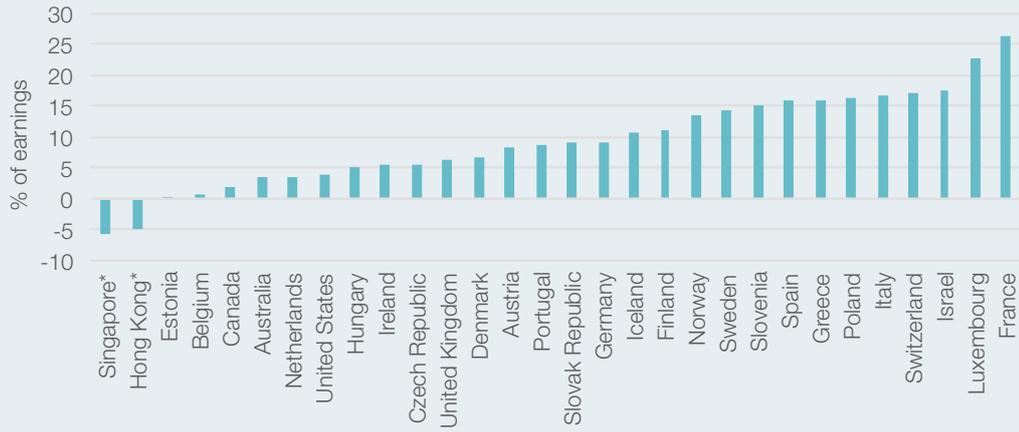
**Almost all developed countries face an intergenerational savings gap**

28 of the 30 countries and regions we explored face an intergenerational savings gap. The average amount that someone entering the workforce today will have to save to enjoy the same retirement income adequacy as current retirees is around \$5,080 or 12.6% of earnings across the 30 high income countries and regions we explored for this research. Unfortunately, current savings behaviours suggest this is unlikely. Even after accounting for expected saving into a private pension scheme for those countries where such schemes are prevalent, today's twentysomethings are projected to do worse than current retirees. This is true for all OECD countries.

We also include Singapore and Hong Kong in our analysis. Neither face an intergenerational gap, but this does not mean that future retirees in these regions will do well in retirement. Rather, they will do marginally better than current retirees who do particularly badly, suffering from low replacement rates and high levels of pensioner poverty. We explore the reasons for this in the next chapter of this report.

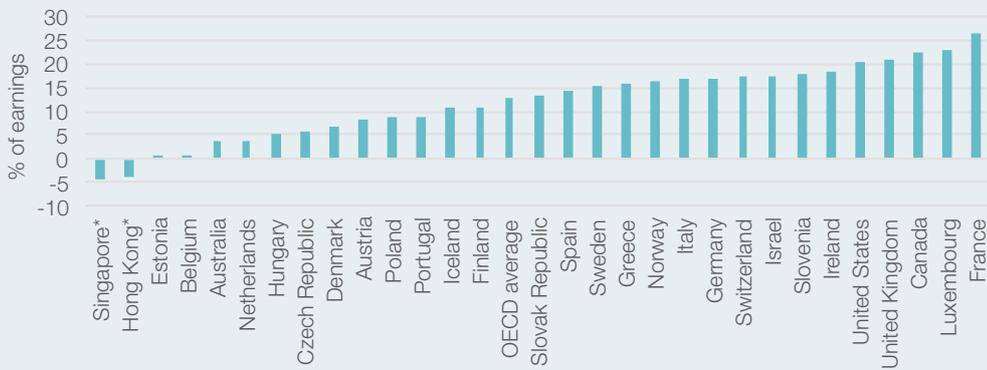
If people fail to save in the USA and UK, we calculate that they face an intergenerational gap in excess of \$10,000 a year (over 20% of earnings). Anticipated savings behaviours in the US and UK reduce the gap but do not erase it altogether. For those who are anticipated to make private savings, we still estimate that they will save, on average, \$1,000 a year too little in the USA and \$3,000 a year too little in the UK. France faces the biggest intergenerational savings gap of all OECD countries explored in this report (26% of earnings). This is because current pensioners enjoy substantial income in retirement relative to their pre-retirement earnings, and we model anticipated reforms to reduce the generosity of state support over the coming decades.

**Figure 10: Intergenerational gap including voluntary savings**



Source: Authors analysis and OECD

**Figure 11: Intergenerational gap excluding private savings**



Source: Author's analysis and OECD

# Part 3

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## About this chapter: It's the system stupid!

*In this chapter, we explore the pension systems and savings behaviours across a number of countries and specific regions: the USA, the UK, France, Singapore and Hong Kong. These were chosen because of interesting similarities as well as stark differences in pension systems, savings behaviours and retirement outcomes. The different countries and regions also provide a good geographical spread of Northern European, American and Asian systems, each of which has good data from which to make reliable comparisons and useful conclusions. We therefore begin with a quick tour of the systems before exploring each of their specific challenges in more detailed country profiles.*

## A whistle-stop tour of pension systems

The UK and USA provide a relatively limited universal basic pension for their retirees, which means that both systems are relatively sustainable but the onus is on personal savings to secure retirement income adequacy. Both systems are supported by well-developed private pension markets with relatively widespread private pension coverage on a voluntary basis – neither system compels people to save.

But such an onus on individual responsibility brings big challenges. First, the systems penalise those who do not work or who are unable to save. Second, there is the need to support widespread savings cultures amongst those that are able to save. The US with its history of DC pension savings appears to have fostered a savings culture of sorts amongst those that can save, while the UK is playing catch up as it transitions from a DB to a DC world. Raising financial capability will be of utmost importance for both countries, but particularly in the UK where savers have historically been used to a more paternalistic system of final salary pensions and few “at retirement” flexibilities. Third there is the question of how to support the self-employed and people engaged in other forms of non-standard work<sup>13</sup> who by definition will miss out on employer contributions to occupational pension schemes.

Ultimately, for those able and willing to save in both countries, their retirement prospects are relatively good, but for those who rely predominantly on the state to fund their retirement income, shortfalls are likely to be large. For this reason, while both countries do relatively well in terms of the retirement prospects for the “average” worker who is able to save, there remains high levels of pensioner poverty across both systems and this is likely to persist.

By comparison to the UK and US systems, the French is much more reliant on state provision, with expenditure on publicly provided pensions in excess of 15% of GDP making it one of the most expensive in the OECD. The system is supported by strong mandatory occupational pensions, with minimal take up of voluntary private pensions. Therefore, the French system currently supports high levels of income adequacy in retirement without having facilitated a strong voluntary savings culture. However, over the long-run there are serious questions over the affordability of the French system, particularly given that the average age of leaving the workforce to retire is much lower in France than across the rest of the OECD. It is likely that the French system will become less generous by raising pensionable age in the future and by reducing the generosity of social security provision for those in old age. This will mean that future generations are likely to be significantly worse off in retirement than the current generation of pensioners unless the French can raise contributions levels through occupational schemes, significantly boost retirement ages and/or facilitate a voluntary private savings culture.

<sup>13</sup> Although there is no agreed upon definition of non-standard work it is general seen as work that is not full time. See The Global Risks Report 2017, 12th Edition, World Economic Forum

In stark contrast to France's pay-as-you-go (PAYG) system with compulsory DB occupational pension provision, stand the Asian Tigers of Singapore and Hong Kong. These countries rely almost entirely on fully funded DC systems – administered through the Central Provident Fund in Singapore and the Mandatory Provident Fund in Hong Kong, whereby employees (and self-employed workers in HK) are compelled to save. There is no universal basic pension and only very minimal support for the poorest pensioners. For this reason, while private pension coverage is high in both countries and despite very strong savings cultures - particularly in Singapore where people save in excess of 20% of their earnings – the level of pensioner poverty is high and is likely to remain so for future generations. Developing a stronger state safety net for both regions will be complicated, as they are amongst the fastest ageing communities on earth. The potential cost implications of raising the safety net for retirees must therefore be considered against the urgent need to reduce pensioner poverty while maintaining a sustainable system.

In summary, our five regions face a number of critical challenges, some of which are common to other countries with similar systems and some of which are unique. But each region can learn lessons from the other about how the design of the system can impact on the savings behaviours of its people and ultimately their retirement outcomes. We now look at each country and region in greater detail.

## **Key takeaways**

*The US system is good when it comes to affordability, but this means it performs poorly on adequacy for those who fail to save which has led to relatively high poverty rates in the US among those over 65. Increasing private pension coverage allied to raising pension contributions will be critical to delivering adequate retirement incomes for future retirees.*

## **Overview**

### **Affordability**

The US system is arguably one of the most affordable across the developed world. Between 2010-2015, US public expenditure on pensions was just 4.9% of GDP, significantly below the OECD average of 9%. Increases in expenditure are expected to be relatively moderate, with 6.1% of GDP being spent on pensions in 2050, again well below the projected OECD average of 10.1%. In part, this is because US public provision is relatively less generous, but it is also because the US population is not expected to age quite as rapidly as other developed countries.

### **Adequacy**

Since publicly provided pensioner benefits in the US are less generous than other developed countries, this puts the onus on people to save privately in order to secure an adequate retirement income. According to our projections, the average person entering the workforce today will need to save at least \$5,608, or 11.1% of earnings every year in order to secure an adequate retirement income. While just over half of the working population are currently saving into a private pension (54%), that still leaves a sizeable proportion and number of people who are not saving into a pension and are therefore likely to face a significant retirement income shortfall.

### **US savings behaviours**

Despite over 50% of the working population being members of a private pension scheme, across the entire US adult population, the proportion making active contributions to such schemes is far lower and there are significant differences by income level and type of work. Our bespoke survey shows that just 23% of US adults are saving towards a private pension and there is a large discrepancy in pension saving across the earnings distribution. 28% of those earning above \$75,000 a year save towards a private pension, while only 3% of those earning less than \$25,000 make private pension contributions. Similarly, part time (13%) and self-employed (17%) workers are far less likely to be contributing to a pension scheme than full time workers (33%).

The majority of people in the US are putting money away into a savings account of some kind (58%), though this is primarily for rainy day reasons rather than specifically for retirement, while a small proportion also save to cover potential health (8%) and social care costs (15%). Perhaps reflective of the fact that the US system is predicated on individuals taking personal responsibility for their retirement saving, a higher proportion of US savers have a specific savings target (29%) than in France (7%) and the UK (9%).

### **Intergenerational**

Public provision of pensioner spending in the US is not expected to become any more generous over the coming decades, meaning that current workers will have to save substantial amounts to secure the same level of retirement income adequacy as current retirees. Indeed, our modelling implies that people entering the workforce today will need to save in excess of 20% of earnings or \$6,575 a year.

## **Summary of US pension provision**

### ***State support***

Public pension provision in the US is calculated with a progressive formula, meaning the pension is higher as a proportion of lifetime earnings for those on lower wages. Despite this, the provision of public pensions in the US, is less generous. While those earning up to \$816 a month can expect a 90% replacement rate, this only represents 22% of the national average wage. After this, between the bands of \$816 and \$4,917 a month, an individual can only expect 32% of earnings via the State Pension. The upper boundary in this case represents 122% of national average earnings. Beyond \$4,197, a net-replacement rate of 15% is achieved, with a maximum benefit of \$117,000 available, corresponding to an upper bound wage of 264% of average earnings. Pensions are adjusted for inflation.

Targeted means-tested benefits are also available, known as Supplemental Security Income, with a maximum amount of \$8,652 a year for a single person and \$12,984 for a couple, depending on the asset wealth of those in receipt of the benefits. Respectively these sums are equivalent to 19% and 29% of average earnings as of 2012 but the maximum benefit is indexed to price increases. Entitlement to this benefit involves a strict asset test. Individuals and couples may not own more than \$2,000 and \$3,000 respectively. Additional payments to those most in need can be made at the discretion of individual State governments<sup>14</sup>.

### ***Occupational pensions***

Employers are not compelled to offer an occupational pension scheme in the US. Historically, defined benefit (DB) schemes were dominant in the US, but these have been overtaken by the 401(k), a defined contribution (DC) scheme, as the most popular type of occupational pension in the US. The 401(k) allows for “before-tax” contributions. This means tax is only applied to a salary, after a portion has been contributed to the pension fund, reducing the overall amount of tax paid on earnings.

Employers often match employee contributions within a certain limit. An individual may contribute more, but this won't be matched by an employer. Schemes are often managed by an independent party, but individuals have control over where their funds are invested. While this grants savers a greater level of autonomy and can encourage them to be more aware of how much they are saving and the returns generated from investments, it can also increase the risk associated with DC schemes, which may leave individuals without sufficient income in retirement, or even making a loss on their savings<sup>15</sup>.

Depending on the plan and tax structure, access to 401(k) funds is not allowed prior to the age of 59, or 55 if an individual leaves an employer. Any withdrawal before this period faces a penalty payment, on top of deferred tax levies. If the plan does not involve making “before-tax” contributions, then there is more flexibility, and withdrawals can be made so long as the scheme has been held for more than 5 years.

If a sponsoring firm goes bust then the plan is most likely to be terminated, but there remain options to transfer the savings elsewhere. Other plans exist in the US, which has a robust private savings market, allowing individuals to make savings into Individual Retirement Accounts (IRAs) or through profit sharing plans and even through plans which primarily invest in the employer's stock. Although placing the burden on the individual helps to achieve a more sustainable system for State finances, it runs the risk of leaving those without the means of saving with a less than adequate pension fund in retirement.

### ***Affordability***

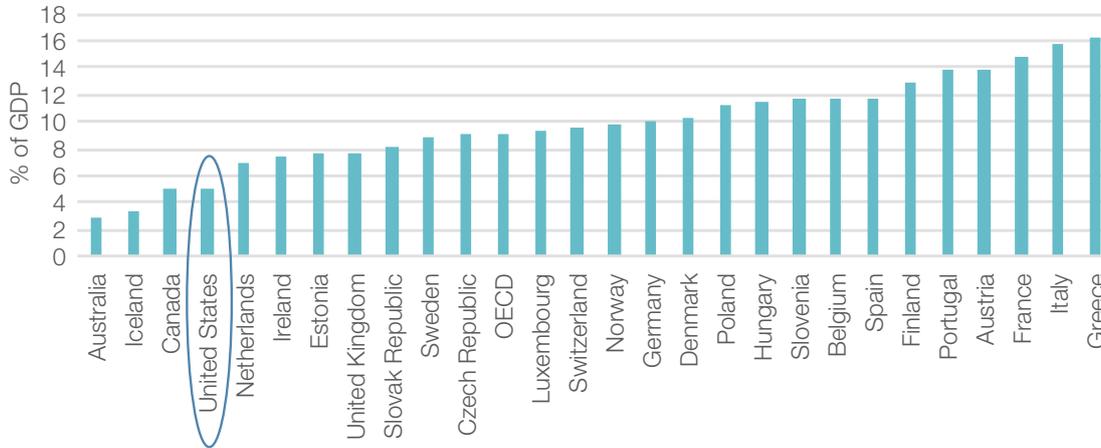
Public expenditure on pensions in the US, as a proportion of GDP, is low compared to other OECD nations. Amongst the 30 countries and regions explored for this report, the US has the joint third lowest level of public expenditure on pensions. At 4.9% on average each year between

<sup>14</sup> OECD Pensions at a Glance 2015

<sup>15</sup> Information collected from the Inland Revenue Service <https://www.irs.gov/retirement-plans/401k-plans>

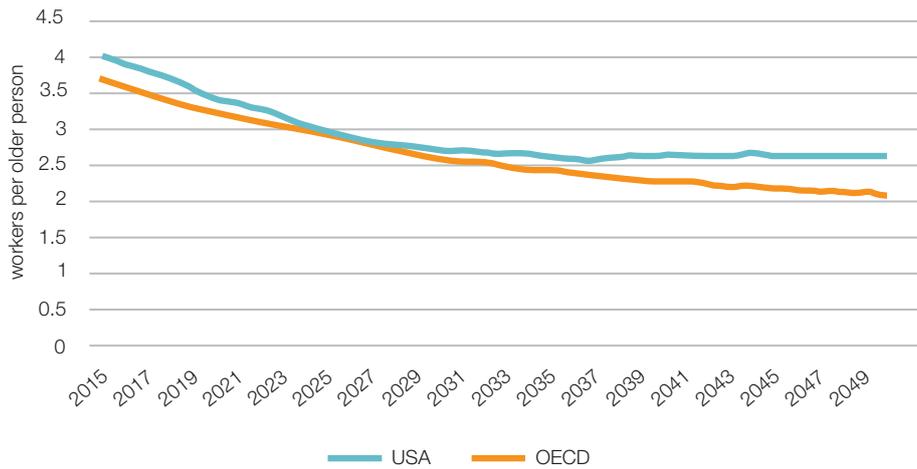
2010 and 2015, US public expenditure on pensions is almost half the level of the OECD average of 9%. By 2060, public expenditure on pensions is expected to rise to 6.1% of GDP, still far below the OECD average. Such projections show that the US old age social security system remains relatively affordable. In part, this is because US state provision is relatively less generous than other developed countries, but it is also because the US' population is not expected to age quite as rapidly as other developed countries as shown by the dependency ratio chart below.

