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Retirement at Risk II – Challenges for U.S. Baby Boomers Approaching Retirement

Allianz
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Content

Challenges for Baby Boomers Approaching Retirement

Executive Summary

Planning and saving for retirement has long been contingent on making sufficient contributions and choosing the right investments. Attention in the past was predominantly focused on the accumulation of pension wealth. It is not that accumulation has become less important. The difference is that individuals increasingly are assuming more responsibility for managing the dissaving process. In the last few years, the focus has shifted to converting accumulated pension assets into a retirement income stream. The U.S. retirement market faces a compound problem. A lack of savings and an often insufficient knowledge of how to manage the dissaving process are two conspicuous challenges.

Baby boomers are in a transition phase. Their focus is shifting from asset accumulation to income generation. The share of the overall population seeking retirement planning strategies is increasing. Early baby boomers already may be in the process of developing concrete decumulation strategies; late boomers, on the other hand, already may have started deciding how to restructure their portfolios to suit their retirement needs.

The largest population segment in American history will retire in the next two decades. The challenges that baby boomers face include:

- Decreasing Social Security benefits
- Growing importance of account-type pension plans that require greater responsibility in the accumulation and decumulation phases
- Reduced pension wealth due to the global financial crisis
- Rising health care costs
- Increasing life expectancy, which means a person has to be financially prepared for even longer.

This study takes a close look at these challenges and provides a detailed analysis of the retirement preparedness of baby boomers. We will look at different wealth groups and examine the effects the financial crisis has had on each. The global economic downturn has affected the boomers differently. For instance, last year's 33%* drop in housing prices has been especially harmful for low-wealth boomer households because they have most of their assets tied in home equity. In contrast, boomers with a high net worth have been hit by having direct ownership in struggling businesses and by the 40% drop in the equities market in 2008. Overall losses were substantial last year. The substantial wealth losses are highest, in relative terms, for families at the lower end of the wealth spectrum. In some cases, the collapse of the housing market has wiped out all of the wealth that a family has accumulated over the last two decades.

* Case-Shiller home price index, 20-city composite index

Furthermore, the study shows that the amount of income retirees get from different sources is likely to change. There will be declines in both Social Security benefits and the share of income paid by defined benefit pension plans. Assets invested in defined contribution plans, Individual Retirement Accounts and nonqualified accounts will have to compensate and provide boomers with an increasing share of their future income. As the importance of account-type pension plans grows, individual investors will need to assume more responsibility for their retirement income strategies.

Connected with the shifting responsibilities for managing retirement assets in the accumulation and decumulation phases, more emphasis will be placed on product choice and financial advice in the future.

Pre-retirees will have to focus on the structure of their retirement portfolios. They need to develop a funds-withdrawal strategy that is consistent with their retirement spending goals because decumulation is not just accumulation in reverse. There are a number of risks that are specific to the payout phase. In the context of wealth decumulation, the important aspects relevant on the product side are:

- The level of downside protection
- Covering of longevity risk
- Protection against inflation
- Flexibility to cover unanticipated expenses
- The option to leave an inheritance.

Existing products fulfill these needs to varying degrees. Usually, a basic set of financial products is used to construct retirement income portfolios. However, the financial industry is in a state of transition as it prepares for the unprecedented upcoming decumulation that will coincide with the retirement of the baby boomer generation.

The major financial events that have taken place since 2007 have had a lasting effect on the overall retirement landscape and have resulted in two challenges:
1) product providers will have to adapt to the new environment by adjusting their general product range to take into consideration the increased volatility, instability and uncertainty of capital markets; 2) the huge wealth decumulation market needs to be addressed.

Decumulation is not just accumulation in reverse. The requirements to these products are different. Product providers as well as advisers must make an effort to support the wealth decumulation market in the future. The challenge will be to develop new solutions and educate advisers on how to best incorporate these offerings into their clients' portfolios. Currently, most financial advisers use a basic set of financial products to construct a retirement-income portfolio. In fact, the adviser business model is oriented toward capital accumulation; decumulation would mean a loss in fee income as advisers are usually paid a percentage of their clients' assets or at conclusion of the contract. If the providers of wealth decumulation products want to be successful with pushing their products into the distribution channel, there is no way around offering attractive fee-based incentives to those who are supposed to sell these packages.

