

This is the third and final installment of a series of chapters in the *Global Financial Stability Report (GFSR)* discussing the transfer, reallocation, and management of financial risk. Throughout this series we have highlighted the flow and reallocation of risks throughout the financial system, and the ability of certain market participants to manage new types of risks. Traditional assessments of financial stability tend to concentrate on the condition or resiliency of systemically important institutions, most often banks. In this series, we have expanded the analysis and highlighted the changing flow of risks among market participants, often as a result of policies or standards intended to improve the ability to manage, monitor, or measure risks in a particular sector. However, such policies and standards frequently redirect the flow of risk to less-monitored or less-measured sectors, such as the household sector. As such, the question arises whether, as a result of these policies, the financial system as a whole has become or is becoming more stable, or whether new risks and sources of instability may be emerging.

In the previous two chapters in the series, we analyzed the flow and management of financial risks in the life insurance sector and in private sector occupational pension funds.

- In the *life insurance industry*, we examined the transfer of risk from banks to insurers (largely as a result of risk-based banking regulation), highlighting the need for improved risk management skills. Our focus was on the structural influences on insurers' behavior, such as market structure (e.g., variety of financial instruments available), regulation, accounting, and the role of rating agencies. In part, we recommended that the introduction of risk-based capital or similar regulatory standards would contribute

significantly to improving the risk management practices of insurers. Indeed, as such standards are increasingly being proposed or implemented, we observe that many life insurers are seeking to de-risk their balance sheets (e.g., more fixed-income investments, and fewer sales of guaranteed or with-profits policies).

- With regard to *pension funds*, we observed risk management practices often inconsistent with the goal of meeting long-term liabilities. We found few regulatory or tax incentives that encouraged modern risk management practices or the building of even modest overfunding cushions. At the same time, proposed fair value accounting principles have been cited by market participants as a primary factor contributing to the de-risking of balance sheets by employers through the closure of defined benefit plans and the transfer of various long-term saving, investment, and other risks (e.g., longevity and inflation) to the household sector.

As banks, insurers, and pension funds seek to reduce the volatility of their balance sheets and its impact on earnings, a variety of risks traditionally managed within these institutions are flowing more directly to the household sector. The channels for these risk flows are multiple, including mortgage loans, unit-linked insurance products, and defined contribution and other self-directed pension plans. The types of financial risks increasingly being borne more directly by the household sector vary somewhat by country, but include (1) market risks (i.e., interest rate, equity, and credit, as well as derivatives embedded in structured products); (2) inflation risk (as governments and corporates adjust or eliminate benefit indexation); (3) investment planning and reinvestment risk (i.e., operational

risk); and (4) longevity risk (as public and private annuity income streams are reduced or eliminated). At the same time, the transfer of risks has to be considered together with potential benefits to households from these changes, including greater choice, portability of certain benefits, and access to a broad range of financial products. Furthermore, there are also risks to *not* investing, including the erosion of asset values through inflation.

This chapter deliberately focuses on an assessment of the shift in market risks to the household sector, which results from changes in the behavior of financial institutions and from pension reform. In particular, this chapter evaluates neither existing pension systems nor ongoing pension reforms in various countries. Such reforms have changed the positions and risk profiles of the household sector. They have brought benefits and reduced some risks, but at the same time increased other risks. In particular, the move from defined benefit to defined contribution pension plans has led households to take on more market and longevity risks, while shedding other risks, such as the credit risk of the corporate plan sponsor. In addition, the portability of defined contribution and hybrid plans is widely considered an attractive feature of these pension schemes—as it could contribute to labor market mobility. More generally, demographic and/or fiscal pressures will always weigh on pension systems, regardless of their nature. Maintaining a given level of benefits will require more resources to be put into any pension plan. This means either higher contribution rates under defined benefit schemes, or higher saving rates under defined contributions schemes. Therefore, the move from defined benefit to defined contribution schemes does not in itself cause a rise in contribution or saving rates. More broadly, the move from defined benefit to defined contribution plans may contribute to the consolidation of public and corporate finances, thus helping to sustain economic growth that benefits households. In several emerging market

countries, such as Chile and Mexico, pension reforms, including the establishment of corporate defined contribution plans, have helped to develop an important local institutional investor class, which in turn has fostered the development of local capital markets.

Households, as the “shareholders” of the public and private financial systems, have always been the ultimate bearers of financial risks. However, traditionally these various risks and exposures have been intermediated to differing degrees by governments and private financial and nonfinancial institutions, and households have borne these risks in different capacities, including as taxpayers, depositors, employers or business owners, pension or insurance beneficiaries, or increasingly as holders of equity or debt securities. The goal of this chapter is to increase the awareness among policymakers of how the risk profile of households (more than the aggregate risk level) has possibly changed or may change going forward. It can be argued that policymakers have improved, and are continuing to improve, financial stability by improving the resiliency of banks, insurers, and pensions; however, this chapter examines whether such policies have sufficiently considered how risks flow through the system, particularly to the household sector.

The household sector is often excluded from traditional analysis and considerations related to the stability of the financial system. However, we believe issues related to the household sector should be an important aspect of financial stability considerations. This is not to say that we anticipate widespread instability in the household sector, as in many jurisdictions households currently seem to enjoy relatively high net worth. However, the financial landscape is changing, and in certain respects households may not appreciate or be adequately prepared for such changes. Policies designed to improve the financial stability of systemically or otherwise important institutions need to also consider the consequent flow of risks to households

and their ability to absorb or manage such risks.

Households are relevant to the financial stability debate in numerous ways, including the following considerations: (1) potential public sector costs related to household shortfalls in long-term saving and investment; (2) the broader role of government as “insurer of last resort”; (3) the need to facilitate or more actively develop markets and market solutions, or alternatively, to re-regulate institutional behavior to achieve the desired risk sharing; (4) moral hazards, for example, from excessive risk taking by institutions based on the belief that governments will support market values in an effort to protect household balance sheets (i.e., markets are seen as “too important to fall”); and (5) the impact of more direct risk exposures on household behavior, including consumption and saving patterns. This chapter will not discuss each of these issues in detail, but we will attempt to highlight the changing flow of risk and risk profile of households, and how this may impact some of these considerations.

In this study, we continue our comparative analysis and approach, looking at these trends and influences on household behavior in selected industrialized countries, notably France, Germany, Japan, the Netherlands, the United Kingdom, and the United States. We will also discuss Denmark and Sweden, where many of these issues have received significant consideration.

We recognized from the outset that this study should highlight current and potential trends in household net worth, risk profiles, and investment behavior, and, where possible, present such trends using timely data. However, aggregate household data are frequently one or more years out of date, or do not exist in sufficient detail, and often are not comparable across jurisdictions. The timeliness of disaggregated household data

(i.e., income groups and age cohorts) has been a particular concern, since numerous market practitioners and analysts note that a variety of changes in the risk profile and financial behavior of different household groups or cohorts may be occurring, particularly in recent periods. Therefore, such behavior may not yet be fully reflected in government data or academic studies. Indeed, there appears to be tremendous scope for international organizations such as the IMF or the OECD and others to promote efforts to improve the timely gathering and comparability of household data.<sup>1</sup>

The following section will discuss comparative and national trends in household net worth, financial holdings, and financial behavior, including, where available, such trends for different income groups and age cohorts. We will also discuss certain future or potential obligations that are rarely, if ever, included in official data or considered in academic studies (e.g., prospective changes to pension provisions, and health care and education costs), which households in many countries increasingly may be expected to assume as governments and employers reduce benefits. This may be an important consideration for policymakers and an area for further study, as many outstanding studies have assumed little or no change in existing institutional structures and programs when evaluating the current financial position of households.

The next section will focus on household saving and asset allocation behavior. It will analyze how such behavior may be affected by changes to household risk profiles, and examine the products and services that the financial industry has developed, or may need to develop, to help households meet these new challenges. It will also discuss possible public policy initiatives on the promotion of a broader range of payout instruments and structures.

<sup>1</sup>An OECD working group is currently considering ways to improve the coverage of household financial data in national accounts.

The following section focuses on communication and education, which has been broadly recognized as an area needing significant attention, and one in which there seems to be a vital role for governments. The public sector may be best positioned to ensure that households are made aware of the increasing demands on their savings, and to coordinate public and private sector actions to provide the basic understanding and financial skills needed to address these new demands. Such considerations, and steps to address these needs, are occurring to some degree, albeit at varying levels of detail, in most industrialized countries.

Throughout this series of chapters, including this one, we have sought to provide a comparative analysis of the major issues, and as such we do not seek to propose a single “best way forward.” Possibly, more than with any other sector, policy considerations regarding the appropriate risk sharing and risk profile of the household sector reflect the different cultural, social, and political choices of individual countries or regions. While recognizing this diversity of national approaches, we intend to highlight below how households may cope with this changing flow of risks, and its policy implications.

## Household Balance Sheets

This section discusses the principal influences on the household sector’s risk profile, and assesses national and global trends for selected industrialized countries. The discussion also illustrates the need for more up-to-date and detailed data at the household level, and how the lack of data may limit our ability to monitor the impact of policy changes on the household sector. Partly because of data limitations, we have restricted the discussion

of household balance sheet developments to a select group of countries: France, Germany, Japan, the Netherlands, the United Kingdom, and the United States. Even among this group of countries, there are large differences in coverage at the aggregate and individual household level.<sup>2</sup>

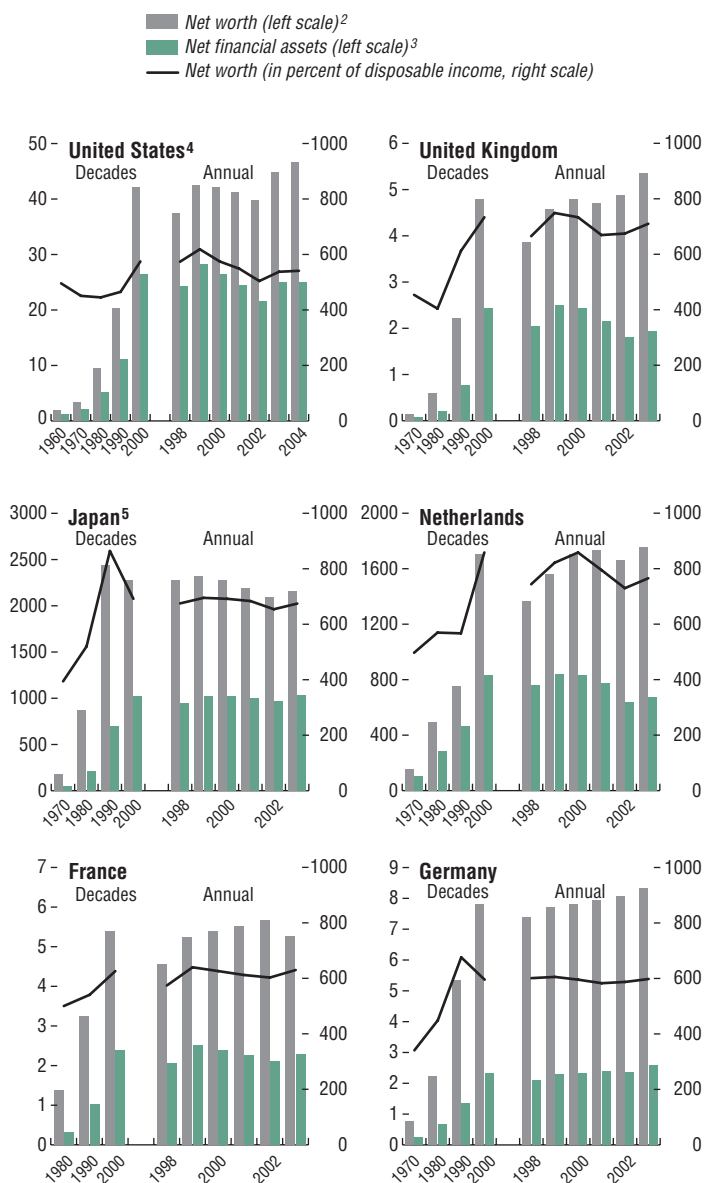
### Components and Evolution of Household Balance Sheets

Assessing household risk profiles entails examining how well they have managed their balance sheets, along with the associated returns and risks (e.g., credit, market, liquidity, and longevity risks). It involves assessing not only the magnitude of various portfolio items but also their risk profiles, as illustrated by their volatility and diversification benefits. Government statistics and survey data only take account of explicit financial assets (e.g., bank deposits and savings accounts, market securities, and private pension and insurance reserves) and liabilities (e.g., mortgage and consumer debt), and nonfinancial assets (e.g., housing) when computing household net worth. However, these data do not include all current or likely future household assets and obligations.

