Which? works for you

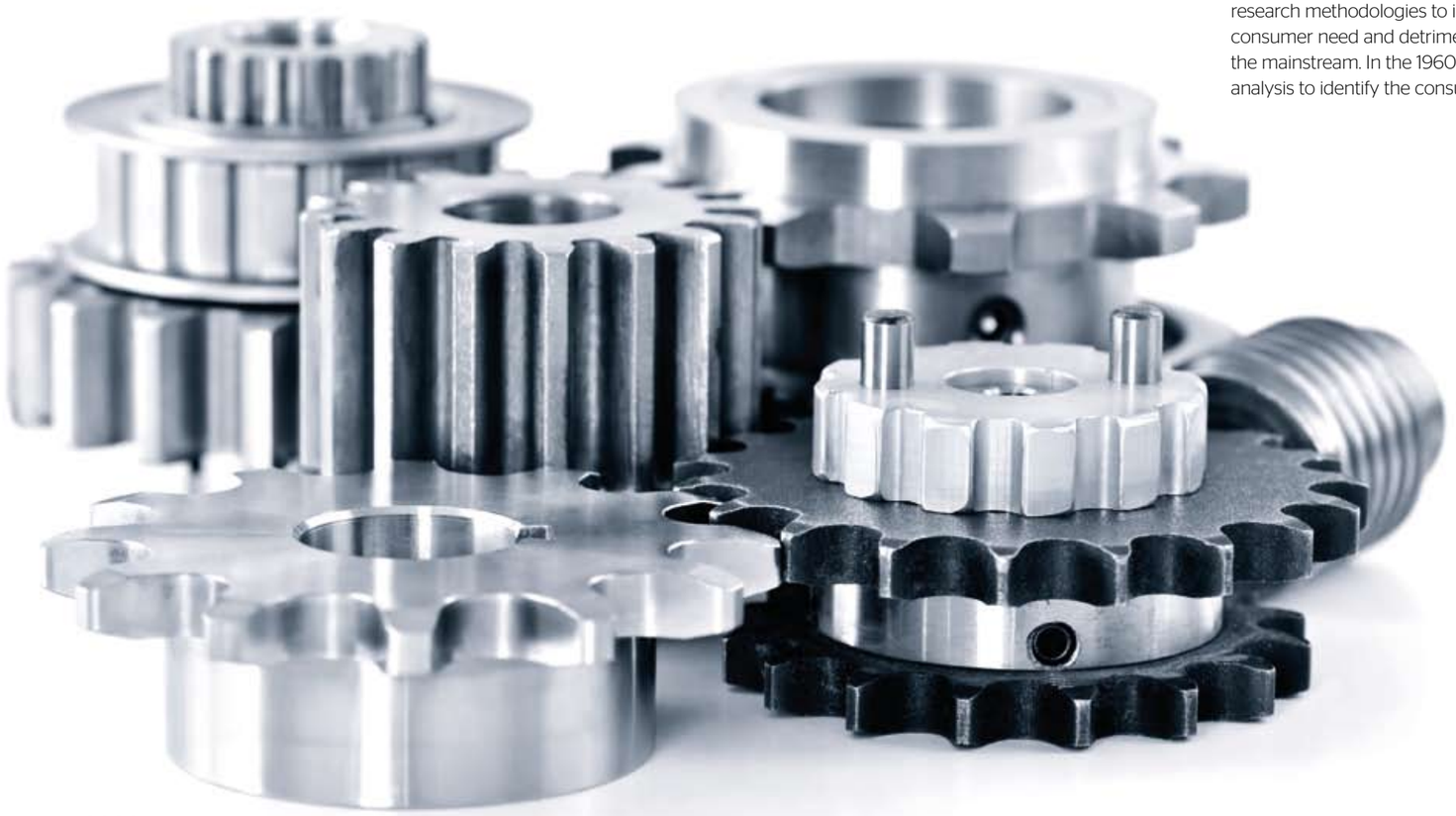
Consumer Insight

January 2013

Consumers in 2030

Forecasts and projections for life in 2030

Which? exists to make individuals as powerful as the organisations they have to deal with in their daily lives. Whether in 1957 or 2030, this core mission and our eight consumer principles, remain central to our work.



To stay true to our mission, we can't assume that the consumer needs and areas of detriment we've campaigned on in the past will continue to be relevant as we move further on into the 21st century.

Working with Forum for the Future, a not-for-profit that works globally with business and government to tackle sustainability issues, we're using new research methodologies and long-range scoping techniques to help us think about future programmes of research, and asking: 'What might consumers need from Which? in 2030?' Whilst remaining focused on our existing policy areas: food, energy, consumer markets, personal finance and public services, we're taking action to ensure that we're ahead of the game.

Why consumers in 2030?

The Which? Consumers in 2030 project is designed to spark debate about the changing needs of UK consumers in the 21st century. Building on our unique history as the UK's consumer champion, Which? is seeking to identify the areas where consumers will face both detriment, and opportunities, in 2030.

Which? has a long history of using pioneering research methodologies to identify areas of consumer need and detriment before they hit the mainstream. In the 1960s, we used social trend analysis to identify the consumer issues likely to

The Which? Consumer Principles

- **Access – are consumers being left out in the cold?**
- **Choice – are consumers faced with no choice – or Hobson's choice?**
- **Consumer influence and representation – do consumers have a voice?**
- **Information and education – do consumers know what's good and what's not?**
- **Quality – are products and services up to scratch?**
- **Redress – are consumers compensated for shoddy service?**
- **Safety – is industry playing fast and loose with public wellbeing?**
- **Value for money – are consumers getting what they pay for?**

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Introduction

develop from the sexual revolution. We published a guide to contraceptives, and used groundbreaking 'mystery shopper' techniques to research an investigation into marriage bureaux.

As the 20th century progressed, Which? responded to the increasing flexibility and personalisation of consumption by producing specialised publications on money, gardening, travel and technology. We have also been at the forefront of using new technologies to empower consumers. In 1996, we launched the Which? website, and by mid-2007, downloads of our free online guide to challenging unfair bank charges had topped 400,000. In 2012, the Which? Big Switch campaign harnessed the power of collective purchasing; a high-profile campaign that, by November 2012, had involved 300,000 consumers in the process of switching to a cheaper energy tariff.

Long-range projections of economic, social and environmental trends are regularly used by businesses and political institutions, but consumers themselves are frequently left out of the conversation. The ideas and scenarios in this publication are designed to bring about a new type of debate around a future that has people, rather than organisations or government, at its heart.

In order to do this, we conducted a detailed historical analysis of UK consumer trends from the mid-1950s to the present, and modelled these trends forwards to 2030. Working alongside Forum for the Future, we have used the raw economic model as the framework with which to develop a scenario detailing the home life of a family in 2030, 'flexing' the model to include the potential impact of behavioural shifts and uncertainties about the future.

In addition to developing a model to anticipate the material circumstances of consumers in 2030, we have also used an analysis of current emerging trends and projections to explore how this might affect society, our lives and the demand for products and services. We have imagined five products and services that could develop in the future in response to these shifts. They provide a framework through which to think about the issues and areas of consumer detriment that might be experienced by consumers in 2030, and are designed to act as a provocation for policymakers, regulators, politicians and consumers themselves.