The downturn of the housing and capital markets from 2007 to 2009 has demonstrated the vulnerability of retirement portfolios that were not diversified enough to protect against the huge losses that were experienced across almost all asset classes. Those who don't have time to recover the losses will have to delay retirement or settle for less retirement income. The crisis has challenged the system in many ways. The recent market turmoil is likely to result in more comprehensive regulation, a greater focus by advisers on fiduciary responsibility and changes in product design. Especially in the context of wealth decumulation, solutions will need to be sustainable in various market environments. These solutions must be easy for customers to understand so that they can pick the retirement planning strategies that best fit their needs.

The growth in retirement assets is faster than the overall growth in household financial assets. Retirement assets are the single-largest driver of the increasing wealth of the American population.[1] However, a huge decumulation market is emerging within the retirement market. The financial industry is preparing to serve that market.

I. Introduction

The U.S. pension system relies on a mix of public and private pension provisions. The system is based on three pillars and is well known for the importance it places on employer-sponsored and private pension arrangements to provide retirement income. However, shifts in the population structure and retirement landscape are affecting the retirement preparedness of many households. On one hand, there is a shift from defined benefit (DB) pension plans, in which employers assume the investment and longevity risks, toward defined contribution (DC) arrangements in which the individual usually carries those risks. On the other hand, there is this large group of 78 million people who were born between 1946 and 1964 – the baby boomer generation – that has just started to retire. The early boomers are now on the verge of retirement and need to prepare for their golden years.

Retirement assets predominantly come from employer-sponsored pension plans, which is why the government has focused a lot of attention on this area. The Pension Protection Act of 2006 caused major changes to employer-sponsored pension plans (*for details see Breakout Box II*), however, the legislation is focused on the accumulation phase. The shift in the retirement landscape toward greater individual responsibility is mostly discussed in the context of asset accumulation and is attached to the discussion on sufficient contribution rates and appropriate investment options. Given the trend toward account-type pension plans, the most important being 401(k) plans and IRAs, it is crucial that prudent decumulation strategies are developed. In order to generate an income stream from accumulated retirement assets, the dissaving process must be actively managed. Defined benefit plans pay a retirement income for life while defined contribution plans usually distribute lump-sum payments upon retirement or provide a phased withdrawal plan. In both cases, income from the plans can be outlived. This happens when life expectancy is underestimated and too much money is spent in the early years of retirement. In addition, these assets are subject to capital market fluctuations and inflation. The combination of these factors creates more uncertainty when trying to determine one's actual retirement income.

In the United States, supplementary retirement income sources play such an important role because the payout rate from Social Security is only moderate, especially for middle- and high-income earners. The retirement of the baby boomers, however, has created a huge potential for the financial industry to try to address the large pools of

Breakout Box I

The shift toward DC pension plans

In 2005, of all employees who were covered by an employer-sponsored pension plan, 64% participated in a defined contribution plan. This figure is up from 26% in 1975. The number of DC plans almost tripled over the specified period and the number of participants rose from 12 million in 1975 to more than 75 million people in 2005[2]. This is a growth rate of more than 6% annually, which is five times higher than the growth in the overall work force.

assets that have been accumulated over the past decades. The value of total financial assets of private households in the United States at the end of 2008 amounted to USD 40.8 trillion of which USD 14 trillion were held in retirement accounts.[3] Another important asset class for private households is real estate, in which they had invested USD 18.3 trillion at the end of 2008.[4] A major share of U.S. private household wealth is held by baby boomers. Because this large group is on the verge of retirement, the market for decumulation products is poised to evolve into a mass market that attracts attention from both product providers and professional advisers.