**Figure12: Public expenditure on pensions, 2010-2015**



Source: OECD Pensions at a Glance 2015

**Figure13: Dependency ratio**

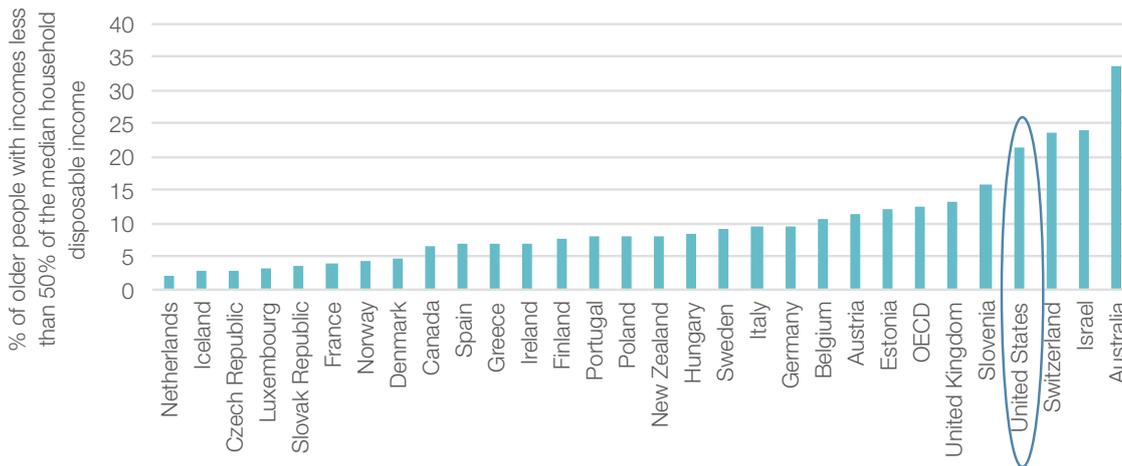


Source: Authors analysis of OECD data

### Adequacy

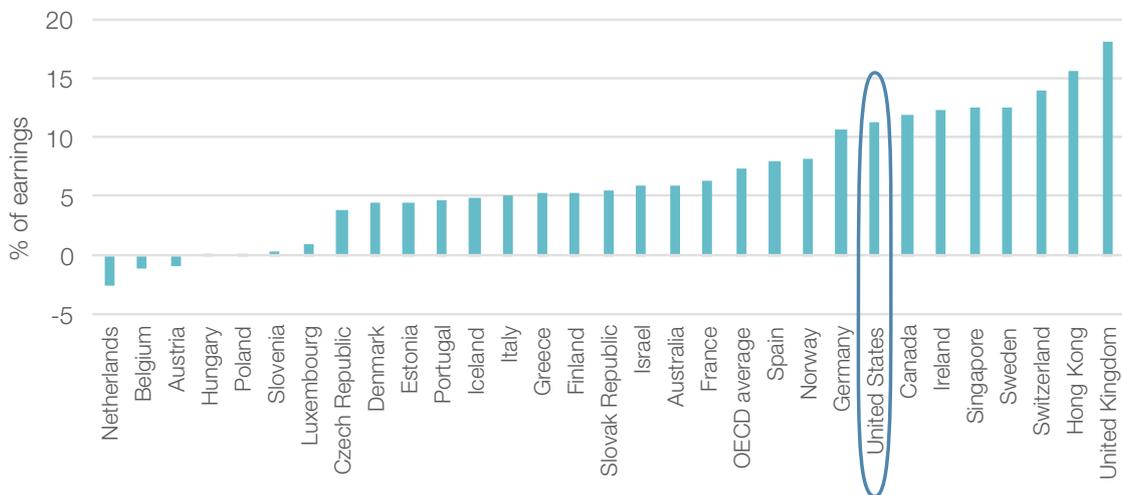
With state provided retirement benefits less generous in the US than in other OECD countries, a significant amount has to be saved voluntarily or there is a threat of pensioner poverty. Indeed, amongst the current generation of retirees, 21% of older people are living in relative poverty (those with an income below 50% of the median household income), which is significantly higher than the OECD average of 12.4%. To avoid future retirement income shortfalls and secure an adequate retirement income, we calculate that the average individual entering the workforce today will need to save in excess of 11% of their earnings every year.

**Figure 14: Income poverty rates for +65**



Source: OECD and author's calculations

**Figure 15: Adequacy gap excluding voluntary savings**

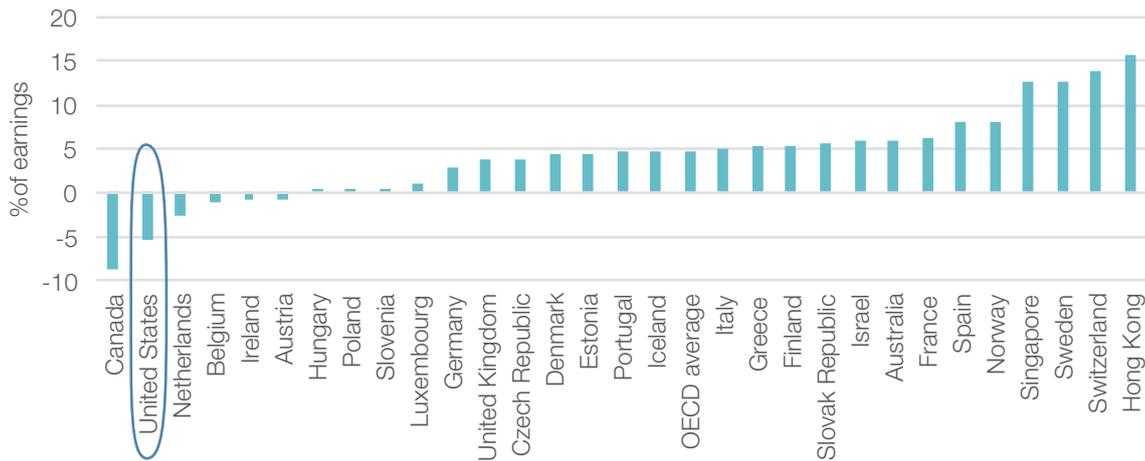


Source: OECD and author's calculations

Inequality is a major issue for the US pension system – there is a significant difference in outcomes between those that do save and those that don't. In our modelling, the average US earner who saves for retirement into a typical private pension plan will achieve an adequate income in later life, but those that do not save will face a retirement income shortfall given the relatively less generous nature of state provision. Currently just over 50% of workers are members of an occupational pension plan although participation is markedly lower in the private sector (49%) than in the public sector (81%)<sup>16</sup>.

<sup>16</sup> Data sourced from Employee Benefits Survey, March 2016, Retirement benefits: Access, participation and take up rates, Bureau of Labor Statistics.

**Figure 16: Adequacy gap including private savings**



Source: OECD and author's calculations

Notes: Assumes worker on average salary saves into typical US private pension plan for their entire working life.

### **Savings behaviours in the USA**

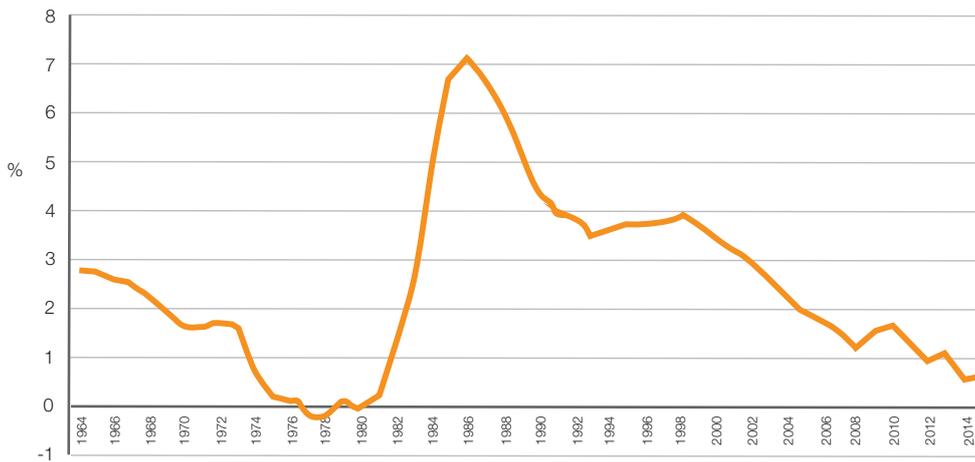
Despite over 50% of the working population being members of a private pension scheme, across the entire US population the proportion making active contributions to such schemes is far lower and there are significant differences by income level and type of work. Our bespoke survey shows that just 23% of US adults are saving towards a private pension and there is a large discrepancy in pension saving across the earnings distribution. 28% of those earning above \$75,000 a year save towards a private pension, while only 3% of those earning less than \$25,000 make private pension contributions. Similarly, part time (13%) and self-employed (17%) workers are far less likely to be contributing to a pension scheme than full time workers (33%). The vast majority of people in the US are putting money away into a savings account of some kind (58%), though this is primarily for rainy day reasons rather than specifically for retirement, while a proportion also saves to cover potential health (8%) and social care (15%) costs. Perhaps reflective of the fact that the US system is predicated on individuals taking personal responsibility for their retirement saving, a higher proportion of US savers have a specific savings target (29%) than in France (7%) and the UK (9%).

Across different age categories we see that saving towards a private pension is most common among those aged between 25-34, with 25% making contributions. There is a significant proportion of people between the age bands of 35-44 and 45-54 who do not make any savings contributions with 27% of respondents in both groups claiming not to save towards a pension, into a savings account or any other vehicle for saving. This represents a sizeable proportion of individuals in the prime of their working life who are likely to have insufficient funds to go into retirement with, simply through not saving.

### **Intergenerational fairness**

Pension funds tend to be invested in either stocks/equities, which are more volatile but can generate higher returns over a sustained period, or government bonds, which are less volatile but are likely to earn a lower return over the long run. Interest rates on long dated US bonds have fallen dramatically since the 1980s, from 8.1% in 1981 to just above 0% in 2015. This means that the interest earned on private savings is lower today than it was for previous generations. This issue, combined with the fact that state provision is unlikely to become any more generous, means that future generations of US pensioners are unlikely to reach the same level of adequacy as today's.

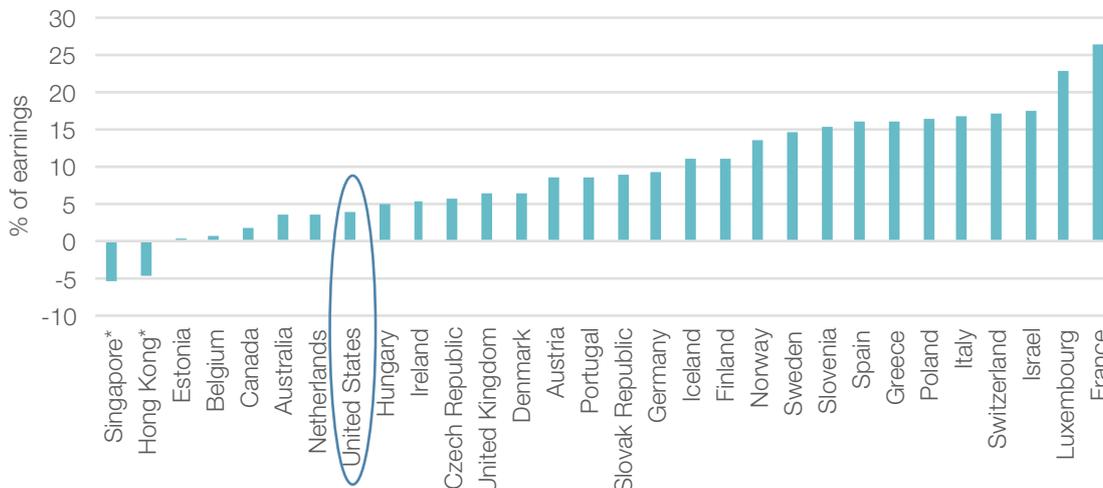
**Figure 17: Real returns on long term government bonds (5 year rolling average)**



Source: OECD and author's calculations. Inflation adjusted using USA CPI all items

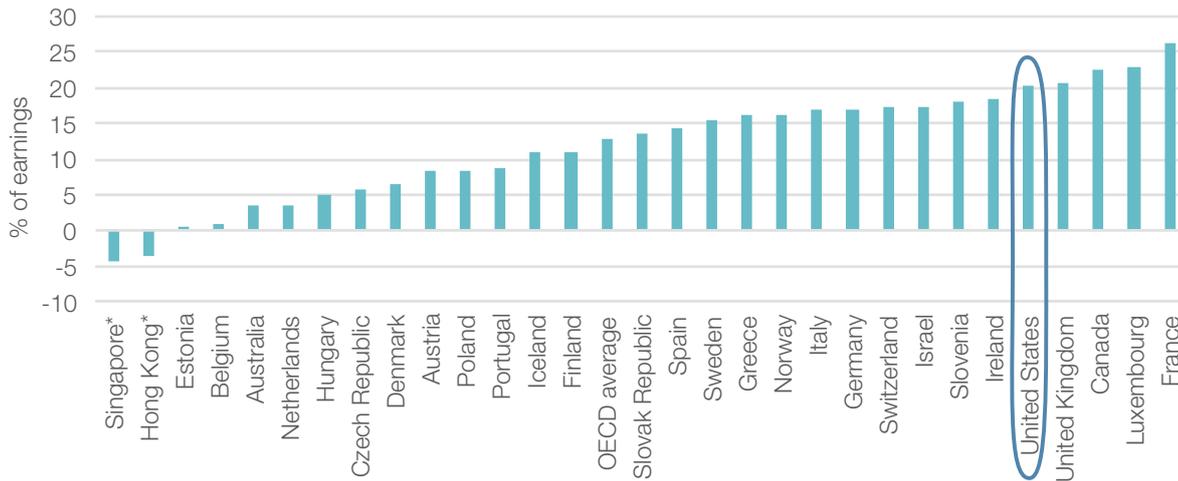
Lower returns have been incorporated into our modelling, which, in part, explains why there is an intergenerational savings gap of \$2,661 or 3.9% of average earnings, even when we model the anticipated level of pensioner income for someone who has saved into a private pension plan. This means that, based on anticipated savings behaviours and the future direction of social security spending, the average individual entering the US workforce today is expected to have a lower level of retirement income adequacy than those currently in retirement. Perhaps most revealingly, our modelling implies that individuals entering the workforce today will need to save a total of **\$6,575 a year, just over 20% of average wages**, in order to close the intergenerational gap.

**Figure 18: Intergenerational gap including private savings**



Source: OECD and author's calculations

**Figure 19: Intergenerational gap excluding private savings**



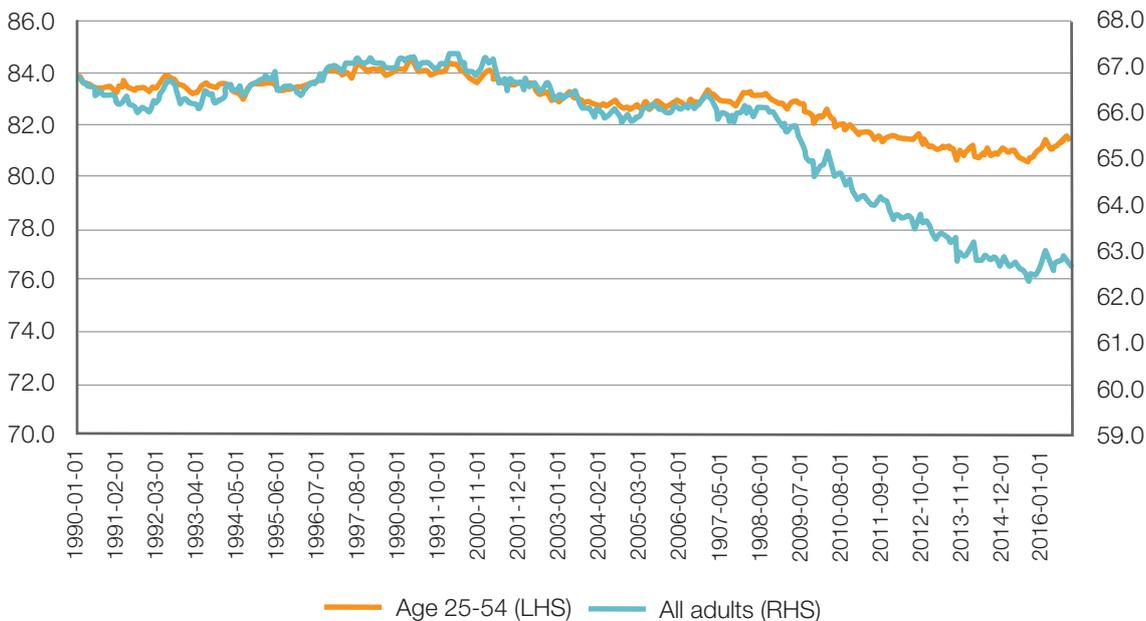
Source: OECD and author's calculations

**Labour market challenges**

*Falling labour force participation*

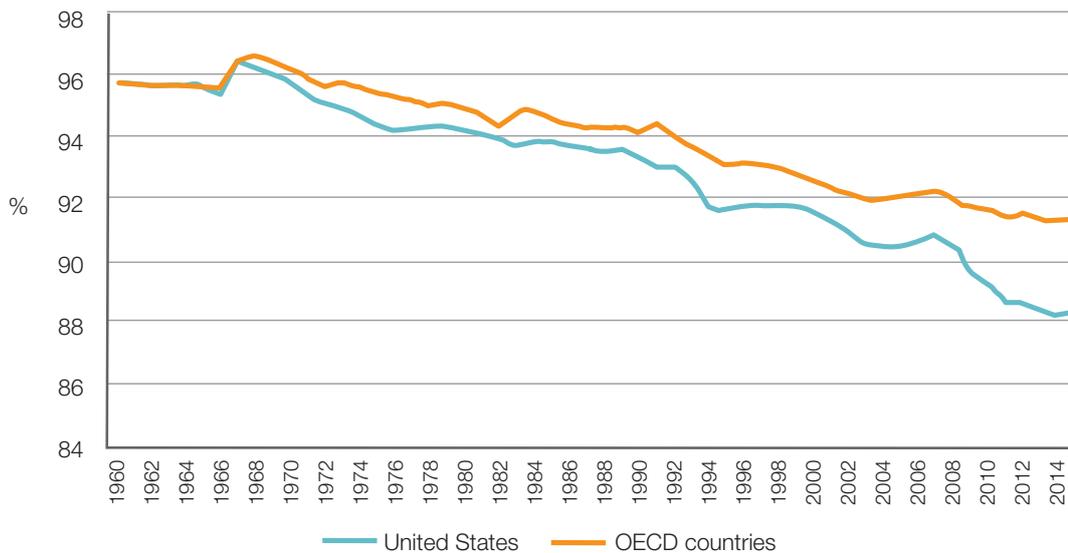
A serious and growing threat to the affordability of state provided social security for older people, as well as to the adequacy of future retirement income is falling labour force participation in the US. In 2000, labour force participation – that is the proportion of the adult population in work or looking for work - was 67%. However, since the 2008 recession, labour force participation has significantly fallen. As of the October 2016, the participation rate stood at 63%. Falling participation is in part a consequence of population ageing, as older workers retire, but it also reflects falling participation amongst the working age population. In particular, labour force participation rates for men aged 25-54 has fallen faster in the US than across other high income countries.

**Figure 20: Labour force participation rate**



Source: U.S. Bureau of Labor Statistics, Civilian Labor Force Participation Rate [CIVPART], retrieved from FRED, Federal Reserve Bank of St. Louis. Figures are seasonally adjusted.

**Figure 21: Labour force participation rates (males aged 25-54)**



Source: Author's analysis of OECD statistics

Falling participation is concerning for two reasons. Firstly, reduced participation rates mean there are fewer people in work and therefore making tax contributions relative to the number of people who are receiving old age social security. Secondly, falling labour force participation amongst working age adults will reduce the proportion of people able to save for retirement either through a pension or through other means.

Given the heavy reliance on private pensions in the US as a source of retirement income, policies should focus on improving the declining participation rate so that more people have the opportunity to contribute to a pension scheme. Ultimately this will help support the long run sustainability of the pension system.

