McKinsey Consumer and Shopper Insights

# Meeting the 2030 French consumer

How European-wide trends will shape the consumer landscape



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We would also like to thank **Noémie Brun**, **Janet Bush**, **Julien Dahan**, **Sameer Gadkaree**, **Daniel Gourvitch**, **Thibaut Gratius**, **Cecile Kossoff**, **Alex Maasry**, **Claire Pages**, and **Flora Yu** for their contributions and support.

### Preface

At a time when companies are increasingly focusing their attention on long-term growth opportunities, it is critical to understand the future of the European consumption landscape. Europe is the throes of deep-seated demographic, societal, and economic change that will have a significant impact on the outlook for growth and consumption, posing new challenges and opportunities for consumer-facing companies. This report investigates three fundamental trends that affect the European consumers and illustrates how they will specifically influence the French consumption patterns.

This report is the result of research effort led by the Consumer and Shopper Insights (CSI) group of McKinsey's Marketing Practice, with the support of the McKinsey Global Institute (MGI). It looks at longer-term trends in Europe and their impact on consumption in France in particular. This work builds on previous McKinsey Global Institute analysis of demographic and consumption patterns in the United States, China, and India.

Using historical consumer surveys in France from the Institut National de la Statistique et des Études Économiques (INSEE), we have analyzed how these trends have shaped the consumption landscape and what impact they are likely to have over the next 20 years and more. We would like to thank INSEE for its invaluable assistance and professor Axel Boersh-Supan for his support and guidance.

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### *Executive summary*

The European Union (EU) is set to remain the world's second-largest consumer market in volume terms in 2030. Those consumer-facing businesses that allow Europe to fall off their radar screens will miss a potentially significant opportunity.

But companies should know that the consumption environment in the period ahead will be testing. Businesses will need to grapple with sweeping change in the make-up of consumer segments and the behavior of consumers in the context of broad-based pressure on purchasing power and consumption growth.

Against this backdrop, new McKinsey research examines three major fundamental trends that are shaping the European consumer landscape and discusses the implications for businesses. Leveraging some 30 years of detailed French consumer statistics, our research uses cohort analysis that allows us to compare how the characteristics, purchasing power, and behavior of different generations evolves at the same age. By extrapolating historic trends, we are able to analyze how these trends will transform the French consumer landscape until 2030. We use the example of France to illustrate and quantify in detail how French consumers and consumption will be impacted. However, since most of the long-term trends affecting France are equally present in other European countries, we expect the insights to be relevant to varying degrees across the continent.

#### Three fundamental trends will transform the consumer landscape

Europe will continue to be transformed by three major fundamental trends over the next two decades—demographic, societal, and economic. By 2030, the average French household will look very different compared with today (*Exhibit E1*).

### Demographic change: Ageing will be the dominant factor transforming the EU consumer profile

Europe's population is ageing, due to a combination of increasing longevity, lower fertility rates, and the ageing of the large baby boom generation. This trend will have profound economic implications. Ageing will bear down on per capita GDP growth, purchasing power, and consumption. In the EU27, old-age dependency ratios will rise.<sup>1</sup> Whereas four workers support each retiree today, in 2050 there will be one retiree for every two workers. With well over half of all French households headed by someone aged 55 years or above by 2030, mature households will become the largest and fastest-growing pool of earners and consumers—a challenge and an opportunity for businesses.

<sup>1</sup> The old-age dependency ratio is the ratio between the total number of elderly people of an age when they are generally economically inactive (aged 65 and over) and the number of people of working age (from 15 to 64).

#### Exhibit E1

The average French household in 2030 will look very different and consume very differently

		1980	2007	2030
Demographic change/ageing	Number of households Individuals are on average	19 million 36 years old	27 million 40 years old	33 million 43 years old
Societal change <sup>1</sup>	Out of 10 individuals Out of 10 households Households have on average	1 has attained a tertiary degree 7 are coupled 3.3 members 1.1 children	2 have attained a tertiary degree 6 are coupled 2.6 members 0.8 children	4 have attained a tertiary degree 6 are coupled 2.5 members 0.8 children
Economic change <sup>2</sup>	Households earn on average Households spend overall Households spend by category – Out-of-pocket medical – Electronics – Gasoline	€33,300 €27,300 €440 €130 €1,300	€41,200 €34,700 €1,290 €1,700 €1,060	€48,300 €40,900 €2,140 €4,080 €1,040

1 Analysis covers individuals or households aged 15 to 54.

2 All figures are real, 2000.

SOURCE: McKinsey France Consumer Demand Model

### Societal change: Several profound trends are reshaping EU society and household profiles

A range of societal shifts are rolling out in tandem that will reshape the consumption landscape. These include rising educational attainment, the increasing participation of women in the labor market (up from 58 percent in 1980 to 70 percent in 2006 for the 15 to 54 age group in France), and a growing number of smaller households as less couples live together and households have a smaller number of children (*Exhibit E2*).<sup>2</sup> For instance in France, the average coupled rate for households aged 15 to 54 has fallen by 14 percentage points between 1980 and 2007. We expect the rate to decline by a further 3 percentage points by 2030.

In combination with ageing, these societal trends will lead to shifts in the composition of consumer segments and their respective needs.

#### Exhibit E2

Shifts in labor participation across cohorts reflect societal changes – France



### Economic change: Household purchasing power will come under increased pressure

In the period since World War II, the European economy has expanded significantly and allowed successive generations to become more prosperous, to earn more, and to accumulate greater net worth than previous generations did at the same age. This trend will continue—but at a much slower pace as a number of factors will bear down on economic and consumption growth. These factors will include a lower overall participation due to ageing, slowing productivity gains<sup>3</sup>, and limited resources, notably oil. Of course, Governments could and should influence these factors with structural reforms and adapted policies. Absent further reforms and major policy changes, we expect annual GDP growth to slow down in EU 15 countries (for example in France from 2.1 percent growth between 1980 and 2008 to 1.5 percent between 2008 and 2030).

Europe's ageing population will increase the strain on public-pension financing, thereby potentially adding another source of downward pressure on the continent's consumption. Governments across Europe are responding by increasing the average retirement age and reducing pension generosity, which will hit the key segment of mature consumers directly in the pocket.

The combination of slower economic growth and reduced pension generosity will lead to pressure on purchasing power and divergent dynamics in consumer segments and consumption categories.

<sup>&</sup>lt;sup>3</sup> Europe has been a trend of slowing productivity since the 1950s that has unfolded independently from the continent's ageing demographic.

### Fundamental trends will lead to dramatically divergent dynamics in consumer segments and categories – The French example

As the three fundamental trends we have described sweep across France and the rest of Europe, they will impose pressure on consumption growth and create dramatic change in the consumer landscape. We will observe significant divergent dynamics in both consumer segments and categories.

### Pressure on household purchasing power will translate into slower consumption growth

Ageing will place a significant drag on household income and consumption growth as it reduces the average participation rate by around 5 percent over the next two decades despite efforts to increase senior participation. This is particularly worrisome given that this pressure on consumption and growth is likely to coincide with a period of slower productivity growth<sup>4</sup>. As a consequence, annual growth of consumption after housing and utilities costs will fall from 2 percent between 1980 and 2007 to 1.4 percent over the coming two decades.

#### Consumer segments will shift fundamentally

The mature consumer segment aged 55 plus will dominate, accounting for around twothirds of all additional consumption in the period to 2030. Those aged 65 plus will alone account for almost half of additional consumption during this period (*Exhibit E3*).<sup>5</sup>

It is important to note however, that older age groups will dominate consumption largely by virtue of their sheer numbers—not because they are going to be wealthy in comparison with the rest of the population (*Exhibit E4*). In fact, the mature consumer segment will be less wealthy relative to the rest of the population, and will face a larger drop in earnings when they transition from earning a professional income to drawing a pension income.

Consumers of prime earning aged 40 to 59 will remain another important segment, accounting for around 40 percent of total consumption in 2030. It is striking that these households are becoming increasingly fragmented as traditional household structures break down. For instance, single life-stages are growing much more quickly than either couples or families.

#### Consumption patterns will shift significantly-creating winners and losers

France will see large shifts in the composition of the average consumption basket over the next 20 years due to the interplay of demographic, societal, and economic trends. Growth dynamics will vary widely from category to category—and there will be winners

<sup>&</sup>lt;sup>4</sup> Europe has been a trend of slowing productivity since the 1950s that has unfolded independently from the continent's ageing demographic.

<sup>&</sup>lt;sup>5</sup> See appendix 2 for a definition of consumption categories. For further details on our forecasting methodology, please refer to the separate technical appendix.

#### Exhibit E3

The mature consumer will account for the vast majority of total spending increases over coming decades - France



1 Mature households aged 55+ account for more than 100 percent of additional spending since they compensate for lower consumption by younger age groups to the age of 55. 2 Includes consumption of electricity, heating materials (e.g., coal, wood), natural gas, and water.

SOURCE: McKinsey France Consumer Demand Model

#### Exhibit E4

In France, the mature consumer segment grows faster but has below average purchasing power



SOURCE: McKinsey France Consumer Demand Model

and losers. For example, food eaten at home will account for a smaller share of total consumption in 2030. However, basic services, including out-of-pocket spending on education, health care, and transportation, will account for 22 percent of all consumption (excluding housing and utilities), up from 18 percent in 2007. Other clear winners will be high-tech products and services such as communication and electronics. In contrast, furnishings and appliances, and apparel and accessories will lose ground.

### Businesses need to cater to emerging needs and identify pockets of growth

Companies will need to keep pace with changing needs and behaviors among consumers and adjust their strategies and offerings accordingly. The challenge will be to identify pockets of opportunity in an environment of lackluster growth, and to be effective in addressing the emerging needs of key segments.

### Know your consumer: Companies need to address emerging needs and behaviors of key segments

Businesses need to deepen their intelligence of the market in order to understand evolving consumer profiles. Given the importance of the mature consumer and primeearning segments, businesses need to ensure that they understand the developing needs and preferences of these groups in particular.

The demographic, societal and economic evolutions that we have described will influence, and likely accelerate, a number of existing or emerging consumer trends over the next 20 years. Our research with consumers (qualitative and quantitative) pointed out five trends particularly relevant to address for marketers.

**Flight to value**—consumers are generally becoming more cost-conscious and this is especially true for mature consumers who will be facing a more difficult transition to retirement and be poorer in relative terms.

**Health and wellness**—while younger consumers are putting increased emphasis on a healthy lifestyle and fitness, concerns by mature consumer about remaining mobile and independent will become a more prominent need.

**Community**—the breakdown of traditional family structures will lead to an increased emphasis on community, including virtual online communities, some of which target specifically elderly age groups.

**Convenience**—societal changes such as increased workforce participation and smaller household size are expected to lead to increased demand for convenience offerings such as microwavable snacks for single households.

**Digital connectivity**—high-tech categories will keep growing strongly across all segments, driven by innovation. Businesses should expect the mature consumer to become a larger driver of growth in these categories in the period to 2030—after all, the mature consumer 20 years from now will have grown up with a laptop and will belong to a very large segment.

Some companies are already taking advantage of, and adapting to, these trends (*Exhibit E5*).