Breakout Box II

The Pension Protection Act of 2006

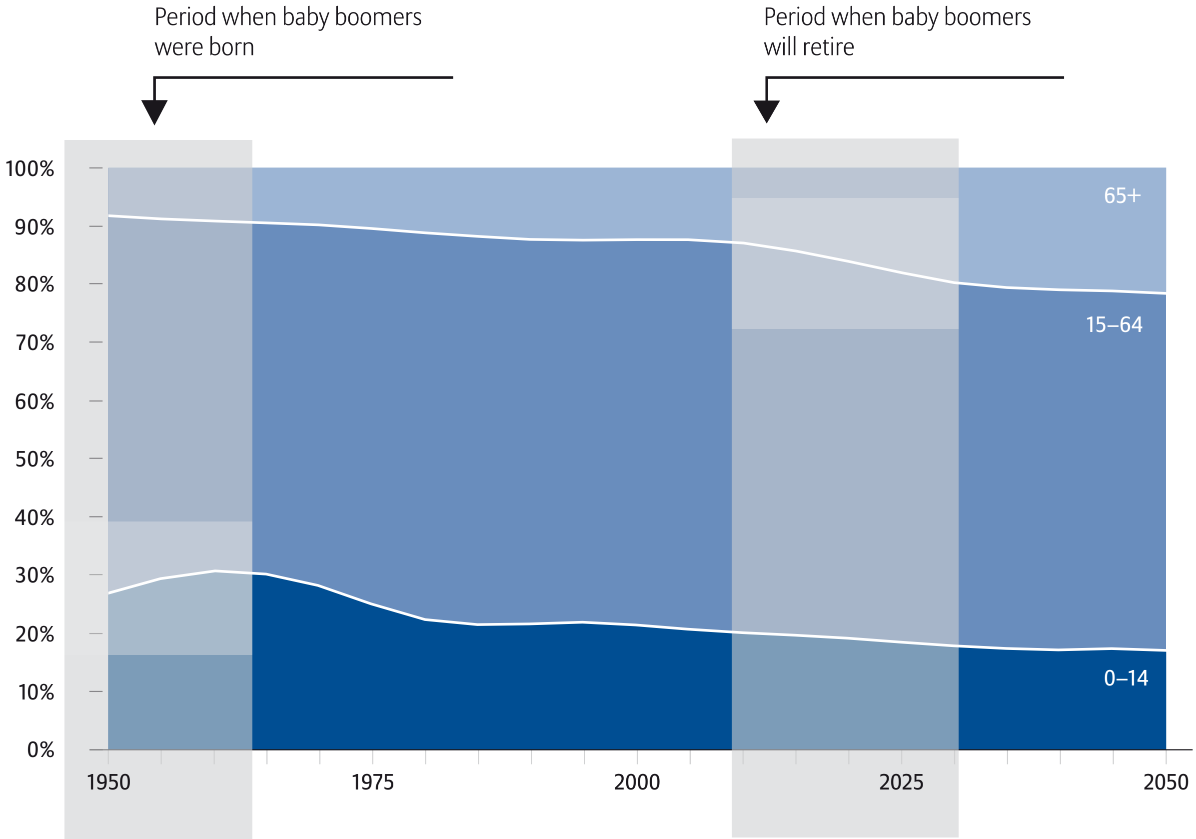
Signed into law in August 2006, the Pension Protection Act (PPA) of 2006 is the most far-reaching regulation introduced in the United States since ERISA (Employee Retirement Income Security Act) in 1974. New regulations apply to both defined benefit and defined contribution plans. The most important regulations affecting defined benefit plans are: new funding standards; rules governing the valuation of plan assets and liabilities with at-market rates; and special rules for at-risk plans. For defined contribution plans, the PPA aims to govern investments in default options and gives guidance on contribution schedules. What is more, the automatic enrollment into employer pension plans has been facilitated. The shift in occupational pension plans toward DC plans necessitated action on the part of the government. The PPA tries to guide employers and employees in their investment decisions and stimulate participation in occupational pension plans.

II. A rich and diverse generation – Baby boomer wealth

The United States is experiencing a shift in its population structure. By 2050, people age 65 and older will account for 20% of the population compared with 13% today. The share of elderly people will grow because of the size of the baby boomer generation, which will have reached retirement age by 2030 (*see Figure 1*).[5] This segment of the U.S. population includes 78 million people who were born between 1946 and 1964. Despite low savings and heavy debt, the baby boomer generation is considered to be the wealthiest ever in American history. However, wealth is not distributed equally among this group so great disparities exist.

An analysis of data from the Survey of Consumer Finances 2007 shows that 65% of the baby boomer generation's investable assets are held by just 4% of boomer households. This group, known as the ultra high net worth population, has investable assets of at least USD 30 million. In contrast, only 2.6% of baby boomers' investable assets are allotted to 70% of boomer households. Figure 2 shows the distribution of investable assets among baby boomer households.