It is important to consider a wider range of future assets and obligations in order to fully capture the scope of household risk management challenges. This section focuses in particular on a number of additional costs and obligations that may significantly increase households’ savings needs, as well as change their risk profiles and investment behavior. The potential costs and obligations include those arising from changes (or likely changes) in state and private pension arrangements, or subsidies for medical and long-term health care or education. At the same time, to deal

<sup>2</sup>Japan and the United States have the most complete coverage, including relatively long time series of aggregate flow-of-funds data and microsurvey data (e.g., income and age cohorts) of household finances. By comparison, many of the continental European countries do not have data that are as timely or complete (in particular for non-financial assets), and have little comparable subgroup data.

**Figure 3.1. Household Sector: Net Worth and Net Financial Assets in Domestic Currencies<sup>1</sup>**



Sources: U.S. Board of Governors of the Federal Reserve System; Bank of England, U.K. Office of National Statistics, National Institute of Economic and Social Research; Bank of Japan, Economic and Social Research Institute; De Nederlandsche Bank; Banque de France, INSEE; Bundesbank; OECD; and IMF staff estimates.

<sup>1</sup>Net worth is calculated as sum of nonfinancial assets and financial assets minus financial liabilities. Net financial assets are financial assets minus financial liabilities.

<sup>2</sup>Net worth for United States, in trillions of U.S. dollars; for United Kingdom, in trillions of pounds sterling; for Japan, in trillions of yen; for Netherlands, in billions of euros; and for France and Germany, in trillions of euros.

<sup>3</sup>Net financial assets for United States, in trillions of U.S. dollars; for United Kingdom, in trillions of pounds sterling; for Japan, in trillions of yen; for Netherlands, in billions of euros; and for France and Germany, in trillions of euros.

<sup>4</sup>Data for 2004 are only available through the third quarter.

<sup>5</sup>Figures for financial assets and liabilities are for the fiscal year beginning April 1.

with such costs and obligations, households will also rely on future incomes and assets that would also need to be taken into account in a systematic assessment of the challenges ahead. However, this chapter does not attempt to provide such a comprehensive approach; it focuses primarily on the transfer of risks to the household sector.

### Household Risk Profiles: Comparative Developments

Comparisons across countries reveal a variety of themes and trends in the composition of household balance sheets, reflecting different influences (market structure, regulation, cultural preferences, etc.) on household behavior.

#### Net Worth

Average household net worth grew faster than disposable income in most industrialized countries throughout the 1980s and 1990s, and has largely recovered from the bursting of the equity market bubble. In most countries, net worth to disposable income levels are close to historical highs, with growth since 1990 spurred by strong increases in the value of real estate and equity holdings (Figure 3.1). Housing wealth has grown strongly in the Netherlands and the United Kingdom, with net worth rising to 765 percent and 710 percent of disposable income in 2003, respectively.

In both France and Germany, the ratio of net worth to disposable income has stayed near historic highs, at about 600 percent, and has not changed materially in recent years. In contrast with others, Germany has experienced slower growth in house prices, and has not experienced a notable increase in the share of housing assets in household portfolios. In addition, households in France and Germany have noticeably lower levels of debt. Meanwhile, market-sensitive assets have formed a relatively small share of household portfolios.



Japan's net worth has shown a distinctly different trend. In the period from 1970 to 2003, the growth of household net worth outpaced that of disposable income by a modest amount. Of course, this 30-year period is composed of two distinct periods, with rapid net worth growth in the 1980s, and a steady decline in net worth during much of the 1990s, largely because of a continuing decline in house prices throughout the later period.

In the United States, steady gains in household net worth have stemmed more from increases in the market value of assets than from increased savings. Despite a relatively higher exposure to asset market price movements, U.S. household net worth appears less volatile than for most other industrialized countries during 1980–2003 (Table 3.1).

The volatility of household net worth is influenced by a variety of factors, including the degree of diversification in household portfolios. For all countries studied, the volatility of household net worth is lower than the volatility of their holdings of market-sensitive assets, in part because they also hold deposits and other assets whose principal values do not fluctuate (Table 3.1). In addition, the volatility in household holdings of market-sensitive assets stems from several factors, including the price volatility of the underlying financial and nonfinancial assets (e.g., equities and real estate, respectively), changes in the relative shares of these holdings in the overall household asset portfolio, and the degree of diversification offered by the range of assets held.<sup>3</sup>

Those countries and households with asset portfolios containing a wider range of assets (e.g., the United States) appear to experience larger diversification gains than countries and households with more concentrated holdings

**Table 3.1. Household Balance Sheet Volatility Measures<sup>1</sup>**  
(In percent)

	Net Worth/ Disposable Income	Market-Sensitive Assets/ Disposable Income <sup>2</sup>	
		Without real estate	Including real estate
<b>1980–2003</b>			
United States	10.6	46.4	26.0
United Kingdom	14.7	34.5	18.8
France	10.3	39.2	12.2
Japan	14.1	22.1	21.6
<b>1998–2003</b>			
United States	7.0	20.5	10.0
United Kingdom	5.1	29.1	7.5
Netherlands <sup>3</sup>	6.2	30.0	7.5
France	3.8	21.6	10.4
Germany <sup>3</sup>	1.5	7.0	2.5
Japan	2.5	18.3	7.1

Sources: National statistical accounts; and IMF staff estimates.

<sup>1</sup>Each measure is calculated as a ratio to disposable income.

Volatilities of the ratios are calculated as standard deviation divided by the mean for the period.

<sup>2</sup>Household net worth consists of market-sensitive and nonmarket-sensitive assets. Market-sensitive assets consist of equity, bonds, mutual funds, and real estate; and nonmarket-sensitive assets consist mainly of deposits. For the United States, equity data include both direct and indirect holdings by households.

<sup>3</sup>For Germany, annual data are only available after 1991. For the Netherlands, annual data are only available after 1998.

(e.g., Japan). Real estate is an asset that appears sufficiently uncorrelated with equities and other financial assets in most countries in the short and medium term.<sup>4</sup> Consequently, adding real estate assets to holdings of market-sensitive financial assets would generally lower the volatility of total household portfolios as well as overall household net worth (compare columns 2 and 3 in Table 3.1). Compared with U.S. households' relatively large holdings of financial and nonfinancial market-sensitive assets, Japanese households have relatively concentrated holdings of real estate. However, Japanese households' large holdings of deposits have helped dampen the volatility of their net worth.

<sup>3</sup>For example, during 1998–2003, French household net worth was considerably more volatile than German household net worth because of relatively more volatile French equity and real estate prices, and relatively larger changes in the share of market-sensitive financial assets held by French, compared with German, households during that period.

<sup>4</sup>Some cross-country academic studies indicate that there is little short-term correlation (i.e., over a year, or even a few years) between real estate price changes and stock market returns (see Quan and Titman, 1998).

### *Financial Holdings*

A global trend in household financial holdings over the last two decades has been the declining share of bank deposits, money market funds, and savings accounts (Figure 3.2). While it may have started at a later stage in continental European countries, such as France and Germany, the trend toward lower levels of bank deposits has been fairly pronounced there too.<sup>5</sup> In part, this trend may have been influenced by equity market developments during the 1990s, as the long-term trend away from bank deposits and savings accounts slowed with the equity market declines of 2000–02. Japan stands in sharp contrast to this trend, as Japanese households have not materially diversified away from bank deposits and savings accounts. The share of deposits among Japanese household total assets has been generally stable since the 1960s, and grew during the 1990s as real estate and equity prices fell.

The growth of market-sensitive holdings in the United States and Europe has favored equities over bonds.<sup>6</sup> This is especially the case for direct holdings of financial assets, whereas holdings of market-sensitive assets through collective investment vehicles appear more balanced between fixed-income and equity securities. In the United Kingdom, France, and, to a lesser extent, elsewhere in Europe, privatization of state-owned companies in the 1980s and 1990s contributed to the increase in direct equity holdings, as did the development of employee profit-sharing and share-ownership schemes.

There is substantial variation among countries in the distribution of household financial

holdings. In Japan, the share of financial assets (20 to 30 percent of total assets) is approximately uniform across all income and age groups (Figure 3.3). In the United States, the ratio of financial assets to total assets has been between 30 and 50 percent. However, compared with Japan, the concentration and composition of net worth among U.S. households is much more skewed—the wealthiest 20 percent represent 68 percent of U.S. household net worth (with the top 1 percent holding one-third of household assets) (Figure 3.4). In the United States, the middle three income quintiles represent 29 percent of household net worth, compared with their counterparts in Japan, who represent as much as 53 percent of Japanese household net worth. Meanwhile, in the Netherlands, the share of net worth reported for the middle-income groups expanded from 44 to 58 percent between 1995 and 2004 (Figure 3.5).<sup>7</sup> The distribution of net worth, wealth, and financial assets is an important consideration for potential household vulnerabilities.

### *Housing Markets*

The home is generally the largest asset in household portfolios. In most countries, nonfinancial assets (primarily housing) account for between 40 and 60 percent of total assets, with the highest proportionate shares in Germany and the United Kingdom. In Germany, low mortgage rates and varying levels of state subsidies, particularly after unification in 1990, provided strong incentives to invest in housing. In the United Kingdom, deregulation of mortgages and official incentives for tenants to buy public housing in the

<sup>5</sup>Bank deposits represented close to 60 percent of German household financial assets until the beginning of the 1980s. The deposit share moved below 48 percent at the beginning of the 1990s, and has stabilized around 33 percent since 1999. In France, savings accounts and bank deposits in 2003 represented about 30 percent of household financial assets, down from about 60 percent in the early 1980s.