#### Exhibit E5

Some companies have already started leveraging these trends<sup>1</sup> by targeting fast-growing segments

	Examples of company responses
Flight to value	<ul> <li>Carrefour has introduced Carrefour Discount which offers 400+ SKUs</li> <li>Netto (discount format of Intermarché) is reactivating its concept with the motto "The more I buy, the less expensive it is"</li> </ul>
Health and wellness	<ul> <li>Edeka has introduced a supermarket meeting the specific needs of senior and often frail consumers</li> <li>Danone's Densia – currently tested in France and introduced in Spain in 2009 – aims at maintaining bone density</li> </ul>
	<ul> <li>Lesteur s islo Actisterol – a salad dressing reducing cholesterol – was introduced in 2009</li> </ul>
Community	<ul> <li>Beboomer.com is responding to the need for community of "silver surfers" through a social netwoking site targeted at ageing Baby Boomers</li> <li>With Cyberpapy.com, seniors help young people do their homework</li> </ul>
Convenience	<ul> <li>Sodeb'O's introduction of "Pasta Box" is shaking the ready-meal market for convenient, nomad or at home consumption</li> <li>Herta has introduced "Trésor de Grand-Mère", a range of ready-to-cook cake dough</li> </ul>
Digital connectivity	• <b>Apple</b> is developing Eldia, an iPhone application bundling several services targeted for seniors (games, applications reminding them to take their medicine, tool for locating old people in real time)

1 The other existing trends – including sustainable development, environment-friendly and ethical consumption – are not covered in this report because they are not triggered or accelerated by the three fundamental trends of the century. SOURCE: Company websites; Press search; McKinsey analysis

Of course other consumer trends will aslo shape needs and behaviors, such as environmental consciousness. However, this report focuses on those consumer trends that are triggered or accelerated by the three fundamental evolutions.

#### Know your market: Businesses need to identify pockets of growth

Businesses also need to understand their market. In order to compensate for the slower overall consumption growth, companies will need a granular approach that allows them to target pockets of growth.

The largest market opportunities will lie at the intersection of the market's keenest consumers and the categories on which they are likely to spend their money. *Exhibit E6* maps out how the three fundamental trends will impact the growth rates of pockets of consumption.<sup>6</sup> Spending by the 65-plus age group on electronics, medical care, and communications are set to be the largest pockets of growth.

<sup>&</sup>lt;sup>6</sup> It is important to note that these estimates are an extrapolation of the three fundamental trends. These trends will set the context and the economic environment against which other new trends and events will take place including disruptive technological innovation and major policy changes. These other new trends and events are important and will also shape the consumption landscape in the years ahead but they are not the focus of our report and have not been included in our growth estimates.

#### Exhibit E6

A heat map of France shows consumers aged 65+ and electronics, out-of-pocket medical spending, and communication are the biggest growth areas

												Decli Grow	ne /th <= a\	rerage	
												Grow	/th > ave	rage	
Quality adjusted volume grov Compound annual growth rate	<b>wth (re</b> 2007–:	eal teri 30, %	ms)											Marke € bil nom	<b>t size</b> ion, inal
Economy-wide consumption	15-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	TOTAL	2007	2030
Electronics	3.6	3.9	4.5	4.2	4.4	4.1	4.1	4.5	7.7	7.8	8.7	8.9	4.8	22	50
Out-of-pocket medical	0.9	1.2	1.9	1.6	1.8	1.8	1.8	2.1	4.2	5.0	5.3	6.3	3.1	36	113
Communication	1.5	2.5	2.6	2.2	2.5	2.5	2.5	2.6	4.6	5.5	5.3	4.3	3.1	28	84
Housing (incl. notional rents)	0.8	2.0	1.9	1.4	1.5	2.0	1.9	1.9	3.1	4.5	4.3	4.1	2.3	208	558
Transportation services	-0.2	0.5	1.0	0.8	1.0	1.4	1.5	1.6	2.2	3.9	2.9	3.4	1.6	22	49
Nursing homes and day care	0.1	0.2	1.3	1.1	1.3	1.9	2.0	2.2	3.0	5.6	3.1	7.7	1.6	20	45
Furnishings and appliances	-0.2	-0.1	0.7	0.5	0.6	0.9	0.8	1.1	1.9	3.4	2.7	4.0	1.6	53	95
Other services	-0.3	1.4	1.1	0.8	0.9	1.1	1.1	1.1	2.6	3.9	3.5	3.0	1.5	15	33
Financial service fees	-0.8	-0.4	0.2	-0.1	0.0	0.6	0.6	0.8	1.1	2.8	1.9	3.6	1.5	57	134
Media and entertainment	-0.2	0.4	0.8	0.5	0.8	1.1	1.0	1.2	2.2	3.5	2.9	3.1	1.5	48	106
Hotels	-0.2	0.5	0.8	0.7	0.8	1.3	1.0	1.3	1.6	3.5	2.2	2.8	1.4	15	34
Personal care	-0.3	-0.3	0.5	0.2	0.4	0.7	0.6	0.9	1.7	3.1	2.4	3.2	1.3	23	50
Water	-0.5	-0.4	0.3	0.0	0.1	0.3	0.4	0.5	1.8	2.9	2.4	3.0	1.2	4	9
Motor vehicles	-0.1	-0.3	0.6	0.4	0.4	0.7	0.6	0.9	1.8	3.2	2.5	4.2	1.2	95	200
Energy (e.g., electricity, nat. gas)	-1.7	-0.8	-0.2	-0.4	-0.1	0.1	0.1	0.4	1.5	2.8	2.0	2.8	1.1	37	88
Out-of-pocket education	0.8	1.7	1.8	1.6	0.4	0.3	0.4	2.1	3.7	4.5	4.3	3.4	1.0	8	16
Food away from home	-0.4	0.2	0.6	0.3	0.6	0.8	0.8	0.9	1.9	3.3	2.6	2.5	1.0	50	84
Alcohol and tobacco	-0.5	0.1	0.4	0.0	0.2	0.6	0.5	0.6	1.6	3.0	2.5	2.3	0.9	30	51
Food at home	-1.0	-0.8	-0.1	-0.4	-0.1	0.0	0.0	0.2	1.7	2.7	2.4	3.0	0.8	138	227
Gasoline	-0.8	-1.0	0.2	-0.1	0.1	0.2	0.3	0.6	1.8	2.9	2.3	3.7	0.8	35	74
Other recreation	-1.4	-1.0	-0.3	-0.4	-0.1	0.2	0.1	0.4	0.9	2.6	1.8	3.1	0.7	25	46
Apparel and accessories	-0.7	-0.1	0.2	-0.1	0.1	0.3	0.3	0.4	1.4	2.8	2.0	1.9	0.6	55	78
Dwelling maintenance and repairs	-2.2	-0.8	-0.9	-1.0	-0.5	0.0	-0.1	0.0	-0.1	1.8	0.4	-0.5	-0.1	23	35
Total consumption	0.3	0.9	1.1	0.7	0.8	1.1	1.0	1.2	2.1	3.6	3.0	3.5	1.6	1,047	2,260

SOURCE: McKinsey France Consumer Demand Model

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The consumption landscape in France—and more broadly in Western Europe—is in the midst of a far-reaching shift. Fundamental demographic, societal, and economic forces are at work that will bear down on the continent's economic growth and squeeze purchasing power. The average French household will look very different in 2030 compared with today.

For businesses, the task will be to identify pockets of opportunity in an environment of lackluster growth. Only by reaching a deep understanding of how consumer needs are changing and using that intelligence to market to the most promising consumer segments will companies weather the difficult market conditions ahead.

### 1. Introduction

At a time when companies are increasingly focusing their attention on long-term growth opportunities, it is critical to understand the future of the European consumption landscape. Europe is the second largest market in the world and is in the throes of sweeping change.

#### The European consumer market is critical

The trajectory of European consumption is important not only to Europe itself, where it accounts for almost 57 percent of GDP, but also to the global economy. As policy makers and businesses cast around for new sources of growth, much attention has focused on prospects in the United States—the king of consumer markets—and what opportunities China, the young pretender, offers. Often forgotten by observers who focus on the "established" and "emerging" is the European consumer market.

Yet Europe's consumption is the largest in the world by nominal terms. By volume, this consumer market is set to remain the second largest in the world over the next 20 years (*Exhibit 1*). Those businesses that allow Europe to fall off their radar screens in favor of a US consumer market or the rapidly growing markets we see in developing economies will miss a potentially significant opportunity.

#### Exhibit 1

In volume terms, Europe's real consumption will remain second behind the United States



1 2005 PPP \$. 2 Comprises 40 countries, excluding Commonwealth of Independent States (CIS) countries such as Russia and Ukraine. SOURCE: Global Insight

#### The consumption landscape is in the process of sweeping change

By 2030, the average European household will look very different to today (*Exhibit 2*). Europe is in the throes of a period of demographic, societal, and economic change that will put significant pressure on growth in GDP and per capita GDP and bear down on consumption growth. These deep-seated macro trends are also reshaping the profile of the consumer market and the way consumers behave. Businesses serving France and the broader European market need to keep pace.

Against this backdrop, McKinsey has undertaken a research project examining fundamental socio-demographic and economic trends and their impact on the European consumer.<sup>7</sup> We use the example of French consumption to illustrate and examine in detail what developments we expect over the next two decades and to explore the challenges and opportunities that businesses and policy makers will face. It is important to note however that many of the long-term trends affecting France are equally present in other European countries and some of the insights will be relevant to various degrees across the continent.

In chapter 2, we study the three fundamental trends in more detail, and then in chapter 3 show how they will profoundly affect consumers and consumption by 2030. Finally, in chapter 4 we will examine the implications for businesses.

#### Exhibit 2

The average French household in 2030 will look very different and consume very differently

		1980	2007	2030
Demographic change/ageing	Number of households Individuals are on average	19 million 36 years old	27 million 40 years old	33 million 43 years old
0	Out of 10 individuals	1 has attained a tertiary degree	2 have attained a tertiary degree	4 have attained a tertiary degree
change <sup>1</sup>	Out of 10 households	7 are coupled	6 are coupled	6 are coupled
·	Households have on average	3.3 members 1.1 children	2.6 members 0.8 children	2.5 members 0.8 children
		632 200	641 200	648 200
	Households earli on average	€33,300	€41,200	£40,300
Economic	Households spend overall	€27,300	€34,700	€40,900
change <sup>2</sup>	Households spend by category – Out-of-pocket medical	€440	€1.290	€2.140
	- Electronics	€130	€1,700	€4,080
	<ul> <li>Gasoline</li> </ul>	€1,300	€1,060	€1,040

1 Analysis covers individuals or households aged 15 to 54.

SOURCE: McKinsey France Consumer Demand Model

<sup>7</sup> We leverage some 30 years of French data from the Institut National de la Statistique et des Études Économiques (INSEE) and we draw European statistics and projections from a range of statistical sources including the Organisation for Economic Co-operation and Development (OECD) and Eurostat.

<sup>2</sup> All figures are real, 2000.

## 2. Three fundamental trends will transform the consumer landscape

Three broad fundamental trends—demographic, societal, and economic change—are transforming Europe, reshaping households with profound implications not only for public policy makers but also for consumer-facing companies serving the European market.

These fundamental trends will set the context and the economic environment against which other new trends and events will take stage. These new trends and events include technological innovation (e.g., digital consumer products), the evolution of consumer preferences (e.g., ecological consumerism), and potentially significant policy changes (e.g., health-care reform; subsidies for zero-emission cars). These important micro trends, albeit not the focus of this report, will clearly continue to shape the consumption landscape in the years ahead, especially for specific categories.

#### Demographic change: ageing will be the dominant factor transforming the EU consumer profile

Besides determining the future number of consumers, demographic trends will also shape their profile. Ageing will be the most salient demographic feature over the next 20 years. The ageing of populations is a common phenomenon in most developed countries, as well as China, driven by a combination of higher life expectancy and declining fertility in comparison with previous decades. Globally, improved sanitation, health care, and nutrition mean that life expectancy has increased on average by 2.4 years every decade to unprecedented levels.<sup>8</sup> At the same time, fertility has dropped in Europe and in the United States in the post-World War II period—a trend that is now spreading to emerging markets.<sup>9</sup>

In Europe, this demographic shift is also broad-based. Ageing will affect most countries on the continent. The European population as a whole is ageing less rapidly than that of Japan but more quickly than the population of the United States. From 2005 to 2030, Europe's median age will increase by six years compared with three years in the United States and nine years in Japan. Turning to France in particular, the population is ageing at a rate that is broadly in line with most European countries (*Exhibit 3*).