2030 household

We've used four main research strands to help us to think about life in 2030

Home life' mega trends
- Water scarcity
- Living with no waste
- Home manufacturing
- Collaborative consumption
- Preventative healthcare
- Immersive technology

Economic projections
- Low-growth economy where household incomes are pressured by rising costs and low wage growth
- No European country in top five biggest economies

Which? consumer principles
- Choice
- Consumer influence
- Information and education
- Quality
- Redress
- Safety
- Value for money

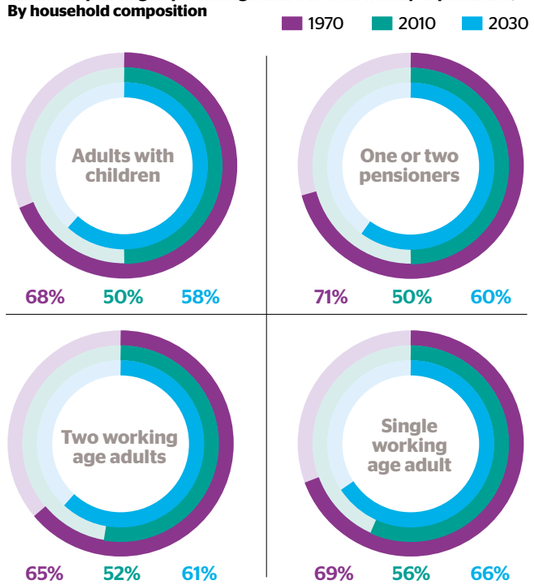
Social trend forecasting
- Low growth scenario where DIY spirit prevails among communities
- Low trust in institutions and governments
- Resources are valued more highly than today because they are scarce and expensive

What's changed? 2013-30

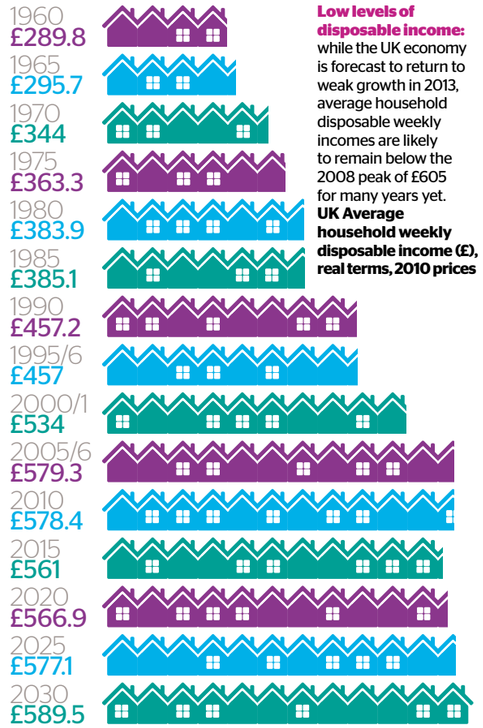
As the research on the following pages shows, consumers in 2030 will be living in a world where slow growth, resource scarcity and rising commodity prices will have become the norm

As the research laid out in the following pages shows, consumers in 2030 are likely to be living in a world where slow growth, resource scarcity and rising commodity prices have become the norm.

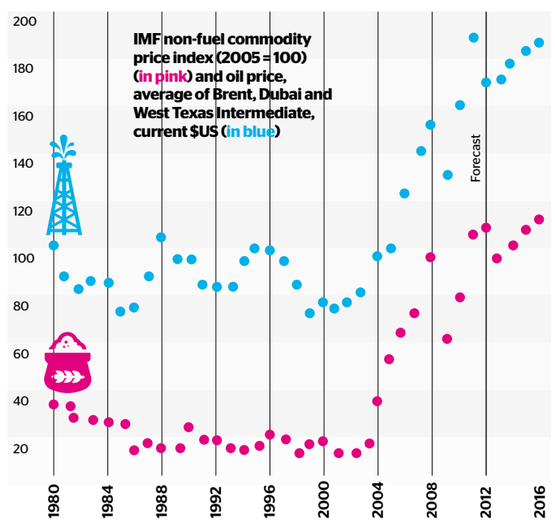
Young workers will be hit hard by rising prices: single working-age adults will experience the greatest drop in the amount of money available to spend on discretionary purposes between now and 2030.
Essential spending as percentage share of total weekly expenditure, By household composition



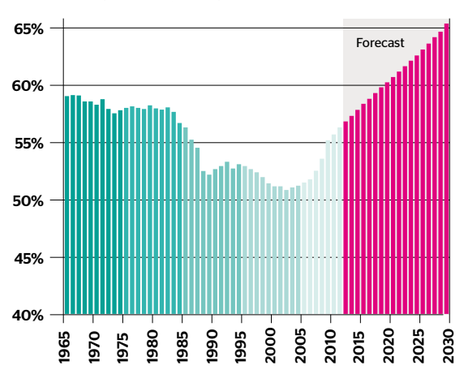
Low levels of disposable income: while the UK economy is forecast to return to weak growth in 2013, average household disposable weekly incomes are likely to remain below the 2008 peak of £605 for many years yet.
UK Average household weekly disposable income (£), real terms, 2010 prices



Skyrocketing commodities prices: non-fuel commodities such as agricultural products and industrial inputs are likely to see strong price growth over the coming years.

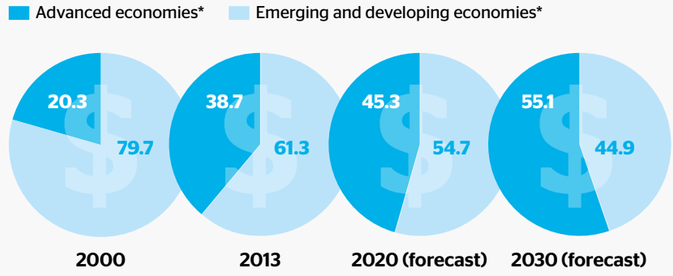


Essential goods take up an increasing proportion of consumer spending: our model sees the spend on essentials as a percentage of total expenditure rising from 56.8% of spending in 2012 to 65.3% in 2030.
Percentage of essential* spending as a share of total expenditure, Current prices, UK total



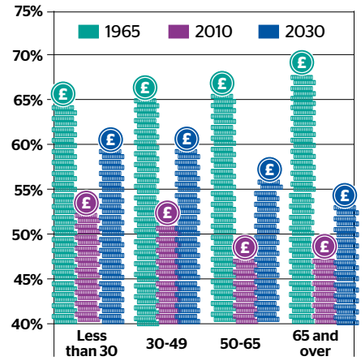
*Defined here as food, clothing, housing, health, transport and education

Emerging economies overtake the developed world: by 2025, emerging and developing economies are predicted to make up a greater share of global economic activity than advanced economies. Economic development in emerging markets is expected to be particularly resource intensive due to industrialisation and increased demand for grain.
Share of global economic activity by country type, % of global GDP at current $US

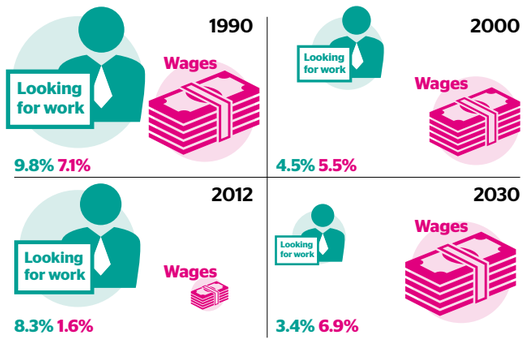


*IMF definitions: 'Advanced' comprises 34 countries, 'Emerging' is 150 countries

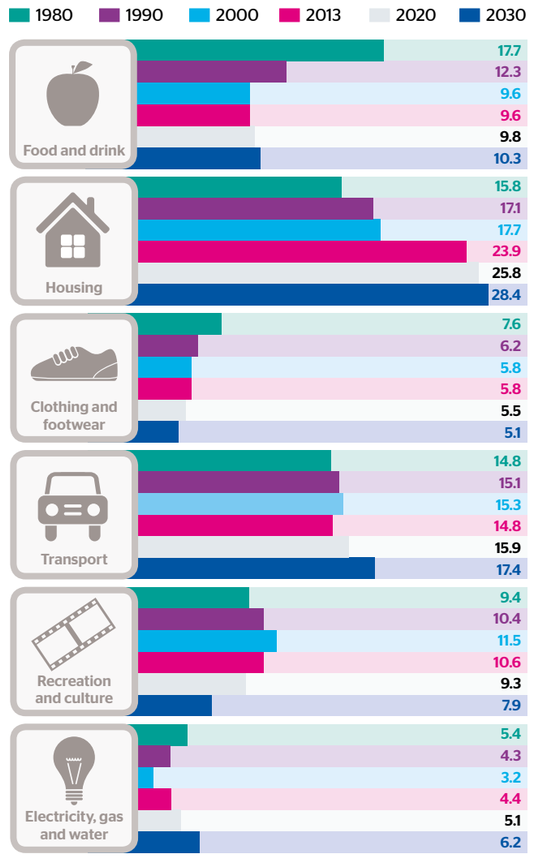
The rising cost of living will be unequally distributed across the age groups: young people and adults under 50 will increasingly struggle to meet costs.
Essential spending as share of total weekly expenditure, By age of head of household