Figure 1: Population structure in the U.S., 1950* – 2050



Source: United Nations, Population Database; *Earliest data available as of 1950

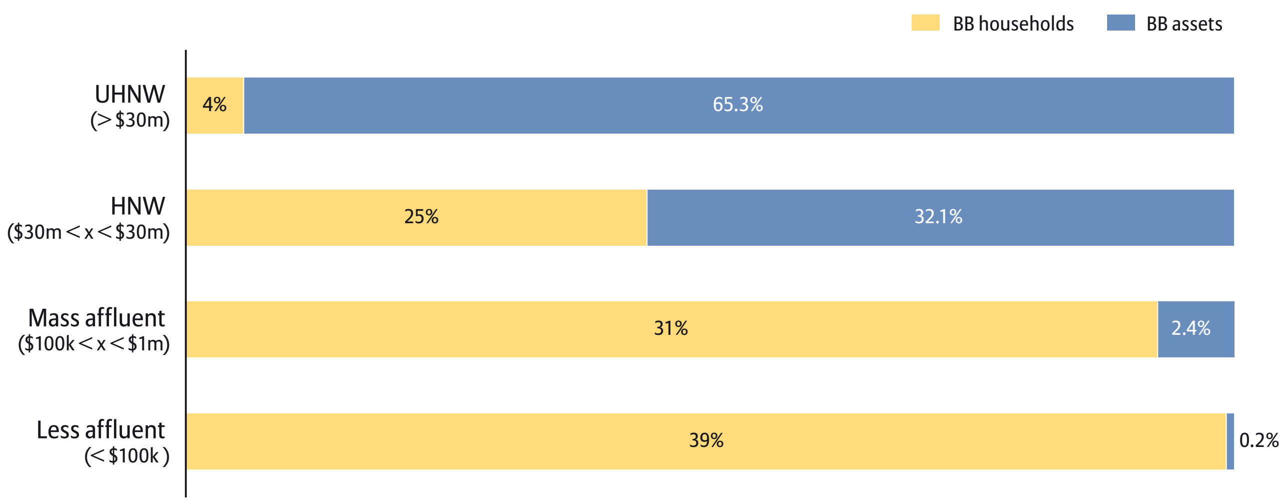
Baby boomer financial wealth

An analysis of the data from the recent Survey of Consumer Finances (SCF 2007) shows that almost half of private household financial and nonfinancial assets are held by baby boomers. Total financial assets of private households amounted to USD 41.2 trillion in 2008, down by more than 17% from USD 49.8 trillion in 2007.[6] By implication, total baby boomer financial wealth amounted to approximately USD 19 trillion in 2008. This huge amount of wealth will be available for consumption, reinvestment and bequest over the next few decades.

Financial assets account for 36% of baby boomers' total assets. The way assets are invested, however, varies among wealth groups. The SCF 2007 data shows that retirement assets such as Individual Retirement Accounts (IRAs) and account-type pension plans make up the largest portion of the portfolios for most of the population. However, their percentage is decreasing with increasing wealth and becomes less and less significant for the wealthiest groups. One explanation for this is that there is a cap on the amount that can be invested at a favorable tax rate. The second important asset class for those with total wealth of up to USD 1 million is liquid assets that are held in all types of transaction accounts. Directly held stocks, mutual fund investments and bonds take on more weight for people with high levels of wealth (see *Figure 3*).

Over time, the relative importance of retirement assets measured against total financial assets has steadily increased compared with 10 years ago. When asked what is their primary reason to save money, half of the respondents to the SCF 2007 age 45 to 64 said retirement. Surprisingly, saving for retirement is just as important to people who have accumulated large of amounts of wealth as it is to those who have not. One difference is that households with low levels of wealth manage their assets with the intent to cover

Figure 2: Distribution of financial wealth among baby boomer wealth groups



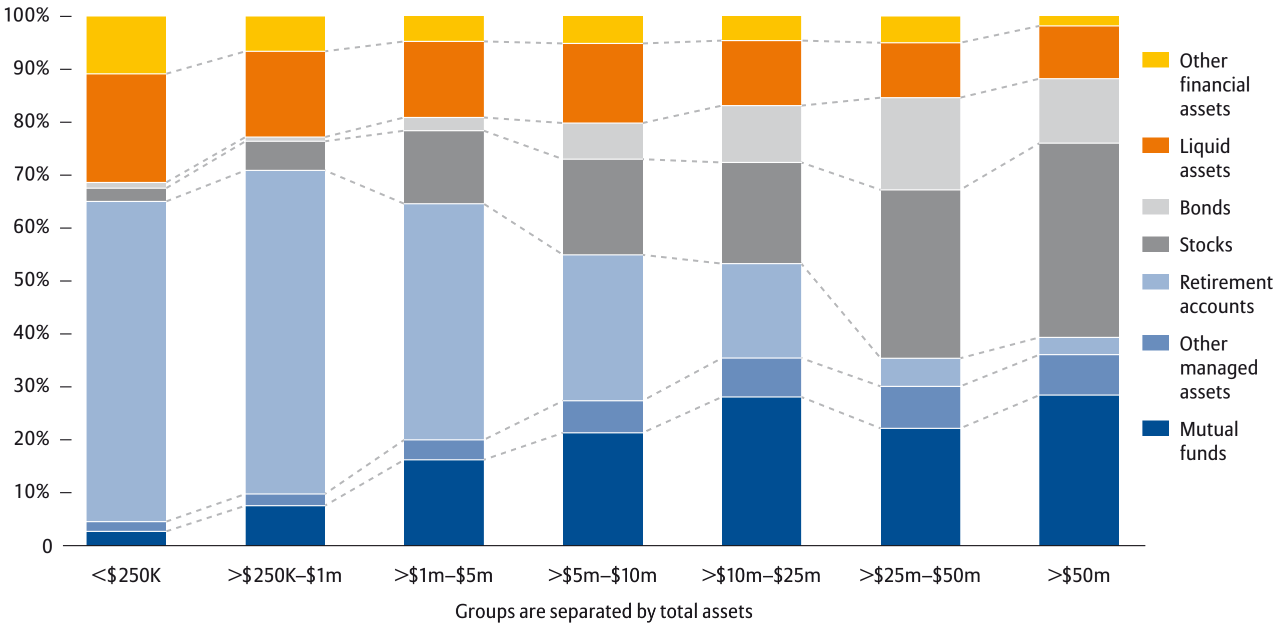
Source: Survey of Consumer Finances 2007, 2009, own calculations required spending needs in retirement while high net worth individuals focus more on general wealth management than retirement.