The median age will grow in synch with the rise in the old-age dependency ratio — the ratio between the total number of elderly persons of an age when they are generally economically inactive (aged 65 and over) and the number of persons of working age (from 15 to 64) (*Exhibit 4*).<sup>10</sup> The four factors determining the rise in this ratio are increasing longevity, lower fertility rates, lower immigration levels, and the ageing of Baby Boomers, born between 1945 and 1964.<sup>11</sup>

<sup>&</sup>lt;sup>8</sup> Jim Oeppen and James W. Vaupel, "Broken limits to life expectancy," Science, May 10 2002, Volume 296, Number 5570, pp. 1029–1031.

<sup>&</sup>lt;sup>9</sup> Recent research points to the possibility of an uptick in fertility in some developed countries.
<sup>10</sup> Note that we use this definition of old-age dependency ratio throughout this report, despite the

fact that the effective retirement age in France is below the age 65. <sup>11</sup> For our projections on population growth, we use the official forecasts published by INSEE, including its underlying assumptions on fertility, mortality, and net migration.

France's population is ageing in common with other developed nations and China



SOURCE: UN population database, Medium Variant, World Population Prospects: The 2008 Revision

#### Exhibit 4

Ageing is driven by four underlying demographic factors



1 Comprises 48 countries or territories, including Ukraine, Russia, and Belarus. 2 The baby boom is the result of increased fertility from 1945 to 1964.

SOURCE: UN population database; McKinsey analysis

Of the four factors, the contribution of the baby boom to ageing generation has dominated public comment. However, increasing longevity is projected to account for almost two-thirds of the increase in the 2030 old-age dependency ratio that we predict for France (*Exhibit 5*).<sup>12</sup> In fact, temporary fluctuations in fertility—including the baby boom—have an increasingly limited impact in the long term.

#### Longevity is rising

Worldwide, longevity has risen by an average of 2.4 years every decade for the past 150 years. Although the extent of further life expectancy gains is a hotly debated topic, most experts agree that there will be further rises. For instance, the United Nations expects female life expectancy to rise by 1.4 years every decade in Europe and by 1.1 years in France (*Exhibit 6*). These levels are in line with INSEE projections used in our France consumer estimates.

#### Exhibit 5

Increasing longevity accounts for almost two thirds of the projected increase in France's old-age dependency ratio

Most significant driver

Old-age dependency ratio ^1 in 2030, disaggregated based on pre-baby boom baseline levels Contribution to dependency ratio change, %



1 65+ population / 15-64 population.

2 Contribution of baby boomer include both the initial positive effect and later negative effect on dependency ratio. SOURCE: Institut National de la Statistique et des Études Économiques (INSEE); McKinsey analysis

<sup>12</sup> The increase is calculated as the difference between the projected old-age dependency ratio in 2030 and the ratio that we would see if longevity and fertility had stayed constant at pre-baby boom levels, and if there was no net migration.

Longevity has been steadily increasing and is expected to continue growing



Jim Oeppen and James W. Vaupel, "Broken limits to life expectancy," *Science*, May 10 2002, Volume 296, Number 5570, pp. 1029–1031.

SOURCE: UN population database; McKinsey analysis

#### **Fertility has declined**

The second major force behind ageing is the decline in fertility rates that has marked the end of the baby boom era. This is a remarkable international phenomenon. According to the UN Population Division, the fertility rate of half of the world will fall below the 2.1 "replacement rate of fertility" sometime during the next decade.<sup>13</sup> Below the replacement rate, a developed country's population will actually decline.<sup>14</sup> In France, fertility dropped below the replacement rate in the mid-1970s and then stabilized at this low level. Although over the past three decades women have been having as many children as before over their lifetime, we have seen the age at which they have been having their families rise sharply. Indeed, fertility rates fell between the Silent and Baby Boomer generations and more recent cohorts are delaying child birth (*Exhibit 7*) (see box on "McKinsey divides France's population into 20-year cohorts").

<sup>13</sup> See "Go forth and multiply a lot less," The Economist, October 31 2009.

<sup>14</sup> This assumes no net migration. Furthermore, the rate of 2.1 applies only to developed countries as higher child mortality in developing countries can push up the required replacement fertility rate.

The number of children per household has stabilized in France from the Late Baby Boomers cohort but more recent cohorts delay child birth



#### McKinsey divides France's population into 20-year cohorts

For the purposes of this analysis, we divide France's current and past population into a number of successive 20-year cohorts, which in turn can be subdivided into an "early" cohort (covering the first ten-year period) and a "late" cohort (covering the remaining decade) (*Exhibit 8*). For instance, all people born between 1925 and 1944 inclusive belong to the Silent Generation. We name those born between 1925 and 1934 the "Early Silent Generation" and those born between 1935 and 1944 the "Late Silent Generation". One aspect to note is that while Baby Boomers are usually defined by the birth years 1946 to 1964, we use 1945 to 1964 to create standardized 20-year cohorts that we can then compare across generations.

There are two ways to analyze behavioral shifts over time (*Exhibit 9*): an "age-grouplevel analysis" shown on the left side of the exhibit and the "cohort-lens analysis" shown on the right side. The limitation with the former is that it makes it difficult to distinguish explicitly between behavioral shifts across generations because the generational composition of each age group changes over time. The cohort-lens analysis avoids this limitation as it tracks the evolution of individual generations over time as they age<sup>15</sup>. Note that the small triangle on each line indicates from what point forecasts begin.

<sup>&</sup>lt;sup>15</sup> Since we only have available about three decades of historic data (1978 to 2007) and two decades of forecast data (2008 to 2030), it is not possible to show the entire life-cycle for each generation.



France's population can be divided in a number of successive ten-year cohorts

The cohort lens analysis allows us to compare how generations behave or are forecast to behave at the same age.<sup>13</sup> For instance, while the Late Silent Generation (born between 1935 and 1944) had an average household size of 3.1 at the age of 50, the Late Baby Boomer Generation (born between 1955 and 1964) had an average of only 2.7 at the same age. The first of these two data points corresponds roughly to 1990 and the 45 to 54 age group since the Late Silent Generation (born on average aged 50 in that year. The second data point corresponds roughly to the year 2010 and the 45 to 54 age group, since the Late Boomer Generation (born on average in 1960) will be aged 50 on average in 2010.

#### Exhibit 9

The cohort lens allows us to distinguish behavioral shifts across generations in France



SOURCE: McKinsey France Consumer Demand Model

#### Immigration has fallen

Immigration in France fell sharply following the 1974 economic downturn. Today, net migration in France is slightly above the European average of around two immigrants per 1,000 of the population—a rate that is relatively stable and expected to continue to be so.

#### **Baby Boomers are ageing**

The generation of Baby Boomers born between 1945 and 1964—a period that saw a surge in fertility after the end of World War II—today accounts for a large share of the total population in France and is approaching retirement (*Exhibit 10*). Together with increasing longevity, these boomers will push up the old-age dependency ratio in France over the coming decades.

#### Exhibit 10

The first members of the large Baby Boomers cohort in France have reached retirement age



#### Societal change: several profound trends are reshaping EU society and household profiles

The make-up of European society is changing—with significant implications for consumer profiles and patterns of consumption. Among the trends that have emerged over the past 30 years in France and across the continent are rising educational attainment, especially for women; rising participation in the labor market by women, accompanied by a rise in part-time employment; and a rising number of smaller households as traditional family structures become less common (*Exhibit 11*). These trends matter since, in combination with ageing, they will lead to shifts in the composition of consumer segments and their respective needs.

#### **Educational attainment is rising**

Educational attainment is on a rising trend across developed countries, with students staying in education for increasingly longer periods than in the past. In the United States, for example, 32.4 percent of the population aged 15 or above in 2008 had attained a tertiary qualification compared with 21.4 percent in 1990. In France, 21.6 percent of the population aged 15 plus had attained a tertiary education compared with only 12.4 percent in 1990.

#### Exhibit 11

Population ageing and evolving behaviors toward working life and family will reshape life-stage patterns



Educational attainment levels in France have been rising across the board over the past decades in secondary schools, in the attainment of Baccalaureate degrees, and in the achievement of higher or advanced degrees. But women have made the most marked progress. In the 30 to 34 age group, the percentage of women who had attained a Baccalaureate degree in 2006 stood 8.2 percent higher than the share of men, and 9.4 percent higher in the case of higher and advanced degrees. Looking at this trend in terms of cohorts, women overtook men in terms of Baccalaureate and higher degrees from the Early Baby Boomer cohort onward (*Exhibit 12*).

This trend of rising educational attainment will contribute to higher household income and purchasing power, while delaying the age at which people enter the labor market and start earning a salary.

#### Exhibit 12

France's female BAC<sup>1</sup> and tertiary education attainment levels start to overtake male levels at the Early Baby Boomers cohort



SOURCE: McKinsey France Consumer Demand Model

#### Women's participation in the labor market is increasing

With each generation, an increasing share of women has entered the labor market while male participation has been remarkably stable for prime working age groups between their late 20s and late 50s (*Exhibit 13*). However, youth participation for men and women has declined as many young people have opted to remain in education for longer. A proliferation of part-time job opportunities has clearly been an important enabler for women to take part in the workforce. Whereas part-time employment for women increased from 16 percent in 1980 to 30 percent in 2007, it remained fairly stable for men, moving only from 3 to 6 percent over the same period.

The resulting increase in participation for prime working age groups between their late 20s and late 50s will contribute positively and significantly to household income and purchasing power. Nevertheless, we expect overall participation to decline. This is because the positive impact of continued increase in female participation will be more than offset by the increased weight of the elderly age groups who are typically less active in the labor market or not active at all.

#### Exhibit 13

In France, female participation has increased with each consecutive generation but some one-third of their jobs in 2006 were part-time



#### Traditional family structures are breaking down and household size is falling

Deep societal change, including a lower share of couples living together (both married and unmarried) and fewer children per household, has meant that the number of households has increased but they are smaller—a trend that we are seeing across Europe. Over the past 30 years in France, growth in the number of households has outstripped population growth and the average household size has fallen. We project that the share of "coupled" households in France (in the age group 15 to 54) will have dropped from 74.8 percent in 1980 to 58.1 percent in 2030. The average number of people per household will drop from 2.8 in 1980 to an estimated 2.0 in 2030 and we see this trend of declining household size continuing through successive generations, albeit at a slower pace (*Exhibit 14*).

This shifting profile of households will impact their needs and therefore consumption patterns.

#### Exhibit 14



#### In France, the current trend toward smaller households will continue

### *Economic change: household purchasing power will come under increased pressure*

People are becoming wealthier generation after generation, thanks to economic growth. This will hold true in the future, but at a slower pace as lower overall participation due to a combination of ageing and slower productivity growth will dampen this growth. In addition, the challenge of financing public pensions will lead to relatively less generous pensions for older age groups, which are still largely reliant on these transfers as they age as an alternative to drawing down their accumulated savings.

This combination of slower economic growth and reduced pension generosity will lead to pressure on purchasing power and divergent dynamics in consumer segments and consumption categories.

#### Wealth increased from generation to generation...

As we move through the generations—the cohorts we use in this analysis—people are becoming more prosperous, earning more and accumulating more net worth than previous generations did at the same age. This trend is evident in France and will continue—albeit at a slower pace. The peak of a household's earning power comes at around the age of 55 and the peak is higher with each succeeding generation (*Exhibit 15*). Interestingly, the income progression with age has been steeper for more recent cohorts, which would be consistent with faster returns to education in today's knowledge-based economy. In addition each generation is seeing households in France accumulate greater net worth—at a young age.

#### Exhibit 15



French households tend to reach the peak of their earnings around the age of 55 for almost all generations

#### ... but GDP and income growth will be slower

Similarly to the case in other developed countries, French GDP is expected to continue to grow but at a slower rate than in the past (*Exhibit 16*) due to a combination of lower participation and lower productivity growth.