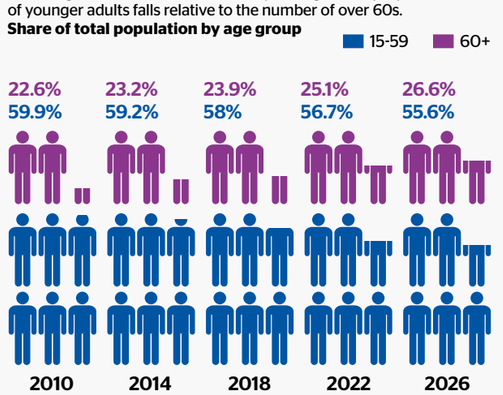
Slow wage growth: Ongoing high unemployment and wage stagnation means that wages in 2030 could still remain below the levels that were experienced by British workers in the 2000s.
UK unemployment rate (in green) and annual average change in total earnings (in pink)



Lower spending on leisure: it's likely that the rising cost of essentials (food, housing, etc) over the next 20 years will squeeze out consumer spending on recreation and culture.
Percentage of total expenditure of selected goods categories, UK total, Nominal prices



Population ageing: the UK's ageing population will have an impact on both government and consumer spending, as the proportion of younger adults falls relative to the number of over 60s.
Share of total population by age group



Life in 2030

So what will life be like for people in 2030? Over the following pages we consider how social and economic trends will affect people's everyday lives, exploring the impact of demographic shifts, changes in the global economy, and new ways of consuming and producing products.

Our data and social trend analysis shows that in 2030, people in the UK could be living in a world where slow growth, resource scarcity and rising commodity prices have become the norm; where demands on public finances will have been impacted by demographic shifts, and where ongoing scandals such as MPs' expenses, gas price fixing and the rigging of the Libor rate have led to a crisis of trust in institutions.

As well as these social and economic trends, technology will be revolutionising our homes, and the way we run our lives. For example, increasing use of robotics in the service industry – already familiar in the form of self-service checkouts – could fundamentally change the nature of customer service, making personal 'human' service the new First Class[1].

Similarly, innovations in healthcare, manufacturing and energy generation look likely to take the personalisation of services to a new extreme: by 2030 we anticipate that 3D printing of products, medication and food will all have hit the mainstream, and children could be using energy stored in their trainers to power computer games and access social media.

Key social trends

Financial pressures

The numbers generated by our economic model suggest that by 2030, average weekly household disposable income could be just £589, which is below the 2008 peak of £605, and only just passing the 2012 level of £558.60.

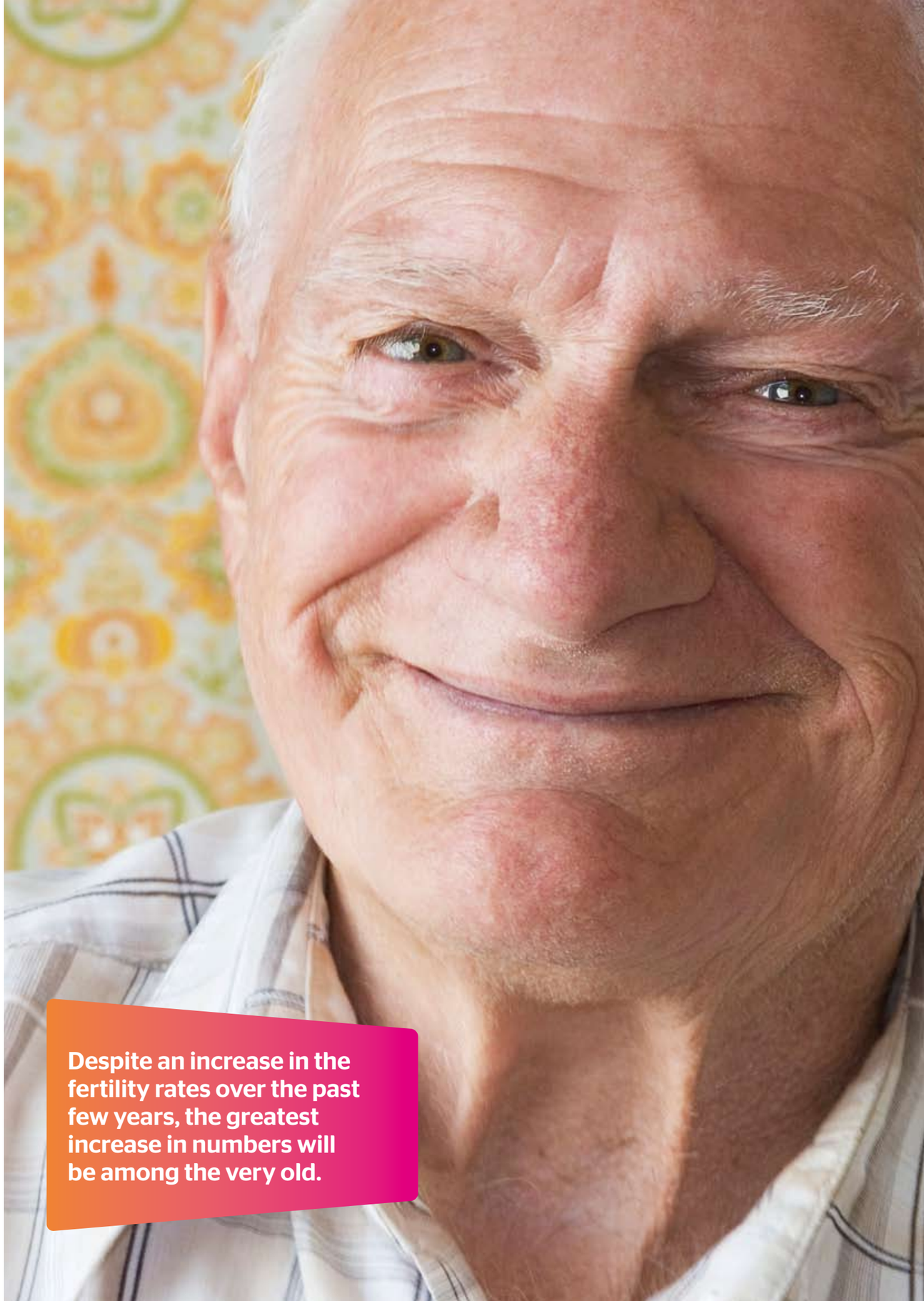
We could also see a substantial increase in the level of income inequality across the UK population. Our research shows that in 1980, the gap between the percentage share of household spending on essentials in the 20% of households with the lowest incomes and the 20% of households with the highest incomes was 5.8 percentage points. By 2010, this gap had grown to 6.4 percentage points, and by 2030, our forecasts suggest that it could rise further to 7.4 percentage points. This trend is already visible in figures from the Which? Quarterly consumer report, which reveals that people in the lower two income quintiles are increasingly dropping away from the rest of the income distribution, and being disproportionately impacted upon by rising food and fuel prices.

The impact of these trends on consumer wellbeing are palpable. Our analysis of the BHPS and Understanding Society datasets shows that the percentage of people in the second-lowest income group who think that they are living comfortably, fell from 69% in 2003 to 48% in 2010. Such a dramatic fall is thrown into sharp relief by the satisfaction levels of the highest-earning group, shifting by six percentage points from 88% in 2003 to 82% in 2010.