<sup>6</sup>Nonlisted equities represent a large proportion of total equity holdings in some countries. Nonlisted equities are estimated to represent about 50 percent of all equity holdings in the United States, and more than 66 percent in France (estimates based on flow of funds and national accounts data). Many of these assets represent small businesses owned by households.

<sup>7</sup>However, the share of the third income quintile in total liabilities also increased to 20–25 percent in 1998–2004, and from 10–15 percent in 1993–1997. See De Nederlandsche Bank (2004).

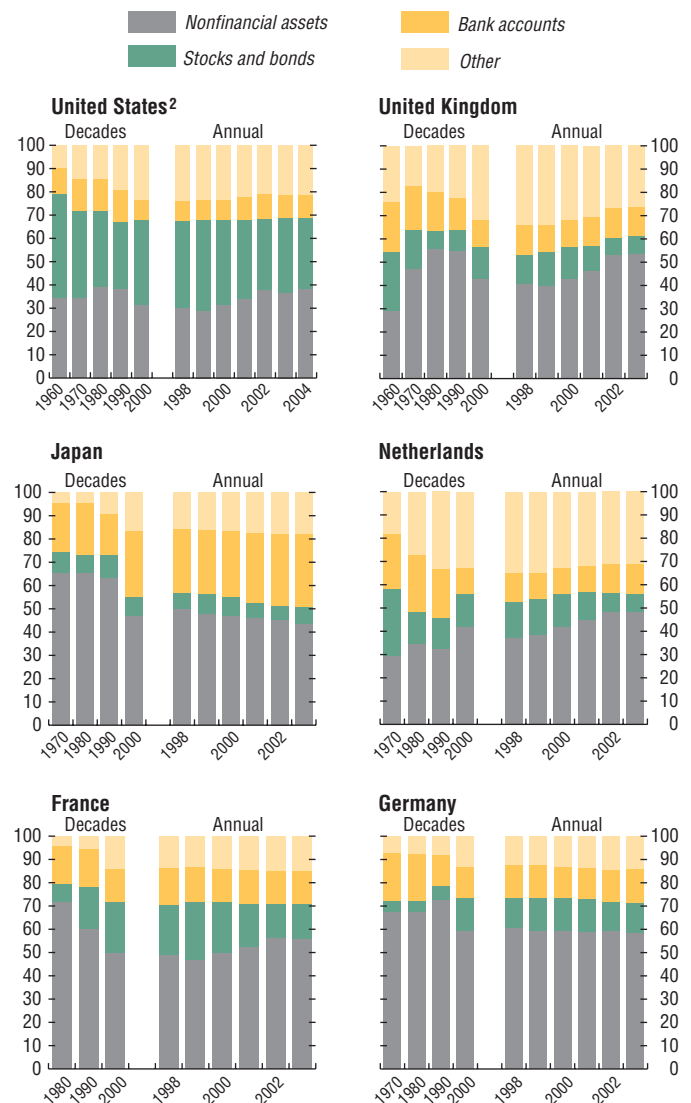
1980s encouraged broader home ownership and, together with the more recent rise in house prices, contributed to housing's larger share of total assets. The lowest share for housing among the countries studied is reported in the United States; however, a much higher share is reported for households in the middle- and lower-income quintiles (see Figure 3.4).

Housing wealth has risen much faster than income in some countries, contributing significantly to net worth growth. House price rises have been particularly sharp in the Netherlands, the United Kingdom (at least until recently), and in parts of the United States, raising concerns about excessive valuations (Figure 3.6). In the Netherlands, house price growth averaged more than 8 percent between 1995 and 2002, second only to Ireland among OECD countries.

By contrast, housing wealth has been falling since the early 1990s in Japan, and growing by an average of 1.6 percent in Germany since 1998, although in both cases housing's share of total wealth remains high. In Germany, a more sluggish economy and a reduction in housing tax subsidies contributed to the weaker housing market. In Japan, despite price falls, the large down payment needed to buy a house leads to an older first-time buyer than in other countries, and may contribute to the relatively high share of deposits in Japan.

Increased housing wealth has been accompanied by greater mortgage debt in the Netherlands, the United Kingdom, and the United States. In all these countries, the relatively flexible mortgage markets, as well as low interest rates and the rise in house prices, have contributed to increases in mortgage debt that have outpaced gains in disposable income in recent years. In the Netherlands, where mortgage debt reached about 200 percent of disposable income, full mortgage interest deductibility may have encouraged households to utilize interest-only mortgages, which account for over 40 percent of total mortgage debt in 2004.

**Figure 3.2. Household Sector: Total Asset Composition<sup>1</sup>**  
(In percent of total assets)



Sources: U.S. Board of Governors of the Federal Reserve System; Bank of England, U.K. Office of National Statistics, National Institute of Economic and Social Research; Bank of Japan, Economic and Social Research Institute; De Nederlandsche Bank; Banque de France, INSEE; Bundesbank; and IMF staff estimates.

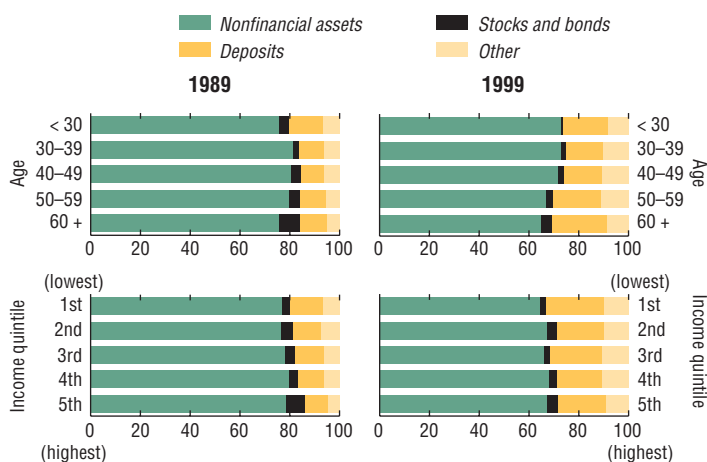
<sup>1</sup>Total assets are the sum of financial assets and nonfinancial assets. Nonfinancial assets consist of mainly real estate. Other assets consist of mainly insurance and pension fund reserves.

<sup>2</sup>Data for 2004 are only available through the third quarter.

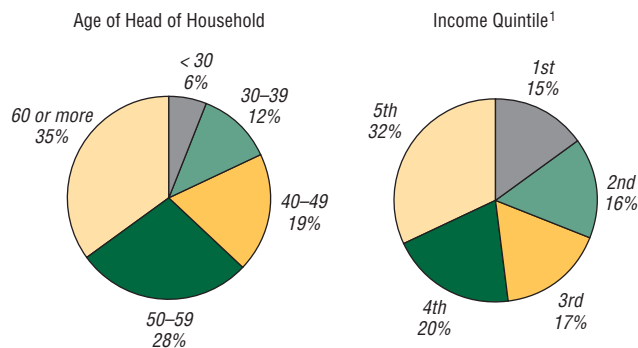


**Figure 3.3. Japan: Total Asset Composition by Household Groups**

(In percent)



**Net Worth Distribution in 1999**



Source: Ministry of Internal Affairs and Communications, Statistics Bureau.

<sup>1</sup>The mean value of pre-tax income in 1999 was \$27,886 for the first quintile group; \$42,172 for the second; \$56,262 for the third; \$75,342 for the fourth; and \$121,331 for the fifth.

The higher level of debt increases households' exposure to house price moves (and other asset or income changes), particularly households in their 30s or 40s who may have recently incurred high debt levels to purchase a home. In the Netherlands, more than half of homeowners aged 25–34 have a loan-to-value (LTV) ratio of above 100 percent. In the United Kingdom, the predominantly floating-rate mortgage market may make households more exposed, especially as many borrowers appear to overly focus on current debt-service costs when determining the size of their mortgage. Moreover, first-time purchasers may be more exposed to poor or even sluggish housing markets, as they may have stretched financially to buy a house in an environment of rapidly rising real estate values.

Housing has been increasingly viewed as an attractive investment, including for retirement, but such an approach includes certain risks. As previously discussed, housing provides a diversification benefit to many middle- and upper-income households, compared with a portfolio of purely financial market assets, and the risk of nominal price falls has historically been relatively limited compared with other assets. In addition, unlike many other household assets, the home also represents an important currently consumable asset, as a place to live. Nevertheless, households may be exposed in many countries to the risk of significant underperformance in the medium (or longer) term if current prices turn out to be unsustainably high.<sup>8</sup>

The ability to rely on housing as a source of savings or investment depends on the liquidity of the housing and mortgage markets. The flexibility of the fixed-rate, prepayable mortgage market in the United States may increase the liquidity of housing savings and invest-

<sup>8</sup>Housing risk and price movements may occur on a more global level than generally assumed. The September 2004 *World Economic Outlook* found that house price movements were highly synchronized across industrial countries, partly reflecting global interest rate movements.

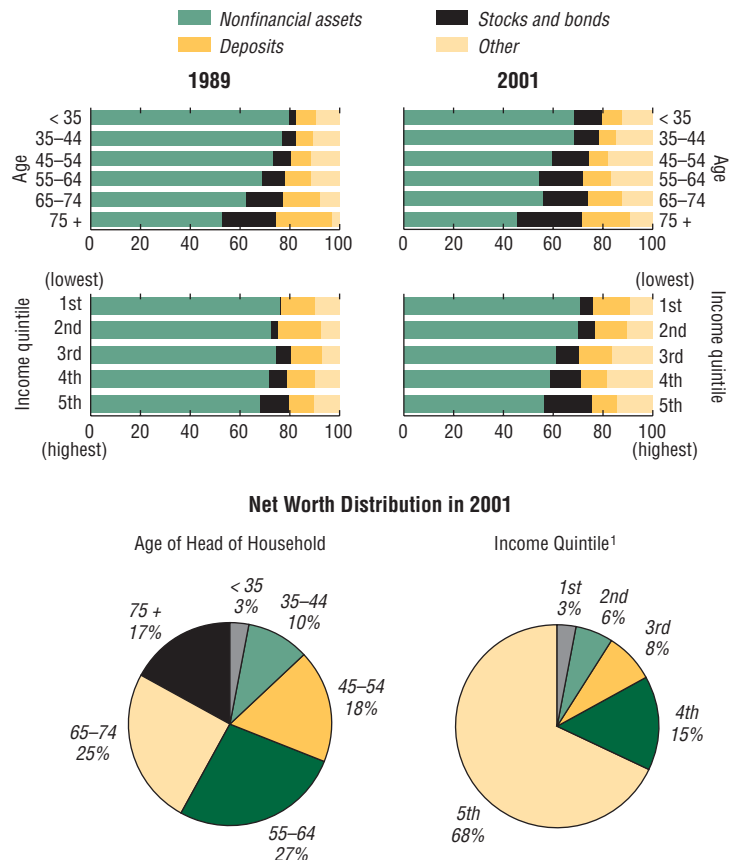
ment. Meanwhile, in other countries, low liquidity in the housing market (e.g., Japan) or high transaction costs and lower flexibility in the mortgage market (e.g., France and Germany) restrict the diversification role housing may play in household savings (Table 3.2).