Baby boomer non-financial wealth

In general, nonfinancial assets such as real estate, vehicles and businesses make up the largest portion of total assets among baby boomer households. While the wealthiest groups in the survey – those with total assets of more then USD 50 million – have more invested in their businesses, people in the lowest wealth groups – those with assets of less than USD 250,000 – have portfolios in which housing equity dominates (*see Figure 4*). This made lower wealth groups particularly vulnerable to the bursting of the housing bubble because they have so little invested in a diverse mixture of other assets. Studies show that the plunge in housing prices has left a large number of baby boomer homeowners with a net liability.[7] This means that the proceeds from the sale of their homes would not cover their mortgages so additional savings would be required to pay off the loans.

Projections show that homeowners are worse off than nonhomeowners. The drop in housing values has eliminated large portions of homeowners' wealth, in some cases all of their wealth.[8] Hit hardest are people who have accumulated only little wealth besides their home and planned to use their home equity to finance retirement. These people presumably will have to cut down on their

Figure 3: Split between financial assets among baby boomer wealth groups, [%]



Source: The Federal Reserve Board, Survey of Consumer Finances 2007, own calculations retirement spending and will find it difficult to maintain their standard of living. These retirees and near retirees are now even more dependent on Social Security benefits, which are not exceptionally generous.

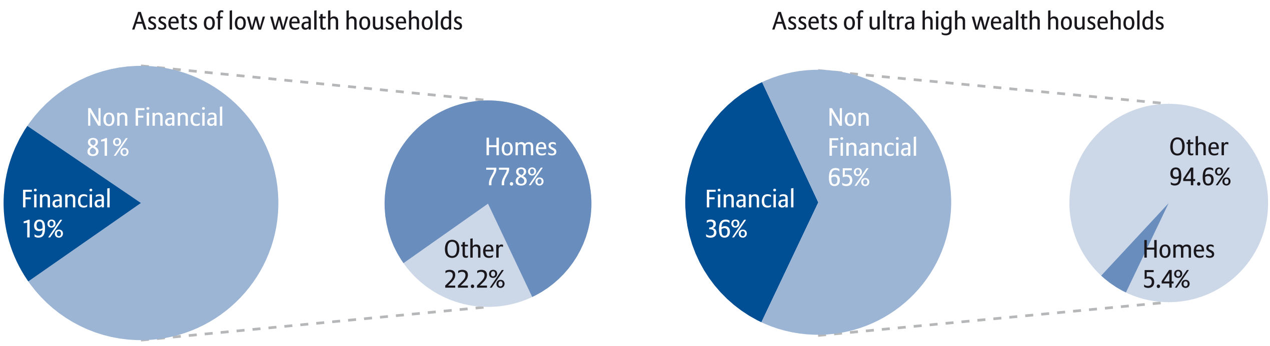
Financial crisis impact on baby boomer wealth

The downturn of global capital markets in 2008 that followed the bursting of the U.S. housing bubble resulted in substantial financial losses for many people in the United States. Employer-sponsored and individual pension arrangements play a large and growing role in providing retirement income. Retirement savings accounts, which represent about 34% of overall household assets[9], suffered huge losses across-the-board. In 2008, overall retirement assets shrank by more than USD 4 trillion[10] from their peak of USD 18 trillion in mid-2007. Unlike defined benefit plans, defined contribution plans pass on the investment risk to the employee. Due to the shift toward DC pension plans, employees increasingly suffer the consequences of adverse capital market movements. Balances in 401(k) plans were hit particularly hard by the downturn in 2008.