### **Recap: the critical policy challenges**

- Increasing private pension coverage will be key. As well as measures to raise labour force participation, the US must also ensure the vast majority of the workforce make sufficient retirement savings. The US may need to consider an automatic enrolment type reform or other behavioural “nudge” to support widespread pension coverage.
- Supporting longer working lives. This will allow people to earn and save more before retirement, while reducing the number of years, or at least the proportion of their lives spent in retirement. This will help to both increase the level of retirement income so that the adequacy target can be achieved and support the overall affordability of the pension system.
- Supporting increased labour force participation amongst the working age population. In particular, it will be important to reverse the long-run trend of falling participation amongst men aged 25-54, and to raise participation rates amongst women which have flat-lined since the late 1980s.
- Reducing pensioner poverty for those who don't work or make sufficient pension contributions. At present, those relying solely on social security to fund retirement will find that their incomes are well below the 70% replacement rate, leading to significant inequalities in retirement between the haves and have nots. The US might consider more generous means tested support if it is to raise the pensioner incomes of the have nots while maintaining the affordability of the system.

## **Key takeaways**

*The UK pension system is good on affordability by comparison to other developed countries, while relatively middle ranking on adequacy and intergenerational fairness after taking private pension saving into account. However, as with the US system, there is a big difference in retirement outcomes between those that save and those that don't. We project that those that don't save could face an intergenerational savings gap in excess of 20% of earnings.*

## **Overview**

### **Affordability**

UK public expenditure on pensions and associated benefits accounts for a smaller proportion of GDP (around 5% to 6%) than many other developed countries. The UK is also ageing less rapidly than other OECD nations – though it is still ageing with its dependency ratio set to rise over the coming decades. State Pension affordability is therefore less of a concern in the UK than in other countries. A continuation of the so called “triple lock” on the State Pension – where it rises in line with inflation, earnings or 2.5% (whichever is the largest) until 2064-65, would put the UK in line with the current OECD average expenditure on publicly provided pensions as a percentage of GDP (8%) by the end of the projected period.

### **Adequacy**

While the UK has a relatively affordable state pension, it is also one of the least generous. We have calculated that those entering the workforce today will have to save an average of just over 18% of their earnings every year in order to secure an adequate income in retirement. This is the highest value as a proportion of earnings across the OECD. However, state pensions are supplemented by relatively widespread voluntary private pension coverage, with scheme membership recently boosted by the advent of auto-enrolment (AE) in occupational DC pensions. The average savings gap after accounting for automatic enrolment is much smaller than if someone simply relies on the State Pension but it is still significant at around 4% of earnings. This does not take into account those who don't save for a pension or who, for periods of their working life, aren't covered through AE. This last point is particularly relevant given the increasing prevalence of part-time working, zero hour contracts and self-employment, with many of these individuals not yet covered under the auto-enrolment initiative. But even for those who are covered, saving more as a proportion of earnings will be key to securing an adequate income given the persistence of low investment returns and slow wage growth.

### **Savings behaviours**

According to our bespoke survey only about 20% of people in the UK say they save into a private pension which is similar to the USA but much higher than France. Actual coverage may be even higher given that auto-enrolment is predicated on inertia so people may be members of a pension scheme without necessarily knowing it. Responses from survey participants suggested that only 12.4% of people in the UK are saving more than 15% of their earnings despite the need to save in excess of 18% to secure an adequate retirement income. As with all other countries we surveyed, the rainy day savings motive dominates most others (including saving for retirement). However, in the UK a higher proportion of respondents (44%) also save for leisure and recreation purposes. This is significantly higher than for the USA and for France. Only a relatively small proportion of people in the UK (9%) have a savings target which is concerning since people in the UK will have a similar level of responsibility for their personal finances and retirement planning as in the United States.

## **Intergenerational fairness**

In order for twentysomethings to experience the same level of retirement income adequacy as current retirees we estimate that they need to save upwards of 20% of their earnings each year. Anticipated savings behavior through auto-enrolment will not be sufficient to close the intergenerational savings gap. Even after accounting for expected private savings, average earners entering the workforce face a savings gap of around 6.4% of average earnings.

By comparison to other OECD countries, the UK is middle of the road in terms of the intergenerational fairness of its pensions system for those with private pension savings. But this is driven by the fact that today's UK retirees have a lower level of income adequacy than other developed countries.

## Summary of UK pension provision

### State Pension

The Basic State Pension is provided for those who have reached State Pension Age before April 2016. It provides a maximum income of £119.30 per week to those who have made National Insurance contributions for 30 or more years, or for those in receipt of National Insurance Credits. For those with fewer than 30 years of contributions, a proportionally reduced State Pension may still be received and this can be topped up via voluntary National Insurance contributions.

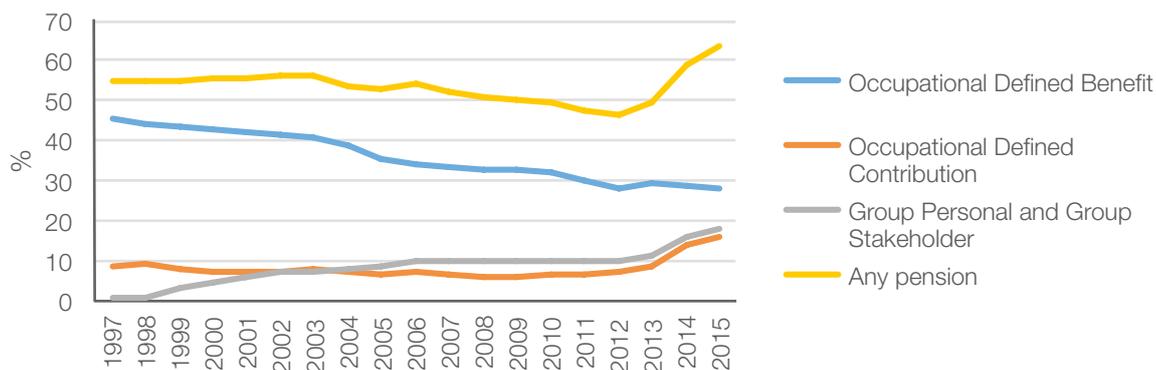
The new State Pension for those who have reached State Pension Age from on or after the 6<sup>th</sup> April 2016, pays a full amount of £155.65 per week. The amount is also dependent on the record of National Insurance, and can be higher if State Pension receipt is deferred. Tax may be payable on the new State Pension. To be entitled to any of the new State Pension, an individual must make at least 10 years of National Insurance contributions. For the full new State Pension, 35 years of contributions are required.

The UK State Pension is protected by a “triple lock”, which means the State Pension increases annually by either the average percentage growth of UK wages, the Consumer Price Index or 2.5% (whichever is highest). Despite the “triple lock”, State Pensions in the UK are comparatively less generous than in other countries. The net replacement rate for average earners in the UK who do not save into a private pension scheme is only 28.5%.

### Occupational pension schemes

In the UK, relatively low State Pension payments have encouraged many to adopt private pension schemes in order to increase their income in retirement. Occupational pension schemes are widespread in the UK, with many employers offering them as a means of compensating their workforce. Such schemes are usually DB or DC. DB schemes were once extremely popular in the UK, guaranteeing a specific income to those in retirement based on their salary and years of service. However, a combination of low returns and increasing life expectancy has made such schemes more difficult to afford and so the vast majority have now closed to new members.

**Figure 22: Proportion of employees with workplace pensions: by type of pension**



Source: ONS annual survey of hours and earnings, pension tables

Questions of sustainability has led to a decline in employers offering DB schemes in the UK. Between 1997 and 2015, membership of DB schemes had fallen from 45.7% to 28.3% of the workforce. DC pensions in the same period rose from 8.7% to 18%.

The sudden and recent increase in DC scheme membership was driven by the introduction of auto-enrolment. AE was a key pillar of the Pensions Commission’s recommendations as a way of overcoming the behavioural barriers to long-term saving by automatically opting people into workplace schemes, while leaving them ultimately free to make their own decisions including opting out if they wish. It was introduced first for large firms in 2012 and slowly phased in for smaller and medium sized firms. Tax relief is offered for those contributing towards an occupational pension scheme. It should be noted that auto-enrolment is not currently available

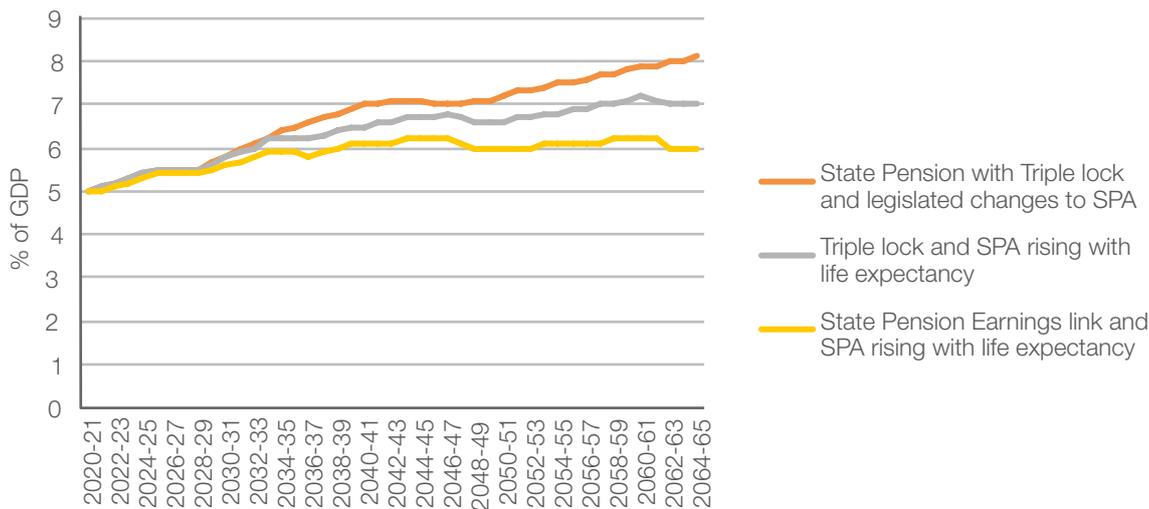
for self-employed workers, while those who are aged 16-21 or SPA-74, or those who earn less than £10,000, won't be automatically enrolled, but they do have the right to opt in.

As well as the advent of automatic enrolment, there have also been major recent policy changes impacting on the retirement income market. So called “pension freedoms” were introduced in 2015 enabling individuals to use their private DC pension pot as they wish. In the past, most had been effectively compelled to annuitise by the tax system, but such compulsion has been removed. While giving people more freedoms at the point of retirement enables people to choose tailored investment strategies to meet their personal needs and circumstances, the reforms also increase the potential complexity of decisions individuals need to make regarding their savings at the point of retirement and into later life<sup>17</sup>.

### Affordability

The UK's Office of Budget Responsibility (OBR) projects future UK state expenditure under several different economic and public policy scenarios. The chart below shows OBR projections under different scenarios concerning the “triple lock”. In all scenarios, expenditure on the State Pension is projected to increase between 2020 and 2065, but when the triple lock remains untouched, and legislated changes to SPA are taken into account, expenditure increases from 5% of GDP, to 8.1% of GDP. In the scenario where the State Pension is linked to earnings and not triple locked, expenditure on state pensions is projected to be 1% lower as a proportion of GDP. Even in the scenario where the triple lock is maintained however, UK expenditure on pensions would consistent with today's OECD average of around 8% of GDP.

**Figure 23: Projected pension expenditure**



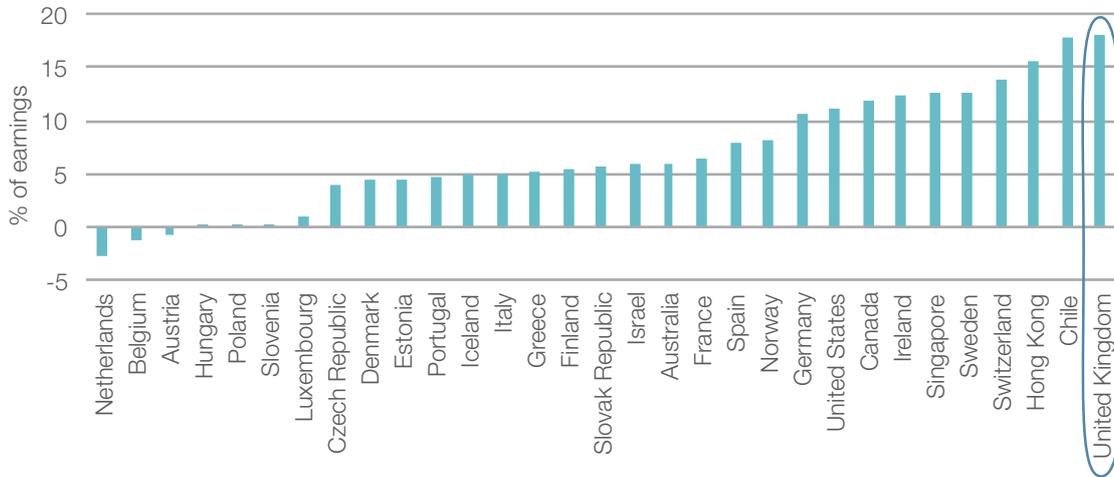
Source: Office of Budget Responsibility

<sup>17</sup>Lowe, J. “Whither UK annuities? Why lifetime annuities should still be part of good financial advice in the post-pension-liberalisation world.” Open University and International Longevity Centre UK.

## Adequacy

While the UK has a relatively affordable state pension, it is also one of the least generous. Our calculations show that those entering the workforce today will have to save on average over 18% of their earnings every year in order to secure an adequate income in retirement. This is the highest value as a proportion of earnings across the OECD.

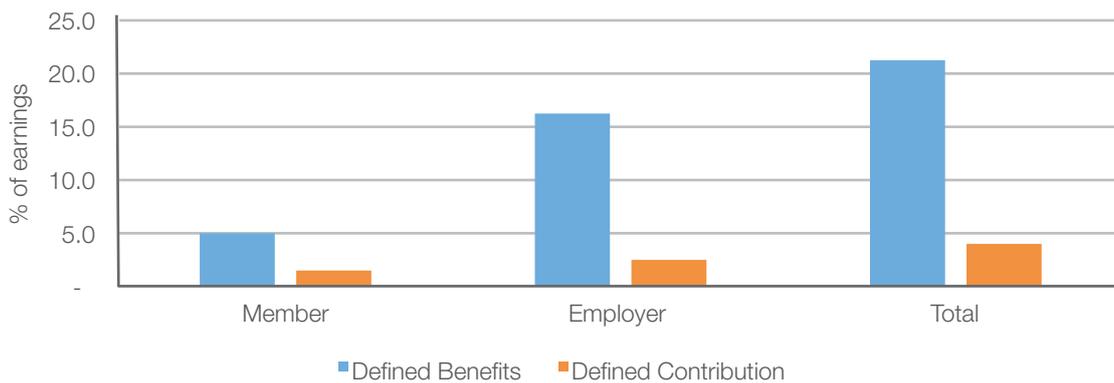
**Figure 24: Adequacy gap excluding voluntary savings**



Source: OECD and author's analysis

However, in the UK, state pensions are supplemented by relatively widespread voluntary private pension coverage. As we outlined above, pension scheme membership was recently boosted by the advent of auto-enrolment in occupational DC pensions. But while the reforms have been extremely successful in increasing the numbers of people saving into a pension scheme, individuals will need to make significant contributions if they are to secure an adequate retirement income. Currently we are a long way from this point. While average contributions to DB pensions in 2015 were in excess of 20% of income, this fell to less than 5% for those contributing to DC pensions.

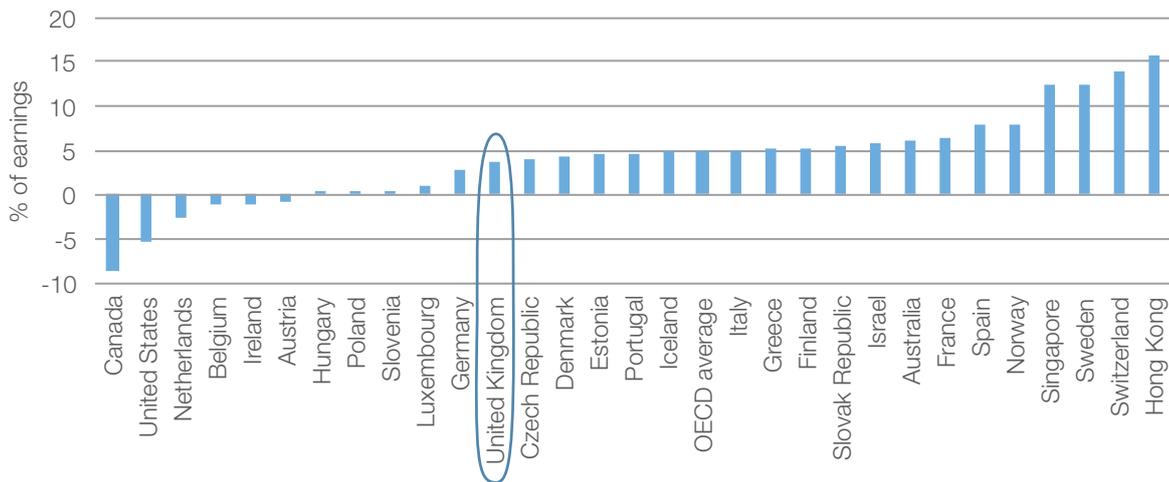
**Figure 25: Weighted average contribution rates to occupational private pensions**



Source: ONS Occupational Pensions Scheme Survey 2015

Against this backdrop, we calculate that the average savings gap, after accounting for anticipated savings behaviours through automatic enrolment, is much smaller than if someone simply relies on the State Pension, but it is still significant at around 4% of earnings (pension savings are assumed to be annuitised at the point of retirement).

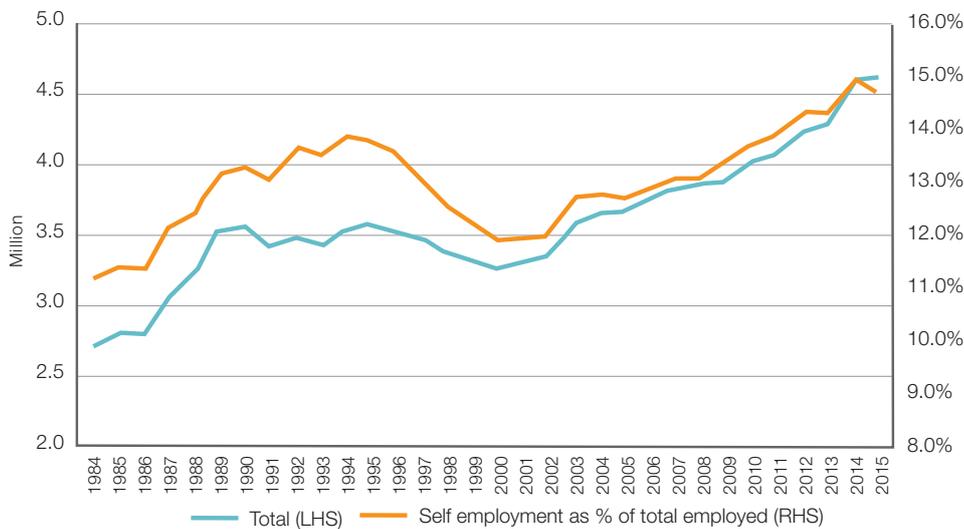
**Figure 26: Adequacy gap including private savings**



Source: OECD and authors calculations

In other words, once anticipated private pension savings are taken into account, the UK does comparatively well on our measure of adequacy, putting it in the top half of the OECD countries we investigated. However, this result only shows outcomes for the average worker who successfully saves into a private pension. Outcomes for those who don't save for a pension or who, for periods of their working life, aren't covered through AE will be significantly worse off given that the UK State Pension is one of the least generous across the OECD. This last point is particularly pertinent given the increasing prevalence of part-time working, zero hour contracts and self-employment, with many of these individuals not yet covered under the auto-enrolment initiative.