**Pensions and Insurance**

This section does not attempt to evaluate different pension systems, but analyzes their implications and the impact of ongoing reforms on the composition of financial risks transferred to the household sector. The various pension systems and reform programs reflect evolving national preferences with regard to broad economic and social challenges. In particular, while the move from defined benefit to defined contribution pension plans tends to substitute market and longevity risks for credit risk of the plan sponsor (as well as the risk of job loss or change of job), it also has an impact on other, increasingly important, features of pension plans, such as their portability. As noted, the consequences of demographic and fiscal pressures have to be dealt with under any system, though in different ways. Furthermore, a move from defined benefit to defined contribution plans may contribute to the consolidation of public and corporate finances, and to the development of local capital markets, as observed in several emerging market countries.

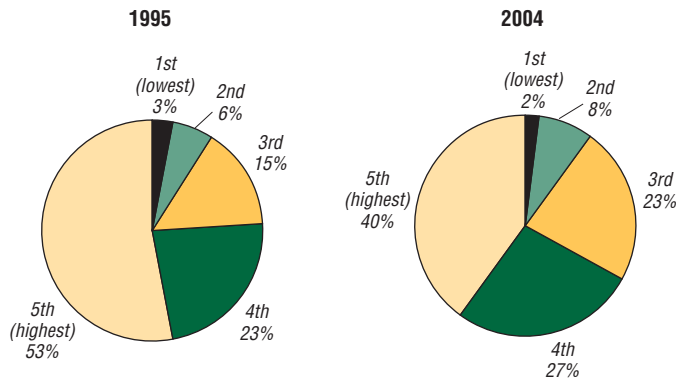
The degree of market risk transfer from the pension system to households varies across countries. In some countries, state pensions (Pillar I) remain a major source of retirement income for households in all income groups, and generally act to reduce the exposure of households to market volatility. This is particularly the case in many continental European countries (e.g., France, Germany, and Italy), as well as in Japan. In these countries, there has been less need for households to build up financial assets devoted to retirement during

**Figure 3.4. United States: Total Asset Composition by Household Groups**  
(In percent)



Source: Board of Governors of the Federal Reserve System.  
<sup>1</sup>The mean value of pre-tax income in 2001 was \$10,000 for the first quintile group; \$24,100 for the second; \$40,300 for the third; \$65,200 for the fourth; and \$200,350 for the fifth.

**Figure 3.5. Netherlands: Distribution of Net Worth by Income Quintiles<sup>1</sup>**



Source: De Nederlandsche Bank, *Quarterly Bulletin*, September 2004.

<sup>1</sup>The mean value of the 2003 net household income in euros is 6,450 for the first quintile group (lowest); 15,800 for the second; 22,300 for the third; 30,500 for the fourth; and above 35,100 for the fifth (highest).

their working lives, or to draw down savings in retirement.<sup>9</sup> However, such a need may grow with proposed and likely reforms of Pillar I programs in many of these countries. In some cases, such as Sweden, state pension reforms are not only designed to reduce benefit levels over time but also introduce some degree of risk sharing between the state and households by linking a portion of benefits to the performance of notional self-managed investment portfolios.<sup>10</sup> The Swedish reform may serve as an interesting example for countries with historically strong public sector programs or countries looking to share more risks among the public and private sectors.

In some countries, notably the United Kingdom and the United States, the composition of risks borne by households is changing as a result of the move to defined contribution schemes. In the United Kingdom, for example, active membership of open defined benefit schemes is estimated to have fallen by 60 percent since 1995, and only 15 percent of new private sector employees are members of salary-related schemes. A move to more defined contribution-based systems may address broader economic and social challenges, and this may be necessary and appro-

<sup>9</sup>Recently retired households are frequently described in continental European countries as the “golden generation,” since they benefited from high incomes, rising asset markets, and generous pension and social benefits during their working lives. As a consequence, many of these households were not required to save for retirement, and accumulated savings frequently contributed to intergenerational transfers.

<sup>10</sup>An interesting feature of the new Swedish pension system is the notional defined contribution plans, under which each participant’s contribution (16 percent of earnings) and future pension benefits are notionally invested, with a guaranteed rate of return equal to the national per capita real wage growth (i.e., effectively indexing benefits). A second feature of the new regime is the creation of individual defined contribution accounts, in which participants are required to pay 2.5 percent of earnings. Individuals are responsible for deciding how to invest these contributions in a menu of mutual funds. The amounts invested in these accounts represented about 12 percent of the assets of domestic mutual funds in 2004.

priate. By the same token, a shift to defined contribution schemes also exposes households more directly to market and longevity risks. The increase in exposure to longevity risk is more noticeable in countries such as the United States where most self-managed plans do not provide annuity or similar payout features.

In the Netherlands, defined benefit plans continue to cover approximately 90 percent of employees and households are therefore less exposed to market volatility. However, the Dutch pension industry is also transferring a greater amount of financial risk to Dutch households, including inflation risk, as a result of recent and ongoing reforms in the indexation of pension benefits.<sup>11</sup>

In some countries, a growing share of insurance products provide unit-linked investments. These products now account for as much as 40 percent of life insurance reserves in the United Kingdom, and 30 percent in the Netherlands. In other countries, however, unit-linked products still represent a small proportion of insurance holdings, and may have declined in France and Germany, as households have shifted back to guaranteed and capital protection products in recent years.

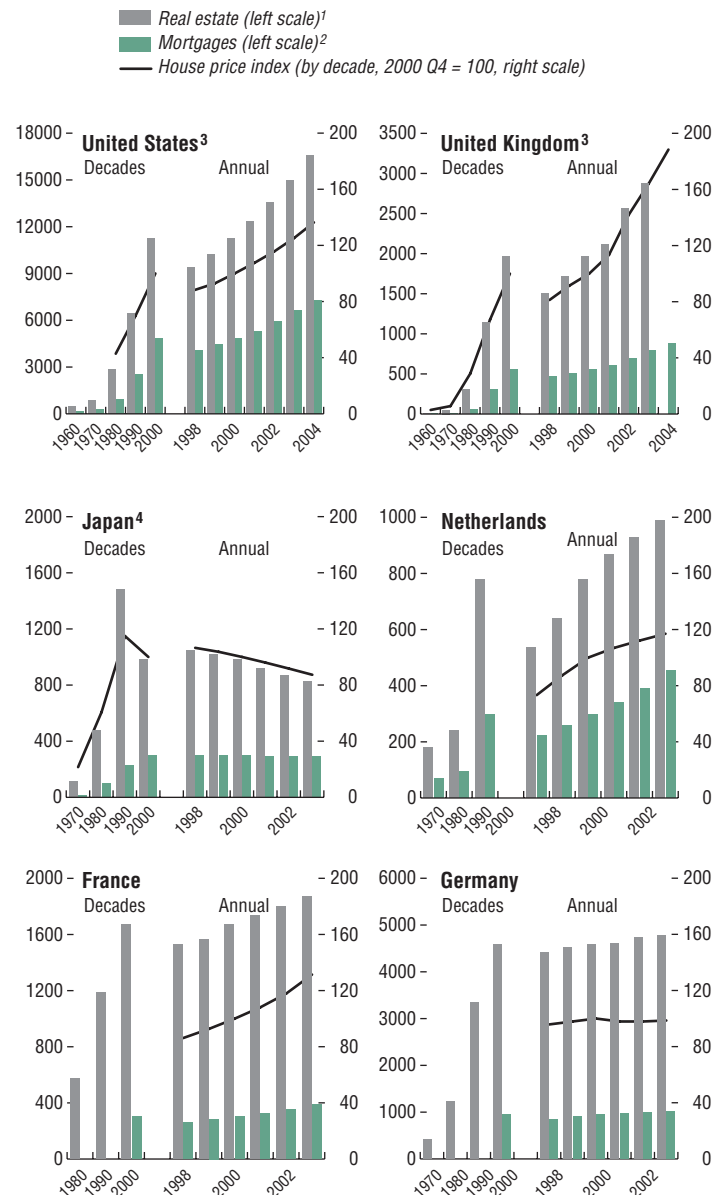
### Future Costs and Obligations

Households will face additional and new risks more directly as a result of planned or anticipated reductions in public and private benefits. For example, U.K. households can be expected to provide a much larger share of pension income from their own savings than in the past.<sup>12</sup> In various continental European

<sup>11</sup>National accounts may mislead in this area, because the market movements in pension (and insurance) reserves do not affect households (positively or negatively) to a proportionate degree.

<sup>12</sup>According to the U.K. Pensions Commission (2004), to maintain existing replacement rates (and assuming no rise in the average retirement age), the share of pension income provided by funded occupational and personal pensions and other sources may need to increase from 2.2 percent of GDP to 8.4 percent (i.e., from £23 billion to £88 billion, measured at constant 2002 GDP levels).

**Figure 3.6. Household Sector: Real Estate Values and Mortgage Debt**



Sources: U.S. Board of Governors of the Federal Reserve, Office of Federal Housing Oversight; Bank of England, U.K. Office of the National Statistics, Nationwide Building Society; Bank of Japan, Economic and Social Research Institute, Japan Real Estate Institute; De Nederlandsche Bank; Banque de France, INSEE; Bundesbank; European Mortgage Federation; and IMF staff estimates.

<sup>1</sup>Real estate for United States, in billions of U.S. dollars; for United Kingdom, in billions of pounds sterling; for Japan, in trillions of yen; for Netherlands, France, and Germany, in billions of euros.

<sup>2</sup>Mortgages for United States, in billions of U.S. dollars; for United Kingdom, in billions of pounds sterling; for Japan, in trillions of yen; for Netherlands, France, and Germany, in billions of euros.

<sup>3</sup>Data for 2004 are only available through the third quarter.

<sup>4</sup>Residential land price index is used for house price index (based on the year-end value in each fiscal year).

countries, delaying of the legal retirement age and increases in the required years of pension contribution also change household benefits.

Looking forward, current measures of household wealth may prove inadequate and new approaches to measure household vulnerabilities, such as a “financial margin” analysis, may be increasingly useful to policymakers. As households take on more obligations and enjoy longer lives, they will need to accumulate more private savings, and develop a reasonable “financial cushion.” Greater consideration of likely new household obligations may lead policymakers to question the adequacy of current savings and national account measures of wealth, particularly for middle-income and middle-aged populations. In some countries, authorities are developing additional measures, such as financial margins, which essentially provide a projected cash flow or income analysis, and may better reflect how vulnerable certain income and age groups are to proposed benefit adjustments.<sup>13</sup> In any case, it seems reasonable to assume that currently reported household net worth figures may be subject to greater challenges going forward.

Health care costs, which have risen well in excess of general inflation rates, may prove a significant concern for households.<sup>14</sup> With budgetary pressures in many industrial countries, public sector subsidies for health care and long-term care may also decline in the future. Moreover, health care costs have already become a growing share of household expenditure. For example, in France, where health care is largely provided by the government, rising health care costs have frequently led to reforms designed to rein in social security spending, and the share of health care

costs to be paid directly by French households (11 percent in 2003) is expected to increase. Over and above general increases in health care costs, the particular basket of health care goods and services consumed by the retired and elderly tend to cost much more than similar expenditures by middle-aged and younger households.