Population ageing

The Office for National Statistics predict that the UK population will reach 70 million by 2026, rising to 73.2 million in 2035[2]. The population is also ageing, with the median age rising from 39.7 in 2010, to 42.2 by 2035. Despite an increase in the fertility rates over the past few years, the greatest increase in numbers will be among the very old. Between 2010 and 2035 the number of people aged over 85 will more than double, and the number aged over 95 will more than quadruple[3].

Although fears have been raised about the impact of having an increasingly large population of very elderly people on the public purse, increases in



[1] Mintel, Automatic for the People
[2] www.ons.gov.uk/ons/rel/population-trends-rd/population-trends/no--145--autumn-2011/index.html
[3] www.ons.gov.uk/ons/rel/mro/news-release/national-population-projections--2010-based--uk-population-projected-to-hit-70m-by-2027/national-population-projections--2010-based.html

Demographic and social shifts – such as the UK's ageing population, and slow growth leading to an increase in part time work – could lead to a redistribution of traditional gender and generational roles: recent data shows that 25% of UK women are now their family's main breadwinner

healthy life expectancy mean that this pressure could be mitigated by the growing trend for people to work beyond retirement age. This number has nearly doubled, rising from 753,000 in 1993 to 1.4 million in 2011[4]. Population ageing also has huge implications for the uptake of new health technologies set to enter the market by 2030, as older people take advantage of new ways of monitoring and maintaining their health.

Changing working patterns

As the UK economy slows down and the average age of the working population goes up, part-time working and self employment are likely to become increasingly common across the age range. In addition, the constraints imposed by low wages and high prices makes it likely that many people will be forced to take on more than one job. Currently, older people are more likely than younger people to work part time (66%, compared to 34% working full time), and are more likely to be self-employed than their younger counterparts.

Around 32% of people working past state pension age (SPA) work for themselves, compared to just 13% of those aged between 16 and SPA[5].

The growth of the older working population will be driven partly by increases in the state pension age – which will rise to 66 by 2020, and is set to increase further in the future – and partly by lower returns from pensions. Figures from DWP showed that in December 2011, private pension saving was at the lowest level in 10 years, with the overall number of people saving into a private pension falling from 46% in 1999/00 to 38% in 2009/10[6].

Whilst the new automatic enrolment system should go some way to encouraging saving, the returns are likely to be much lower than those in the past. In comparison to the previous model of defined benefit pension schemes (which saw savings levels of around 23% of average earnings guaranteed by the employer), the defined contribution pension schemes (which will be most commonly used for auto-enrolment) will only result in people saving around 8% of annual earnings, unless the government increases minimum contribution levels. Annuity rates are also set to remain low, meaning that even higher savings levels may be no guarantee of a comfortable retirement.

Redistribution of traditional gender roles

Demographic and social shifts – such as the UK's ageing population, and slow growth leading to an increase in part time work – could lead to a redistribution of traditional gender and generational roles: recent data shows that 25% of UK women are now their family's main breadwinner, up from just 4% in 1969[7]. On the flip side, the number of UK fathers acting as the primary caregiver has risen in the recession, with the ONS putting the number at 192,000 in 2009, up from 119,000 in 1993. Even more recently, a 2012 Aviva study reported by the Guardian suggested that 600,000 British fathers were now primary carers. These changing gender roles have also had an impact on people's aspirations: one recent survey in the US found that 27% of single males aged 35-44 wanted children, compared with only 16% of single females[8].

In 2030, financial constraints will also place additional costs such as childcare out of the reach of many families; instead, parents may seek to share childcare responsibilities with extended families and wider social networks. In addition, tasks such as growing ones own food or repairing broken goods are likely to take up an increasing amount of time across all income groups except the very wealthy, as increased volatility in global supply chains leads to consumers striving to become increasingly self-reliant.

New housing trends

In previous years, some young people have relied on their parents to lend them capital for a deposit, but it looks likely that for the majority of middle-income families in 2030, wealth will remain tied up in property, with large, high-interest mortgages making saving difficult. The increase in life expectancy will also decrease the value of many people's estates, as savings are used to top up pensions, or are eaten up paying for care. In the absence of a radical policy intervention on the part of government, in 2030 young people aged under 30 could have almost no prospect of buying a home, and will be looking to new credit models and methods of collective purchase to evade high prices in the private rental sector – we look at one potential new model in the next section.

Although house prices fell back during the recession, in the years to 2030 the trend looks set to reverse, with the price of the average home steadily rising. This will be driven by population growth and investors seeking a safe haven for their cash; our projections show the price of the average home increasing from £217,440 in 2012 to reach over £435,000 by 2030. Under-occupation for older households may also be an issue: many older people could be living in large houses and flats that they are reluctant to sell, but because of increasing prices, they will be very expensive to run and maintain.

Multi-generational households

The uproar which followed the Intergenerational Foundation's recent suggestion that older people should consider 'downsizing' to free up housing stock for younger families, suggests that in 2030 we may see increasing numbers of younger people forced to live on at home with their parents or aunts, uncles or grandparents. Research in the UK by Shelter has found that 1.6 million people (one in ten) aged between 20 and 40 are currently living with their parents because they can't afford a home[9].

While the current perception in the UK is that multi-generation living is a negative thing – Shelter found that 35% of those living with their parents say that they feel embarrassed to admit it – it's possible that, if the trend continues to 2030, then this perception will change. Certainly multi-generational living has its benefits; researchers in the US have found that it alleviates living costs for both older and younger generations. The picture in the UK is currently less clear: 19% of adults living in multi-generational households report that the additional costs of living with adult children leaves them with less money to go on holiday; but 18% of them say that financial contributions from children in multi-generational households has brought household costs down[10].

Which? works for you:

The private rental sector is becoming an increasingly important market for consumers, and agents play a critical role in managing the lettings process. However, high levels of poor practice in the market and low levels of consumer engagement mean that both consumer landlords and tenants are vulnerable to abuse.

Which? conducted research between May and October 2012 to understand the consumer experience and made a number of recommendations for change which we will be campaigning for over the coming months.

[4] www.ons.gov.uk/ons dcp29904_268067.pdf
[5] www.ons.gov.uk/ons dcp29904_268067.pdf
[6] www.dwp.gov.uk/newsroom/press-releases/2011/dec-2011/dwp152-11.shtml
[7] www.guardian.co.uk/commentisfree/2012/sep/30/end-of-men-redefine-masculinity
[8] www.guardian.co.uk/commentisfree/2012/sep/30/end-of-men-redefine-masculinity
[9] Shelter, http://england.shelter.org.uk/news/october_2012/housing_costs_force_1_in_10_back_to_mum_and_dad
[10] Shelter http://england.shelter.org.uk/news/october_2012/housing_costs_force_1_in_10_back_to_mum_and_dad

Changes in the global economy

Of course, it is impossible to talk about the future of consumers in the UK without considering the impact of growing resource scarcity, and changes in the global economy.

The rise of developing nations

Over the next 17 years, our economic model forecasts that the global economic centre of gravity will shift away from the UK and towards emerging and developing economies such as Brazil, Russia, India and China (BRIC). During the 1990s and early 2000s, the integration of emerging markets such as China into global supply chains led to downward pressure on costs, and lower prices for consumers in the UK. Our data suggests that this era is now at an end, as economic development in developing nations leads to higher wages in China, and higher prices for the UK consumer. Extrapolating from the IMF's World Economic Outlook data, we can see that by 2025, the developing nations could have pushed all of the European countries out of the world's five largest economies. Defined by the international Organisation for Economic Co-operation and Development as 'all those living in households with daily per capita incomes of between USD10 and USD100 in PPP terms', the numbers of the global middle class are predicted to reach 4.9 billion by 2030[11].