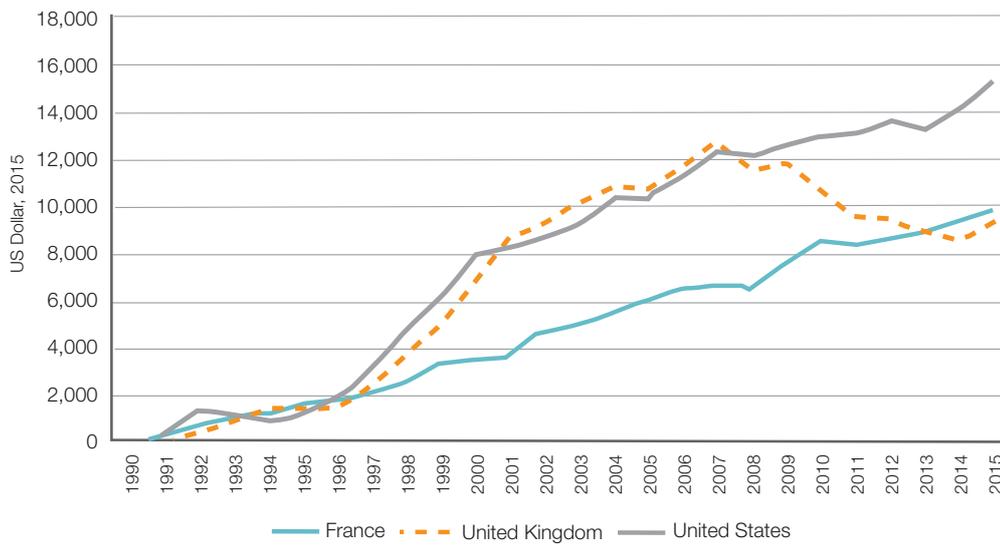
**Figure 27: Self employment (1984-2015)**



Source: ONS and ILC-UK calculations

Even for those who are covered through the AE reforms, saving more as a proportion of earnings will be key to securing an adequate retirement income particularly given the persistence of low investment returns and slow wage growth. While the former is largely an international phenomenon affecting developed economies, which we explored in the opening chapter of this report, the latter appears to be a peculiarly UK problem. On the chart below we show the cumulative growth in real wages during the period 1990-2015 for the UK, USA and France. Between the mid-1990s and 2007, the UK experienced strong wage growth, in line with the United States, but since the financial crisis, real wages have fallen by around \$4,000 in constant purchasing power parity terms, while wages in France and the USA have, broadly speaking, continued to rise.

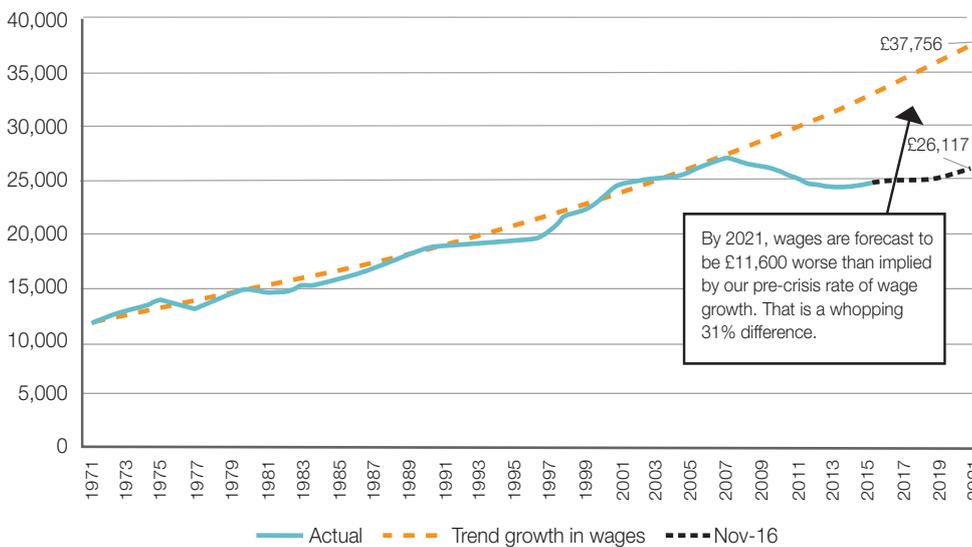
**Figure 28: Cumulative rise in average real annual wages 1990-2015**



Source: Authors calculations based on OECD data.  
Notes: USD in 2015 constant prices at 2015 USD PPPs

Sustained wage growth can be helpful in enabling people to save. Today, real wages in the UK remain below their peak achieved 9 years ago. The prognosis for wages continues to look dire, particularly when pitted against the rate of wage growth we were accustomed to before the crisis. Even in 2021, wages are forecast by the OBR to remain below where they were in 2007, and more dramatically, we have calculated that wages will be £11,600 (or 31%) below what we might have expected them to be given trend wage growth before the recession<sup>18</sup>.

**Figure 29: Real annual wages: actual vs trend and forecast**



Source: ONS, OBR and ILC-UK calculations

## UK savings behaviours

According to our bespoke survey only about 20% of people in the UK say they save into a private pension which is similar to the USA but much higher than France. Actual coverage may be even higher given that auto-enrolment is predicated on inertia so people may be members of a pension scheme without necessarily knowing it. Responses from survey participants suggested that only 12.4% of people in the UK are saving more than 15% of their earnings despite the need to save in excess of 18% to secure an adequate retirement income. The survey also identified some interesting differences in savings behaviours by region, with those in the East of England most likely to be saving (82% save something), while those in North East of England are least likely to be saving (just over half save something).

<sup>18</sup>International Longevity Centre “Economic Insight: The 2016 Autumn Statement: a response from the International Longevity Centre – UK”

As with all other countries we surveyed, the rainy day savings motive dominates all others (including saving for retirement). However, in the UK a higher proportion of respondents (44%) also save for leisure and recreation purposes. This is significantly higher than for the USA and for France. Only a relatively small proportion of people in the UK (9%) have a savings target which is concerning since people in the UK will have a similar level of responsibility for their personal finances and retirement planning as in the United States. While we have no hard evidence on why there is such a difference between the US and UK with regard to planning, it could be a function of the fact that DC pension provision is only just starting to take off in the UK, while in the US, saving into a 401K and other DC savings products has been highly prevalent for decades.

Interestingly, we find that even among the oldest group surveyed in the UK, many continue to save. 57% of respondents between the ages of 55-75 save into a savings account, while 22% save into a private pension. At a time where we would typically expect people to begin using their savings for consumption, this suggests that people do not exemplify the behaviour life cycle theory would imply. At the other end of the age spectrum, 30% of those between 25-34 make no savings, while 34% of those between 35-44 make no contributions either.

### **Focus box: Financial capability**

In many countries, the responsibility of retirement planning and saving is shifting from the state and employer to the individual. The UK is a prime example, given the switch from a DB to a DC world. Because of population ageing, most western states, including the UK, have had to reform their pension systems, thereby reducing their generosity, increasing pensionable age, and attempting to foster private savings through DC occupational pensions, where longevity and investment risks are borne by the individual. This shift of responsibility has prompted rising concerns about the adequacy of future retirement savings and the importance of planning.

In a UK context, while auto-enrolment will help to increase the amount being saved it relies on inertia to get people saving for the future meaning that people do not need to make active savings and investment decisions. Then at the point of retirement the new pension freedoms will allow individuals to essentially do as they like with their DC pension savings. While in the past, individuals with DC funds largely used their accumulated pension wealth to buy an annuity, the changes introduced in 2015 have dramatically reduced the incentives to do so. How much income an individual gets from their defined contribution pension could depend just as much on the choices they make at the point of, and during, retirement, as on their earlier contribution and investment decisions (or indecisions).

This new world of increased personal choice and complexity will require substantial financial capability to successfully navigate. Unfortunately, research has long suggested that people in the UK (as well as abroad) are not well informed about financial products, undertake limited long-term planning or budgeting and most financial decisions are reactive rather than proactive<sup>19</sup>. In more paternalistic pension systems, such as the French system, this has perhaps been less of an issue, but given the level of responsibility for retirement planning being placed on individual UK savers, raising the level of capability amongst the wider population remains a critical challenge. However, financial capability interventions are unlikely to change savings and investment behaviours overnight. International evidence suggests that, at best, past financial capability interventions have worked at the margin rather than supporting significant improvements, and that the positive effects of interventions decreases over time<sup>20</sup>. For this reason, policy nudges and access to financial advice and guidance will be a critical part of the mix.

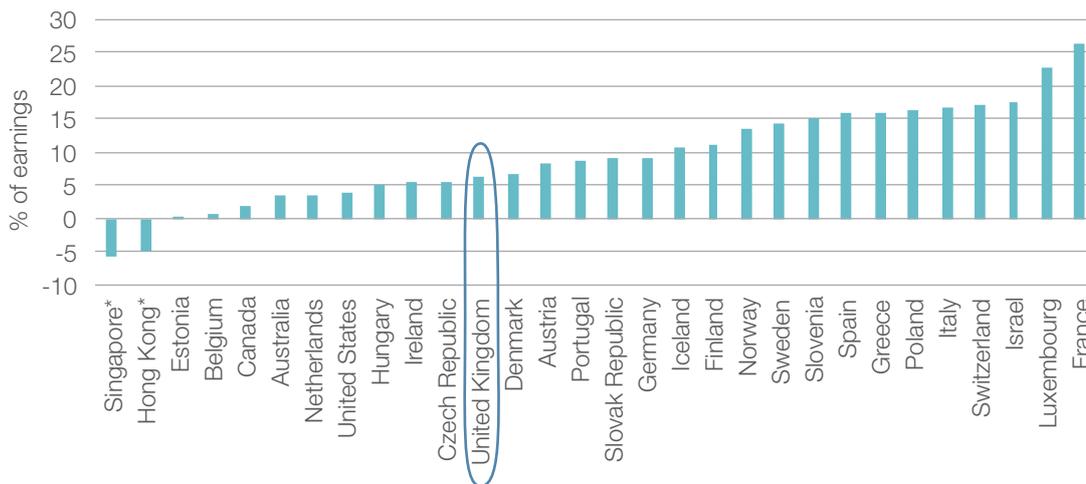
<sup>19</sup>Taylor, M., Jenkins, S. and Sacker, A., 2011. *Financial capability, income and psychological wellbeing* (No. 2011-18). ISER Working Paper Series.

<sup>20</sup> For a review of the literature read: "What works? A review of the evidence on financial capability interventions and older people in retirement" (2016) The International Longevity Centre

## Intergenerational fairness

With investment returns and wage growth stagnant, future retirees may struggle to achieve the same level of retirement income adequacy as pensioners today. We project that in order for twentysomethings to experience the same level of retirement income adequacy as current retirees, they would need to save upwards of 20% of their earnings each year. Anticipated savings behavior through auto-enrolment will not be sufficient to close this savings gap. Even after accounting for expected savings behaviours amongst those who do put something away, average earners entering the workforce today face an intergenerational savings gap of around 6.4% of average earnings. By comparison to other OECD countries, the UK is middle of the road in terms of the intergenerational fairness of its pensions system for those with private pension savings.

**Figure 30: Intergenerational gap including private savings**



Source: OECD and author's calculations

## Recap: the critical policy challenges

- Raising contribution rates amongst pension scheme members. Current legislated contribution rates through AE will not be sufficient to secure an adequate retirement income for most people. Government must consider whether to harness the “nudge” approach to support increased contributions through measures such as auto-escalation.
- Supporting retirement savings for self-employed, part time and zero-hour contract workers. Is there a way of utilising the current policy framework of AE to nudge these groups into saving for retirement?
- Supporting the retirement income adequacy of those unable to save during working life. Publicly provided pensioner benefits provide a relatively low replacement rate for retirees compared to other developed countries. There may be a case for supporting enhanced benefits for low income retirees.
- Equipping individuals to make better financial decisions. Individuals are going to have to make effective active decisions with regards to retirement savings and investment, some of which may be complicated. They must be aided by financial education as well as accessible and trusted financial advice and guidance.

## **Key takeaways**

*Strong state provision combined with widespread occupational pension scheme membership has supported very high levels of retirement income adequacy amongst the current generation of retirees, and very early exits from the labour market. However, with the state's offering likely to become less generous over the long run in order to support affordability, we estimate a significant intergenerational gap – current retirees are likely to do much better from the French system than future retirees.*

## **Overview**

### **Affordability**

In France, public expenditure on pensions is high (14.8%) relative to the OECD average (9%). This is because state provision is relatively more generous for retirees, while the average age of leaving the labour force in France, is lower than for other developed countries. Population ageing will intensify the affordability challenge – France already has a higher than average dependency ratio and this ratio is set to consistently rise over the next 40 years.

### **Adequacy**

In terms of adequacy, the publicly provided pension is designed to replace 50% of an individual's average lifetime earnings. Income in retirement is further supplemented via widespread mandatory occupational pension schemes, which compel employees to save. Such policies have resulted in France attaining a high net-replacement rate for current retirees, however new reforms are set to reduce the generosity of state provision somewhat, and we make some downward adjustments of our own within the modelling to support the future affordability of the system. Based on anticipated public and mandatory private provision, our projections suggest that, average earners entering the workforce today will fall \$2,627 a year short (6.3% of earnings) of the amount they need to save in order to secure an adequate income in retirement.

### **French savings behaviours**

While a high proportion of people in France are actively saving (67%), only 11% put money into a private pension scheme, while 46% of people put money into a savings account. The fact that saving into a private scheme is low compared to the UK and the US is perhaps not surprising given widespread coverage of *mandatory* occupational schemes in the French system (which are different to the voluntary private schemes in the US, UK and other less paternalistic pension systems). Nevertheless, our projections suggest that those in France will still need to save around 6.3% of earnings on top of what they are likely to get through the state and through their occupational schemes to secure an adequate retirement income. However, based on our bespoke survey, only 24% of the French population is currently saving more than 6% of their incomes and in most cases such saving is for a rainy day rather than specifically for retirement. 55% of all those who said they saved, did so to meet unexpected costs, while 30% said they saved for holidays or other leisure/recreation purposes. In other words, savings behaviours are a long way from catching up with a future world where state provision is likely to be less generous than it is today and where there may be enhanced responsibility on the individual to plug the savings gap.

### **Intergenerational fairness**

The French pension system has historically supported healthy retirement incomes, indeed, current replacement rates for retirees are equal to, if not higher than the average earnings of current workers. This unprecedented situation is unlikely to continue over the long term and so we model a small reduction in the generosity of state provision up to 2060. As a result, we calculate that the average earner in their 20s will need to save 26% of their salary - the highest across the OECD - to secure the same replacement rate as that which is enjoyed by the current generation of pensioners. This amounts to around \$10,834 per year of working life.

## **Summary of French pension provision**

Publicly provided pensions in France are separated into two categories. The Minimum Vieillesse is a non-contributory pension intended for those who live in France, but are unable to make tax contributions due to lack of paid work, due to health reasons, or if they cared for another. Both couples and individuals must have below a certain amount of funds to be entitled to this benefit, with the potential of up to €801 per month available for individuals and €1,243 per month for couples.

The mandatory basic pension is for those who have met the minimum contributory requirements. At present this is 41.25 years' worth of payments, although more can be made for increased pension payments. For those who do not meet the qualifying criteria, a reduced-rate pension can be withdrawn. French public pension payments are aimed at providing up to 50% of average lifetime earnings and is financed via a pay-as-you-go system through the contributions made by the current workforce. The current age of entitlement to a public pension is 60, although it is expected to rise.

In 2001, to ensure that the publicly provided pension system was well prepared for the pressure of an ageing society. The Pensions Reserve Fund was established. Proceeds from ongoing privatization at the time were used to finance potential shortfalls the State may face while financing pensions in the future. The fund has a specific investment policy designed to optimize returns in a prudent manner, while maintaining consistency with broad values promoting economic, social and environmental development.

The French government sets out the timeline of which the Fund must pay out assets. Until 2024 the fund must contribute €2.1 billion to a national social debt fund to help finance deficits of the entities which pay old age pensions. Reforms made in 2010 saw the aims of the fund reformed by the legislature of France, with the investment horizon made shorter but remaining long enough to permit exposure to performance assets.

In addition to the widespread, earnings linked public pension, occupational pension schemes are mandatory in France. Two pension funds exist, the ARRCO, for blue-collar workers and AGIRC, for white-collar workers and management staff. Together, both schemes cover nearly all workers under the general public pension plan, with both being defined contribution plans.

In ARRCO plans, benefits are earned on 6% of earnings below the social security ceiling, and up to 16% of earnings for earnings three times the social security ceiling. For AGIRC the bottom limit remains the same, but the upper limit is 16.24% of earnings up to eight times the social security ceiling. As of 2014, the social security ceiling was €37,548.

Contributions are divided by a **pension-point cost** to determine the number of points a contribution is worth. At retirement, the accumulated points are multiplied by a **pension point value** to convert the points into pension benefits. The pension point cost in 2014 was €15.25 while the pension point value was €1.25. The pension point cost is set to rise with average earnings, while the value rises with prices<sup>21</sup>.

Overall, pensions in France are far reaching and generous, currently allowing those in retirement to enjoy an income roughly equivalent to what they would expect while working. However, a rapidly ageing society is likely to demand increasing resources. Sustainability issues have prompted several attempts at reforms, but many of the issues regarding the affordability of the French pension system, can be found in some of the underlying economic trends facing the French labour market.