Indeed, due to the ageing of the population, overall participation in the work force will shrink despite the trend of continued growth of female participation and an expected later effective retirement age. This prospect is particularly worrisome because it is likely to coincide with an era of slower productivity growth (*Exhibit 17*).<sup>16</sup> There also remains considerable uncertainty about the long-term availability of natural resources, especially oil, whose price resurgence may further dampen growth prospects.

Of course, Governments could and should influence these factors (e.g., productivity growth, participation rate) with structural reforms and adapted policies. Absent further reforms and major policy changes, we expect France's real GDP growth rate decrease from 2.1 to 1.5 percent per annum over the next two decades.

#### The challenge of financing public pensions will intensify

Ageing will impose increased strain on public finances across Europe, adding another complication for policy makers and another source of downward pressure on the continent's consumption. Age-related public spending on pensions, health care, and long-term care will rise significantly (*Exhibit 18*).

#### Exhibit 16

Economic growth will continue to slow significantly in Europe



1 Data for France comes from the McKinsey-Oxford Economic Forecasting (OEF) Extension Model. SOURCE: Global Insight; McKinsey-Oxford Economic Forecasting (OEF) Model

<sup>16</sup> Europe has been a trend of slowing productivity since the 1950s that has unfolded independently from the continent's ageing demographic..

France's per capita GDP growth will fall from 1.6 to 1.1 percent in the next 20 years due to slower productivity growth and falling participation



Note: Figures may not add due to rounding. 1 The compound annual growth rate of the employment rate remains constant.

SOURCE: McKinsey-OEF Extension Model

#### Exhibit 18

The European Commission forecasts a large increase in age-related expenditures for France putting additional pressure on public finances



SOURCE: European Commission 2009 Ageing Report, Economic and budgetary projections for the EU27 Member States, 2008–60

For pensions in particular, the public purse faces a double whammy. The ageing of the population means more pensioners—more money going out. At the same time, pay-as-you-go pension systems coupled with fewer workers means that there are less workers to finance pensions—less money in.

As the population ages, a shrinking share of workers will have to support a growing share of people who have retired—increasing the old-age dependency ratio (*Exhibit 19*). In Europe as a whole—the EU27—the old-age dependency ratio will increase from 25 percent in 2008 to 50 percent in 2050. In simplified terms, while today four active workers support one retiree, in 2050 there will be one retiree for every two active workers. The low effective retirement age in many OECD countries, especially in France where males retire on average before they are 59, exacerbates this problem.

Across Europe, governments have been responding with reforms to pension systems. Official retirement ages are rising in most countries with plans for retirement at 67 in Germany and 68 in the United Kingdom. In France the 2003 pension reform increased the required pension contribution period from 40 years to 41 between 2009 and 2012. Thereafter, the contribution period will be indexed on life-expectancy gains. Governments across Europe have also reduced replacement rates—the ratio between

#### Exhibit 19

As the median age rises, a shrinking share of workers will need to support a growing share of retirees



<sup>1 65+</sup> population / 15-64 population

SOURCE: UN population database, Medium Variant, World Population Prospects: The 2008 Revision; OECD

the first pension and the final salary—especially for high-income individuals, as well as introducing fiscal incentives to boost private retirement saving (private and corporate) plans.<sup>17</sup>

The gradual nature of many changes introduced by these pension reforms means that not all generations will be affected in the same way. AGIRC-ARRCO, the federal body in charge of complementary pensions in France, projects that pensions replacement rates will fall between the generations born in 1947/1948—the Early Boomers—and those born in 1965/1966—Early Generation X.<sup>18</sup> Despite an assumed increase of 3.5 years in the contribution period between these two generations, pension generosity will fall by around 7 percentage points for male executives and by around 2 percentage points for male non executives (*Exhibit 20*).

#### Exhibit 20

Pension generosity in France will on average decline for future generations in spite of 3.5 years of increased contribution



1 Replacement rates are calculated as the ratio between the first pension and the last salary (in real terms). SOURCE: Dossier, *Retraite complémentaire agirc-arrco - 1er trimestre 2009, Rencontres paritaires Agirc et Arrco 2009:* État des lieux, perspectives et enjeux

- <sup>17</sup> For the purpose of analyzing future consumption in France, we assume that the government will meet the public finance challenge and remain within the public deficit to GDP limits laid down in the Maastricht Treaty. It can do so by acting on three fronts at the same time: 1) reducing pension generosity for future generations in line with projections by the Pensions Advisory Council (COR); 2) increasing the participation in the labor force of seniors in line with the provisions of the 2003 *Loi Fillon* and the 2006 French National Plan for Senior Employment; and 3) reining back growth in other public spending in order to compensate for rising age-related expenditure. We have assumed that government expenditure will continue increasing in real terms; i.e., growing faster than long-term inflation of 1.8 percent but slower than nominal GDP growth.
- <sup>18</sup> Dossier, Retraite complémentaire agirc-arrco 1er trimestre 2009, Rencontres paritaires Agirc et Arrco 2009: État des lieux, perspectives et enjeux.

The stress on public finances—and government action to mitigate it—will be another factor bearing down on European consumption. Less generous pensions will hit the key segment of mature consumers, accounting for a large share of consumption by 2030, directly in the pocket.

#### The French maintain their confidences on public pensions for old age

On average, European consumers have higher savings rates than do their counterparts in the United States — although there are significant differences across the European continent. Previous analysis by the McKinsey Global Institute (MGI) shows that in the United States the savings rate typically follows a bell-shaped life-cycle curve with a peak around the age of 45 to 50.<sup>19</sup> The pattern is very different in France where the curve does not materialize. Savings rates increase or remain stable as households age. This seems to indicate that French households perceive that they are safe to rely on public pension provision and therefore do not typically plan to accumulate and then run down their savings (*Exhibit 21*).<sup>20</sup> This may, of course, change if the public becomes increasingly aware of the strain on public pension systems and of the reforms that have already been enacted.

#### Exhibit 21

French households typically do not run down savings as they age; unlike in the United States, they believe they can rely on public pensions



<sup>19</sup> Talkin' 'bout my generation: The impact of ageing consumers on the US economy, McKinsey

Global Institute, April 2008 (www.mckinsey.com/mgi). <sup>20</sup> French and the US household savings rates are calculated according to different methodologies

so levels are not directly comparable. However, we can compare the shape of their respective lifecycle curves.

### 3. Fundamental trends will lead to dramatically divergent dynamics in consumer segments and categories

As the fundamental trends we have described sweep across France and the rest of Europe, they will impose pressure on purchasing power and consumption growth and create dramatic change in the consumer landscape. We will observe significant divergent dynamics in both consumer segments and categories.

### Pressure on household purchasing power will translate into slower consumption growth

As described in the previous chapter, GDP growth will decelerate as ageing leads to lower overall labor participation and productivity growth slows down. As a consequence, purchasing power and consumption will both grow more slowly over the next 20 years than they have in recent decades (*Exhibit 22*).

Further, in France as in Europe as a whole, the average household in 2030 will look very different. The ageing of the population, societal shifts, and the slower increase in the prosperity of successive generations are all leading to far-reaching shifts in the respective weights of different consumer segments but also to the patterns of spending on a range of consumption categories. It is vital for businesses to understand these shifts and how they are likely to impact on their customer base and their marketing strategies.

#### Exhibit 22

Lower GDP growth in France leads to slower growth of both purchasing power and consumption



1 Excludes consumption of housing (including imputed rents), electricity, natural gas, heating materials, and water. SOURCE: McKinsey France Consumer Demand Model

#### Consumer segments will shift fundamentally

There are three lenses we can use to analyze shifts in the composition of consumer segments: the generational lens, the age-group lens, and the life-stage lens.

In France, as elsewhere in Europe, the generational composition of households will evolve as younger cohorts increasingly replace older ones. However, the Baby Boomer and Generation X cohorts will continue to dominate, accounting for a still high 61 percent of total consumption in 2030 from 76 percent in 2007. Looking through the other two lenses, we see significant shifts with the elderly becoming more prominent and an increasing fragmentation of households.

#### The mature consumer will lead in spite of being poorer individually

The age-group composition of households will also shift with the elderly rising in importance (*Exhibit 23*). Older consumers will undoubtedly become an increasing priority for businesses serving the European market and looking for pockets of growth in a relatively difficult economic context. Indeed, older age groups will account for some two-thirds of all additional consumption in the period to 2030 (*Exhibit 24*) with those aged 65 plus alone accounting for almost half.

It is important to note however, that older age groups will dominate consumption largely by virtue of their sheer numbers and not because they are going to be wealthy in comparison with the rest of the population (*Exhibit 25*).

#### Exhibit 23

The age-group composition of households will shift with a rising share of the elderly – France



SOURCE: McKinsey France Consumer Demand Model

The mature French consumer will account for some two-thirds of additional future consumption



SOURCE: McKinsey France Consumer Demand Model

#### Exhibit 25

In France, mature consumers lower consumption per household is compensated by the large number of households



SOURCE: McKinsey France Consumer Demand Model

In fact, the mature consumer segment will have relatively weaker purchasing power (*Exhibit 26*).

#### Exhibit 26

In France, the mature consumer segment has below average purchasing power



SOURCE: McKinsey France Consumer Demand Model

### Household are becoming fragmented as traditional family structures break down

Consumers of prime earning age, from 40 to 59, will remain another important segment, accounting for around 40 percent of total consumption in 2030. It is striking that these households are becoming increasingly fragmented as traditional household structures break down. For instance, single life-stages are growing much more quickly than either couples or families, whose share of total consumption is actually declining (*Exhibit 27* and *28*).

Together, mature households aged 65 or above and prime-earning households aged 40 to 59 will account for some 68 percent of total economy-wide consumption in 2030.

These two segments have a very different profile in terms of both their sources of income and their consumption (*Exhibit 29*). Whereas mature households, for instance, will only have about 31 percent of their nominal disposable income available for discretionary spending in 2030, prime-earning households will have around 41 percent available.

Ageing, breakdown of traditional family structures, and behavioral shifts will transform the household life-stage composition - France



1 Excludes "others" segment—e.g., households that are neither active (employed or otherwise) nor retired, representing 1.7 million households in 1980, 1.8 million in 2006, and 2.7 million in 2030. 2 Rough estimates for 2030.

SOURCE: McKinsey Life-stage Segmentation Model

#### Exhibit 28

Mature life-stages will expand their share of total consumption - France



1 Excludes "others" segment accounting for €36 billion consumption in 1980, €45 billion in 2006, and €84 billion in 2030. 2 Rough estimates for 2030.

SOURCE: INSEE Budget de Famille (BDF) surveys; McKinsey Life-stage Segmentation Model





1 Housing (including notional rents), utilities (energy and water), and food at home. 2 Out-of-pocket education, out-of-pocket medical, transportation services; nursing homes and day care; and financial service fees.

SOURCE: McKinsey France Consumer Demand Model

### Consumption patterns will shift significantly – creating winners and losers

Looking beneath the aggregate level, France will see that the fundamental trends we have discussed will lead to large shifts in the composition of the average consumption basket over the next 20 years (*Exhibit 30*).<sup>21</sup> Growth dynamics will vary widely from category to category and there will be winners and losers. For example, food eaten at home will have a smaller share of total consumption in 2030 while basic services, including out-of-pocket spending on education, health care, and transportation, will see an increasing share. Discretionary spending categories as a whole will maintain a constant share of total consumption but, within this category, we will see winners and losers. High-tech products and services such as communication and electronics will clearly win share of overall consumption, whereas furnishings and appliances, and apparel and accessories will lose ground.

<sup>21</sup> Our growth estimates are an extrapolation of the three fundamental trends. These trends will set the context and the economic environment against which other new trends and events will take place including disruptive technological innovation and major policy changes. These other new trends and events are important and will also shape the consumption landscape in the years ahead but they are not the focus of our report and have not been included in our growth estimates.