Employees with the most years on the job and large account balances* had the largest losses among U.S. pension portfolio holders. Hit hardest were workers age 45 and older. These people saw their account balances drop by more than 25%. High equity exposures made them vulnerable to the increased volatility on the equity markets. Research shows that 43% of 401(k) participants age 56 to 65 had more than 70% of their portfolios allocated to equity funds, company stock and the equity portion of balanced and target date funds in 2007. In fact, 22% of this group had an equity share of more than 90%. In contrast, people with account balances of less

* of more than USD 200,000

Figure 4: Split between financial and nonfinancial assets* between baby boomer wealth groups**, [%]



* Nonfinancial assets include: vehicles, residential property, nonresidential real estate, businesses and other

** Low-wealth households have wealth up to USD 250,000; ultra high wealth households have wealth of more than USD 50 million

Source: The Federal Reserve Board, Survey of Consumer Finances 2007, own calculations than USD 10,000 saw positive growth in 2008 as new contributions more than offset the decline in asset values. Although U.S. 401(k) plans across all age groups continue to have high exposure to equity markets, the share dropped notably in 2008. This decline, however, was not the result of transfers between investment options; it was due to declining equity prices.[11]

Nevertheless, there is a general trend toward greater diversification. Compared with 2000, the number of plan participants holding 100% equities dropped from 37% to 16% at the end of 2008.[12]

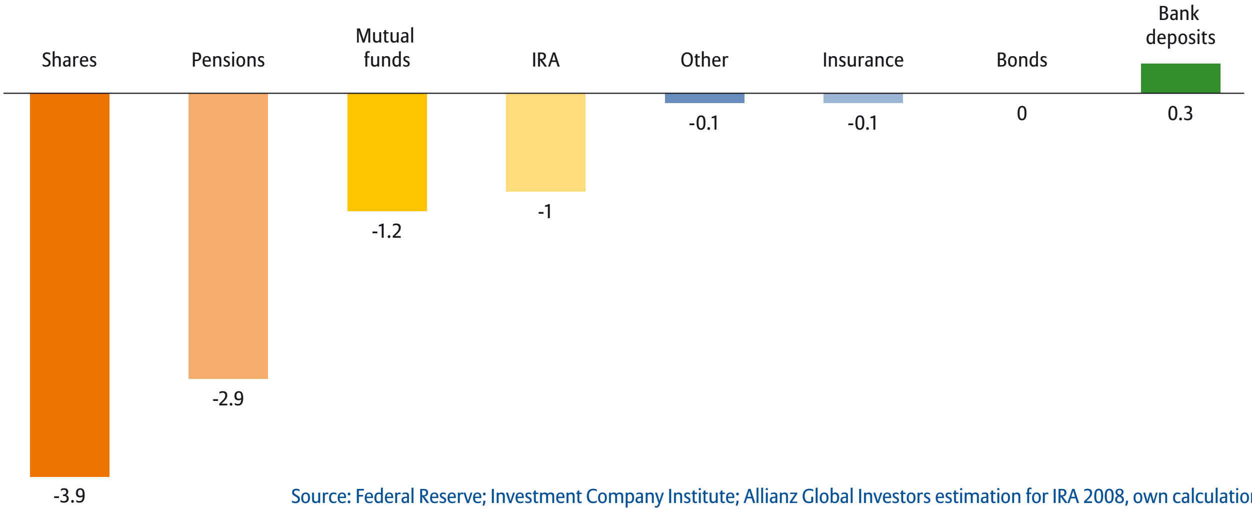
There is evidence that pension plan sponsors continue to adopt automatic enrollment and that they mostly offer lifecycle funds as the Qualified Default Investment Alternative (QDIA). An analysis by Fidelity Investments shows that by the end of 2008 more than 60% of pension plans were using lifecycle funds as the default option, that is up from 38% in 2007.[13] Lifecycle funds automatically rebalance from risky to less risky assets as the investor ages. The average equity allocation of lifecycle funds for people age 56 to 65 was 51.2% at the end of 2007. A research paper from the Employee Benefit Research Institute (EBRI) shows that had plan participants in that age group been 100% invested in lifecycle funds more than 43% would have had a 20% reduction in equities. That means they would have had less money in high-risk assets and would have had smaller losses as a result of the global financial downturn.