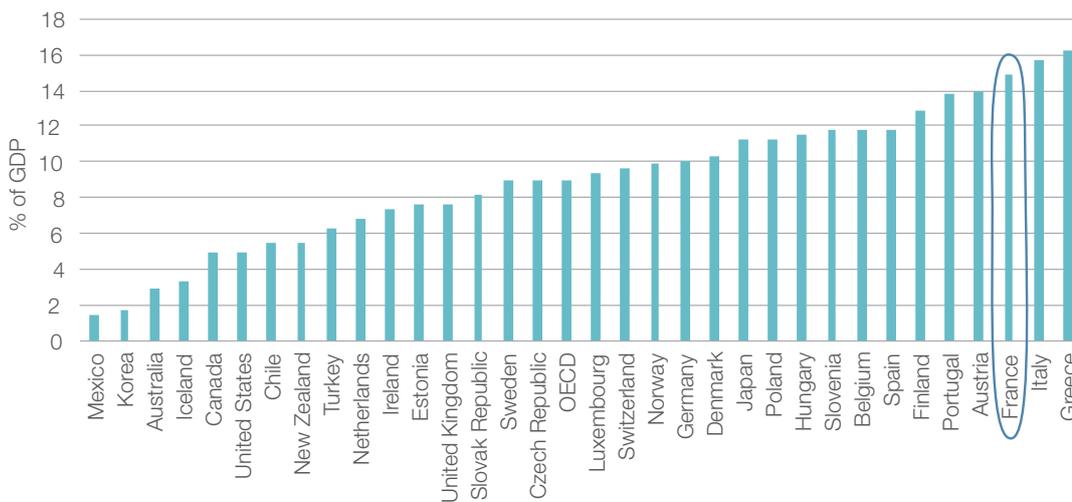
### **Affordability**

Currently only Italy and Greece spend more on pensions as a proportion of GDP than France (14.8%). As well as retirement benefits being more generous than for other countries, France also has a relatively young average age of exit from the labour market - 59.4 - which may be partly explained by the current minimum pensionable age of 60 (although if you have not made

<sup>21</sup> OECD Pensions at a Glance 2015: OECD and G20 indicators

sufficient contributions, then you must wait until 65 before you have full pension access). This means that the state must pay pensioner benefits for an extended period of time.

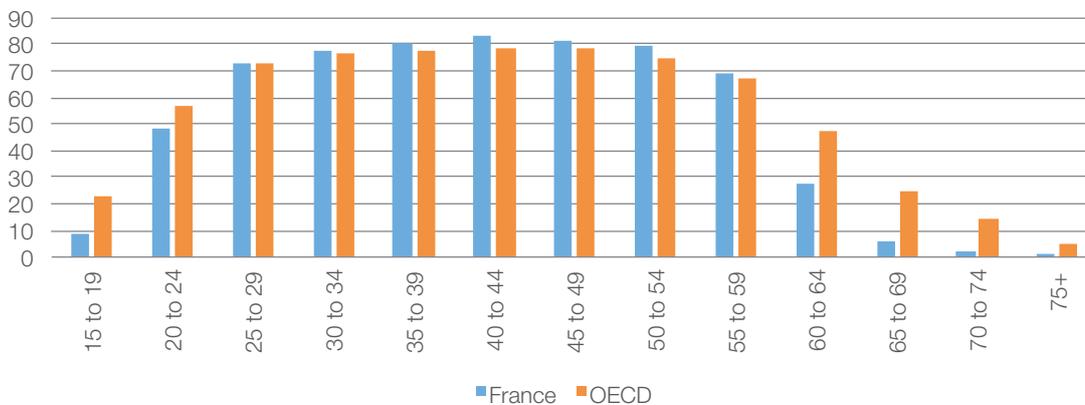
**Figure 31: Public expenditure on pensions 2010-2015**



Source: OECD

While France maintains levels of employment above the OECD average for those between the ages of 25-55, they fall well below their peers in terms of youth and more pressingly, old age employment. While the low youth employment rates may be indicative of continued education, which may serve as a useful investment in the long-run productivity and capability of the workforce, there is a sizeable drop off in the employment rates among older workers once they have reached the age of 60.

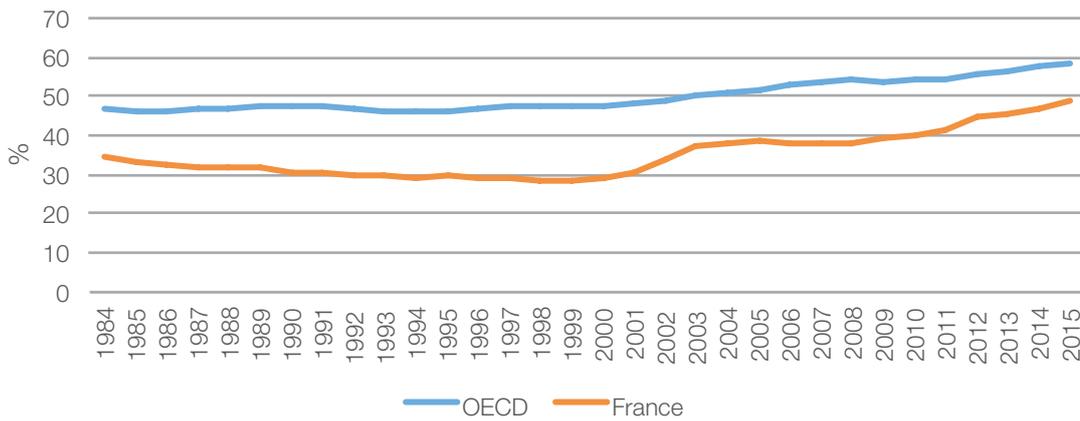
**Figure 32: Employment by age band, 2015**



Source: OECD

The relatively poor performance with regards to older workers is not a new phenomenon. Historical data shows that employment rates among those aged 55-64 have consistently been below the OECD average, though the gap has closed slightly in recent times.

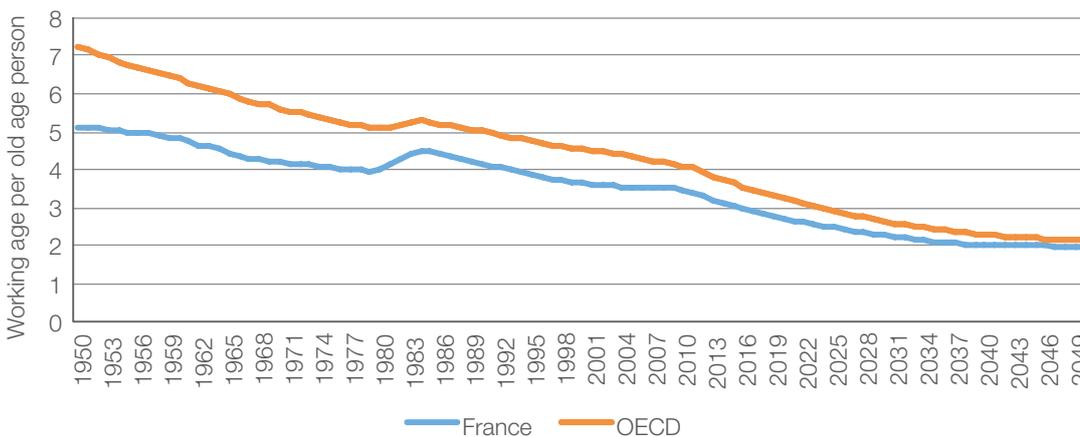
**Figure 33: Employment Rate 55-64**



Source: OECD

Unless France can significantly extend working lives, an ageing society is likely to put further pressure on the public purse. As people live longer and as the numbers of older people in receipt of a pension grows, so too will the costs of provision. But a simultaneous slowdown or fall in the working age population may mean that the state cannot afford to meet such costs. Since the French system operates on a pay-as-you-go basis, this will mean fewer workers relative to pensioners to make the contributions that will finance retiree's pension payments. The graph below highlights the scale of the challenge. From 1950-2016, the number of workers per older person fell from 5.1 to 2.9. This is set to fall further to just 2.1 workers per older person by 2050.

**Figure 34: Old age dependency ratio (20-64) per (65+)**



Source: OECD

Reforms have been implemented in recent years, in an attempt to curb public expenditure on pensions. Taking into consideration the ageing population and relative generosity of public pensions in France, the reforms sought to increase the required contribution period and the working life while also simplifying retirement accounts<sup>22</sup>.

### Reforms in brief

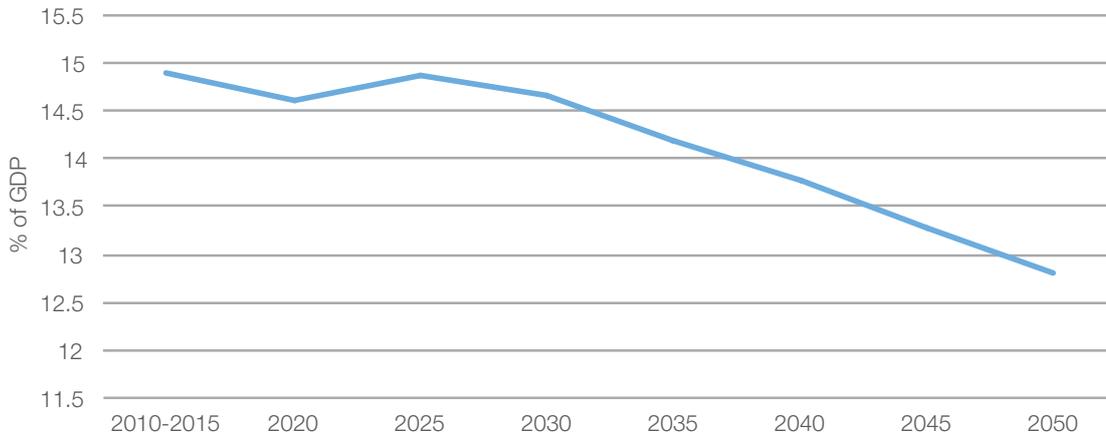
In response to concerns about affordability, the minimum pension age is rising from 60 in 2016 to 62 in 2017, while the age where the full-rate pension is accessible is set to rise from 65 to 67 between 2016 and 2022. The minimum pension age is the earliest that a pension can be received, but depending on the level of contributions it may be provided at a reduced rate. The full rate pension age guarantees the full pension regardless of contributions. If a worker wished to extend their working life beyond the minimum pension age, but had made sufficient contributions, then they could enhance their pension income.

Anticipated legislated changes have an impact on projected state expenditure on pensions. Currently expenditure stands at just below 15% of GDP, with a small fall expected before

<sup>22</sup> Delegation aux affaires europeennes et internationales, The pension system in France and the 2014 reform.

returning to this level in 2025. After this, there is an expected consistent decline, so that by 2050, public pension expenditure should be just over 12%. Despite this anticipated decline in pension expenditure as a proportion of GDP, France will still be spending more than the projected OECD average (12.8%) by the end of the period.

**Figure 35: France - projected public pension expenditure**

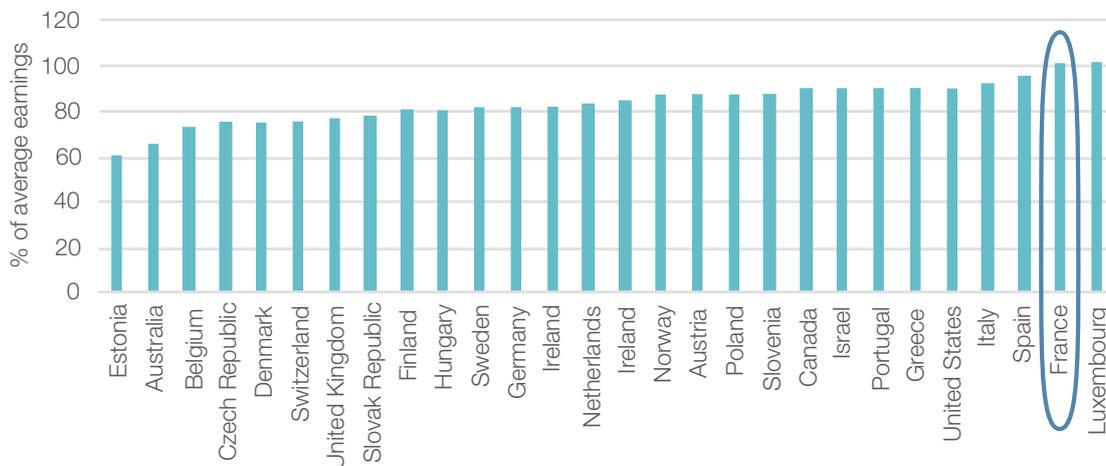


Source: OECD

### **Adequacy**

Due to the dual coverage of an earnings-related State Pension and mandatory occupational pension schemes, the French pension system has delivered high replacement rates for current pensioners. Indeed, the average French pensioner is in the unprecedented position of having more income than the earnings of the average worker.

**Figure 36: Current net-replacement rates**

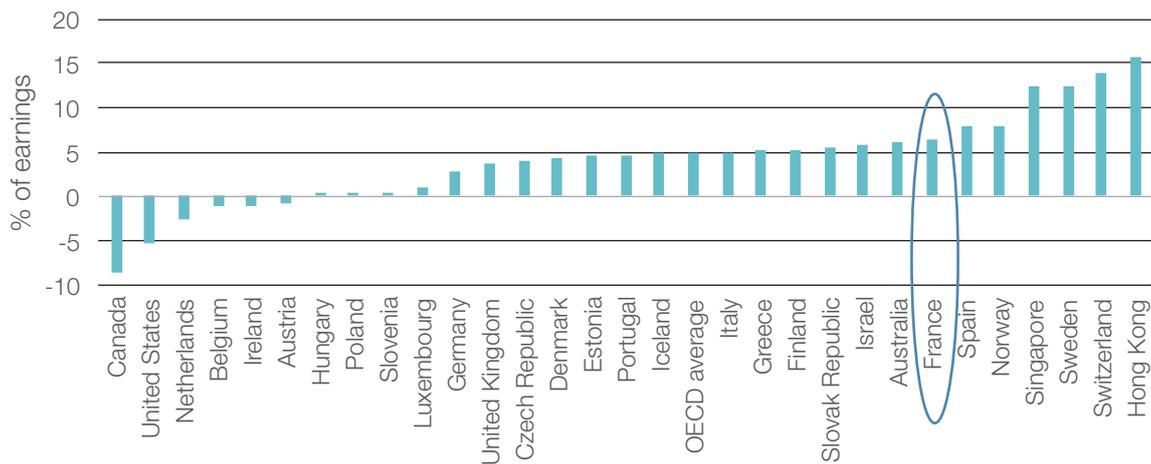


Source: Eurostat

However, with reforms being undertaken to reduce the level of expenditure on the State Pension, and therefore limit the generosity of public provision, future pensioners may fail to achieve current levels of retirement income adequacy.

With affordability of the French pension system in question, we project a fall in replacement rates for retirees leaving a savings gap for those twentysomethings entering the workforce today. Our results show that for someone entering the workforce today and working until the legislated retirement age, they will need to generate an additional \$2,627 a year in savings (6.4% of earnings) on top of what they are already expected to receive through the state and mandatory savings in order to achieve an adequate retirement income.

**Figure 37: Adequacy gap including private savings**



Source: OECD and authors calculations

### **Savings behaviours**

While a high proportion of people in France are actively saving (67%), only 11% put money into a private pension scheme, while 46% of people put money into a savings account. The fact that saving into a private scheme is low compared to the UK and the US is perhaps not surprising given widespread coverage of mandatory occupational schemes in France (which are different to the voluntary private schemes in the US and UK). The self-employed are, however, more likely to be saving into a private pension than other groups (19% save into a private pension). This is perhaps because, while they will be eligible for state support in retirement, they will not be able to contribute to many of the occupational supplementary schemes which exist specifically for employees in different trades and industries.

Despite the widespread coverage of mandatory occupational schemes, our projections suggest that those in France will still need to save 6.3% of earnings on top of what they are likely to get through the state and through their occupational schemes in order to secure an adequate retirement income. However, based on our bespoke survey, only 24% of the French population are currently saving more than 6% of their incomes and in most cases, such saving is for rainy day purposes rather than specifically for retirement.

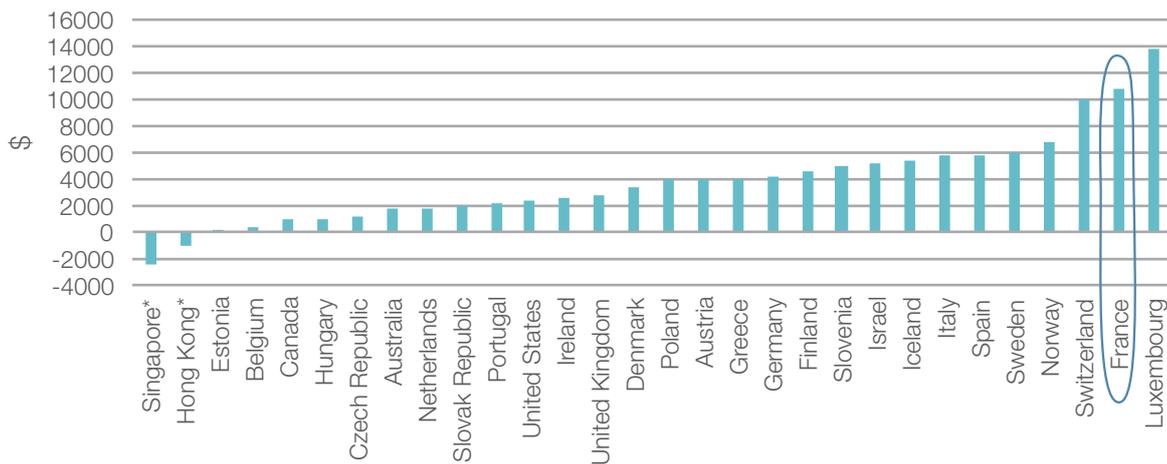
55% of all those who said they saved, did so to meet unexpected costs, while 30% said they saved for holidays or other leisure/recreation purposes. In other words, savings behaviours are currently a long way from catching up with a future world where state provision is likely to be less generous than it is today. Consistent with a somewhat more paternalistic pension system, only 7% of the unretired adult population have a savings target which contrasts dramatically with the 29% of adults in the US.

### **Intergenerational fairness**

As mentioned above, the replacement rate today in France is one of the highest across the OECD. A number of factors have contributed to this outcome, such as high levels of state expenditure and strong economic growth prior to 2008, but these appear to be stalling or reversing, and this is, in part, due to demographic change and external economic circumstances which have prompted the need for reform.

Given that public pension expenditure as a proportion of GDP is likely to be reduced and future projections of growth and investment returns have been tapered, the gap between what current pensioners enjoy and what future generations might expect is considerably large. In fact, France has the second largest intergenerational gap in our country sample in monetary terms, with additional savings required of \$10,834 a year to close the gap.