### Household Investment and Risk Management Behavior

This section will discuss household balance sheet management, and related saving and investment behavior. It will focus on how saving and wealth management may be affected by changes to household risk profile (e.g., possible future reductions in social benefits and increased exposure to market risks) and review the range of new financial instruments and services being offered by financial institutions to improve household financial and risk management capabilities.

### Household Behavior

While assessments of household savings adequacy need to reflect future assets and obligations described above, most available empirical studies have not taken into account the likely changes in public and private benefits. Economists have addressed the adequacy of household saving and investment using a number of different analytical frameworks, which have led to a wide range of conclusions. In the United States, several studies conclude that, on average, U.S. households appear to be accumulating sufficient wealth and/or have access to adequate pension income to avoid a significant decline in living standards

<sup>13</sup>The Sveriges Riksbank recently assessed the financial margin (i.e., post-tax income, after interest expenditure and regular living costs) of Swedish households for the years 2000 to 2002, and their ability to service their obligations when faced with unexpected shocks (e.g., a rise in interest costs and/or a decline in income; see Sveriges Riksbank, 2004).

<sup>14</sup>In the United States, the effects of rising health care costs on Medicare are considered by many to be a greater fiscal challenge than Social Security (see Walker, 2005).



**Table 3.2. Mortgage Markets in Selected Industrialized Countries: General Characteristics**

	Typical Rate Structure	Recent/Peak LTV ratios (In percent) <sup>1</sup>	Typical Term (Years)	Prepayment Fees	Equity Release Products	Tax Regime <sup>2</sup>
Denmark	Fixed	80	30	Administration fee only	Used	Partial Ded; WT; IT
France	Fixed	70/100	15	Limited to 3% of repaid principal <sup>3</sup>	Not used	WT; IT
Germany	Fixed	70/80	25	Lender entitled to compensation for lost income <sup>4</sup>	Not used	IT
Japan	Fixed	85/100	25	Lender entitled to compensation for lost income	Limited use	Limited term Ded; WT; IT
Netherlands	Fixed	100/115	10	No fees up to 10% of capital prepaid each year	Used	Ded; IT
United Kingdom	Floating	70/110	25	Usually no fees	Used	IT
United States	Fixed	80/100	30	Usually no fees	Used	Ded; IT

Sources: European Central Bank; Mercer Oliver Wyman; European Mortgage Federation; Japan, Government Housing Loan Corporation; and IMF staff estimates.

<sup>1</sup>Maximum loan-to-value (LTV) for eligibility to Realkreditobligationer in Denmark. Obligations Foncières in France and Pfandbriefe in Germany are 80 percent, 60 percent, and 60 percent, respectively.

<sup>2</sup>Interest deductibility (Ded); Wealth tax on housing (WT); Inheritance tax on housing (IT). In most countries, capital gains are taxable. However, owner-occupiers also benefit from various degrees of tax exemptions after a number of years of occupation.

<sup>3</sup>Three percent of prepaid capital maximum.

<sup>4</sup>In the first 10 years of the loan.

upon retirement.<sup>15</sup> However, in most of these studies, households are assumed to benefit from existing social security, pension, and other benefits. Although social security replacement rates are expected to be reduced, few studies to date have attempted to evaluate whether households are adjusting their savings or investment patterns to meet these challenges. (See CBO, 1993, 2003; Moore and Mitchell, 1997; and Munnell, 2003).

There remains concern in some countries that households may not be adjusting their savings rates to achieve past or necessary replacement rates. Expected replacement rates from individual retirement plans may

vary greatly because of a number of factors: (1) increased job mobility may cause some workers to lose continuous access to a pension plan; (2) low participation rates in available defined contribution plans;<sup>16</sup> and (3) market fluctuations. For those who do participate, we should not underestimate the potential impact of down markets, particularly on individuals close to retirement age.<sup>17</sup> With increased exposure to market-sensitive assets, diversification and periodic portfolio review and adjustment may be more important.<sup>18</sup>

In the United Kingdom, the Pensions Commission Report (2004) warned that many households are significantly undersaving. The

<sup>15</sup>Scholz, Seshadri, and Khitatrakun (2004); and Engen, Gale, and Uccello (1999).

<sup>16</sup>Data from large U.S. defined contribution plan administrators show that in 2003, one-third of eligible employees did not participate in their employer's voluntary savings plan, and of those that had an employer-matching feature, 26 percent did not participate (see Ameriks, Nestor, and Utkus, 2004; and Vanguard Group, 2004).

<sup>17</sup>A simulation of U.S. 401k asset portfolios with, on average, a 60/40 mix of equities and bonds, indicated that a three-year bear market that reduces equity values by 25 percent would reduce replacement rates by 13.4 to 17.7 percentage points (depending on income quartile) if the decline occurred immediately before retirement, and by 2.9 to 3.7 percentage points if it occurred at the start of a worker's career. See VanDerhei and Copeland (2003).

<sup>18</sup>Defined contribution plan administrators report that on average the asset allocation has been reasonably balanced between equities and bonds. However, there remained significant numbers of participants with unbalanced portfolios (e.g., only fixed income or only equities, or highly concentrated positions in sponsor company stock).

Report warns that, despite high current levels of net worth, existing trends would create a severe problem of pension adequacy within 25 years. It also warns that at least 75 percent of all defined contribution plan members have contribution rates below the level likely required to provide adequate pensions. In addition, the Report indicates that nonpension financial wealth for the great majority of U.K. individuals currently may provide only a modest contribution to total retirement income. For example, the Report estimates that median nonpension financial wealth for nonretired persons 55–59 years of age would provide income equal to only 12 percent of an “adequate” replacement rate for this middle-income group (U.K. Pensions Commission Report, 2004).

In countries where public programs (e.g., health care and education) are more extensive, household saving adequacy has not been a major source of concern to date. In continental Europe and Japan, for example, retirement income has been deemed secure, with continued relatively high replacement rates offered by public (and private) pensions, and the vast majority of future expenses (e.g., medical, long-term health care, and education) are expected to be partly or fully covered by the public sector.<sup>19</sup> These systems do not place the onus of ensuring retirement benefits on the individual’s saving and investment behavior. However, as noted previously, even in these countries, there has been increased focus on the need to encourage private savings, given budgetary pressures related to aging.

### *Influences on Household Decisions*

Given the long-term nature of these savings and investment needs, inertia may have a large impact on household plans. This is particularly important as we move to self-directed

plans. Given that the decision to enroll in a defined contribution plan is often voluntary, or less automatic than previous enrollment in a defined benefit plan, many workers do not participate in such plans. Research has also shown that “opt-out” choices for enrollment in pension plans (i.e., enrolling employees unless they actively opt out) lead to much higher participation rates than “opt-in” choices (Thaler and Benartzi, 2001). Practitioners also agree that default options are an important influence on household investment and asset allocation decisions. It is often noted by asset managers, financial advisers, and pension plan administrators that the vast majority of households exhibit extreme inertia in adjusting asset allocations as their circumstances change. In recent years, the trend toward “life-cycle” funds as the default option for many self-directed plans has accelerated, compared with previous default options such as money market funds.<sup>20</sup>

Some countries use tax incentives to encourage and channel savings. Tax incentives may help to overcome households’ general inertia or risk aversion. A number of initiatives have been taken by governments in this area, such as IRAs and 401(k) plans for pension savings, and 529 plans for college savings in the United States. Outside of the United States, preferential tax treatment also exists for certain accounts and life insurance products (e.g., in France and Germany).<sup>21</sup> However, empirical evidence has been mixed on whether tax incentives help raise overall savings or merely shift existing savings. Nevertheless, even if incentives do not raise overall savings, there are likely benefits from promoting more stable and long-term savings through such vehicles (see the September 2004 GFSR).

<sup>19</sup>Börsch-Supan and Lusardi (2003). Average public sector replacement rates range from 85 percent in Germany to a relative low of 50 percent in the Netherlands. See IMF (2004b).

<sup>20</sup>See below for a description of life-cycle funds.

<sup>21</sup>For example, in France and Germany the tax benefits associated with life insurance have historically been a reason for their popularity as savings vehicles, often as conservative money market or savings accounts.

Market participants often consider tax systems to be too complicated, subject to frequent change, and thus inconsistent with efforts to develop long-term saving strategies. For example, the series of U.K. initiatives to create tax-advantaged savings products in recent years (PEPs, TESSAs, and ISAs) was noted for its detailed rules, multiple objectives, and restrictive and widely changing terms, and only modestly improved savings in the United Kingdom. A simple and stable tax environment may help long-term savings growth and encourage more advanced planning by individuals and their advisers.

In some countries, compulsory contributions to pension plans have been used as a means to build long-term savings, albeit at the cost of personal choice. In addition to Singapore's CPF, Australia has had a compulsory savings scheme since 1986.<sup>22</sup> In these countries, compulsory savings programs have resulted in relatively large household long-term savings; however, this may be viewed by other national authorities as representing potentially too much government involvement. Regulations may also mandate or structure asset allocations (e.g., the purchase of annuities at or after retirement or by a certain age). However, authorities need to carefully consider the balance between restricting choice and the risk that inappropriate saving or investment decisions by large numbers of households may ultimately require governments to act to meet household shortfalls.

### Financial Products

As household risk profiles change, and investment and risk management challenges increase, it is important that households have access to financial tools and products to meet

their investment needs. In this section, we will review a variety of products, ranging from investment and payout strategies to liability management products.

### Saving and Investment Products

In recent years, the variety of saving and investment products and services available to households has improved. Financial institutions are recognizing the increasing demand from households for better risk management tools. Innovations in wholesale financial markets, including the use of derivatives, have expanded the range and delivery of financial products available to households for their long-term savings and investment needs. At the same time, asset managers, securities firms, and banks are offering more sophisticated analytical tools to retail customers, which enable them to assess their overall financial position and potential retirement needs.<sup>23</sup>

Governments may help to expand household investment and risk management products. Long-term and index-linked bonds may help households manage long-term savings during their working lives, and may provide a stable income in retirement, either directly or indirectly through collective investment schemes or through other products such as annuities (e.g., allowing annuity providers to better manage duration and longevity risks, as discussed in the September 2004 GFSR). Although the issuance of long-term instruments (over 20-year maturity) is limited in all mature markets relative to the size of pension fund or insurance company portfolios, there are signs that numerous governments may be considering increased long-term bond

<sup>22</sup>See a summary description of the CPF at [http://www.cpf.gov.sg/cpf\\_info/goto.asp?page=overviewb.asp](http://www.cpf.gov.sg/cpf_info/goto.asp?page=overviewb.asp). Research by Australian authorities estimated that 62 percent of compulsory savings represent incremental extra savings. See Connolly and Kohler (2004).