The composition of the average consumption basket will shift with increased spending on basic services and high-tech products – France



Indeed, the interplay of demographic, societal, and economic trends leads to shifting consumption patterns. For instance, older households tend to consume less apparel and accessories and since these households are likely to account for a large share of total households in the future, we expect the share of this category to fall in the average consumer's consumption basket. In contrast, older households tend to be relatively heavier consumers of financial services and the share of this category in the average consumption basket will therefore rise (*Exhibit 31*).

Shifting life-stages will also impact consumption patterns. For example "mature singles" tend to spend more on alcohol and tobacco while "mature coupled families" shun this category in favor of more family-oriented spending such as out-of pocket expenses for education.

Ageing leads to changing consumption patterns in France



1 Simplified as consumption per household by age segment in 2030 also drives this evolution. 2 Consumption basket excluding rent and utilities.

SOURCE: McKinsey France Consumer Demand Model

### 4. Businesses need to cater to emerging needs and identify pockets of growth

Consumer-facing businesses seeking to ride the coming wave of deep-rooted societal, demographic, and economic change need to gain a detailed understanding of the consumption landscape in 2030. In an era of slowing GDP expansion and therefore consumption growth, companies will need to identify pockets of opportunity in an otherwise lackluster growth landscape. To enable them to do this, they need to deepen their intelligence of the market in order to understand the evolving profile of consumers as well as how different consumption categories are likely to develop. The largest market opportunities will lie at the intersection of the market's keenest consumers and the categories on which they are likely to spend their money. Given the importance of the mature consumer and prime-earning segments, businesses need to ensure that they understand the evolving needs and preferences of these groups in particular.

#### Know your consumer: companies need to address emerging needs and behaviors of key segments

When we look at French consumption in the years ahead, it is clear that older people will be a very, if not the most, important segment. The mature consumer's consumption will be increasing more quickly than average and consumers aged 65 or above alone will account for almost half of all additional spending in real terms (*Exhibit 32*). For some categories the mature consumer will be even more important. For example, in the case of food at home, mature consumers will represent more than 100 percent of the category growth as they compensate for the decline in consumption among younger age groups up to the age of 55.

#### Exhibit 32

The mature consumer will account for the vast majority of total spending increases over coming decades – France



1 Mature households aged 55+ account for more than 100 percent of additional spending since they compensate for lower consumption by younger age groups to the age of 55.

2 Includes consumption of electricity, heating materials (e.g., coal, wood), natural gas, and water.

SOURCE: McKinsey France Consumer Demand Model

However, companies need to look at the nuance if they are going to get their approach to older consumer groups right. Indeed, these mature groups will be less wealthy in relative terms as they face a tougher transition to retirement compared with past generations. Despite the fact that the value of the average pensions will continue to grow in real terms, future pensioners will be poorer in relative terms. Indeed, as average pension replacement rates drop for future generations, the average purchasing power gap between workers and retirees will increase in both absolute and relative terms. For instance, whereas in 2007 the average household aged 50 to 54 earned only €18,000 more in real terms than a household aged 70 to 74, this gap will grow to €22,000 by 2030.

The more businesses understand not only about the purchasing power of key consumer segments but their likely needs and preferences, the more successful they are likely to be in locating and serving pockets of growth in the years ahead. The demographic, societal and economic trends described in chapter two will influence and likely accelerate a number of existing or emerging consumer trends over the next 20 years. Our research with consumers (qualitative and quantitative) pointed out five trends particularly relevant to address for marketers.

**Flight to value**—consumers are generally becoming more cost-conscious and this is especially true for mature consumers who will be facing a more difficult transition to retirement and be poorer in relative terms.

**Health and wellness**—while younger consumers are putting increased emphasis on a healthy lifestyle and fitness, concerns by mature consumer about remaining mobile and independent will become a more prominent need.

**Community**—the breakdown of traditional family structures will lead to an increased emphasis on community, including virtual online communities, some of which target specifically elderly age groups.

**Convenience**—societal changes such as increased workforce participation and smaller household size are expected to lead to increased demand for convenience offerings such as microwavable snacks for single households.

**Digital connectivity**—high-tech categories will keep growing strongly across all segments, driven by innovation. Businesses should expect the mature consumer to become a larger driver of growth in these categories in the period to 2030—after all, the mature consumer 20 years from now will have grown up with a laptop and will belong to a very large segment.

#### Flight to value: Companies need to serve the increasingly thrifty consumer

Across the age groups, uncertain economic conditions and pressure on purchasing power are inducing a new cost-consciousness among consumers. This flight to value is a trend to which some companies are already responding, including France based retailers Carrefour and Netto with their value-for-money offerings (*Exhibit 33*).

Mature consumers are a distinct and important part of this trend. Since the majority of this segment is retired and the level of pension generosity will decline for future generations in France as elsewhere in Europe, these consumers will have to adjust their consumption. This is all the more important as the numbers retiring will be much larger than in the past (*Exhibit 34*).

Carrefour is strengthening its price image with Carrefour Discount while Netto is introducing the multi-buy promotion concept



SOURCE: Company Websites

#### Exhibit 34

In France, more people will retire over the coming two decades than before as the large Baby Boomer cohort reaches retirement age

ESTIMATES



It is therefore important for businesses to understand what trade-offs and strategies elderly consumers use to cope with increasingly steep drops in their purchasing power. We find that elderly consumers typically reduce their spending most for housing (including notional rent), food away from home, and apparel as they move from work life to retirement. On the flipside, they tend to increase their spending on food at home, medical, and also, interestingly, electronics (*Exhibit 35*).

Consumer surveys conducted by McKinsey and published in spring 2009 found that mature consumers have a strong preference for the savings tactic of controlling their spending (e.g., paying cash instead of using a credit card or avoiding the temptations of large stores in favor of small shops).<sup>22</sup> Indeed, around 46 percent of mature consumers indicate that this is their preferred savings tactic. We can further identify subtle differences within the mature age segment in other savings tactics. Whereas non-retirees prefer shopping smarter, which may reflect their higher propensity to look for bargains online, retirees are more inclined to seek value (e.g., opting for white-label goods instead of branded ones) and to use their spare time to do things themselves (e.g., inviting friends over for a home-cooked dinner instead of eating out at a restaurant) (*Exhibit 36*).

#### Exhibit 35

In France, retirees tend to spend less on housing and food away from home but more on food at home, out-of-pocket medical, and electronics



SOURCE: McKinsey France Consumer Demand Model; McKinsey Life-stage Segmentation Model

<sup>22</sup> For more detail, see *Beating the recession: Buying into new European consumer strategies*, McKinsey Global Institute, April 2009 (www.mckinsey.com/mgi).

The crisis may trigger long term change to consumers behaviors

Five tactics used by consumers in the crisis



SOURCE: Household interviews; Consumer Insights/McKinsey Global Institute Europe survey; McKinsey Global Institute EU Consumer Team analysis

#### Health and wellness: Innovation is necessary to capture opportunities

Some businesses are beginning to tailor their offerings to a new interest among consumers in "health and wellness." This area of potential runs the spectrum of all age groups. The elderly have particular needs that offer consumer-facing companies new opportunities. For instance a proportion of mature consumers may be less fit physically, opening up possibilities in designing a shopping experience that is suitable for these more elderly shoppers. This is what Edeka pioneered in 2003 with its introduction of a new format providing a uniquely tailored grocery experience for the elderly, particularly the visually impaired, using large, easy-to-read labels and magnifying glasses, lighting that minimizes reflection, and low, easily accessible shelving (*Exhibit 37*). Danone recently launched successfully in Spain Densia, which strengthens bone density, targeting senior consumers.

The health and wellness trend is far from being solely about the mature consumer. Indeed, many leading companies have jumped into this space and tended to target younger consumers. Danone is a substantial player in the infant nutrition market. Weight management is another lucrative area for companies such as Weight Watchers. Disease-management products (e.g., food products marketed as reducing cholesterol) are another significant market, as is what we characterize as the "healthy lifestyle" market that promotes a range of products on the basis of their health benefits.

Edeka has introduced the "supermarket of the generations" specifically tailored for the mature consumer



SOURCE: Edeka store visits

#### Community: Companies can tap into a desire for connectedness

As traditional family structures break down, consumer-facing businesses need to respond to an increasing emphasis on "community." People may feel somewhat isolated whether they are single parents or an elderly person living alone and businesses can innovate ways of providing for their special needs and tapping into their desire for a sense of community.

An example of a new tailored service that takes account of the fragmentation trend is Single Parents on Holiday, founded in 2006 to meet the needs of single-parent families. Beboomer is trying to address the need for communication and socializing among the elderly age group by introducing a tailored social networking site for the demographic that has come to be known as the "silver surfers" (*Exhibit 38*).

### Convenience: Consumers are increasingly demanding "hassle-free" consumption

Many companies have also spotted the potential of tailoring products and services to those living alone and, more broadly, households looking for greater convenience (*Exhibit 39*). For instance, Sodeb'O successfully introduced its Pasta Box—a single-serving microwavable pasta meal in 2009. In a similar vein, Herta continues to develop its successful ready-to-bake cakes.

Online social networking for Baby Boomers appears to be a prominent and growing feature on the Internet

#### Beboomer social networking site



#### Exhibit 39

Sodeb'O and Herta have successfully targeted single household consumers looking for a "hassle free" meal



SOURCE: Press search

#### Digital connectivity: Strong growth in high-tech categories offers an expanding business opportunity

Innovation will keep driving strong growth in high-tech categories across all segments including mature consumers, who will have grown up with computers and 20 years from now will be a very large segment.

Although innovation has always been important for consumer electronics in general, the pace picked up from the 1990s onwards with the introduction of a flurry of new and improved products from flat-screen televisions, to MP3 music players, smart phones, and ever more light-weight and sophisticated laptops (*Exhibit 40*). Innovation triggered a burst in spending in the electronics category, including personal computers, TVs, radios, music players, and cameras, in the early 1990s. This explosion of demand demonstrates that, through innovation, companies can overcome the dampening impact of demographic change.

Our cohort analysis demonstrates a similar story in the communications category that includes telephone and Internet connection charges as well as mobile phones. This sector, too, has seen consumption rising across cohorts, almost overriding the so-called lifecycle effect that sees consumption for many categories, including food at home, rise until about the age of 55 after which it gradually declines (*Exhibit 41*).

#### Exhibit 40

Emergence of category Product innovation 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 Radio Listen CD MD MP3 Таре Portable radio Color CRT LCD/PDP Watch/read TV 🤇 E-book reader Portable TV Communicate Phone ( Smart phone Mobile phone Desktop PC Create/ Word processor calculate Netbook PC Notebook PC Printer O Print Portable printer Blue ray DVD Record Video recorder 🔾 DSC Game console 🗨 Play Portable game console

The pace of innovation in electronics and communication technology picked up from the 1990s onwards

SOURCE: McKinsey High-Tech practice

Consumption of communications has increased rapidly for all cohorts and does not follow the typical lifecycle as seen in food at home



Businesses should expect the mature consumers, aged 55 plus, to become a larger driver of growth in the high tech market over the coming 20 years. Their share of the electronics market will for instance rise from 23 percent in 2007 to 33 percent in 2030, and that of the communications market will grow from 34 percent to 43 percent.

Anticipating this trend, Apple has developed Eldia, a set of iPhone applications fully dedicated to seniors (games, reminders to take medication, localisation tool, etc.).

#### Know your market: companies need to identify pockets of growth

Businesses also need to understand their market. In order to compensate for slower overall consumption growth, companies will need a granular approach that allows them to target pockets of growth (see box "Typical questions to explore – Capturing the ageing opportunities" at the end of this section).

Different consumption categories will see dramatic changes. The impact of demographic, societal and economic trends will be more visible in those categories on which emerging segments, especially the mature consumer, spend more. To take advantage of these trends, consumer-facing companies need to identify consumption categories that will be growing more quickly than the average (*Exhibit 42*).<sup>23</sup>

The largest market opportunities will lie at the intersection of the market's keenest consumers and the categories on which they are likely to spend their money. Spending on medical care for the elderly is an obvious "pocket of growth" to target for companies catering to this market (*Exhibit 43*).