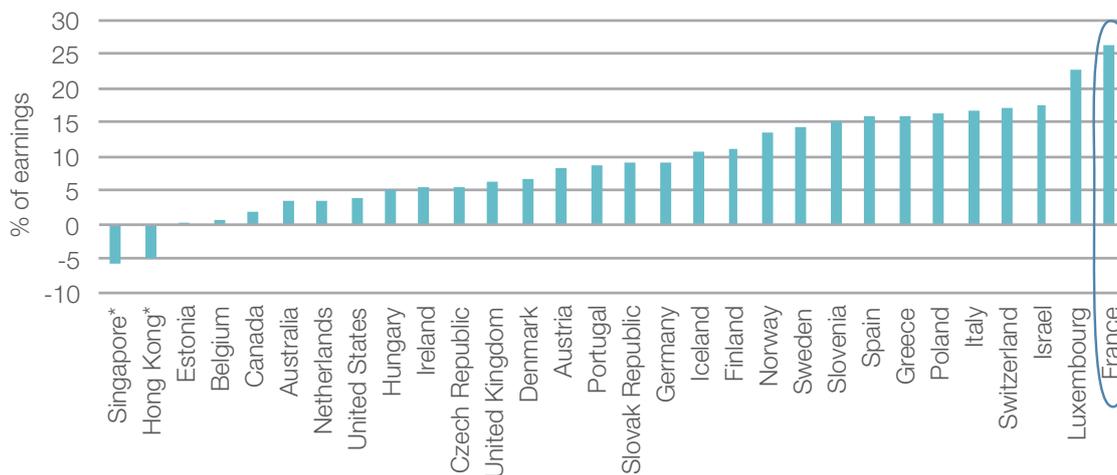
**Figure 38: Intergenerational gap including voluntary savings (monetary)**



Source: OECD and authors calculations

As a proportion of earnings, France has the largest intergenerational gap at 26.2% of average earnings. With such a significant proportion of wages that would need to be saved to close this gap, it is unlikely that this will be possible for many workers. The issue of intergenerational fairness is therefore a very pressing one in the French system.

**Figure 39: Intergenerational gap including private savings**



Source: OECD and authors calculations

### Recap: the critical policy challenges

- Ensuring the future affordability of the French pension system. This is likely to involve attempts to extend working lives and reducing the generosity of publicly provided old age social security.
- Supporting increased labour force participation particularly amongst older but also younger adults. France has high rates of employment among those in their mid-20s to 50's but both younger and older workers face lower employment rates. Supporting employment in these age bands is essential to fund a generous pay-as-you-go system.
- Increasing private pension contributions/savings specifically for retirement. Either individuals and employers will need to set more aside for retirement through occupational schemes, or individuals will have to save more privately in order to ensure an adequate retirement income. The alternative is that people in France will have to work for much longer or accept a retirement income that is far less adequate than what current retirees enjoy.
- Self-employed workers are not currently members of mandatory schemes, so it may make sense to try and incentivise greater private pension saving amongst this group.
- Developing coping mechanisms to deal with the consequences of intergenerational inequity.

## **Key takeaways:**

*The Singaporean pension system is excellent at generating a high level of personal savings due to the high level of responsibility placed on individuals to fund their own retirement and the fact that retirement saving is compulsory. However, despite savings rates in excess of 20% of income, the system performs poorly on adequacy since there is no basic pension or significant safety net for the poorest.*

## **Overview**

### **Affordability**

Since the Singaporean system is fully funded and contains no basic publicly provided pension, the system costs the government next to nothing as a proportion of GDP. It is therefore one of the most affordable pension systems in the developed world, relying almost entirely on individual responsibility for retirement saving through the mandatory Central Provident Fund.

### **Adequacy**

The Singaporean system does not perform well in terms of retirement income adequacy. Despite making significant contributions into the Central Provident Fund (in excess of 20% of earnings), average replacement rates for current pensioners in Singapore are lower than in most other developed countries. Such a situation is not expected to dramatically change over the coming decades. Indeed, we estimate that the average individual entering the workforce today will need to save an additional 12.5% of their earnings every year, on top of what they are already saving, in order to secure an adequate retirement income. Given that individuals are already saving in excess of 20% of their earnings, this means individuals would ultimately need to save in excess of 30% of their earnings. Therefore, by comparison to other developed countries, Singapore does badly on this measure.

### **Savings behaviours**

In total, 93% of the adult Singaporean population save – the highest proportion amongst the five countries we explored in detail for this report. Our survey results also confirmed the city state's high savings rates – amongst those who do save, a quarter save more than 30% of their income. Such savings behaviour is common amongst all age groups, indeed, amongst 18-24-year-old savers, 32% save more than 30% of their income. The majority save for rainy day reasons (56%), though a significantly higher proportion save specifically for retirement (29%), for care (26%) and for health (13%) than amongst other countries. Perhaps unsurprisingly, a relatively high proportion of the Singaporean population have a specific savings target (33%) though this still means that the vast majority do not.

### **Intergenerational fairness**

Singapore does not have an intergenerational savings gap – indeed we project that those entering the workforce today will be on average better off in retirement than the current generation of pensioners. But this is not because the next generation is set to be much better off in retirement. Future pensioners are also likely to face significant falls in income in retirement by comparison to what they will be used to during their working lives, but the fall is not expected to be quite so severe as it is for today's retirees.

## **Summary of pension provision**

Singapore's pension system is based around the Central Provident Fund (CPF), which provides for most social security functions. Individuals rely exclusively on defined contribution funds accumulating in the individual accounts of the CPF in order to provide social security. A non-contributory pay-as-you-go pension scheme exists for some categories of civil servants. There is also a Savings and Employees scheme for certain categories of armed forces personnel, and a Supplementary Retirement Scheme, which is a voluntary private pension scheme without employer involvement that enjoys tax advantages.

Unlike the UK, France or the US, the pension system of Singapore operates on a fully funded rather than a PAYG basis. However, in 2016, Singapore introduced a basic means-tested non-contributory pension called the Silver Support Scheme but this only pays out around \$250 a month for those living in a one to two bedroom Housing Development Board flat. Silver Support is targeted at the bottom 20% of Singaporeans aged 65 and above, with a smaller degree of support extended to cover up to 30% of elderly.

The CPF covers private and most public sector employees as well as the self-employed (who can join on a voluntary basis). The scheme is financed by employer and employee contributions that are credited to three accounts:

### **Ordinary Account (OA)**

Savings from contributions accumulated in the Ordinary Account may be used to buy residential and non-residential property as well as approved assets and insurance funds. The account balance can also be used to cover education costs and can be redirected to affiliated accounts.

### **Special Account (SA)**

Contributions directed to the Special Account are dedicated to old age, contingency purposes and investment in retirement-related financial products.

### **Medisave Account (MA)**

Medisave Account savings are used to meet hospitalisation and medical care expenses and to pay for approved medical insurance premiums.

From the age of 55 onwards, CPF members have an additional Retirement Account, which is used to set aside a statutory Minimum Sum, for the purpose of funding retirement.

Total contributions into the accounts are high. For the majority of the workforce, total contributions to the three accounts amount to 37% of total wages, of which 17% are made by the employer and around 20% by the employee. It therefore has one of the highest personal savings rates in the world.

From age 55, contribution rates decrease with the aim of encouraging the employment of older people.

## **Decumulation of savings**

Since 2013, Singapore's national annuity known as the CPF-Life became mandatory. On reaching 55 years old, CPF members can withdraw the balance above \$134,000 (in Singapore dollars). This is known as the CPF Minimum Sum, and transfer the remainder into a Retirement Account. Members with a balance from \$40,000 to \$134,000 – except those with medical evidence of a shorter lifespan to opt out – are automatically enrolled into the retirement account. Part of the savings in the Retirement Account is used to pay for a life annuity, and the remainder is disbursed as monthly instalments from the draw down age until the start of the annuity. The plans are designed to provide a smooth cash flow stream, i.e. the payments for the instalments and annuity are similar<sup>23</sup>. The CPF members are the annuitants who pay an initial premium.

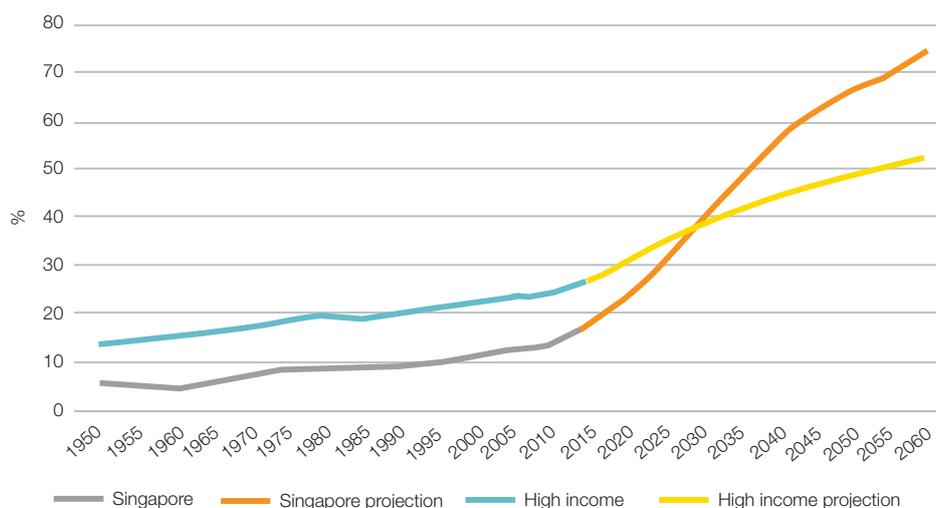
<sup>23</sup> For more details see: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2602629](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2602629)  
<http://www.pensionfundsonline.co.uk/content/country-profiles/singapore/101>  
<http://www.mom.gov.sg/employment-practices/silver-support-scheme>

As of 2016, in order to provide for more flexibility, members are able to withdraw up to 20% of their Retirement Account savings at the payout eligibility age. They are also able to defer their payout start age up to 70 to enjoy higher monthly payouts of 6% cent to 7% for each year deferred in order to help incentivise longer working lives.

### Affordability

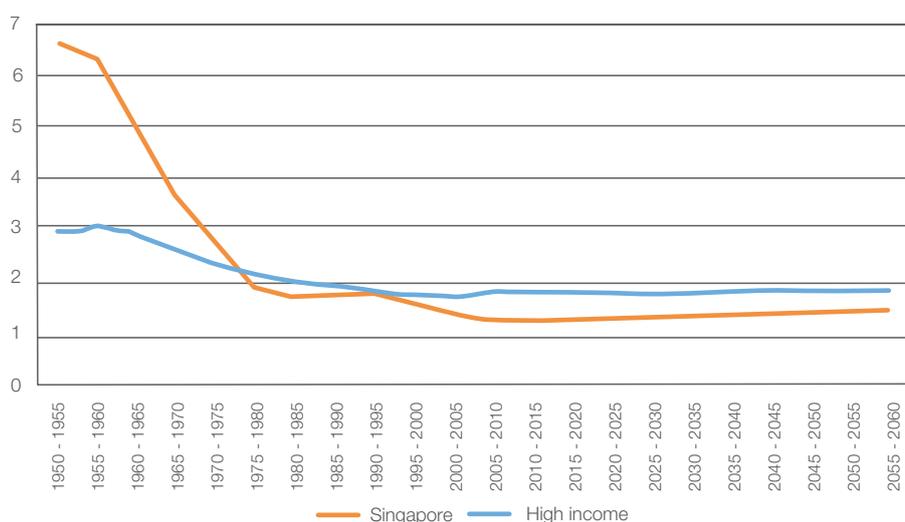
Since the Singaporean system is fully funded barring limited retirement benefits for certain individuals who meet a means test, the system costs the government next to nothing as a proportion of GDP. The responsibility for retirement saving is all with the individual. This means that the system is highly sustainable and affordable. This is important, since Singapore is set to age extremely quickly over the next few decades – significantly faster than the average amongst high income countries. This is because it has one of the lowest fertility rates in the world (see charts).

**Figure 40: Old age dependency ratio (Singapore vs high income countries)**



Source: UN population projections, median variant

**Figure 41: Fertility rates (children per woman)**



Source: UN population projections, median variant

### Adequacy

The Singaporean system is highly affordable while it benefits from high individual contribution rates to its savings schemes – in excess of 20% of earnings. Yet, the system does not perform well in terms of retirement income adequacy. Indeed, on average, current workers in Singapore have incomes that are three times as large as current retirees, from their earnings. Average replacement rates for current pensioners in Singapore are therefore lower than in most other

developed countries. This is partly because, despite its high level of savings, there is no basic pension or significant protection for the poorest. In addition, while Singaporeans do save a significant proportion of their income, only a fraction of the overall saved is for retirement purposes, and even then there is the potential to use those funds for something other than funding retirement.

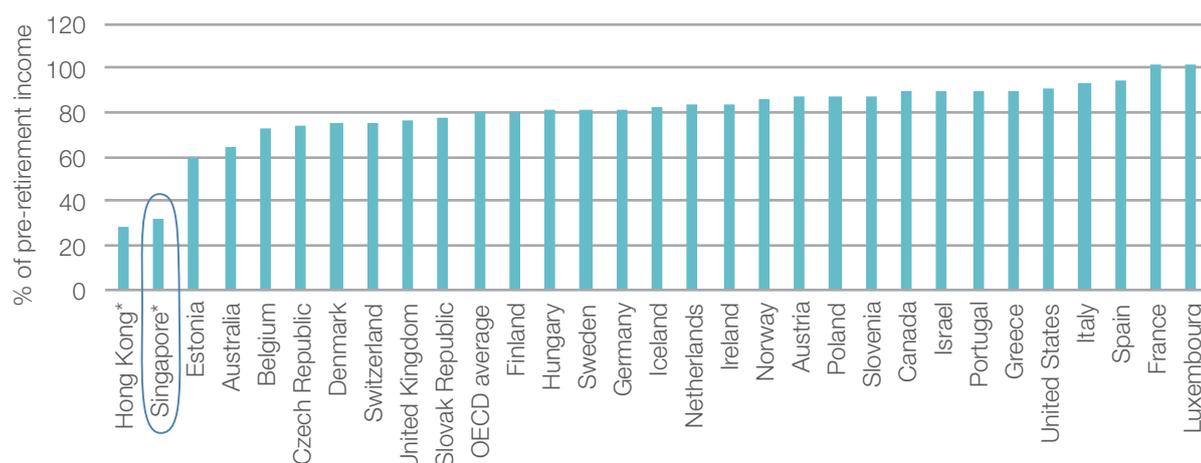
Savings in the ordinary and special accounts are used to buy an annuity, but these accounts are not just for funding retirement. Individuals can draw on their savings in these accounts for other reasons such as for buying a house. Meanwhile the third account called Medisave, which is for funding health and social care needs also takes a significant share of the savings pot, and its share rises gradually with age (see table). So while savings rates may be high this does not mean that people are preparing adequately for retirement and since there is little by way of state safety net, this combination of factors is leading to low retirement incomes.

**Table 2: Allocation rates from 1 January 2016 for private sector employees and public sector non-pensionable employees**

Employee's Age (years)	Allocation Rates from 1 Jan 2016 (for monthly wages ≥ 5750)		
	Ordinary Account (% of wages)	Special Account (% of wages)	Medisave Account (% of wages)
35 and below	23	6	8
Above 35 to 45	21	7	9
Above 45 to 50	19	8	10
Above 50 to 55	15	11.5	10.5
Above 55 to 60	12	3.5	10.5
Above 60 to 65	3.5	2.5	10.5
Above 65	1	1	10.5

Source: Central Provident Fund Board, CPF Contribution and Allocation Rates. See: <https://www.cpf.gov.sg/Employers/EmployerGuides/employer-guides/paying-cpf-contributions/cpf-contribution-and-allocation-rates>

**Figure 42: Current net replacement rates including private savings**

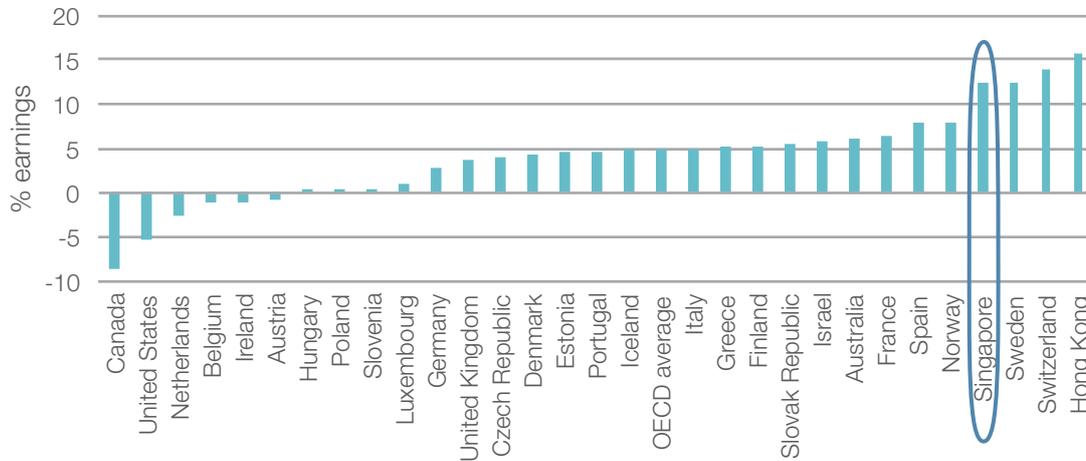


Source: OECD and authors calculations

Our savings gap projections suggest that, unless action is taken, future generations of pensioners will also face income shortfalls in retirement. Indeed, we estimate that the average individual entering the workforce today would need to save an additional 12.5% of their earnings every year, on top of what they are already saving, in order to secure an adequate retirement income. Given that individuals are already saving in excess of 20% of their earnings, this means individuals would ultimately need to save in excess of 30% of their earnings. In the

short to medium term, such a high personal savings rate could have detrimental implications for economic growth by reducing household consumption, so the state might be better off developing some kind of basic pension, or more generous means tested pension to supplement such high level of savings through the mandatory schemes. The Silver Support scheme mentioned above will not be sufficient to prevent significant retirement income shortfalls for the vast majority of the population.