Resource scarcity

The growing global population and increased competition from middle class people in the BRIC countries is likely to push up demand for – and therefore the cost of – resources. McKinsey have predicted an 80% increase in steel demand between 2010 and 2030[12], and the 2011 Water Disclosure Project conducted by Deloitte reports that demand for water will outstrip supply by 40% in 2030. Emphasising the costs of delivering the infrastructure needed to close this gap, Deloitte suggests that, globally, it will cost as much as $50 to $60 billion a year for 20 years[13]. In the UK, the 2011 White Paper 'Water For Life' reported that: 'In the future there is likely to be less water available for people, businesses and the environment,' concluding that: 'We may need significant new water resources.'[14]

Closed-loop systems

Increased awareness of resource scarcity in 2030 could lead governments and businesses to develop large-scale resource management initiatives, making concrete moves towards a closed-loop economy. In fact, this is already taking shape; over 40% of household waste was recycled in England in 2010/11, compared to 11% in 2000/01[15]. In 2011, the Government Waste Review set out the aim of moving towards a 'zero waste economy', defining this for householders and businesses as a situation where: 'We reduce, reuse and recycle all we can, and throw things away only as a last resort.'[16]

In 2030, restrictions and higher sustainability expectations are likely to make 'unsustainable' choices harder to find. This is already being seen with the phase-out of traditional light bulbs and 'choice-editing' by manufacturers and retailers. The term 'choice editing' traditionally refers to the practice of quietly removing an unsustainable or unhealthy product from sale, and replacing it with a similar alternative. For example in the 1990s, B&Q replaced much of their timber stock with FSC-certified timber without telling consumers what they were doing. This tactic was, in practice, pretty much the same as a ban, but without the need for legislation – or the associated public outrage.

Microgeneration

In energy, microgeneration is increasingly moving towards the mainstream – the Department of Energy and Climate Change (DECC) has already used powers in the Energy Act 2008 to introduce a system of feed-in tariffs to incentivise small-scale (less than 5MW), low-carbon electricity generation[17]. However, at the moment, Which? has concerns that the current policy fails to deliver value for money for consumers. For microgeneration to really deliver by 2030, the government needs to ensure that consumers are adequately protected, and that they get the advice and information they need.

Which? works for you:

Food prices are increasingly volatile, obesity levels are rising, and climate change is having a big effect on harvests around the world. We face a huge challenge – how can we make sure that what we eat is healthy and sustainable long into the future?

Which? has been conducting research across the UK, to find out what consumers think about the Future of Food. Watch out for our findings in early 2013.

[11] Homi Kharas, The emerging middle class in developing countries, OECD Development Centre Working Paper no. 285. January 2010
[12] McKinsey, Resource revolution, November 2011
[13] https://www.cdproject.net/CDPResults/CDP-2010-Water-Disclosure-Global-Report.pdf
[14] DEFRA, Water For Life, December 2011, http://www.official-documents.gov.uk/document/cm82/8230/8230.pdf
[15] www.defra.gov.uk/environment/waste/
[16] www.defra.gov.uk/files/env-waste-review-factsheet-110613-households.pdf
[17] www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/feedin_tariff/feedin_tariff.aspx

The changing nature of consumption

Changes in the cost and availability of consumer goods are likely to be coupled with a shift in the way that people use and buy products and services.

One major shift will be in the relationship between individuals and the organisations that provide products and services. For example, the increasing popularity of 3D printing suggests that consumers will increasingly be also acting as producers. Similarly, peer-to-peer selling could become mainstream across sectors ranging from energy to the music industry.

Collaborative consumption

In the context of increasing public awareness of resource scarcity, collaborative consumption is likely to become an increasingly important trend. Collaborative consumption is an umbrella term, describing the growing tendency of people to use new technologies to facilitate 'sharing, bartering, lending, trading, renting, gifting, and swapping[18]. As the UK government's recent 'Buy Better Together' community buying initiative and Which?'s own Big Switch have shown, collaborative consumption can save people money, time and resources. Potentially, it not only allows people to make money from things they already have (for example, through AirBnB, which allows people to rent out their homes to holidaymakers, or the car-pool WhipCar), but offers convenience (for example Street Bank[19], an online service which allows community members to share goods) cost effectiveness (for example Spotify[20]) and a sense of being part of a community. Collaborative consumption can also have a positive effect on local economies; recent research commissioned by AirBnB found that travellers using the service in San Francisco had spent $56 million in the city from June 2011 to May 2012[21].

Home manufacturing

The popularisation of 3D printing and home manufacturing – already available to high-end consumers – is also likely to have a major impact on the way people consume. The 2030s will see the development of small-scale, UK-based production houses that use 3D printer technologies to 'print' household goods and spare parts on demand. In 2013, the 3D printing scene is centred on a growing number of enthusiastic amateurs with open-source 3D printers, who are experimenting with, not just 3D printing, but home laser cutting and sintering, CNC machining and the use of other precision computer-controlled equipment. Laser sintering is the process whereby objects are built up in a bed of powder by a scanning laser beam that fuses tiny bits of the powder together, one layer at a time[22]. CNC machining is a development of CAD/CAM programs which allows the manufacturing process to be highly automated, allowing people with the right equipment to produce highly complex goods by simply downloading the appropriate program. By 2030, 3D printers could be commonplace, with the ability to print everything from food[23] to new human organs and bespoke medications[24].

Despite the potential impact of new models of production like 3D printers, by 2030, the share of consumer spending taken up by essential goods such as food, utilities and housing is expected to reach 65.3% – higher than the figure in 1964 when comparable data began. This is likely to not only impact on consumers' purchasing habits, but also to lead to shifts in spending behaviour. Indeed, such shifts are already in evidence in areas vulnerable to price hikes; increases in the price of oil have already led to a strong increase in the number of rail journeys taken per household – going up by 13.8% between 2006/07 and 2010/11, and a decrease in the number of road miles covered by car – going down by 6.1% between 2007 and 2010. Rising essentials prices may also have an impact on people's eating habits, potentially leading to an increase in levels of obesity. *The Economist* recently reported that sales of 'primary proteins' and fruit and veg have decreased in the recession, while sales of pizzas and ready meals are going up[25].

The end of the high street bank

The year 2030 could also see a move away from traditional banking as alternative lending schemes fill the space where conventional forms of finance have failed to deliver. The forms of alternative lending popular in 2030 are likely to evolve from the three models that are experiencing a surge in popularity in 2012-13: credit unions, payday loan companies, and peer-to-peer lending platforms. As work by Which? has highlighted, each of these three models come with major health warnings. Despite this, low income growth coupled with an ongoing crisis of trust in British banks, means that 'alternative' banking is increasingly set to be a part of the mainstream by 2030.

The financial model that we predict will experience the greatest surge in popularity to 2030 is peer-to-peer lending. In 2012, the rise of companies such as Zopa and Funding Circle revealed that people are increasingly comfortable using social networks to make links between investors and borrowers, relishing the opportunity to regain the 'lost social purpose' of the UK's banks[26]. By 2030, lending across social networks could be the norm, with p2p lenders competing with mainstream banks because their low overheads mean that they can turn a profit on much smaller sums of money. As a recent article in *Prospect* pointed out, banks normally don't make a profit on personal loans of less than £7,000, but the average Zopa loan is £4,800[27].

Healthy living

In 2030, advances in industrial biotechnology and nanotechnology are likely to be radically disrupting the interface between people and technology. Indeed, this is already the case: in 2013 energy harvesters are almost advanced enough to be inserted into the body to power pace-makers, and a screening device for lung and breast cancer that can detect cancer cells on patients' breath is currently awaiting clinical trial[28]. Although many of these medical advances could solve previously intractable problems, they also open up a new field of ethical dilemmas. For example, a recent report on the UK's breast cancer screening programme has found that while the programme reduces the risk of dying from cancer by 20%, 19% of those women that are found to have tumours are 'over-diagnosed' – causing them to undergo unnecessary treatment that causes more harm than good[29].