<sup>23</sup>Financial institutions often segment their clients into wealth or income groups, and have generally provided individualized advice and services only to higher net worth customers, with more generic analysis provided to middle-market customers, often through online services.

issuance (including index-linked products) to meet the increasingly apparent demand.<sup>24</sup>

### *Investment Products*

Mutual funds and index products are now more widely used by households. Mutual funds may be used for short-term purposes (e.g., in continental Europe, where they are frequently money market funds) or for longer-term investments (e.g., the preponderance of equity and bond funds in the United States). Innovations in the mutual fund industry have led to lower cost and more liquid investment alternatives. The growth of Exchange Traded Funds (ETFs), in particular, has been rapid in recent years. Such new products allow investors to deploy their savings to a wider range of investments, with greater diversification, liquidity, and lower fees than traditional mutual funds.

“Life-cycle” products have developed to address changing risk profiles as we age or approach targeted expenditures (e.g., education). However, such products represent a relatively small portion of the overall market for retirement savings. Life-cycle mutual funds gradually and automatically adjust asset allocations to a more conservative profile (e.g., increasing fixed-income investments) as an individual approaches retirement (or other target dates, such as college education), thereby reflecting an individual’s assumed evolving risk tolerance. While the use of life-cycle products has expanded in the United States, Japan, and Europe in recent years, there may be increased scope for the inclusion of such funds among the investment (or even default) options for self-directed pension plans, and the development of a wider range of products (e.g., pace of adjust-

ment).<sup>25</sup> In particular, life-cycle investment schemes (including equity holdings) may have application beyond retirement dates, as individuals are expected to live longer. Indeed, as with annuitization, the full conversion of savings and investment to a fixed-income stream at the time of retirement may not be appropriate.

In some markets, there has been significant growth of structured products.<sup>26</sup> These products have become increasingly popular in Asia and continental Europe since the equity market downturn in 2000–02, and in response to the prolonged low interest rate environment. They offer a variety of risk/return profiles, including capital or performance guarantees, while also participating in market upswings, such as “click-funds” in the Benelux countries. However, the use of complex hybrid products, such as equity-linked and structured credit notes, may raise consumer protection issues, where households may not fully understand all the underlying risks and costs of these products.

Looking ahead, retail investment products that provide access to diversified or less correlated asset classes (e.g., hedge funds) may also grow. As noted, portfolio diversification is likely to be an important focus of household balance sheet management. Therefore, like other investors, households may increasingly seek to invest in asset classes that provide diversification benefits and uncorrelated returns. Some of these asset classes, such as hedge funds (as well as private equity or commodity funds), are generally unavailable to households today. A significantly greater household exposure to hedge funds, for example, may give renewed impetus to the debate about the regulatory framework for

<sup>24</sup>The French Trésor introduced in February 2005 a new 50-year euro-denominated bond. In the United Kingdom, the Debt Management Office announced in March 2005 that, from May 2005, it would issue 50-year conventional gilts, and that later in the year, it may also issue 50-year index-linked gilts.

<sup>25</sup>The U.K. authorities have required that all providers of a new government-sponsored savings product (the Child Trust Fund) offer a life-cycle approach as one of the options, to mature at age 18 of the child.

<sup>26</sup>These instruments typically offer guarantees of capital protection and a particular return profile, and include significant optionality.

such investment vehicles, and a stronger regulatory approach would seem appropriate for retail distribution (as opposed to institutional investor involvement).<sup>27</sup>

Residential real estate products are also being considered in several countries, but are still at a developmental stage. In most cases, the idea is to develop a method that allows existing homeowners (and institutions) and prospective purchasers (saving to buy) to hedge price movements. A major challenge is to develop products that would allow investors to hedge price risk as specifically as possible, based on regional or more local market indices. One interesting approach is being developed in the United States by a team of academics through a government-sponsored project to provide house price insurance in very localized areas (i.e., based on zip codes).<sup>28</sup> Housing-indexed products may be very useful for potential homebuyers (particularly first-time buyers), increasing their ability to save for a particular property or to invest less than the savings needed to purchase a home as they continue to save for a house. We are aware of several jurisdictions looking to possibly develop housing indices or futures, as well as more conventional Real Estate Investment Trusts (REITs) for residential property.

### *Payout Products*

Saving and investment plans need to reflect uncertain life expectancy (i.e., longevity risk), and flexibility is needed in the conversion of savings into an annuity or other income stream. Saving and investment strategies need to consider longevity risk, either through longevity insurance provided by

annuity products, or through building a greater financial margin and total savings. The shift to annuitization may need to be gradual (as with life-cycle funds), even after retirement, especially given increased life expectancy.<sup>29</sup> In this respect, requirements of full annuitization at retirement for defined contribution pensions, such as those in the Netherlands and (for new compulsory individual accounts) in Sweden, may be too restrictive.<sup>30</sup> Italy requires 50 percent annuitization at retirement, while the United Kingdom requires that at least 75 percent of pension savings be annuitized by the later age of 75 years.

The further development of annuity products depends significantly on the ability of annuity providers to hedge longevity risk. Annuity providers need to be able to manage, hedge, or insure against longevity risk, based on instruments available in the capital markets or through reinsurers (but this then becomes a circular issue, as reinsurers look to hedge these risks). Efforts are under way in the public and private sectors to increase the supply of such instruments, including the issuance of more long-term government bonds.

A potentially promising instrument is a “longevity bond,” such as that developed by the European Investment Bank (see Box 3.1). The bond is intended to provide an approximate hedge to U.K. pension fund liabilities. However, the bond has a final maturity of 25 years (reflecting 90 years of age for the indexed population), demonstrating again that insurers and reinsurers remain reluctant to hedge extreme old age or this tail risk. Another, at present theoretical, alternative

<sup>27</sup>In the European Union, Hong Kong SAR, and Singapore, the marketing of hedge funds to the retail sector has raised investor protection concerns, and regulations (such as threshold limits for retail participation) have been established in a number of jurisdictions. See also the September 2004 GFSR.

<sup>28</sup>Case and Shiller (2003). Information on the pilot project is available via the Internet at <http://www.realliquidity.com>.

<sup>29</sup>See September 2004 GFSR for estimates of projected changes in life expectancy, both from time of birth and for those persons that reach 65 years of age.

<sup>30</sup>See Davis (2003); and Mackenzie and Schrage (2004).



### Box 3.1. Longevity Bonds

The European Investment Bank (EIB), working with others and at the suggestion of the European Parliament, sought to create a capital markets instrument to help pension funds address the challenges of aging populations. The bond provides a long-term, tradable instrument that hedges longevity risk by scaling payouts according to future longevity. The United Kingdom is a logical market in which to initiate this product, since the U.K. authorities require that at least 75 percent of defined contribution or personal pensions be annuitized by age 75, and there are relatively few U.K. annuity providers.

Although the EIB is the issuer of the bond, the ultimate recipient of the longevity risk embedded in the bond is PartnerRe. The EIB will undertake a swap with BNP Paribas, with EIB receiving floating-rate sterling funding. In turn, BNP Paribas will reinsure the longevity risk with PartnerRe, leaving BNP Paribas with interest rate exposure, and PartnerRe insuring the longevity risk.

As currently structured and proposed, the bond will have a 25-year maturity, and will make annual payments related to an index, representing the number of men in England and Wales

who were 65 years old at the time of the bond's issue, and who are living at each payment date. Payments on the bond will decline over its life depending on the longevity of the indexed pool (from about 9 percent to below 3 percent of the bond's initial market value, based on current actuarial estimates). There will be no separate interest or principal payments in addition to these indexed payments.

Such a bond may expand reinsurance capital available for annuity products. The risks involved in instruments based on wide population groups, such as that defined by the EIB bond, are easier for insurers to measure and manage than the risks related to specific populations of an individual pension fund or group of annuity beneficiaries that bilateral insurance deals typically involve. As such, insurers may be prepared to commit larger amounts of capital to the annuity and longevity markets.

The scope for further bond issues of this type remains uncertain at this stage, with the most significant constraints on future issuance likely to be the capacity of insurers and reinsurers to take on longevity risk, and investors' ability to price and willingness to purchase these securities.

may be the development of "macro-swaps" through which, for example, the pension fund and health care industries may swap their complementary exposures to longevity.

Some observers have noted that the only practical insurer or reinsurer of extreme old age risk may be governments. Some authorities have expressed a willingness to consider the issuance or support of longevity bonds. The Governor of the Bank of England urged the study of this possibility, given the limited availability of private longevity risk insurance in the United Kingdom, and suggested the government may have a role in sharing this risk across generations, including possibly through the issuance of longevity bonds (King, 2004). The U.K. Government said that,

while it did not envisage issuing longevity bonds in 2005–06, it may revisit the subject at a later stage, and has been seeking comment from the market (U.K. Debt Management Office, 2004). Meanwhile, the French social security refinancing agency, Caisse d'Amortissement de la Dette Sociale, has expressed possible interest in issuing a bond based on French longevity.

#### *Liability Management Tools*

Financial advisers have noted that many households appear to manage their liabilities better than their long-term savings or investment plans. The home mortgage is the largest liability for most households, and servicing it is often their largest regular expendi-

ture.<sup>31</sup> Therefore, households appear to give greater consideration to liability management. In many markets, flexible refinancing practices and a fairly wide range of mortgage products have enhanced the ability of borrowers to manage their mortgage debt, adjust interest rate risk, and extract equity from home values.

Danish, U.S., and U.K. households have a significant degree of flexibility in managing their mortgage liabilities. The Danish and U.S. mortgage markets accommodate household demand for a fixed-rate, prepayable product through quite different institutional arrangements.<sup>32</sup> More importantly, both markets facilitate the issuance of mortgage-backed securities, allowing greater flexibility in funding and risk management, and thereby increase market capacity and product variety. The structure of the U.K. mortgage market shares many similarities with the U.S. market, and is also relatively flexible in accommodating different household preferences for repayment structures and the setting of interest rates.

#### *Prepayment, Refinancing, and Equity Withdrawal*

The commoditization of mortgage loans in Denmark provides a range of options for households to manage mortgage liabilities. For instance, Danish households have the possibility, aside from exercising their prepayment option, to buy mortgage bonds in the secondary market and to deliver them to the mortgage originator to net against their loan and reduce principal. Furthermore, the seller of a house can transfer the existing debt on the purchased property to the new owner.

In the United States, the ability of lenders and households to customize mortgage products also provides a wide range of options for managing liabilities. In addition, the deregulated market structure in the United States has led to the creation of a wide range of mortgage products with different risk characteristics, and the various stages of mortgage lending are unbundled and often conducted by different entities.

In the United Kingdom, the “Miles Review” recommended a variety of initiatives to improve the U.K. mortgage market, including the development of a longer-term fixed-rate market (Miles, 2004). The Review identified several barriers to broader and more efficient market activity, including (1) lack of access for existing customers to a lender’s new mortgage products, and (2) lack of awareness of comparative information on alternative products and interest rate options. As a means to provide greater prepayment flexibility, the Review also encouraged the government to consider issuing options to provide lenders with a tool to hedge prepayments. In addition, the Review identified several obstacles to cost-effective funding of longer-term fixed-rate mortgages. These included the lack of covered bond legislation, possible higher regulatory capital weightings for fixed-rate than variable-rate mortgages, and legislative limits on the proportion of wholesale funding for building societies.