#### Exhibit 42

Consumer-facing companies need to target high-growth product and service categories – France



<sup>23</sup> Our growth estimates are an extrapolation of the three fundamental trends. These trends will set the context and the economic environment against which other new trends and events will take place including disruptive technological innovation and major policy changes. These other new trends and events are important and will also shape the consumption landscape in the years ahead but they are not the focus of our report and have not been included in our growth estimates.

#### Typical questions to explore - Capturing the ageing opportunities

Ageing clearly calls into question current strategies and business practices. Some of the key questions that businesses might ask themselves are:

#### Where to compete

- Will a company's current product/service offering be a winner or loser?
- Is it possible to target pockets of growth in existing categories?
- On which other product and service categories should companies increase their focus in order to capture the expected growth?
- Should the focus of innovation shift to the 55-plus market rather than the young?

#### How to compete

- How can businesses best capture the opportunity driven by specific needs of the elderly given that these consumers are typically slower to adopt innovative product and services and may not respond well to traditional market-research techniques?
- How can the "four Ps" (Price, Product, Place and Promotion) evolve so that they effectively target elderly segments?

#### **Preparedness solutions**

- Can the private sector propose solutions that convince consumers and savers to prepare for retirement?
- What communication and marketing strategies can awaken latent demand and mobilize unprepared citizens to mitigate their old-age risks?

#### Senior participation and talent

- How can businesses increase senior participation in the workforce given that older people have particular constraints on their ability of work, including ill health and an unwillingness to work full time?
- What can companies do to leverage senior talent, i.e., retaining older workers and ensuring knowledge transfer?

#### Exhibit 43

Granularity matters as it allows companies to identify the most promising growth markets and segments – France

Quality-adjusted volume (real), compound annual growth rate 2007–30, %



SOURCE: McKinsey France Consumer Demand Model

By arming themselves with detailed knowledge of both, growing consumer segments and their likely consumption needs and preferences, businesses can identify clear opportunities. Taking both of these aspects together, we can highlight pockets of growth that will be growing more quickly than average over the next 20 years in a "heat map" (*Exhibit 44*).<sup>24</sup> The most potential appears in the 65 plus segment for electronics, medical and communications.

#### Exhibit 44



A heat map of France shows consumers aged 65+ and electronics, out-of-pocket medical spending, and communication are the biggest growth areas

SOURCE: McKinsey France Consumer Demand Model

<sup>24</sup> Our growth estimates are an extrapolation of the three fundamental trends. These trends will set the context and the economic environment against which other new trends and events will take place including disruptive technological innovation and major policy changes. These other new trends and events are important and will also shape the consumption landscape in the years ahead but they are not the focus of our report and have not been included in our growth estimates.

### Appendix 1: Glossary

**Average effective age of retirement** is calculated as a weighted average of (net) withdrawals from the labor market at different ages over a five-year period initially for workers aged 40 and over.

**Consumption** comprises the total consumption of all households, excluding the consumption of non-profits. It includes notional consumption, such as imputed rents for homeowners.

**Disposable income** comprises the sum of wages and salaries, and other incomes (i.e., transfer incomes, interest incomes, and incomes from dividends and rents including imputed rents) minus outlays from income (i.e., taxes and interest payments).

**Labor participation rate** is the ratio between the labor force (both, employed and unemployed) and the civilian non-institutionalized population above the age of 15 (i.e., excluding military personnel, prisoners etc.).

**Life expectancy at birth** is the average number of years of life expected by a hypothetical cohort of individuals who would be subject during all their lives to the mortality rates of a given period; it is expressed in years.

**Median age** is the age that divides the population in two parts of equal size; i.e., there are as many people aged above the median age as there are aged below.

**Net migration rate** is the number of immigrants minus the number of emigrants, divided by the person-years lived by the population of the receiving country over a particular period, expressed as the net number of migrants per 1,000 of population.

**Old-age-dependency ratio** is the ratio between the total number of elderly people of an age when they are generally economically inactive (aged 65 and over) and the number of people of working age (from 15 to 64).

*Pension replacement rate* is the ratio between the first pension at the moment of liquidation and the final salary.

**Replacement fertility rate** is the rate needed to keep the population stable (assuming unchanged mortality rates and no net immigration). It is generally estimated to be around 2.1 in developed countries.

**Total fertility** is the average number of children a hypothetical cohort of women would have at the end of their reproductive period, assuming they have the fertility rates of a given period throughout their lives, expressed as children per woman.

### *Appendix 2: Consumption category definitions*<sup>25</sup>

Alcohol and tobacco-alcoholic beverages, tobacco and narcotics

**Apparel and accessories**—clothing, footwear, clothing accessories; jewelry, clocks and watches; other personal effects (e.g., sunglasses, travel bags, umbrellas)

**Communication**—postal services; telephone and telefax equipment, telephone and telefax services (e.g., Internet connection services and call charges)

**Dwelling maintenance and repairs** – materials and services for the maintenance and repair of the dwelling; domestic- and household services (e.g., maids, gardeners)

**Electricity**—electricity and associated expenditures such as hire of meters and reading of meters

**Electronics**—audio-visual, photographic and information processing equipment (e.g., personal computers, TVs, radios, CD players, cameras)

Financial service fees - fees and service charges for insurance and financial services

Food at home – food and non-alcoholic beverages

Food away from home - eaten in restaurants, cafes, bars, canteens, and so on

**Furnishings and appliances**—furniture and furnishings, household appliances, tools and equipment for house and garden, non-durable household goods (e.g., cleaning goods)

**Gasoline**—fuels and lubricants for personal transport equipment (e.g., petrol, diesel, brake and transmission fluids)

**Heating materials**—domestic heating and lighting fuels, solid fuels (e.g., coal, coke, fire wood); hot water and steam purchased from district power plants

Hotels - accommodation services (e.g., hotels, hostels); package holidays

**Housing (including imputed rents)**—actual and imputed rents for housing, water supply, refuse collection, and other services relating to the dwelling

**Media and entertainment**—recreational and cultural services (e.g., cinema fees, cable TV, golf courses, swimming pools); newspapers, books and stationary

**Motor vehicles**—purchase and operation of motor cars, motor cycles and bicycles (incl. spare parts and accessories, maintenance and repairs of vehicles)

<sup>&</sup>lt;sup>25</sup> INSEE's statistical treatment of consumption, employed in this report, does not include insurance premiums paid by consumers. Instead, these are considered to be assets that households accumulate and can withdraw in case of need. However, service charges (i.e., fees, commissions) that insurers and banks charge for the services provided count in household consumption in the financial service fees category. For further details please refer to the separate Technical Appendix document.

**Natural gas**—natural gas including associated charges such as hire of meters; liquefied hydrocarbons (e.g., butane, propane)

**Nursing homes and day care**—social protection, i.e., assistance and support services provided to persons who are elderly, disabled, unemployed, homeless, etc.

**Other recreation**—items and equipment excluding electronics (e.g., boats, music instruments, games); gardens and pets

**Other services**—including fees for legal services, payment for services of estate agents); cleaning, repair and hire of clothing

**Out-of-pocket education**—out-of-pocket spending on pre-primary, primary, secondary, post-secondary, and tertiary education; excludes state subsidies

**Out-of-pocket medical**— out-of-pocket spending on medical products, appliances and equipment, outpatient service, hospital services; excludes state subsidies

**Personal care**—good and services such as hairdressing, electric appliances for personal care, personal care products

Transportation services - passenger transport services by railway, road, air, and sea

### Appendix 3: Life-stage category definitions

Job starters-households aged up to 29 inclusive, active, alone, no children

**Young singles no children**—households aged 30 up to age 44 inclusive, active, alone, no children

Young couples no children—households aged up to 44 inclusive, active, coupled, no children

**Young coupled families**—households aged up to 44 inclusive, active, coupled, with children at home

Single parents - household of any age, active, alone, with children at home

Mature singles no children - households aged 45 plus, active, alone, no children

Mature couples no children - households aged 45 plus, active, coupled, no children

Mature coupled families—households aged 45 plus, active, coupled, with children at home

**Retirees with children at home**—households of any age, retired, coupled or alone, with children at home

**Retirees without children at home**—households aged up to 74 inclusive, retired, coupled or alone, no children at home (children left and never had children)

Old age - households aged 75 plus, retired, coupled or alone

**Others**—remaining households (e.g., households that are neither active (employed or otherwise) nor retired, calculated as total households excluding above life-stages

### Technical Appendix – Detailed description of the McKinsey France Consumer Demand Model

Our forecasts of French incomes and spending patterns is the product of an econometric model constructed using a proprietary database integrating historical household and individual survey, macroeconomic, and demographic data. This approach enables us to ground our projections of household socio-demographics and consumption behavior both within the context of their historic evolution as well as the broader French economy.

In this appendix, we highlight the macroeconomic context for France, the most important technical aspects of our modeling approach, as well as the data sources we used to construct a historical database for France. There are five sections, as follows:

- Macroeconomic and demographic context: Provides background on the macroeconomic and demographic forecasts that we use as context and aggregate constraints for our consumer income and consumption forecasts.
- **Overview of modeling structure**: Outlines the hierarchical approach we have taken to structure our model.
- **The historical database**: Describes the primary source data we collected and how we aggregated the data for the model.
- Age groups and cohort forecasts: Explains our age group forecasting methodology and direct-mapping approach to estimate cohort behavior.
- **Consumer life-stages**: Describes the construction of consumer life-stages based on survey data.

#### 1. Macroeconomic and demographic context

Our forecasts of the distribution of income and spending in France take as exogenous, hence as a constraint, the evolution of the aggregate economy. We employ a "top-down" modeling framework in which we first set the path for GDP and its components, demographic trends, prices, and other key variables. We then develop our forecasts for household income and spending within this context.

Our macroeconomic projections until 2018 are based on Oxford Economics (OEF) forecasts. OEF's projections are developed using its proprietary Global Model which is made up of 24 industrialized-country models (of which France is one), 20 emerging-market country models and six trading blocs providing top-line macroeconomic variables for an additional 39 countries. The country models interlink fully via trade, prices, exchange rates, and interest rates and, taken together with the six other blocs, they cover the entire world. We use OEF's projections through 2018 and then developed a trend extension of the forecasts through 2030. These forecasts are based upon our view of socio-demographic trends and the growth in potential output for the French economy over this period. For projections on population growth, we have used data from the National Institute of Statistics and Economic Studies in France (INSEE).

For macroeconomic and demographic variables that are not available in the OEF model or for which we prefer an alternative forecasting approach, we developed our own forecasts consistent with the broader macroeconomic context. We will now examine in more detail three of the key inputs for our model: GDP growth, demographics and public finances.

#### **GDP** growth

There is still some uncertainty over the shape of the recovery from the recession triggered by the credit crisis in 2008. However, for the purpose of this report we are interested in long-term trends and the evolution of GDP over the next two decades. Even though the speed and shape of recovery are important for the short-term, they only have limited impact on the long-term evolution of GDP.

Over the long term, we expect GDP growth to slow down significantly. We forecast that real GDP will grow by 1.5% CAGR between 2007 and 2030 compared to a 2.1% CAGR between 1980 and 2007. Overall, our forecasts are relatively conservative reflecting our view on how potential output and demographic structure will evolve over time (*Exhibit T1*).

The slowdown in long-term GDP growth is driven primarily by two broad trends: a progressive and consistent decline in productivity growth rate in Europe since the second World War and a decline in overall labor participation. The relatively low productivity growth that we forecast is in line with the historical downward trend that we have observed over the past four decades and is broadly consistent with other external forecasts (*Exhibit T2*).