One area where better and cheaper technology should have a definite impact is in supporting people to become more aware of the factors that influence their health. Over the past few years the 'quantified self' movement – individuals monitoring their health with apps such as the iphone heart rate monitor – has been gaining momentum[30]. By 2030, with cheaper sensors and better user interfaces, personal data is anticipated to be ubiquitous and malleable, and genetic diseases could be detectable prenatally.

This new availability of up-to-the-minute personal health data is likely to lead to the development of new products and services which will allow people to monitor their own health. Products designed to use this data to prevent illness may well become commonplace in wealthier homes, while less well-off households may become eligible for provision on the NHS. More worrying, however, is the impact that health data may have on insurance provision: more accurate information may lower premiums for some, but there is a risk that those with genetic problems or a history of illness may be compelled to disclose information that compromises their ability to get a good deal.

Increases in the price of oil have already led to a strong increase in the number of rail journeys taken per household

Which? works for you:

With our Big Change campaign we are calling for a Big change to the culture are practices of banking. We think that:

- Bankers should put customers first, not sales
- Bankers must meet professional standards and comply with a code of conduct
- Bankers must be punished for mis-selling and bad practice.

[18] www.collaborativeconsumption.com/the-movement/
[19] www.streetbank.com/splash [20]www.sparkboxtoys.com/
[21] www.forbes.com/sites/tomiogeron/2012/11/09/study-airbnb-had-56-million-impact-on-san-francisco/
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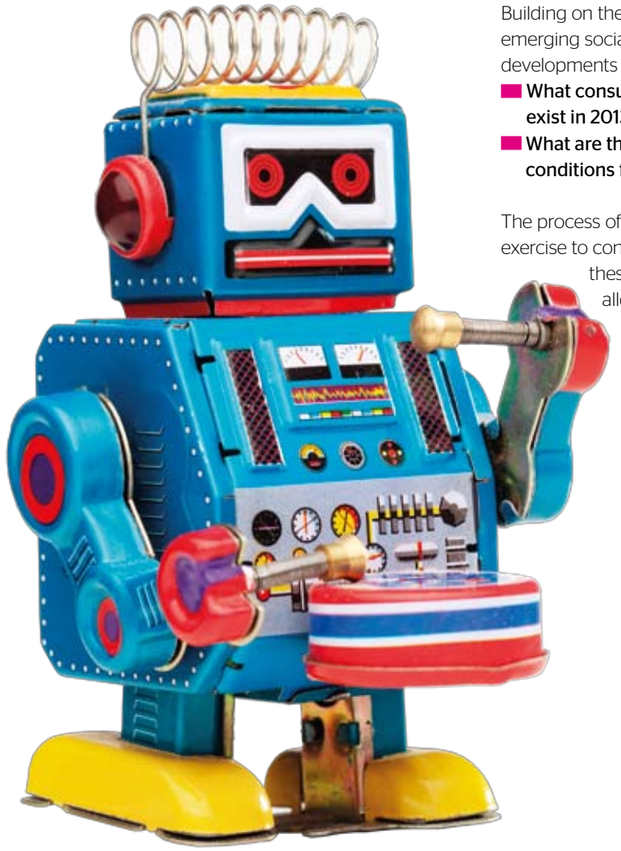
[23] http://www.guardian.co.uk/environment/2012/may/18/3d-printers-food-sustainable
[24] http://www.toptenz.net/top-10-ways-sci-fi-could-help-you-live-1000-years.php
[25] http://www.economist.com/node/21557377
[26] http://www.prospectmagazine.co.uk/magazine/show-me-the-money-personal-finance-revolutiosam-knight/
[27] http://www.prospectmagazine.co.uk/magazine/show-me-the-money-personal-finance-revolutiosam-knight/
[28] http://www.dailymail.co.uk/health/article-2159088/Breathalyzer-smells-cancer-breath.html
[29] http://www.guardian.co.uk/society/2012/oct/30/breast-cancer-screenings-damaging-women?intcmp=239
[30] http://quantifiedself.com/

Products and services we could be using in 2030

In the section below we lay out five products or services that consumers might be buying in 2030.



Here, we present five imagined products or services that draw together some ideas about what people might be buying in 2030.

Rather than acting as concrete predictions, these products explore the implications of the trends outlined in the previous sections. By thinking about the new consumer goods and services that could be being marketed to people by 2030, we are trying to understand – and to pre-empt – the new areas of detriment that individuals could be facing in the next 17 years.

Building on the theme of 'home life' in 2030, we have considered how the emerging social and economic trends outlined above might interact with developments in design and technology.

- **What consumer needs and issues may exist in 2030 that don't exist in 2013?**
- **What are the opportunities for action in 2013 that would improve conditions for consumers over the long-term?**

The process of developing these products has been an exploratory exercise to consider how current trends might play forwards. Considering these products in the light of the Which? Consumer principles allows us to think about the future in a systematic way, and to act on consumers' interests in the long term.

Which? works for you:

Many of the products on the market in 2030 will draw on the new availability of machine readable personal data – be that health data, energy usage, or personal spending and consumption data. Which? is a strong supporter of the government's current Open Data initiative, but we have found that privacy and data accuracy are major concerns for consumers. In our research, we found that 19% of those individuals who had requested to see a copy of their personal data held by a company (a subject access request) had found it to be inaccurate.

The Which? Consumer Principles

The Which? Consumer Principles are eight key principles that we consider when we're assessing consumer detriment. They help us to make sure that we are looking into the issues that really matter, and provide a framework for us to consider potential solutions. What kinds of consumer detriment might people be facing in 2030?

Access

- Are the right infrastructures in place to mitigate commodity price fluctuations?
- How do we manage water scarcity to ensure that all consumers have access to clean, drinkable water?
- Do consumers have universal access to up-cycling and re-cycling technologies, and know where to go to recycle old goods?
- With NHS services focused on prevention, are policymakers doing enough to empower individuals to manage their health effectively?
- In a landscape where private and alternative health solutions proliferate, how do we ensure that quality remains key, and that individuals have equal access to the highest quality medical care?

Choice

- Are traditional finance products actually offering consumers the services and security that they need (for example, opportunities to invest for retirement in a low-growth, high inflation economy)?
- Are the big six energy companies going far enough to help consumers manage their rising utilities costs?

Consumer influence and responsibility

- Distributed manufacture and micro generation technologies mean that consumers are becoming producers too. What does this mean for the relationship between consumers and government and big organisations?
- Can we factor in life-cycle criteria to product ratings?
- How far are consumers themselves responsible for recycling and re-using old consumer products?

Information and education

- How do we ensure transparency of supply chains? Should there be mandatory reporting of non-financial impacts for companies and product manufacturers?
- Do all consumers have access to the information that they need to choose the right private and public services for them?
- Should Which? consider how easy products are to re/upcycle as part of our product ratings?

Quality

- How do we ensure that products and services transferred via peer-to-peer networks are safe and of appropriate quality?
- Does resource scarcity mean that existing materials will be replaced by new – and potentially lower quality – materials?
- How do we ensure that personal health data is up to date and accurate?

Redress

- How do we ensure that consumers buying products and services via peer-to-peer networks have access to suitable redress?
- How do we ensure that consumer legislation protects consumers in the Open Data market?

Safety

- What are the implications of distributed manufacturing for enforcing safety standards?
- Do new technologies such as bio-tech maintain rigorous safety standards?
- How do we ensure that personal health technologies provide up-to-date and accurate advice, and use personal health data correctly?

Value for money

- How do we balance large-scale sustainability options with the need to give consumers 'value for money'?
- How do we ensure that tighter budgets don't mean that only the affluent can afford to buy 'sustainable' products?

Bathroom GP

Bathroom GP is a product-service bundle that discretely takes biological readings and screens for illnesses as you use the bathroom. For example, it checks your kidney function, glucose levels, digestive health and the presence of viruses, and then suggests changes you might make in order to stay healthy.

How does bathroom GP work?