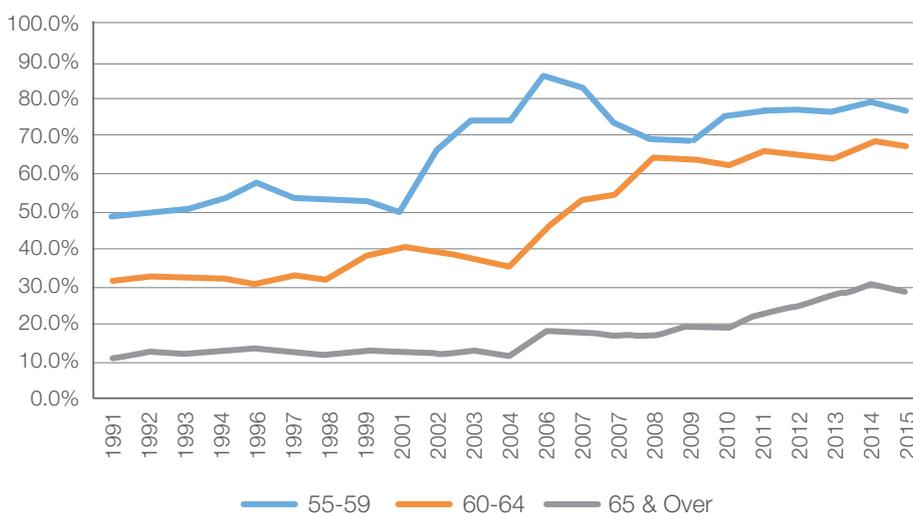
**Figure 43: Adequacy gap including voluntary savings**



Source: OECD and authors calculations

Given the potential for retirement income shortfalls, and the fact that Singapore is rapidly ageing, it is perhaps not surprising that there has been a significant increase in the employment rates of older people. Since the turn of the century, the employment rate for people over the age of 65 has risen from around 10% to nearly 30%. This rate is very high relative to other developed countries, though is still far lower than the employment rates for younger age bands. Helping to support longer working lives is therefore likely to remain a critical policy challenge in Singapore over the coming years, while there is also the need to ensure that those who are not able to work longer do not lose out through significantly lower incomes in retirement.

**Figure 44: Employment rates by age bands (Singapore)**



Source: The Ministry of Manpower (MOM) and authors calculations

### Savings behaviours in Singapore

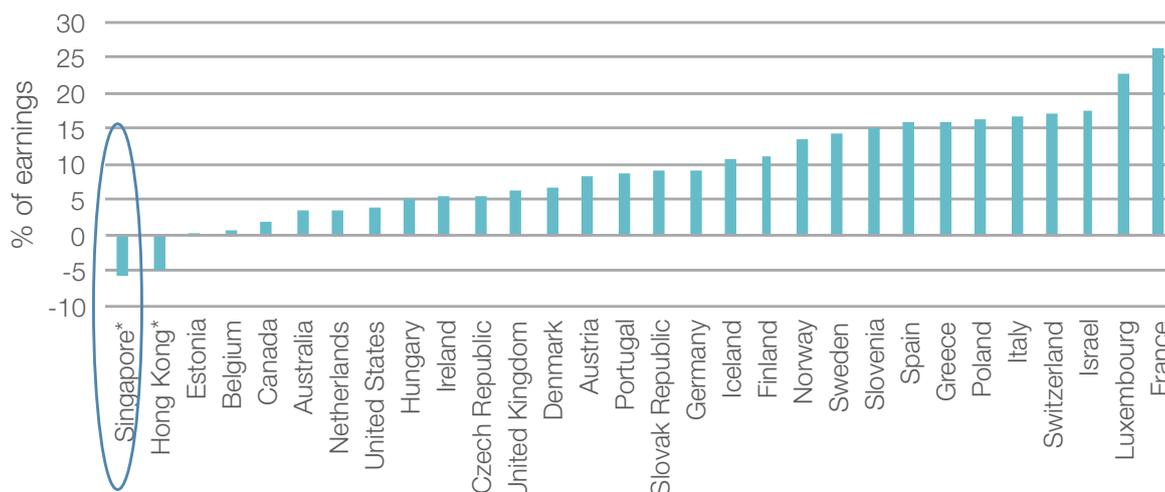
With many workers already saving a significant proportion of their income through the CPF, it is not surprising that few also save into a voluntary private pension with our survey suggesting that just 8% of the adult population save this way. However, in total, 93% of the Singaporean population actively save - the highest proportion across the five countries we surveyed. Our survey results also confirmed the high savings rates mentioned above – amongst those who

do save, a quarter save more than 30% of their income. Such savings behavior, is common amongst all age groups, indeed, amongst 18-24 year old savers, 32% save more than 30% of their income. As with those surveyed in other countries, the majority were saving for rainy day reasons (56%), though a significantly higher proportion save specifically for retirement (29%), for care (26%) and for health (13%) than amongst other countries. 38% of people surveyed in Singapore also said they save for holiday, or other leisure/recreation, which is high relative to the other countries surveyed for this report. Perhaps unsurprisingly, a relatively high proportion of the Singaporean population have a specific saving target (33%), with full time employees aged 25-34 more likely to have such a target than other age groups.

### **Intergenerational fairness**

Unlike most other countries explored for this report, Singapore does not have an intergenerational savings gap – indeed we project that those entering the workforce today will be on average better off in retirement than the current generation of pensioners. But this is not cause for celebration. As we have seen above, future pensioners are also likely to face significant falls in income in retirement by comparison to what they will be used to in working life, but the fall is not expected to be quite so severe as it is for today’s retirees. The lack of an intergenerational savings gap is not therefore an indication of a substantial improvement in the Singaporean system over the coming years, more that future generations will do marginally better than the already poor outcomes of the current system with regards to securing an adequate retirement income.

**Figure 45: Intergenerational gap including voluntary savings**



Source: OECD and author’s calculations

### **Recap: the critical policy challenges**

- Unlike most other OECD countries, Singapore does not have a basic publicly provided pension, and this might be worth considering, but given that demographic trends look particularly severe for this city state, the affordability of such a measure must be carefully assessed.
- A less costly route may be to increase the level of support for pensioners on low incomes while retaining the current system which relies heavily on personal responsibility and high savings rates.
- Singapore has made great strides in raising employment rates at older ages, but this must be tempered by support for those who are unable to work into their late 60s and 70s.

## **Key takeaways**

*With a mandatory defined contribution scheme for all employees (barring some self-employed), Hong Kong has achieved widespread pension coverage and fostered a culture of independent saving as a means of securing retirement income. However, little state pension provision means that many go into retirement with insufficient funds, falling well below adequacy targets.*

## **Overview**

### **Affordability**

The most recent data shows that expenditure on public pensions in Hong Kong is below 2% of GDP. Low basic pension payments make the system highly affordable, with most of the population reliant on the mandatory defined contribution scheme in order to deliver income in retirement.

### **Adequacy**

Although the mandatory nature of the system has achieved near-universal pension coverage, the contribution rates are set at 5% for employers and employees (total of 10%), which is unable to generate the large sums necessary for an adequate retirement income. With the basic publicly provided pension providing very limited income, many retirees in Hong Kong face an adequacy gap. Statistics from the government of Hong Kong, suggest poverty afflicts almost a third of people over 65. In order to close the adequacy gap for future generations, individuals today must save 15.6% more of their earnings in addition to their current compulsory contributions to ensure an adequate retirement income. The implication is that individuals must save approximately a quarter of their earnings. Lack of an adequate first pillar (i.e. state pension) results in Hong Kong performing poorly relative to developed countries.

### **Savings behaviours**

Our bespoke survey found evidence of very high savings rates in Hong Kong. Only 2% of the population fail to save anything, meanwhile, of those who do save, nearly half save more than 30% of their income. Amongst the youngest adult age group (18-24), 59% save more than 30% of their income. As with the Singapore example, the lack of a state safety net and emphasis on fully funded DC to support retirement incomes has led to a system where people make significantly higher savings than in developed countries. And, by comparison to the other four countries we have explored in detail for this report, people in Hong Kong are more likely to plan for their retirement, with 59% having a specific target for the amount of money they want to save and how to use it when they retire. As with other countries, the rainy day savings motive dominates (57%), but having money for retirement (41%), and paying for social care (24%) are also highly prominent motivators.

### **Intergenerational fairness**

Similar to Singapore, Hong Kong does not have an intergenerational savings gap with those entering the workforce today projected to be better off than the current generation of retirees. However, this doesn't mean future pensioners will be much better off, as they will still face a significant fall in their incomes relative to their working life.

## **Summary of pension provision**

Hong Kong maintains little more than a very basic safety net in terms of social security for the poorest pensioners. The Hong Kong system instead relies heavily on the Mandatory Provident Fund (MPF), a compulsory saving scheme designed exclusively for retirement<sup>24</sup>. The MPF is governed by the Mandatory Provident Fund Scheme Authority (MPFA), a regulatory body charged with supervising and monitoring the system to ensure compliance with the law.

### **Public support**

In Hong Kong, the first pillar is a non-contributory safety net, aimed at providing additional support to those in retirement. Benefits are separated into separate categories.

### **Old Age Allowance**

A non-means-tested benefit available for those over the age of 70, to help them meet the costs of old age. Available only to those who have resided in Hong Kong for at least seven years and with one continuous year. The recipient cannot receive allowances from other social security schemes. As of 2016, the allowance was HK\$1,290 a month.

### **Old Age Living Allowance**

For those aged 65 and over, the old age living allowance is available to those who meet the residency criterion, in addition to not having income in excess of HK\$7,580 if single or HK\$12,290 for couples. This benefit is designed to help the poorest deal with the cost of living.

### **The Mandatory Provident Fund**

Acting as a defined contribution scheme, both employers and employees are compelled to make monthly contributions of 5% of earnings. While employees must earn at least HK\$7,100 a month before they have to contribute, the employer must still make contributions to the scheme if the employee earns below this level. Self-employed workers earning above the minimum threshold must also make payments into the MPF.

Exemptions are made to individuals who fulfill certain criteria, for example those individuals who have an occupational retirement scheme dating from before the introduction of the MPF. Providing that such schemes meet the requirements of the Occupational Retirement Schemes Ordinance (ORSO), they can be exempted from making contributions to the MPF. Nevertheless, the broad aim of universal coverage has been met by the MPF with close to 100% of employees and employers and 68% of self-employed workers enrolled into a scheme as of late 2015<sup>25</sup>.

Employers and the self-employed choose which specific schemes to contribute towards, which are provided by banks and insurance firms. Schemes are separated into three distinct categories: Master trust schemes open to everyone, employer-sponsored schemes specific to a single employer and industry schemes for those working in either catering or construction. Master trust schemes are by far the most popular option, allowing employers to transfer the running of a scheme on to a specialist party.

Strict regulations are placed on investment behaviour, to help limit exposure to risky or external markets and to ensure that a sufficient level of funds are kept in reserve, to deal with any potential shortfall. Upon retirement at the age of 65, accrued benefits can be withdrawn either as a lump sum or in instalments.

### **Affordability**

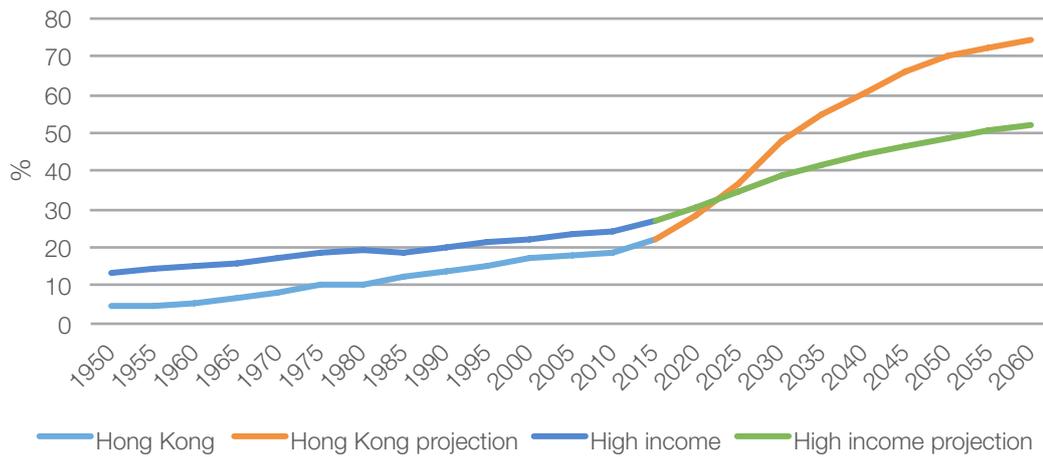
With Hong Kong reliant on the MPF, the financial burden on the state is relatively low. The most recent figures state that expenditure on public pensions in Hong Kong was below 2%<sup>26</sup>. At present, Hong Kong has a dependency ratio below the average for high income nations but that is set to change dramatically. As of 2015, the proportion of older people to working aged people was 22.1%, but by 2060 it is set to rise to 74.6%. In comparison, high income nations are only expected to have a dependency ratio of 52% by the same time.

<sup>24</sup>Flynn, M. (2016) "Pension coverage and pension freedoms: Lessons from Hong Kong" International Longevity Centre.

<sup>25</sup>Hong Kong Information Services Department (2015) "Mandatory Provident Fund"

<sup>26</sup>World Bank Pensions Data: Understanding poverty: social protections and jobs – pension data

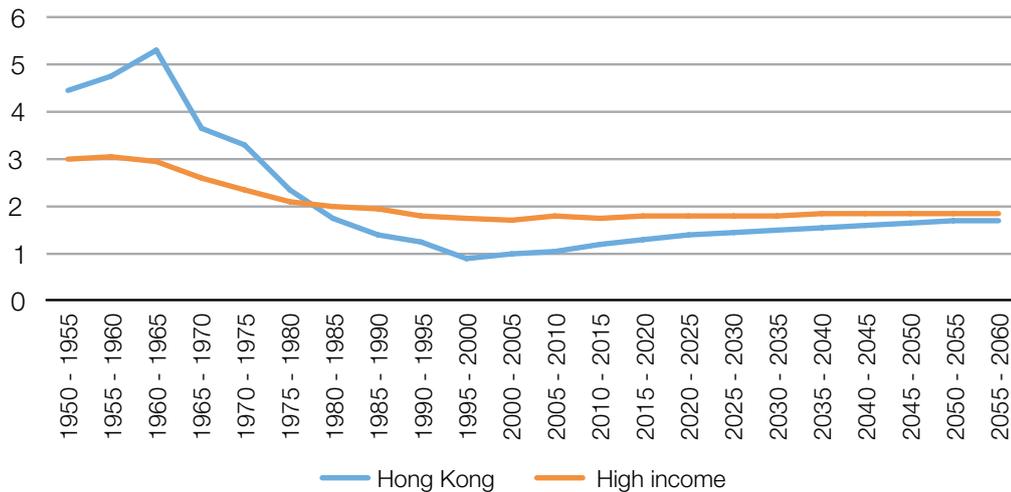
**Figure 46: Old age dependency ratio**



Source: UN

Rapid growth in the old age population is partly explained by an accelerated decline in fertility rates. In the years 1960 to 1965 the average number of children per woman was 5.3, while high income nations as a whole averaged 2.9 during this period. By 2000, the average number of children per women in Hong Kong was less than 1, almost half the average in high income nations. Persistently low fertility rates have led to a dramatic ageing of the Hong Kong population, and this is expected to extend well into this century.

**Figure 47: Fertility rates (children per woman)**



Source: UN Population Projections, Medium Variant

Despite the rapid ageing of the population, the reliance on MPF for retirement funding should insulate Hong Kong from the rising pressures on old age public spending which is significant cause for concern in other developed economies.

**Adequacy**

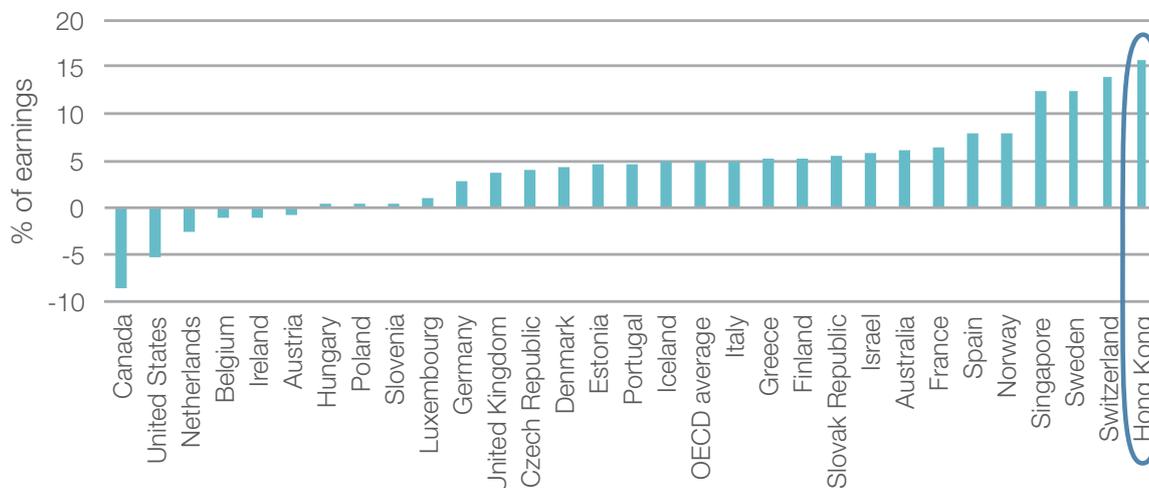
The lack of a substantive basic pension and low rates of contributions into the MPF means that incomes for those in retirement are extremely low relative to working age earnings in Hong Kong. With contributions at 5% from both the employer and employee, the MPF is unable to sufficiently generate enough savings alone to ensure an adequate income in retirement.

The poverty rate for those over 65 in Hong Kong in 2014 was estimated at 30%, significantly higher than the poverty rate of those of working age, which was only 10.2% in the same year<sup>27</sup>. Similarly, evidence from the most recent census suggests that the average income levels of current retirees is only 28.8% of average earnings.

<sup>27</sup>Hong Kong Poverty Situation (2014) Government of the Hong Kong Special Administrative Region

When calculating the adequacy gap for future pensioners as a proportion of annual earnings, Hong Kong performs worst in our sample. We estimate that individuals will need to save in excess of 15% of earnings in order to generate a sufficient income in retirement. Therefore, despite enforced mandatory savings, the Hong Kong system performs poorly relative to other developed countries when it comes to retirement income adequacy.