#### Exhibit T1

We have assumed a conservative long term growth forecast

1 MGI-OEF: 2007-2040 (Apr 2009). Global Insight: 2007-2039 (Oct 2009), BIPE: 2007-2035 (Dec 2007), CEA: 2007-2020 (Dec 2007)

SOURCE: MGI France Consumer Demand model V2.5, Global Insight, BIPE, CEA

#### Exhibit T2

Productivity growth is widely expected to be slower than in the past



Labour Productivity Growth (historical averages vs. forecasts)

1 MGI-OEF and European Commission definition of labour productivity is real GDP per hour worked and that of Global Insight and EIU is real GDP per worker. Growth rates for these two definitions are comparable since both employment, and hours worked are expected to be stable in the long run. The dates of forecasts are: MGI-OEF (Apr 2009), EIU (Nov. 2009), Global Insight (Nov 2009), European Commission (April 2009)

SOURCE: MGI-DEF Extension Model v6.6, European Commission and Economic Policy Committee (2008), "The 2009 Ageing Report: Underlying Assumptions and Projection Methodologies for the EU-27 Member States (2007-2060)", EIU, Global Insight, EU KLEMS

Whereas the hours worked per worker and the unemployment rate are projected to be roughly stable over the coming two decades, the falling overall participation rate in France will be a further drag on economic growth by reducing the share of the population that is actually working. As noted in chapter 2 of the main report, the positive impact of continued increase in participation for prime working age groups will be more than offset by the increased weight of the elderly age groups who are typically less or not economically active (i.e., retired).

#### Demographics

We took projections for population growth directly from INSEE (including therefore the drivers of population growth, fertility, longevity and immigration), whereas we determined the number of households within our model. While the growth path for both is relatively stable, there are two important points to note. Firstly, the growth rates for both are lower than in the past and secondly, population growth rates are much below the growth rates for number of households, which reflects a smaller household size going forward. This reduction of household size is primarily due to a declining share of households living as a couple and a trend towards delaying child birth.

#### **Public finances**

Given the demographic deficit, age related expenditures will weigh heavily on public finances. Our age related Government expenditures are determined based on estimates from the European Commission.<sup>1</sup>

However, for the purpose of analyzing future consumption in France, we have assumed that in the long term, France will continue to be within the Maastricht limits while at the same time keeping tax rates stable over time (*Exhibit T3*).

#### Exhibit T3

#### Public finances are expected to be sustainable over the forecast period



We assume that the government will meet the public finance challenge by acting on three fronts at the same time: 1) reducing pension generosity for future generations in line with projections by the Pensions Advisory Council (COR); 2) increasing the participation in the labor force of seniors in line with the provisions of the 2003 *Loi Fillon* and the 2006 French National Plan for Senior Employment; and 3) containing growth in other public expenditure between inflation and nominal GDP growth (hence growing still in real terms, but less than GDP growth).

<sup>1</sup> European Commission 2009 Ageing Report - Economic and budgetary projections for the EU-27 Member States (2008-2060).

#### 2. Overview of modeling structure

Our modeling methodology<sup>2</sup> is based on statistically estimated econometric equations. Guided by economic theory, these equations synthesize the historical patterns in the data into quantitative relationships that we use for both data imputation (the construction of estimates of missing historical data) and projections. The overall design of this system of equations incorporates a top-down hierarchical structure: at the top are aggregate France concepts and variables (i.e., top-line figures) and at the next level is a breakdown of aggregate France variables by age groups (*Exhibit T4*).

In the following section we first outline our reasons for pursuing a hierarchical structure and then explain the constraints that must be satisfied within this structure.

#### Rationale for hierarchical modeling structure

Our hierarchical approach takes the macroeconomic context described earlier as given. It uses these macroeconomic benchmarks as a set of controls to ensure that the distributional data by age group forms an internally consistent and coherent picture of the economy. There are two additional reasons for developing a hierarchical modeling structure.

#### **Exhibit T4**

Forecasts in the French consumer model are based on five major building blocks at three hierarchical levels



<sup>2</sup> The modeling methodology adopted here builds upon previous MGI work on consumer demand and demographics in China, India and the United States. To access these reports, please visit http://www.mckinsey.com/mgi/rp/consumerdemand/ First, higher level data is typically more robust. Aggregate France data are constructed and published by INSEE, the official statistical agency in France. These data provide the best estimates of economy-wide disposable income, spending, and net worth. More disaggregated data are derived from four periodic household or individual surveys . In general, these surveys are not completely consistent with the aggregate France data as they tend to underestimate income, expenditures, and assets relative to corresponding economy-wide measures that are based primarily on establishment surveys.<sup>3</sup> There are also some definitional differences between the surveys and the aggregate France data that must be reconciled according to a single standard.

Second, economic theory focuses primarily on broad processes, with less emphasis on how these processes vary at finer levels of disaggregation. We have well-developed theoretical and empirical perspectives on how the macro economy operates and what is feasible for economic growth. Furthermore, economists and other social scientists have detailed, empirically grounded perspectives on how key behaviors and outcomes vary by age and what drives these differences. It is therefore prudent to design the model so that well-developed ideas concerning the broader evolution of economic processes provide structure for estimates at more detailed levels.

#### Process for implementing model constraints

The hierarchal structure of the model employs a variety of constraints during the data benchmarking, imputation, and forecasting processes to ensure internal consistency. Both, source data and model estimates that describe behavior at a lower level in the hierarchy, such as by age group, must be constrained to match a given higher-level total, such as the all-France aggregates. Also, key variables are often disaggregated into subcategories, so that the sum of these subcategories must equal the household total for the category. Both of these are examples of "one-way" constraints. Additionally, some concepts must jointly satisfy two sets of constraints: Detailed categories must aggregate to household totals and, at the same time, category totals must aggregate across household age groups. We call this a "two-way" constraint. These constraints are always imposed in a way that preserves the primary sample information from the surveys—the relative activity across the sample distribution.

#### One-way constraints

We use three types of one-way constraints in the model, depending on the specific case at hand. The first is a ratio constraint, the second is a linear constraint, and the third is a chain-type constraint.

The *ratio* constraint ensures that nonnegative component variables sum to a given total. The need for this constraint arises because household characteristics at one level represent weighted averages of household characteristics at the level below. Household shares serve as weights. For example, estimates of average household income by age group must be constrained so that their weighted average is equal to aggregate France average household income. If the underlying source data or first iteration model estimate does not meet this condition, all elements of the weighted average can be adjusted

using a ratio or pro rata scaling method. This constraint is imposed for variables such as income, wealth and labor force.

The situation is more complicated when the variables can take on negative values. In this case, use of the ratio adjustment technique would create undesirable distortions that can be avoided with an additive or *linear* adjustment technique. This linear adjustment allocates the difference between the actual total and the implied sum of components according to the relative size of the absolute values of the components and the sign of each component. For example, when adjusting components to agree with a sum that is larger than implied by model estimates, negative components become less negative, while positive elements become more positive. This approach is used for reconciling the components of additions to net worth.

Finally, France uses Laspeyere's *chain-type* measures of real output and prices. Although conceptually more appropriate than the fixed-weight constructions, they are substantially more complex to use. Unlike quantity estimates based on fixed-weight price indices, estimates based on chain-type indices are not additive. Because they are based on a nonlinear methodology using geometric averages, the sum of the components of a chain-type aggregate does not equal the aggregate itself. Fortunately, the formula used to construct chain-type measures, while nonlinear, preserves a property called "linear homogeneity." This simply means that a variant of ratio scaling can be used to adjust initial model estimates of components so they add up to a given total via the appropriate chain-type aggregation.

#### Two-way constraints

A two-way constraint might best be understood by thinking of the data in terms of a table with columns representing categories (such as types of consumption) and rows representing households by type (such as by age group). Obviously, the sum down every column must equal the category total, while the sum across every row must equal the household type total. Where two sets of constraints must be simultaneously satisfied, we use a technique that iteratively imposes the constraint across rows (which may yield adjustments that violate the column constraints), then the constraint across columns (which may violate the row constraints). Because all three types of constraints—ratio, linear, and chain-type—are linear or linear homogenous, this iterative process converges to a set of table cells that jointly satisfy both row and column constraints.

#### 3. The historical database

We have constructed a complete "rectangular" database for all model variables containing annual data from roughly 1980 to 2007.<sup>4</sup> There are three main steps in building a complete historical database for France (*Exhibit T5*). We discuss these in the following section, using examples where required.

<sup>&</sup>lt;sup>4</sup> For some variables, we have data going further back in history than 1980 and for some variables our historic data end in 2006 and not in 2007.

#### Exhibit T5

There are three main steps in building a complete historical database for France



Source: McKinsey Global Institute

#### Gather primary source data

Primary data at both the macroeconomic and household or individual level mainly comes from INSEE. A limited number of supplementary sources are also used where required. The following are the main datasets that we use:

#### Macroeconomic and Demographic data

INSEE is the preferred source for top line historical figures on GDP and its components, as well as aggregate income and spending (total and per consumption category). It also publishes the Flow of Funds Accounts, which provide a detailed accounting of aggregate household balance sheets, including financial assets, real estate assets, and liabilities.

INSEE also publishes detailed historical and forecast data for the population, both at the aggregate level and by age group. Education data is sourced from the Ministère de l'Education Nationale.

#### Household and individual survey data

We tabulate household-specific information directly from official surveys. For all surveys available since 1979, we estimate average (head of) household economic and demographic characteristics for 12 age groups.<sup>5</sup> This provides a nationally

<sup>&</sup>lt;sup>5</sup> The age groups tabulated are 15-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74 and Above 75.

representative sample of all households headed by individuals aged 15 and older. The surveys employed are as follows:

**Budget de famille**: This household survey has been conducted by the INSEE every five years since 1979. The purpose of the survey is to compare living standards and consumption choices across household categories. We leverage this survey for data on various household characteristics such as demographics, income levels and consumption across detailed consumption categories.

**Enquête emploi**: Conducted by INSEE, this employment survey provides data on labour participation rates, occupational status and working hours. We leverage this survey for data on household structure (such as coupled rate or home ownership) and on labour force characteristics (e.g., unemployment rates, rate of part-time work, retirement rate).

**Enquête Revenus Fiscaux**: This survey of income taxes is based on income tax returns and includes information on detailed income components, social contributions and other taxes of households. We leverage this survey for data on detailed household incomes (e.g., salaries, pension income).

**Enquête Patrimoine**: This survey provides details on households' income, their financial assets and liabilities and on their non-financial assets (such as real estate) at a detailed age level. We leverage data from this survey to construct the household balance sheets at an age level.

**Benchmark and reconcile data**: For the reasons discussed earlier, we use a variety of constraints to benchmark the household survey tabulations to official data and to ensure internal consistency. To illustrate this process, we provide an example for consumer spending.

#### Example: Real Consumer Spending

We have classified consumption into 25 categories based on COICOP<sup>6</sup> definitions (see box "Consumption category definitions"). The data on consumer spending from BDF is tabulated in a way that it maps with the aggregate France data. Survey data on consumption for each category is then benchmarked to the aggregate France data and scaled up, to provide a picture of consumption per category for each age group consistent with the overall macroeconomic picture.

Since the BDF data is based on household surveys, it does not include spending by nonprofits, which is included in the aggregate France data. Therefore, the spending data by age is benchmarked to aggregate spending after excluding expenditures by non-profits.

The BDF provides estimates of household spending in current Euros, so we construct real spending by age groups. We assume that all household types face the same aggregate France prices for each type of expenditure (such as food and clothing). However, since we know that different age segments consume different baskets of goods, we were able to construct age-specific overall consumption prices (which add up

<sup>&</sup>lt;sup>6</sup> COICOP - Classification of Individual Consumption According to Purpose. See http://unstats. un.org/unsd/cr/registry/regcst.asp?Cl=5&Lg=1for details.