Breakout Box III

U.S. pension assets experienced the 3rd largest loss globally

According to the OECD's recently released "Pensions at a Glance," the United States had the third-largest decline among all OECD countries. Only Ireland and Australia experienced larger losses. Pension fund assets dropped by about 26% in the United States. Irish pension funds had an investment return of -38% while the value for Australia was -27%. The main cause of the steep declines is that the pension fund portfolios in all three countries have been dominated by equity investments.

Figure 5: Losses in financial assets of U.S. private households, 2007/2008 [USD trillion]



Source: Federal Reserve; Investment Company Institute; Allianz Global Investors estimation for IRA 2008, own calculations

In the future, more 401(k) investors and near-retirees are expected to be shielded from the high equity allocations seen today by the increased use of target date funds with an age-appropriate asset allocation. However, it should be noted that target date funds are not risk-free. Target date funds have faced harsh criticism for the high equity share for soon-to-mature funds. Last year, the 2010 target date funds lost about 25%, which represents a huge loss that near-retirees won't have time to recover before they need to draw on those assets to provide their retirement income.

Pensions are investments that usually pay off in the long term. According to EBRI, 410(k) participants across all age groups saw a positive change in their account balances between January 2000 and January 2009. This increase, in relative terms, was highest for young participants with a short job tenure (>500%) and lowest for the older workers close to retirement with a long job tenure (>29%).[14] However, the increase for younger workers was predominantly driven by contributions. For older workers, the performance effect dominated due to their larger account balances.

Residential property is the primary asset for a large portion of the U.S. population. More than 76% of people age 45 to 64 owned their homes in 2004. The huge importance of home equity to those people made them particularly vulnerable to the sharp drop in housing prices. Those who have accumulated little wealth besides their homes and intended to use home equity to finance retirement presumably will have to cut down on their spending in retirement. A report from the Center for Economic and Policy Research (CEPR) reveals the effects that the housing crash has had on different age and wealth groups. The study shows that in 2009 people age 45 to 54 will have almost 35% less wealth and people age 55 to 64 will have almost 44% less wealth than their respective age groups had in 2004.* The substantial wealth losses are highest, in relative terms, for families at the lower end of the wealth spectrum. In some cases, the collapse of the housing market has wiped out all of the wealth that a family has accumulated over the last two decades[15] (*see Figure 6*).

* Values are based on the assumption that average housing prices will fall an additional 10% in 2009 compared with 2008.