**Figure 48: GDP per capita in advanced economies**



Source: OECD and author's calculations

### **Savings behaviours in Hong Kong**

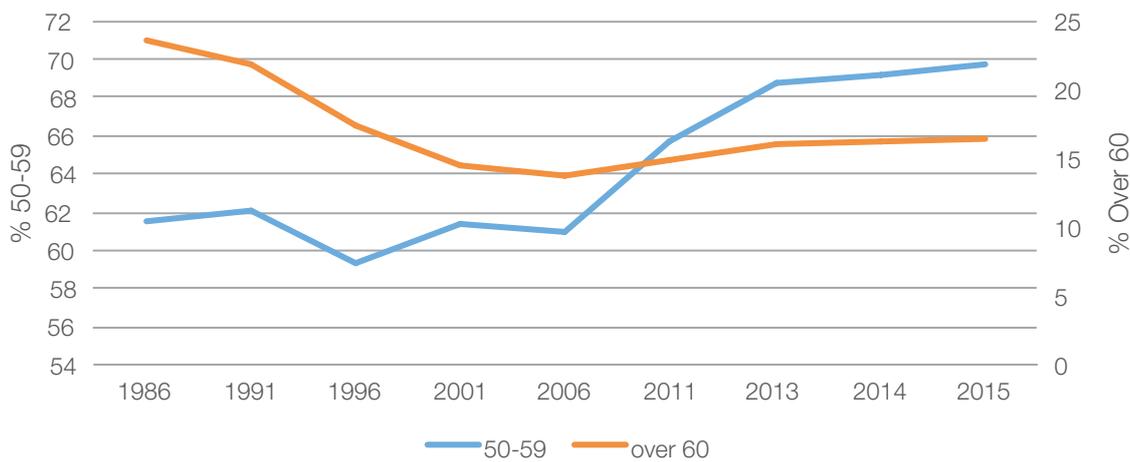
Our bespoke survey found evidence of very high savings rates in Hong Kong. Only 2% of the population fail to save anything, meanwhile, of those who do save, nearly half save more than 30% of their income. Amongst the youngest adult age group (18-24), 59% save more than 30% of their income. As with the Singapore example, the lack of a state safety net and emphasis on fully funded DC schemes to support retirement incomes has led to a system where people make significantly higher savings than in developed countries. And, by comparison to the other five countries we have explored in detail for this report, people in Hong Kong are more likely to plan for their retirement, with 59% having a specific target for the amount of money they want to save and how to use it when they retire. As with other countries, the rainy day savings motive dominates (57%), but having money for retirement (41%), and paying for social care (24%) are also highly prominent motivators.

### **Labour force participation at older ages remains low**

Poor performance in achieving adequacy targets and the high rate of old age poverty may have prompted a slight increase in the employment rates amongst the 55-59 age group - rising from 61.5% in 1986 to 69.7% in 2015. However, over this same period, employment among the over 60s dropped from 23.6% to 16.4%. While this may be relatively high by comparison to some other developed economies – notably France, it does suggest that people in Hong Kong are facing a dual challenge of being unable to adequately support themselves in later life by either drawing down on savings or working longer.

Extending working lives, and a more generous social safety net if affordable, will all be crucial to solving the retirement income adequacy challenge facing Hong Kong.

**Figure 49: Proportion in employment by age**

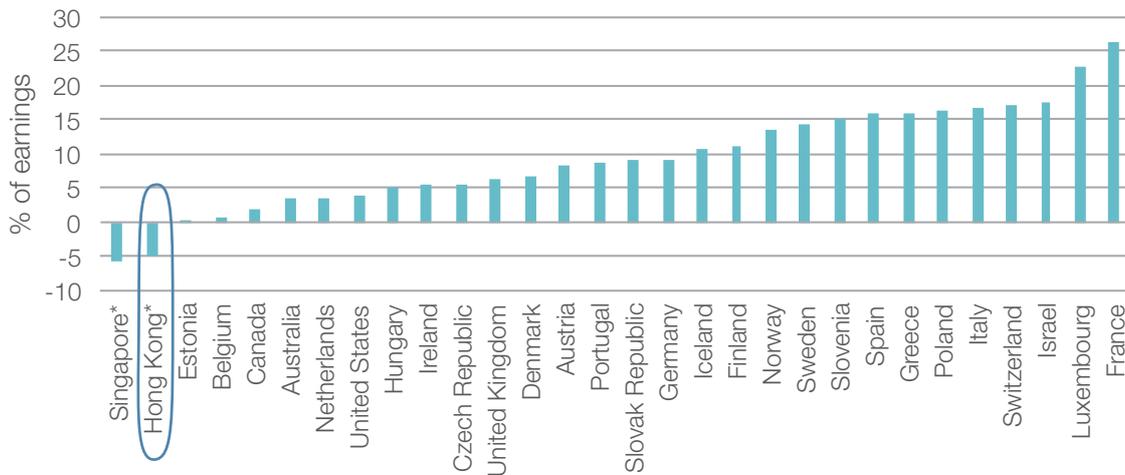


Source: Hong Kong Census and Statistics Department and authors calculations

**Intergenerational fairness**

Along with Singapore, Hong Kong does not have an intergenerational savings gap, with the average earner entering the workforce today anticipated to be better off than the current generation of retirees. However, as previously mentioned, there will still be a large adequacy gap for future pensioners, so the absence of an intergenerational savings gap is not something that should be celebrated. Future pensioners are projected to do badly relative to other developed nations, but just not quite as badly as the current generation of retirees.

**Figure 50: Intergenerational gap including private savings**



Source: OECD and author's calculations

**Recap: the critical policy challenges**

- Hong Kong has a less than generous basic pension, which does little to provide a safety net for the poorest in society. While raising this would certainly help close the adequacy gap, the pressures of a rapidly ageing society may bring into question the feasibility of such a rise, unless Hong Kong were to move away from the non-means-tested nature of the current allowance.
- The MPF has achieved near universal coverage, but it is still failing to promote sufficient savings through the fund, which is likely to be even more difficult for those on low earnings. Improving the level of contributions where possible could be a potential route to closing the adequacy gap.
- As with all other countries explored for this report, supporting the self-employed to save adequately remains a significant challenge. They do not benefit from the employer contribution to the MPF that employees do.

# Part 4

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# Discussion - addressing some common challenges

## About this chapter

*The analysis of our countries and regions of interest revealed many critical challenges facing different pension systems – some of which were unique to the specific system – others were common to more than one system. In this chapter, we briefly outline some of the common challenges and discuss the potential role of public policy and industry in addressing them with reference to some of the approaches taken by the systems previously explored.*

## Raising private pension coverage and contributions

Supporting widespread savings into occupational pension schemes is a critical pillar of any sustainable pension system. Two public policy options look to be particularly successful in this regard, one which compels people to save as per the Singaporean and French systems and another which “nudges” people to save as per the UK’s auto-enrolment system. Systems that fail to have either such approach may struggle to secure significant occupational pension coverage, unless such a savings culture is already ingrained in the nation’s psyche, but such a culture is likely to take many years to form, with people facing retirement income shortfalls in the meantime. The second challenge is to ensure that people make sufficient contributions to those pension schemes, especially if we face a low returns future. In this regard, systems that harness compulsion clearly see the highest rates of saving (i.e. Singapore), but such an approach may not be politically feasible in other high income countries and so harnessing behavioural nudges, such as where contributions automatically rise with earnings, may be the most immediately palatable approach to this challenge.

Allied to the problem of getting people to save into an occupational pension, is the issue of supporting such saving amongst the growing number of people in non-standard work, such as temporary or self-employment. In the case of temporary UK agency workers, they are eligible for automatic enrolment and therefore nudged into saving, consistent with the rest of the workforce. But a solution for the self-employed has not been forthcoming. In Hong Kong, all eligible workers including the self-employed are forced to put something away, but the self-employed will not, by definition, be able to benefit from any additional employer contribution. However, at least in Hong Kong, private pension coverage is high amongst the self-employed. In other countries, policymakers are still grappling with how to incentivise savings amongst this group without resorting to outright compulsion. But even if a solution can be found, the self-employed still stand to lose out since they will not benefit from employer contributions. The issue of whether and how to top up the pension savings of the self-employed therefore remains an extremely important and pertinent question that requires proper investigation.

## Raising financial capability with mass market advice and sensible defaults

In the long run, raising the financial capability of individuals will be very important in determining good outcomes for consumers. With increasing emphasis on personal responsibility for retirement planning, people will need to be able to understand the benefits for deferring consumption for a later date, the value of investing in assets other than cash, the importance of asset diversification, and the virtues of buying some form of longevity insurance at the point of retirement. Individuals can be helped on each of these fronts in a number of ways. Financial education programmes may help to support increased financial literacy while enabling individuals to better understand their own behavioural biases. Unfortunately, there is no silver bullet in this regard, with evidence suggesting that such programmes only improve capability at the margin – this is not something that can be transformed overnight. But there are other changes that can be made to support better decision making and greater consumer engagement. For instance, the design, communication and accessibility of financial products and services can be tailored to

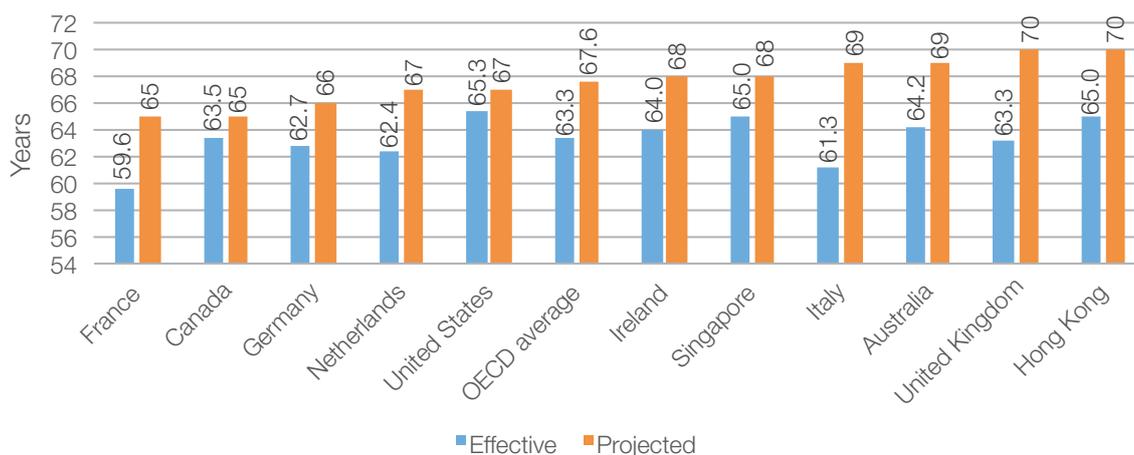
meet personal preferences while being presented in formats that make different products more easily comparable. But some financial products and choices are by their nature complex. For this reason, there is clearly a critical role for financial advice coupled with technological innovation in order to support better financial decision making. In many markets, financial advice is the preserve of the many and not the few, but technological change may open up the market to a wider group of consumers. Already, there are a number of providers in the UK, the USA and other markets which use forms of robo advice (sometimes in combination with a fully qualified financial adviser) in order to bring to life how the choices people make today will influence their retirement incomes tomorrow<sup>28</sup>. Such approaches can simplify potentially complicated decisions over the course of a lifetime, meaning that people are less likely to face sudden and unexpected income shocks in later life.

Finally, we have to accept that there will be some people who do nothing, inertia is a human characteristic, and we need to identify ways to ensure that these people avoid the worst possible retirement outcomes. For this reason, much work is being done on designing default savings and decumulation products to ensure that even inert individuals save for the future and take an income from those savings at the point of retirement. There is still much work to be done in this area, but the NEST pension scheme in the UK offers an interesting example of how default schemes might operate in this regard. Introduced as a delivery mechanism for autoenrolment, individual employees are automatically placed in the default scheme which invests in a diverse range of assets, exposing the individual to less risk as they approach retirement age to lock in the investment gains made during working life. NEST has also done some thinking about what a default decumulation strategy could look like, which would likely involve some degree of in-built flexibility allied to longevity insurance at older ages<sup>29</sup>.

### Facilitating longer working lives

Retirement income shortfalls can be plugged by either saving more, retiring later or increasing the level of state support. Since raising state support is likely to be costly due to rapid population ageing, it follows that many individuals are likely to have to save more and/or retire later than is currently the case. In this context, we calculated future retirement ages based on current savings behaviours where applicable, and we compare these to the current average age of leaving the workforce in each country. In short, our calculations show that for many countries, a failure to save would mean a significantly later retirement age.

**Figure 51: Effective vs projected retirement age for someone entering the workforce**



Source: OECD and author's calculations

\*Note – the above is a small sample of what might the retirement age might look like if savings are not increased sufficiently. The above figures were calculated using the adequacy gap, including voluntary savings and information on replacement rates and life expectancy. Considering the reduced income needed for retirement (given the reduction in time spent in retirement) coupled with the extra years of working and contribution towards pensions (both public and private) we determined how many additional years would be required to eliminate the gap entirely.

28 A good example of this concept is Professor Robert Merton's work on applying life cycle economics in practise. See for example: Applying life-cycle economics: an income-oriented DC retirement solution that integrates accumulation and payout phases. Article for National Employment Savings Trust (NEST) Annual Conference 2013

29 NEST 2015 "The future of retirement: a retirement income blueprint for NEST's members"

As well as ensuring that individuals are able to live adequately in retirement, longer working lives are also important from a fiscal sustainability point of view. They help to reduce the economic support ratio – that is number of people out of work relative to the number of people in work – thereby helping to maximise tax revenue and minimise public expenditure over the long run. The most obvious way to incentivise longer working lives and reduce anticipated public expenditure on pensions is by raising the age at which people become eligible for old age social security, and this is happening across a number of advanced economies. Alternatively, countries could do away with having a universal pension altogether – as per Singapore which has relatively high employment rates amongst older people. In addition to raising pensionable age, countries can abolish compulsory retirement ages which still exist in some countries and for certain industries. While raising pensionable age might be the most easy and effective incentive to support longer working lives, it can have unintended side effects, including increasing the number of people who leave the workforce before reaching this age. A big challenge facing advanced economies is how they cope with an increase in economic inactivity rates before retirement age as people leave the workforce for health reasons or because they are caring for other family members. There may be a mixture of public and private sector solutions to this predicament including forms of unemployment insurance, which would could be targeted specifically at this group and act as a bridging mechanism between leaving work early and retirement.

### ***Reducing inequality of retirement outcomes***

Supporting pension saving, longer working lives and raising financial capability are all vitally important if we are to build sustainable pension systems over the long run. But none of these are able to eradicate the substantial challenge that inevitably comes if pension systems increasingly rely on the individual to save for the future. Some individuals may have extended periods of unemployment, inactivity or experience low earnings throughout their working lives. They may not therefore be able to save for a pension, or if they do, they may not be able to put much away for retirement. When they are able to save, this may be for precautionary reasons, indeed, the precautionary savings motive remains the strongest savings motivator across our countries of interest. As we've already seen in this report, the pension systems with the greatest level of personal responsibility also suffer from the highest levels of pensioner poverty. Unless action is taken, these systems are likely to continue fostering inequality in retirement outcomes. So what might such action look like? Clearly, any action to compensate the losers will need to be affordable in the long run, while also going with the grain of an overarching policy framework which incentivises saving. This largely rules out a hike in the value of universal old age social security, but may be consistent with a system of more generous means tested support for those who faced low earnings during working life. Whether such an arrangement is fiscally or politically possible will clearly depend on the specific country in question.

# Part 5

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# Conclusion

Through technological advancements and mass education, in the latter half of the twentieth century, developed economies strode towards the vision of “economic bliss” laid out by John Maynard Keynes, where individuals had the time and space to make an art of life itself. Each generation enjoyed greater levels of wealth and longer leisure time than the one which preceded it. One manifestation of this vision was longer periods of time spent in retirement, with pensioners enjoying rising incomes, longer life expectancy and falling poverty. But continued progress looks to be in doubt. The factors which made the economic miracle of the middle to late twentieth century possible are stalling or reversing – developed countries have banked their demographic dividend, while productivity growth has dramatically fallen. If we are unable to rekindle the flame of economic renewal, then we must develop coping mechanisms to ensure that future retirees do not return face a future of low income and high poverty.

Population ageing and economic stagnation has thrown into doubt the sustainability of government spending. The combination of an increasingly large retired population and a diminished work force to support them, set against a backdrop of high levels of public debt, will force many countries to reduce the generosity of public expenditure on old age social security. But, in return, individuals will need to save more on their own for retirement, work longer or face poverty in old age. This is the very real challenge now facing pension systems across the world. Citizens from East to West will have to take more personal responsibility for their standard of living in retirement with our research showing they will need to save upwards of 15% of earnings a year in some countries – to ensure an adequate income in later life.

Some countries already have pension systems that place particular onus on personal responsibility, but it is evident the culture of saving has not caught up with the changing realities, which could leave many going into retirement facing poor prospects. Survey results from the USA and UK, nations with relatively low public expenditure on pensions show that few are actively saving sufficiently for an adequate retirement and that most fail to plan ahead. Worse still, many do not save at all, even though it is clear that just relying on old age social security cannot provide an adequate retirement income.

Failure to act now will mean future generations experiencing significantly greater retirement income shortfalls than today’s pensioners. The inter generational gap in some countries requires saving in excess of 20% of earnings each year or delaying retirement into the 70s. This is the choice facing many, and policymakers, employers and the financial services industry (amongst other stakeholders) will need to support individuals plan.

In response to the challenge, public policy will need to be implemented to help facilitate universal private pension coverage. But what about those who cannot save or are less able to? Across the developed world, pension schemes are heavily linked to occupation. Those in part-time work, self-employment, the informal labour market, on low wages or even absent from the labour market altogether, may not even have access to a pension scheme, let alone benefits such as employer contributions. With automation and changes taking place across global labour markets becoming ever more salient, these groups are likely to grow in numbers. Policy around pensions will need to adapt to reflect a changing labour market, if these groups are ever going to have the means and access to save towards retirement.

The challenge is not insurmountable. Policy and cultural attitudes can change. People can be nudged or compelled to save through mandatory systems and nudges while behaviours will change out of necessity. The state can provide sustainable, social security to those most vulnerable to poverty in retirement, which are likely to be those without access to, or unable to contribute towards occupational pension schemes during working life. Incentives can be offered

to encourage employers to offer universal coverage. Financial capability can be improved to help people make more informed decisions about their savings and their future. Additionally, public policy will need to identify ways to support longer working lives with improvements to health and support to those who drop out of the labour market early.

If these changes are made, if private pension coverage becomes common, supported by a social safety net for those unable to save, if people can make sizeable contributions to their pension pots, and if this accumulated wealth is put to good use through strategic investment, then those entering the workforce today will still have the opportunity to enjoy an aspirational retirement tomorrow.

## Appendix: Information on bespoke survey

The bespoke survey was conducted online by Ipsos MORI, on behalf of the International Longevity Centre-UK from the 4<sup>th</sup> November 2016 to the 3<sup>rd</sup> of January 2017, with 5,298 adults across 5 different countries and regions listed below. Interviews were carried out on Ipsos MORI's online i:Omnibus service using a quota sample of adults who are members of Ipsos' European Online Panel and separately for Hong Kong and Singapore. For each country and region, data have been weighted to the known offline population profile of this audience according to age, gender and region. The ages of adults interviewed for each country were as follows: Great Britain and France (adults aged 16-75), Hong Kong and Singapore (adults aged 18-55) and the USA (adults aged 18-75).

Sample sizes in each country and region were as follows:

- Great Britain 1,100 ,
- France 1,100,
- USA 1094,
- Singapore 1,000,
- Hong Kong 1,004.

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Published in June 2017 © ILC-UK 2017

Registered Charity Number: 1080496.