#### Consumption category definitions<sup>7</sup>

Alcohol and tobacco-alcoholic beverages, tobacco and narcotics

**Apparel and accessories**—clothing, footwear, clothing accessories; jewelry, clocks and watches; other personal effects (e.g., sunglasses, travel bags, umbrellas)

**Communication**—postal services; telephone and telefax equipment, telephone and telefax services (e.g., Internet connection services and call charges)

**Dwelling maintenance and repairs**—materials and services for the maintenance and repair of the dwelling; domestic- and household services (e.g., maids, gardeners)

**Electricity**—electricity and associated expenditures such as hire of meters and reading of meters

**Electronics**—audio-visual, photographic and information processing equipment (e.g., personal computers, TVs, radios, CD players, cameras)

**Financial service fees**—fees and service charges for insurance and financial services **Food at home**—food and non-alcoholic beverages

Food away from home - eaten in restaurants, cafes, bars, canteens, and so on

**Furnishings and appliances**—furniture and furnishings, household appliances, tools and equipment for house and garden, non-durable household goods (e.g., cleaning goods)

**Gasoline**—fuels and lubricants for personal transport equipment (e.g., petrol, diesel, brake and transmission fluids)

**Heating materials**—domestic heating and lighting fuels, solid fuels (e.g., coal, coke, fire wood); hot water and steam purchased from district power plants

Hotels - accommodation services (e.g., hotels, hostels); package holidays

**Housing (including imputed rents)**—actual and imputed rents for housing, water supply, refuse collection, and other services relating to the dwelling

**Media and entertainment**—recreational and cultural services (e.g., cinema fees, cable TV, golf courses, swimming pools); newspapers, books and stationary

**Motor vehicles**—purchase and operation of motor cars, motor cycles and bicycles (incl. spare parts and accessories, maintenance and repairs of vehicles)

**Natural gas**—natural gas including associated charges such as hire of meters; liquefied hydrocarbons (e.g., butane, propane)

**Nursing homes and day care**—social protection, i.e., assistance and support services provided to persons who are elderly, disabled, unemployed, homeless, etc.

**Other recreation**—items and equipment excluding electronics (e.g., boats, music instruments, games); gardens and pets

**Other services**—including fees for legal services, payment for services of estate agents); cleaning, repair and hire of clothing

**Out-of-pocket education**—out-of-pocket spending on pre-primary, primary, secondary, post-secondary, and tertiary education; excludes state subsidies

**Out-of-pocket medical**— out-of-pocket spending on medical products, appliances and equipment, outpatient service, hospital services; excludes state subsidies

**Personal care** – good and services such as hairdressing, electric appliances for personal care, personal care products

Transportation services - passenger transport services by railway, road, air, and sea

<sup>7</sup> An important point to note about the coverage of consumption by INSEE (also adopted in this report) is that it does not include insurance premiums paid by consumers. As INSEE methods of reporting its statistics are broadly in line with the European System of Accounts (1995), insurance premiums are not included in consumption but instead are considered assets that households accumulate and can be withdrawn in case of need (e.g. car insurance claim that a consumer makes in case of an accident). The only thing that is accounted for as household consumption (under the consumption category Financial service fees) are the service charges (i.e. fees, commissions) that both insurers and banks charge for the services provided. Similarly, for categories such as Out-of-pocket medical and Out-of-pocket education, state subsidies for health and education are not included.

to the aggregate France consumption prices). To estimate real spending by type of good and type of household consistently, we use a two-way constraint (see above)—iteratively imposing a chain-type constraint to ensure aggregation by type of good, and a ratio constraint to ensure aggregation by household type.

#### **Model based imputations**

Because the household surveys do not provide complete coverage over the desired historical period, we construct model-based imputations to fill missing data. This is done in two steps. First, instead of using a linear or other mechanical imputation technique, we develop statistically estimated econometric equations, which we use to "backcast" estimates of historical values. Second, these estimates are then merged with the actual historical observations and constrained using the same techniques described above.

#### Example: Estimating earning from wages, salaries, self-employment income by age

To fill in missing data, once the survey data has been reconciled and scaled we then estimate a pooled time series regression across age groups with age group earnings from wages, salaries, self-employment income (measured relative to average earnings for the whole age group) as the dependent variable. Relative employment, part time employment and educational attainment are the independent variables with age specific coefficient. We have also introduced a cohort effect as another independent variable.

Once this model is estimated, we "backcast" it over the entire historical period. Where we have missing data, these "backcasts" are appropriately merged with the actual historic data.

#### 4. Age groups and cohort forecasts

We now explain our approach to estimate and forecast age groups and cohort behavior. We demonstrate how our approach allows us to view life-cycle behavior in the time domain and by age.

Building on previous work<sup>8</sup>, we have used an approach we call "direct cohort mapping" to estimate cohort-specific life-cycle curves. Our strategy has three elements: estimate empirical models of economic outcomes; forecast these outcomes; and then construct cohorts. After outlining these elements, we will provide an example of how this works in practice.

#### **Estimate empirical models**

The first element of our strategy is to develop empirical models that can explain the distribution of economic outcomes across age groups. We use pooled time series cross-section techniques to develop these reduced-form econometric models. We pool across age groups over time—rather than across cohorts by age as in a synthetic panel—to capture the time series element of household behavior and the distribution across households by age.

<sup>&</sup>lt;sup>8</sup> See MGI report titled "Talkin' 'Bout My Generation: The Economic Impact of Ageing US Baby Boomers", June 2008.

Within the top-down framework described above, the dependent variable in our specifications is always formulated as the average per household for an age group relative to the average per household across age groups (e.g., the average earnings of households headed by 50 to 54 year-olds, relative to the average earnings of all households in a given year). The independent variables are similarly specified (e.g., average educational attainment of 50- to 54 -year-old households, relative to the average group fixed effects in all specifications.

In addition to age group and time series effects, we are interested in estimating the impact of cohorts as they move through age groups over time. We do this by constructing "cohort effects" using a lagged dependent variable with a specific time series and age group lag structure. We know that any cohort that has an average age of 55–59 in a given year was part of the 50–54 age group five years earlier. Thus, the cohort effect for the 55–59 age group will be made up of a five-year lag of a 50–54 age group variable. By constructing these cohort effects for all age groups, we can include them in our pooling regression framework. Like other independent variables, the cohort effects are specified as age group relative to economy-wide household averages.

The intuition behind the structure of these cohort effects is straightforward: If cohorts possess specific attributes that they carry over time, these attributes should help in predicting the outcomes for that cohort today once we have controlled for time series and age group effects. For example, earnings should be path-dependent—the relative earnings of 55- to 59 -year-old households today should be dependent on their earnings five years earlier when their average age was 50 to -54.

#### Forecast economic outcomes by age group

Once we have estimated empirical models for the variables of interest, they are compiled into our econometric forecasting framework. The top-down approach we have adopted enables us to project the evolution of age group behavior within the context of our macroeconomic framework. The combined history and forecast for all the age groups provides us with the ability to trace out the complete life cycles of each cohort independently.

#### Construct cohorts from age group data

Because our cohorts are defined in 10-year birth increments, and we work with five-year age groups, there are some years where age groups and cohorts overlap perfectly. For other years, cohorts span multiple age groups. To estimate cohort behavior in these years, we develop a set of weights, based on the history and forecast of single age populations provided by the INSEE. These weights are used to construct cohort averages across age groups.

The best way to explain this approach is through an example. In 2004, Early Boomers were between 50 and 59 years old. This age range spans our 50–54 and 55–59 age groups exactly. Thus, in 2004, the average household income of Early Boomers is equal to the weighted average of income per household in these two age groups. One year later, the Early Boomers still spanned the 55–59 age group, but also spanned

ages 51–54 from the previous five-year age group, and age 60 from the next five-year age group. To compute average household income for Early Boomers in 2005, we first compute the population share of 51 to 54 year-olds relative to the 50–54 five-year age group. Similarly, we compute the population share of 60 year-old in the 60–64 age group. We then use these weights to estimate what share of income and households from these five-year age groups the Early Boomers comprise. Those shares, combined with the income and households from the 55–59 age group, provide our complete estimate.

Ideally, these weights would be based on single-year household shares. However, INSEE does not provide forecasts for households by single age, and developing these forecasts independently was not within the scope of this study. Furthermore, we believe that using the population shares provides a very good approximation for the evolution of cohort behavior over time. First, there is exact match every five years, which provides anchor points for the path of cohort behavior. Second, in every intervening year, we use one complete five-year age group. Third, in two out of the four intervening years, we use one complete five-year age group, and approximately 80 percent of the adjacent age group.

#### Example: Estimating average household size

We list all the economic and demographic concepts that we model and forecast at the age group level (*Exhibit T6*). To illustrate the approach, we show how the age group distribution of average household size translates into life-cycle curves<sup>9</sup> (*Exhibit T7*).

#### Exhibit T6

The age distribution is estimated across many economic and demographic variables

Household income • Wages, salaries, self-employment income • Interest, dividends, business income • Transfers from government • Income taxes • Total household income • Disposable income (total less taxes) • Savings	Household spending       • Housing-water         • Alcohol & Tobacco at home       • Hotels         • Apparel and accessories       • Medical         • Communication       • Motor vehicles         • Education       • Personal care         • Electronics       • Other recreation         • Food away from home       • Other services
Household net worth <ul> <li>Financial assets</li> <li>Real estate assets</li> <li>Liabilities</li> <li>Total net worth</li> </ul>	<ul> <li>Food at home</li> <li>Financial services</li> <li>Gasoline</li> <li>Housing-electricity</li> <li>Housing-heating oil, coal,</li> <li>Nursing homes &amp; day care</li> <li>Transportation</li> </ul>
Labor markets <ul> <li>Labor force participation</li> <li>Unemployment rate</li> <li>Full-time employment</li> <li>Part-time employment</li> </ul>	etc • Housing-materials and repairs • Housing-natural gas • Housing-rent, imputed rents
Education (secondary, baccalaureate, advanced) • Attainment rates • Enrollment rates	Household characteristics <ul> <li>Married-couple households</li> <li>Number of children</li> <li>Household size</li> </ul>

SOURCE: MGI France Consumer Demand model v2.6

#### Exhibit T7

#### The cohort lens allows us to distinguish behavioral shifts across generations



SOURCE: McKinsey France Consumer Demand Model

#### 5. Building consumer life-stages

In addition to the analysis by age-group and by cohort, we have tabulated the data from the "Budget de famille" (BDF) survey to understand the evolution of consumer life-stages (*Exhibit T9*).

We tabulated 12 life-stages based on the occupational status, family structure and age of the household (see box "Life-stage definitions"). This enabled us to develop a profile of consumers in different life-stages covering consumption, income, number of households and various socio-demographics (e.g., household size). To ensure that our figures were consistent, with the aggregate France and age-group figures, we benchmarked the data based on the scaling methodology described earlier.

We also developed rough projections about the profile and behaviour of these life-stages in the future. Through iterative scaling and consistency checks, we ensured that our projections are in line with the forecasts from our econometric model.

#### Exhibit T8

Ageing, breakdown of traditional family structures, and behavioral shifts will transform the household life-stage composition - France



1 Excludes "others" segment-e.g., households that are neither active (employed or otherwise) nor retired, representing 1.7 million households in 1980, 1.8 million in 2006, and 2.7 million in 2030 2 Rough estimates for 2030.

SOURCE: McKinsey Life-stage Segmentation Model

#### Life-stage definitions

Job starters - households aged up to 29 inclusive, active, alone, no children

Young singles no children - households aged 30 up to age 44 inclusive, active, alone, no children

Young couples no children - households aged up to 44 inclusive, active, coupled, no children

Young coupled families - households aged up to 44 inclusive, active, coupled, with children at home

Single parents - household of any age, active, alone, with children at home

Mature singles no children - households aged 45 plus, active, alone, no children

Mature couples no children - households aged 45 plus, active, coupled, no children

Mature coupled families - households aged 45 plus, active, coupled, with children at home

**Retirees with children at home**—households of any age, retired, coupled or alone, with children at home

Retirees without children at home-households aged up to 74 inclusive, retired, coupled or alone, no children at home (children left and never had children)

Old age-households aged 75 plus, retired, coupled or alone

Others-remaining households (e.g., households that are neither active (employed or otherwise) nor retired, calculated as total households excluding above life-stages