Dr Loo and Dr Sink take biological readings and screen for illnesses as they're used. The information is sent to a microchip that's embedded in a wristband or in the body where it is analysed against users' medical records and individual DNA patterns. The same microchip measures vital signs like body temperature, calories burned, heart rate and sleep quality so all this information is collated.

Dr Mirror displays the analysis according to your chosen settings. As the display is activated by your mobile phone, you can control when and where you see it. It gives a full consultation and recommendations every month. Optional services send dietary recommendations to your online shopping list to help you plan meals around the nutrients your body needs. As retailers use personalised marketing, this triggers special discounts like a two-for-one offer on almonds that could curb a vitamin E deficiency.

If you opt to share your data with your health insurance provider, they'll usually offer you a discounted premium. There are downsides to this, however, as giving providers access to health information may increase, rather than lower payments.

What's the demand for Bathroom GP in 2030?

As machine-readable personal data enters the mainstream, consumers will want access to their medical records and to play an active role in managing their health – not just out necessity but out of choice. As they're living and working for longer, and as healthcare becomes more expensive, there's a strong incentive to stay healthy. With access to their unique DNA pattern, consumers are aware what diseases they are susceptible to and what their biggest health risks are. They are responding by managing not just their diet and lifestyle, but their personal exposure to environmental factors like pollution..

Consumer experience in 2030: the Taylor family

Rob Taylor is acutely aware of the effects of a sedentary lifestyle on his health, and wants 'no hassle' information to give him an early warning of any problems. At 67 he's still working full-time and he's worried he might be developing heart disease like his dad. DNA-related discoveries are prominent in the media and Rob is finding it hard to ignore the fact that lack of exercise is reducing his life expectancy. He wants to get on top of managing his health without having to visit his GP every five minutes.

Could this exist in 2013?

- The technology is already available; prototype 'Dr Loos' exist, but are expensive and need refinement.
- Scientists have reduced an entire laboratory for DNA analysis to a chip the size of a common everyday microscope slide.
- However, it requires individuals to have had DNA sequencing carried out and for patients to be able to access and upload information to their medical records.
- It also requires the widespread use of monitoring wristbands – or at least the microchips within them.

Future Which?

Some of the questions provoked by this concept for Which? in 2030 are:

- **Who will be responsible for ensuring that consumers' health data is accurate and up to date?**
- **How can we ensure that personal data is not misused, either for marketing purposes, by health insurers or by government?**
- **Who will be the regulatory body to ensure that consumers get easy and efficient redress?**
- **How will we ensure good communication between private health providers and data services, and the NHS?**
- **Who will ensure that less well-off patients have access to the latest health technologies, and that personal health tech is upgraded when necessary?**

Rechargeable Kids system

The Rechargeable Kids system enables children to power their gadgets and online games through physical outdoor activity. It encourages them to balance time spent playing in virtual worlds with time spent playing in the real one.

How does the Rechargeable Kids system work?

Super Genius Trainers are the most important and popular kit in the Rechargeable Kids system; they encourage children to build their physical strength to match the mental workout they get playing virtual games. Each trainer generates and stores power for electronic games, media and other 'bedroom' gadgets. The more active kids are in their trainers, the more power they generate and the more they are able to run their devices 'off-grid' at home.

Children recharge their trainers by playing, jumping and running around outside. The trainers harvest energy in every possible way, even from the heat generated as kids' feet get hot playing sports. They also capture and upload data into virtual games – like how fast and how far they've run. The family shoe rack doubles-up as an electricity distribution hub so kids just place the trainers on the rack and their energy and information transfers to their bedroom. The one drawback is that they have to make sure the trainers don't get too muddy as this interferes with the shoes' ability to convert sunlight into electricity.

What's the demand for Rechargeable Kids in 2030?

Energy use and generation are intertwining with a modern twist. Consumers are tired of being on the receiving end of gas and electricity price hikes. Rising and volatile oil prices have made even super energy efficient homes expensive to heat and light. Daily commuting and holidays have shot up in price too. Such a gloomy outlook has drastically improved the performance capabilities of energy harvesting technologies and low energy devices. These days, energy is viewed as an opportunity not a cost. It's no longer a product; it's something that's all around us if only we can tap into it. The greater value placed on exercise and stress relief – and on trying to squeeze more physical activity into daily life – is fuelling a new age of ambient energy.

Could this exist in 2013?

- Researchers at Princeton University have created a flexible material that harvests record amounts of energy when stressed.
- But energy harvesting technologies are in their infancy; much further research, testing and development is needed to be able to generate and store significant power for the Rechargeable Kids system to be viable.
- The technology – particularly the multichannel battery – is not yet available. Prototypes harvest energy from a single source rather than multiple ones.

Future Which?

- What are the product testing criteria Which? will be using in 2030?
- How will resource scarcity impact on the price and functionality of tech products in 2030?
- Should new tech products make it easier for consumers to reuse, recycle or upcycle products?
- What might be the health effects of a 24/7 'always on' culture?
- What changes in the energy market might consumers need, to deal with rising fuel costs?

Consumer experience in 2030: the Jones family

Serena and Mo Jones feel like they're constantly battling with their kids about the excessive amount of time they spend playing computer games in their bedrooms. At first it seemed wrong to ration the kids' enjoyment according to how much energy they'd built up using their Super Genius Trainers, but their youngest, in particular, seems calmer and is definitely sleeping better since they bought them. The final seal of approval came when they overheard their youngest trying to work out whether he could run for longer by eating a chocolate bar or a sandwich. The trainers really are 'super' if they can get Sam to eat more at meal times and snack less!

Crowd House Mortgages

Crowd House Mortgages enable teams of home-buyers to take out a loan and support one another to make repayments. It is a product offered by Crowd Houses; a virtual service that gives people the confidence, facilities and insurance to invest in, and borrow from one another on a long-term basis.

How does Crowd Houses work?

Crowd House Mortgages are a collaborative route to home ownership. Both investors and borrowers know one another through social media and this transparency enables long-lasting relationships. Crowd Houses receives a management fee for the services it offers to 'match make' and support investors and borrowers.

A group of young people and families form a 'home-buying team' or cooperative. This enables them to pool their resources and support each other to make regular mortgage repayments in a challenging employment market.

Through its novel 'allotment scheme' Crowd Houses buys parcels of public land on behalf of buying teams. These allotments act as collateral to enable teams to raise a loan from hundreds of small investors. They improve the team's credit rating because they must pool their resources to buy an allotment, which vouches for their ability to work as a unit and their trust in one another. They are also insurance for investors as they can easily be sold to another buying team to plug any shortfall in repayments.

Crowd Houses retains the deeds to buying teams' homes, making them tenants until they've fully repaid the loan. If the teams hit difficulties in making repayments, Crowd Houses liaises with investors and works with them to try to resolve the situation. As a last resort, it will repossess and sell their homes. There is complete transparency between investors and borrowers.

What's the demand for Crowd House Mortgages in 2030?

In 2030, traditional mortgages are inaccessible for many people. As trust in governments and financial institutions goes down; as consumers get accustomed to job insecurity and lower incomes; as housing costs rise; and as 'the bank of Mum and Dad' runs low on funds, consumers are seeking new routes to affordable credit. At the same time, investors want to find ways of beating inflation and reducing their exposure to risk.

As consumers' online and physical lives become blurred all sorts of collaborations are springing up that match borrowers and investors in novel ways. This is spurred by the huge amounts of information people can find out about each other. For example, immersive technologies and 'downloadable learning packages' are even connecting people's minds to the internet, meaning consumers can intimately know people they've never met.

Could this exist in 2013?

- Most of the components already exist in different formats, for example, housing cooperatives and micro-finance initiatives .
- But lack of information and weak social ties with people through online networks mean there is not yet enough strength in online relationships today.