In some countries, home equity withdrawal has provided added flexibility for households. The U.S., Dutch, and U.K. markets have witnessed the development of home equity credit lines and reverse mortgages, offering households additional flexibility in converting part

<sup>31</sup>Other liabilities, including credit card debt, comprise a relatively small share of total household liabilities. However, increased flexibility in global credit markets has helped spur growth in these categories, especially in households in the lower-income groups.

<sup>32</sup>The Danish mortgage market has a relatively tight regulatory framework, intended to protect borrowers. Up to the 1990s, this had resulted in a very high level of standardization, but since then innovations in funding instruments have made available a wider range of loans to borrowers. By contrast, U.S. lenders accommodate a large variety of mortgage bond investors, while providing flexible products to borrowers. See Mercer Oliver Wyman (2003).

of their home equity into cash. Home equity lines of credit are a form of revolving credit in which the borrower's home serves as collateral. Reverse mortgages (or home equity conversion mortgages) target older homeowners and offer a variety of cash flow profiles. Payments to households are structured similar to an annuity, and require no repayment as long as the borrower uses the home as his or her principal residence. However, the use of reverse mortgages to date has been relatively limited, partly due to higher fee structures. For the lender, such products contain risks similar to an annuity, combined with risks related to preserving the value of the house and eventually selling the property (i.e., price movements and liquidity).

#### ***Broader Liability Management Tools***

The prospect for new and larger household obligations resulting from reduced pension and other benefits may trigger the development of new markets. As noted, a key challenge for household financial management will be the ability to manage new and potentially significant obligations (e.g., health and long-term care, and pension-related risks) that were previously provided for by other sectors (e.g., the state or corporate plans). As these risks become better understood and their magnitude is better measured, households will likely seek new products and risk management tools to help them manage such exposures. Interestingly, it is the measurement, management, and monitoring of many of these risks that has increased the flow of risks to households and changed their risk profile. As such, if public and private sector efforts to help households manage these obligations more directly do not meet their needs, policymakers will continue to be confronted with these significant issues.

#### **Need to Communicate, Educate, and Facilitate Advice**

The long-term financial obligations and risks that households will need to manage are becoming larger and more complex. Developing and executing long-term saving and investment plans are skills that many individuals may find very difficult without expert advice and assistance. Saving for retirement is a long-term exercise for households, with a payoff that is apparent only much later, and therefore carries the risk that individuals may make significant and systematic errors over time. Furthermore, the experiences of previous generations may not provide a reliable guide, given changing benefit and pension structures, as well as available financial instruments.

There is a need for more communication by authorities of the challenges ahead, and for greater financial education for most individuals. As noted earlier, household financial behavior suggests that large numbers of individuals do not currently take a comprehensive approach to financial management, are often slow to act, and underestimate the level of savings required and the obligations and risks that they need to address in order to reach the living standards they currently expect at retirement. Surveys of households frequently show a substantial lack of knowledge about their own arrangements for retirement savings.<sup>33</sup> A recent study on financial literacy in France also indicated that a majority of households consider themselves ill-equipped to choose a particular investment strategy, and do not compare investment products offered by different institutions (although they do so for other financial products, such as loans), often depending on their principal banking relationship for advice (Autorité des Marchés Financiers, 2004).

<sup>33</sup>For example, 65 percent of Dutch households are unable to provide an estimate of their pension income upon retirement (De Nederlandsche Bank, 2004). In the United Kingdom, 44 percent of the population reported a basic knowledge of pensions in 2004, down from 53 percent in 2000 (U.K. Pensions Commission Report, 2004). In the United States, 47 percent of workers who have not saved at all still report themselves as confident that they will have enough money for retirement (Helman and Paladino, 2004).

Communication and education proposals require different strategies to reach different population groups and levels of sophistication. For instance, basic financial information may be provided in schools to children and young adults to create financial awareness from an early age. The need for long-term planning of retirement savings and related strategies may be particularly important for those at the beginning of their careers, and for persons approaching middle age. As individuals reach the latter half of their working lives, the focus may need to change, with a greater consideration of payout strategies (including health care and intergenerational issues).<sup>34</sup>

### Communication

In many countries, authorities have made significant efforts to raise public awareness, but more is likely needed. Ongoing reforms to reduce the role of the state in providing pension and other benefits generally have been accompanied by actions aimed at informing households about the implications of such reforms (the same has been true, with varying degrees of success, of individual corporate pension reforms).<sup>35</sup> However, the public debate and awareness of these implications is often still nascent, pointing to the need for further initiatives.

Authorities in the United Kingdom have been particularly active in communicating to

the public about these challenges. The U.K. Pensions Commission Report (2004) reviewed the adequacy of private pension saving and advice on policy changes, and warned that “pensioners will become poorer relative to the rest of society” unless taxes or social security contributions devoted to pensions rise, individuals save more, or employees accept longer working lives.<sup>36</sup> The Report has attracted wide publicity in the media, and has intensified the debate on retirement and pensions in the United Kingdom.

In continental Europe, reforms of public pension systems have typically been accompanied by government efforts to inform households about the impact of such reforms. In Sweden, a broad information campaign accompanied the introduction of the new public pension system, and subsequent surveys have shown that the share of participants who say they do not understand the system has fallen from about 30 percent in 1998 to 13 percent in 2003 (see Sundén, 2004). In France, the government will implement by 2006 a new strategy designed to make available general information on retirement savings (free publications, a “hotline,” and a website), as well as more personalized information in the form of comprehensive simulations of future individual benefits.<sup>37</sup>

In the United States, the administration has recently begun discussions on its proposal to create personal retirement accounts, as part of a broader reform of the social security system.

<sup>34</sup>In the United States, for instance, 60 percent of workers aged 45–54, and 42 percent aged 55 or above, have given little or no thought to how to manage their money in retirement so as to not outlive their savings (i.e., longevity risk), and 76 percent of 45–54 year olds, and 61 percent of over-55-year-olds have given little or no thought to how to pay for long-term care or home health care costs. See Helman and Paladino (2004).

<sup>35</sup>See IMF (2004a). When employees were asked what benefits they valued most, the vast majority of respondents expressed much more concern about health care and medical benefits (and a strong desire to retain such programs), relative to pension benefits.

<sup>36</sup>See U.K. Pensions Commission Report (2004). Two other prominent reports in the United Kingdom are the Sandler review of the U.K. market for medium- and long-term savings, and the Miles Report on the U.K. mortgage market. An overarching theme of these reports is a consideration of the appropriate structure and design of financial markets and products, in particular to provide individuals with the relevant information for them to take more control of, and responsibility for, their own financial affairs.

<sup>37</sup>See France, Ministère des Affaires Sociales (2003). Information on the provision of information to beneficiaries on their statutory pension rights across EU countries is available in the Report by the European Commission, Directorate-General for Employment and Social Affairs (2003).

This has already stimulated a broad debate about the balance between public and private funding of retirement savings, the distribution of the funding burden between generations, and the desirability of individuals having the option to invest and manage a portion of their social security account.

In Japan, the Central Council for Financial Services Information (CCFSI) is charged with communicating information about financial services, and coordinates its activities with the Bank of Japan (BOJ) and the Financial Services Agency (FSA). The CCFSI and BOJ also aim to communicate to the public the importance of topics such as deposit insurance and public pension reform. The CCFSI has used the BOJ's branch networks to conduct seminars on financial planning, the availability of new financial instruments, and risk management.

### Education

Clearly, households remain responsible for their investment decisions. The main duty of the public sector, in turn, is to provide good regulation and supervision of the financial sector. In light of these two observations, financial education becomes all the more important to help the household sector to adequately manage their financial affairs. Governments should coordinate with the private sector in promoting such financial education.

Even though financial information may be plentiful and accessible, households often make limited use of such information. It is widely recognized by regulators, asset managers, and consumer groups that few retail investors make use of the detailed information that mutual fund sponsors are required

to provide on the products they distribute.<sup>38</sup> In the United States, research shows that increased disclosure of financial information to consumers does not necessarily result in improved financial management in areas such as mortgages and investment—an issue increasingly explored within behavioral economics and finance (U.S. Board of Governors of the Federal Reserve System, 2002). This confirms that mere information, while important, cannot act as a substitute for greater household understanding and education.

While financial education shortcomings are not new, they become more important as households are expected to manage more directly their financial affairs. Surveys often indicate poor consumer familiarity with even basic financial issues, such as the calculation of simple interest returns.<sup>39</sup> Basic education in household finance and financial management historically has not been provided in schools and colleges in most countries. Moreover, in our increasingly busy lives, many adults lack the time or motivation to educate or update themselves on these issues. Alternatively, if households broadly appear unable to manage these new challenges, governments may come under growing public pressure to intervene in support of the household sector, for example, in the form of re-regulation of certain products or services, or in order to deal with waves of litigation.

Financial education seems particularly important with regard to the management of long-term savings (Häusler, 2005). Experts generally agree that the challenges for financial education (and households) are more daunting with respect to long-term savings and investment planning than with regard to debt management. The uncertainty over

<sup>38</sup>In our discussions with market practitioners, such behavior was frequently attributed to the complexity and length of this disclosure (i.e., disclosure, rather than transparency), which was attributed in part to the belief that, in some jurisdictions, such disclosure may be driven largely by legal considerations.

<sup>39</sup>In the United Kingdom, a survey found that only 30 percent of respondents could correctly calculate simple interest returns. See Institute of Financial Services (2004); and Financial Services Authority (2001).



returns (including the need to monitor, reevaluate, and possibly make adjustments to savings strategies), and the complexity and variety of products available are typically greater for savings and investment products than for debt products (e.g., mortgages). In addition, decisions about how much to save, investment and asset allocation strategies, and how to structure payouts during retirement are considered very difficult for most households. Accordingly, the purpose of financial education should not be to define a single approach to savings and investment (which may bring its own risks and moral hazards), but rather to equip individuals to ask informed questions and to understand the potential outcomes of their financial decisions.

There is evidence that financial education results in better financial decision-making practices, but challenges remain in identifying the most effective means to deliver educational services. In the United States, evidence has been found that financial education programs have a material impact on financial behavior (Helman and Paladino, 2004; and Lusardi, 2004). However, there is a need to better define and coordinate strategies to strengthen financial education.<sup>40</sup> In particular, there may be different objectives and strategies with respect to (1) the focus of financial education programs (e.g., between topics, such as home ownership, savings accumulation, or debt reduction; and between target audiences), and (2) their delivery channels (e.g., between public and private providers, and between different media). There may also be a need to better coordinate efforts to strengthen financial education, and to evaluate the effectiveness of existing efforts. The OECD has established a Financial Education Project to develop an inventory of education programs and to report on the current state of financial literacy in member countries. The

report is expected to include a list of good practices for financial education programs (OECD, 2004).

In the United States, the Treasury in 2002 established an Office of Financial Education. This office works to coordinate the financial education efforts of other federal bodies, and more generally identifies and promotes access to financial education tools and effective education practices by a wide variety of institutions, including state, private sector, and nonprofit bodies. In France, a working group, involving representatives from the public and private sectors, was recently established by the government to (1) evaluate the financial literacy of households and existing financial education initiatives, and (2) design and implement a consistent action plan in this area. In Japan, the FSA has encouraged financial education in schools by helping to develop textbooks and other classroom materials. However, despite these efforts, the amount of public resources devoted to financial education remains quite limited (e.g., some practitioners noted that public and private spending in this area was very small relative to private sector financial advertising expenditure), and may be best leveraged through partnerships with the private sector.