Consumer experience in 2030: the Taylor family

Chloe Taylor is desperate to buy her own flat. She doesn't see much point in holding cash savings as they get quickly eroded by inflation and thinks rising house prices and rental incomes make bricks and mortar a good investment. Chloe has no qualms about 'team investing' with her friends to buy a home. She trusts them far more than she trusts financial institutions, and her friends' higher salaries will give her access to a more affordable interest rate on a loan. Redundancy is common and temporary contracts can be suddenly withdrawn so teaming-up with friends means you can support one another to make repayments when times get tough.

Future Which?

Some of the questions provoked by this concept for Which? in 2030 are:

- What new forms of oversight and regulation might be needed to give customers assurance in peer-to-peer lending?
- How will consumers ensure the data that enables them to assess potential borrower's credit worthiness is reliable and up to date?
- How will the development of alternative banking models impact on the services offered by traditional banks?

Mo.Mo. Molecule Scanner

The mo. mo. is a handheld molecule scanner that tells you which of your old belongings could be transformed into something new using a 3D printer, as part of a service that enables you to reinvent consumer goods, rather than replace them.

How does the 3D fabrication service work?

The Mo.Mo. scans objects to identify what materials they contain and offers ideas for what they can be transformed in to using a high-tech 3D fabrication laboratory. Customers pay a quarterly subscription that includes a set number of 'prints' at the 3D fabrication service and all the technologies they need; like a digital platform that allows them to select additional materials from an online library and to choose, adapt and personalise 3D design patterns. They send their complete order to the 3D fabrication lab, including any objects they want to transform, and receive them 14 days later.

What demand is there for 3D fabrication in 2030?

3D personalisation is the next fashion frontier. Every teenager wants a 3D printer which means, as a BBC article in 2029 reported: 'They're breeding like rabbits.' 3D printers are reproducing by printing more 3D printers. On one hand this is speeding their evolution, but on the other it is creating significant quality control issues. Most families use local 3D fabrication services because the quality and diversity of the products is so much higher than printing items on a basic home printer. A large pharmaceutical company has just launched an organ printing service to ease the shortage of replacement kidneys and other organs for the ageing population. The idea of brand new, pristine organs available on demand seems too good to be true for sceptical older generations, but expensive healthcare costs are making this an attractive proposition none-the-less.

Could this exist in 2013?:

- Scientists at MIT can currently take basic chemical elements from the natural world: carbon, calcium, silicon, zinc, and mix them with harmless viruses whose genes have been reprogrammed to promote random variations. The resulting new materials include plastic.

But:

- The technology isn't developed enough to scan items – although techniques such as crystallography can identify molecules by their structure.
- 3D printing is still in its early evolution and isn't widespread enough for a market to exist for the mo. mo.

Consumer experience in 2030: the Taylor family

Affordable 3D printing means Jamie Taylor can follow trends even on his low wage – by updating his belongings. In the face of rising costs, he's tired of having to be careful and wants to enjoy his independence without feeling guilty. Jamie's dad is worried about the lack of regulation or quality assurance to fall back on – influenced by media headlines that seem to be full of legal battles over faulty or dangerous printed products being sold through social networks, often fraudulently under fake brand licences. He's persuaded Jamie to pay a subscription to a professional outfit rather than buy a home 3D printer; it's a little more expensive, but you get more reliable quality and can print bigger items.

Future Which?

Some of the questions provoked by this concept for Which? in 2030 are:

- **What new forms of legislation (e.g. copyright law) will be needed to deal with distributed manufacture?**
- **As materials get more expensive, how will consumers verify that products are made from the materials that vendors say they are?**
- **If consumers increasingly act as producers too, what does that mean for Which?'s mission to empower consumers to deal with big organisations?**

Waterless washing machine: 100% clean, 1% water tariff

The 100% clean, 1% water tariff allows you to lease a high-tech 'waterless' washing machine from your water company to dramatically reduce your water consumption, and the cost of laundry.

How does the '100% clean 1% water' tariff work?

Water companies are searching for ways to cut water demand to release pressure on water supplies and keep costs down. They're fighting a losing battle against the poor condition of the plumbing in the older housing stock, and the very slow shift in attitudes to water use.

Introducing super-efficient washing machines to households is a quick fix. They are offering water customers the opportunity to switch from their traditional water tariff to one that includes a very high-tech washing machine, and cuts the total cost of doing laundry. When they sign up, customers' existing appliances are replaced with a high-tech machine that gets their clothes just as clean while using dramatically less water. The 'exchange value' of their old appliance is credited to their account.

The tariff covers all the services households need from the machine itself, to repairs and maintenance, to the water use. Water customers lease their washing machine, which means they can upgrade to a smaller or larger version every five years. Being able to vary the size and performance of the machine according to their needs helps households save money by managing their energy use too.

What's the demand for the '100% clean, 1% water' tariff in 2030?

In 2030, saving water has gone from being seen as totally unnecessary to smart and desirable. Water costs are high and increasing, particularly in the water-stressed South East. Combined with the wide rollout of water meters, this has made households keen to control their water costs.

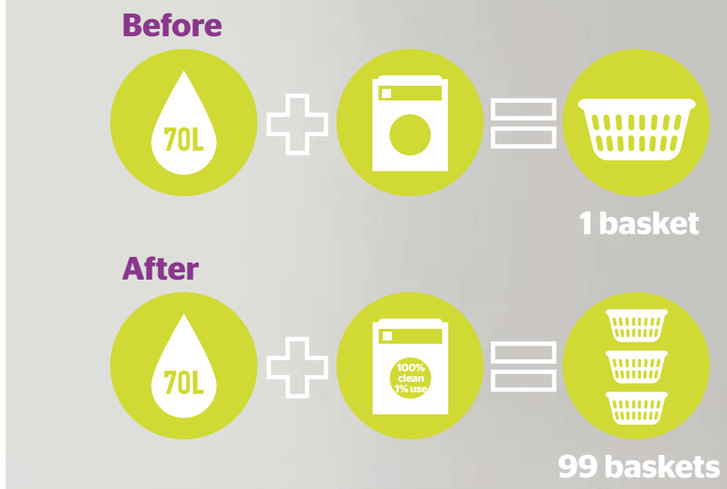
There's an appetite for ways of saving water and money that don't require sacrifice – including big up-front costs like buying new appliances. Consumers relish long baths and hot showers and are investing more in the look and feel of their bathrooms than ever before. There's a whole lot more going on behind the scenes too, to conserve, filter, capture and reuse the water.

Could this exist in 2013?:

- Demand is currently lacking because we are in a period of relatively low water rates and very rare water shortages. Water companies have experienced a period of relatively high ground water levels and predictable precipitation.
- The business case for substantial investment in water infrastructures is only just starting to emerge.

Consumer experience in 2030: the Jones family

The ancient plumbing in Serena and Mo's rented house desperately needs upgrading. Their finances are seriously tight so saving money on basics like water, rent, electricity and travel, matters. Using their water meter, they've taken all the little, low-cost steps they can to conserve water. When their water company wrote to them offering a water-saving tariff that would dramatically cut their water consumption without having to get their landlord's permission, they jumped at it. The water used in laundry is a significant chunk of their water bill and they certainly can't afford to buy a high-tech washing machine outright. The idea of a 'washing machine for life' that saves water and can be upgraded over time, and move with them if they move to a larger house, seems like a no-brainer.



Future Which?

Some of the questions provoked by this concept for Which? in 2030 are:

- What are the implications for consumer choice if utilities companies begin offering products as part of their contracts?
- How will growing resource scarcity change the way that consumers value and use resources?

Next steps...

Next steps
Following the publication of this paper, we'll be discussing our findings at a series of workshops with internal and external stakeholders in 2013.

At these events, we will be sharing our projections for what consumer's lives will be like in 2030, and drawing on a range of challenging and conflicting views brought by experts from a range of sectors and regulatory bodies.

This process will allow us to draw out the implications of our findings for consumer policy – and broader policy issues – over the next 17 years.

For more information about Which? Consumer Insight visit www.which.co.uk/consumerinsight

Which?

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