The United Kingdom provides an example of coordinated initiatives to raise financial education standards in a variety of areas. In the United Kingdom, the FSA is expected to play a key coordinating role, and it has set up working groups, involving public and private sector participants, to develop proposals on improving financial capabilities across the full range of consumers' life stages and financial decisions: schools, young adults, the workplace, families, retirement, borrowing, and "generic" advice (i.e., advice that helps consumers consider how to plan finances, but does not recommend specific prod-

<sup>40</sup>See University of Pennsylvania (2004).

ucts).<sup>41</sup> The FSA also recently imposed standardized disclosure by mortgage providers of certain key facts and risks regarding mortgage borrowing, intended to complement those already required for savings products. In the United States, the Financial Literacy and Education Commission, composed of the heads of a number of federal bodies, has been established, and in August 2004 it requested public comment on the most important issues a national strategy should address, how existing resources might be employed, and how the issues may best be addressed (GPO, 2004).

The private sector, including employers, may have an important role to play within these coordinated efforts. Existing examples give an indication of the range of roles the private sector can play. In Japan, investor education is often done by banks, which take advantage of their strong relationship with depositors, and have used their branch offices to conduct seminars about new products. In the United States, many employers have supported seminars to help employees evaluate their financial needs and their investment options (and there is evidence that such seminars have a material impact on employee participation in 401(k) plans).<sup>42</sup>

### Financial Advice

The finance industry and private sector firms are best placed to provide advice on saving and investment products and strategies. The provision of quality financial advice should progress with that of financial education. Once individuals are better equipped to ask informed questions and understand their needs, market forces may be expected to develop more financial management tools and products for households. A number of

financial institutions have already started to improve the way they operate in relation to households, realizing that it is also in their interest to help households better manage financial risks, and to provide sound advice on financial decisions and their implications.

However, there appears very little willingness on the part of households to pay for independent financial advice. To date, financial firms offering a choice between fee-based and commission-based advice have reported overwhelming consumer preference for the commission-based option. As such, financial advice (whether provided by financial intermediaries or independent advisers) is often commission or transaction based and, therefore, risks being focused on selling financial products, rather than advice. For example, we were frequently told by market participants that very often the best advice for a retail client is to reduce debt levels; however, they added, too often such advice is not given or strongly encouraged because “no one gets paid to tell a client to pay down debt.”

There may be a need to strengthen the incentives for financial advisers to better support the needs of households. A relatively simple and stable tax and regulatory regime may encourage advisers to develop more tools and to provide long-term planning advice. Minimum educational standards for advisers themselves may need to be reviewed and strengthened. Several market participants spoke of practices where financial advisers have been historically paid by their employers to maximize the volume of sales, or how firms, when evaluating why customers have left their institution, frequently found client portfolios were full of “fashionable” investment products or (worse still) the “last five product launches” by the adviser’s employer. Another improvement in this area may be to make commis-

<sup>41</sup>The FSA emphasizes that it sees itself as coordinating these exercises and setting standards for disclosure, rather than seeking to directly educate or, even more importantly, to advise households or individuals.

<sup>42</sup>See Kim, Kratzer, and Leech (2001); and Thaler and Benartzi (2001). In the United States, commercial banks also provide financial education (Consumer Bankers Association, 2004).

sions and fees more transparent. The U.K. FSA is doing this through new regulations (to be phased in by June 1, 2005), requiring advisers to provide a standardized “menu,” including the costs of advice, whether provided by fees, commissions, or both.

Improving financial education is a process that will ultimately take decades to achieve, but public awareness can be increased now. All the public and private sector practitioners whom we met agreed that financial education should begin in school, and as such will filter through the population with time. But many of the current initiatives are aimed at raising broad public awareness of households’ increasing need to take responsibility for their finances (e.g., U.K. Pensions Commission), and ensuring that information is provided to better enable households to understand and compare products. By raising communication and education standards in this way, a better educated consumer, capable of asking informed questions and making more informed choices, should emerge.

## Concluding Observations

Households, as the shareholders of the financial system, have always been exposed to various financial and other risks. Therefore, while changes in risk management practices by institutions, often driven by regulatory and accounting standards, may not change the aggregate risk to which households are exposed in the long term, such changes frequently alter the flow of risks, and lead to changes in the risk profile of the household sector (including between different income and age groups). This final installment of our series on risk transfer has assessed the changing risk profile of the household sector, and discussed some of the associated new challenges for household investment and risk management.

Efforts to improve the collection, timeliness, and comparability of data for the household sector should be encouraged. Our review of

households has been based on available data at the aggregate and household levels. In a number of countries, it was difficult to obtain a consistent set of data for both financial and nonfinancial balance sheet items over an extended period of time. Even among countries with relatively better aggregate data, timely panel data covering households of different age and income groups is limited. As the responsibility to manage more financial risks is being shifted to households, it is increasingly important for policymakers to accurately gauge the impact of various reforms on the household sector.

As we analyzed household balance sheets for selected industrial countries, we observed various differences and trends in household exposure to market and other risks:

- *Net worth* has grown significantly relative to income in most industrialized countries during the last two or three decades, boosted in particular by capital gains on market-based assets from robust financial and real estate markets. However, planned reforms of public and private benefits mean that households will have more responsibility in managing their financial affairs, including their retirement and health care needs. Therefore, their financial position may need to be reassessed in light of these likely developments.
- In some countries, households have managed to reduce balance sheet or *net worth volatility* over the long run, despite relatively large holdings of market assets. This appears to be the case in the United States, where household balance sheets appear to have benefited from a relatively well-diversified financial portfolio. In some countries, however, a reduction in volatility from holding a diversified portfolio of market assets has been limited by events that increased the correlation between asset classes.
- Household *financial assets* over the last several decades have shifted away from bank and savings deposits to more market-sensitive assets in most countries. In part,

such shifts were encouraged by equity market developments during the 1990s, and (more recently, particularly in Europe) the popularity of structured products, which may reflect institutional arrangements, and other national or regional market characteristics.

- *Housing* is the single largest asset for most households, yet real estate is a relatively less liquid asset class, with the degree of liquidity varying substantially across different countries. Interestingly, households in aggregate appear to better manage mortgage liabilities than long-term savings and investments, particularly in countries with relatively more flexible mortgage markets. While housing has always contributed to some extent to households' longer-term savings needs, there are risks in relying too heavily on such investments for retirement income. In this regard, steps to create more flexible mortgage markets should be encouraged, including the development of flexible mortgage-backed securities and derivatives markets.
- Trends in public and private *pension reform* are changing the financial positions and risk profiles of households in a number of ways. Such reforms have brought benefits and reduced some risks, but at the same time increased other risks. In particular, changes in public and private pension schemes globally have tended to increase the direct exposure of households to investment and market risks, and, more challenging, longevity risks.
- In addition to pension reform, prospective changes in *public and private benefits* (such as health care and long-term care) can be expected to devolve more responsibility to households to manage such financial implications. In order to better assess the impact of necessary reforms on the household sector, policymakers may look to develop broader, more forward-looking measures of household wealth. For example, they may try to define an appropriate financial mar-

gin measure (for income and/or savings levels) that would help to evaluate households' financial and savings cushions relative to anticipated future obligations.

Households may require new instruments to meet their saving and investment needs. Attracting savings is a key first step, and although many financial institutions are supplying households with more sophisticated analytic tools to assess their saving strategies, as well as asset allocations, more needs to be done in many countries to reach a wider range of households and to address their broader needs. However, encouraging long-term savings and investment behavior also requires consistent government policies, including relatively stable tax policies to encourage long-term strategies. To help households (and institutions) manage longer-term investments and obligations, and to facilitate the supply of annuity products, we again encourage governments to consider the issuance of long-dated, as well as index-linked, bonds to help address these longer-term and inflation-sensitive investment needs. Finally, given the relatively large concentration of housing assets in household net worth figures in many countries, some additional impetus for reverse mortgages or similar equity release products (including further analysis of the factors holding back the development of such products) may help households to more easily realize such long-term savings and to make more resources available for retirement and related obligations.

A crucial element of household saving and investment plans is the uncertainty of life expectancy, and the ability to convert long-term savings into a dependable income stream. However, annuity providers are already facing capacity constraints in some countries, related in part to their inability to hedge the longevity risks inherent in these products. A promising development is the pending issuance of longevity bonds by the European Investment Bank. More generally, governments may also consider, within their

occasional role as insurer of last resort, the possible assumption of extreme old age risk (i.e., an important and costly tail risk for insurers). Indeed, such a role is already recognized in other areas where the costs or risks are deemed too great or undiversifiable for the market to effectively insure. For example, as part of the broader market for catastrophe risk, government or quasi-public bodies currently participate as insurers or reinsurers of earthquake and hurricane risks in California, Florida, Japan, Taiwan Province of China, and elsewhere (often utilizing private institutions and the capital markets to share or hedge these risks).

Governments may be well positioned to take the lead in communicating to households about their retirement challenges. Even though governments bear no responsibility for households' investment decisions, governments should coordinate with the private sector to provide financial education. In every country reviewed in our study, households appear to require more basic education about the risks and alternatives available for their financial and balance sheet management challenges. More can be done to ensure that households understand and have the basic skills and tools to manage additional and new risks. Governments and private industry have comparative advantages in addressing the different aspects necessary to educate and assist households (e.g., access to particular groups of workers, alternative channels of communication and education tools, and product and market expertise).

The incentives for financial advisers to provide long-term, impartial advice to households may need to be reexamined. The unwillingness of most individuals to pay for independent financial advice is a significant hindrance to the development of a broader advisory market. As such, there may be a need to strengthen the incentives for financial advisers to better support the needs of households, including through a relatively simple and stable tax and regulatory regime that may

encourage advisers to develop more tools and to provide long-term planning advice, combined with greater public education of the benefits of such advice and planning.

We believe it is important for policymakers to consider how policies aimed at improving financial stability are likely to influence the flow of financial risk through the financial system, and in particular the risk profile of households. During the last 20 years or so, policymakers and standard setters in many industrialized countries have successfully implemented policies designed to improve the resiliency and stability of systemically important institutions, such as banks. To differing degrees, similar policies have been or are being designed to do the same with regard to insurers and, more importantly, to public and private pension systems. In numerous countries, in response to many of the public and private actions to de-risk banks, insurers, and pensions discussed in this and previous issues of the GFSR, the financial risk profile of households is likely to be changing at this time.

Overall, there has been a transfer of financial risk over a number of years, away from the banking sector to nonbanking sectors, be they financial or the household sector. This dispersion of risk has made the financial system more resilient, not the least because the household sector is acting more as a "shock absorber of last resort." But at the same time, these new recipients of financial risks must learn how to manage the newly acquired risks. Policymakers have helped the financial system to become more resilient by providing good regulation and supervision of the financial sector. But now they also need to take the next logical step: help households to improve their financial education by obtaining quality advice and products necessary to manage their financial affairs.

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