Breakout Box IV

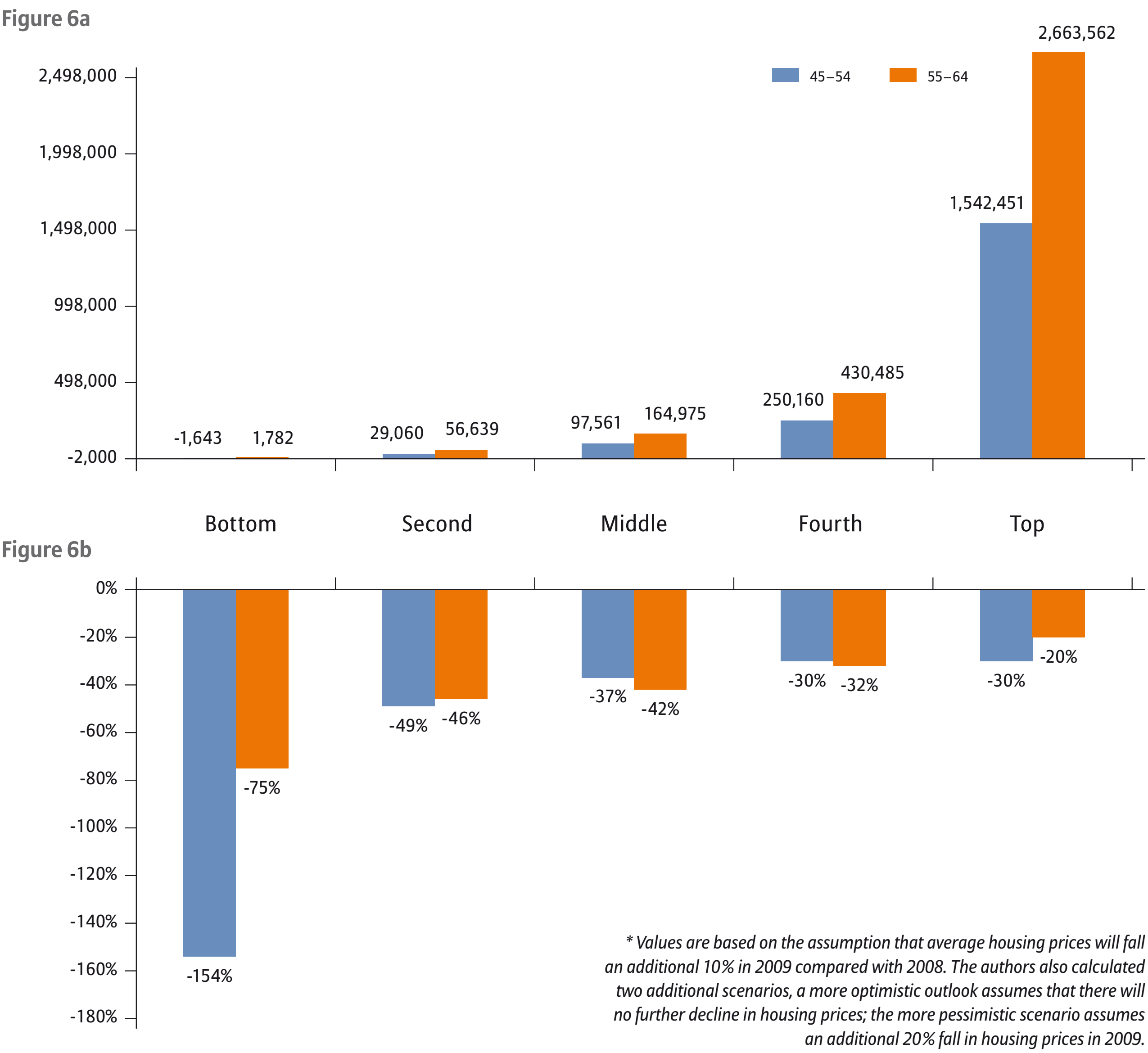
Time needed to recover 401(k) losses

Using different rates of future equity returns, EBRI calculated the time it will take to recover from 401(k) losses seen in 2008. The results show that a worker with a job tenure of more than 20 years and an account balance of more than USD 90,000, would need 4, 6.4 or 15.6 years to recover with assumed equity returns of 10%, 5% and 0%, respectively.

The consequences of the stock and housing market bubbles are now obvious. The savings decisions of many people were influenced during the many years that the bubbles were growing. These bubbles temporarily inflated perceived wealth and likely encouraged people to save less than they would have had they considered the potential for a downturn due to the artificially high value of assets. Near-retirees who chose risky investments are in the worst position because they will have little chance to reverse the saving and consumption decisions they made in the last few years.[16]

Older people living in the United States are more likely to be homeowners and more likely to have larger retirement plan account balances than their younger counterparts. Baby boomers in the lowest income groups have suffered most from the decline in housing prices because their primary residence constitutes the largest asset in their portfolios. Baby boomers in higher wealth classes have a larger percentage of their total assets invested in mutual funds, retirement accounts and stocks. Boomers with substantial wealth were least affected by declining housing prices but were most vulnerable to the drop in the capital markets.

Figure 6a: Projected mean net worth for baby boomer households by quintile of net worth 2009, [USD]
Figure 6b: Projected decline in net worth of baby boomer households from 2004 to 2009 by quintile of net worth, [%]



** Values are based on the assumption that average housing prices will fall an additional 10% in 2009 compared with 2008. The authors also calculated two additional scenarios, a more optimistic outlook assumes that there will no further decline in housing prices; the more pessimistic scenario assumes an additional 20% fall in housing prices in 2009.*

Source: Baker, D. and Rosnick, D., Center for Economic and Policy Research, The Impact of the Housing Crash on Familiy Wealth, July 2008

III. A structural shift is underway – Retirement income sources

Despite the long history of occupational pensions in the United States, there is still a considerable portion of U.S. retired workers who are solely dependent on Social Security benefits in retirement. Only about half of working-age people are covered by an employer-sponsored pension that will pay future benefits. Social Security benefits account for at least 90% of every third elderly beneficiary income. According to the Social Security Administration, average monthly Social Security benefits for retired workers amounted to USD 1,157.50 in April 2009. Replacement ratios from Social Security are based on the salary a person made while employed. Low-income earners can expect to get paid approximately 80% of their pre-retirement income while high-earners need to generate income from other sources to maintain their standard of living. Although the share of income from a private-sector pension increases with higher retirement incomes, Social Security and qualified pension plans will not generate the cash needed to match the wages of top earners, those with pre-retirement income of more than USD 80,000 a year. Top earners must get most of their retirement income from personal savings in non-qualified accounts.[17]

In 2007, the median household income for people age 65 and older was USD 28,305, which is only half of the income of those who are younger than 65. The median income for people 64 and younger in 2007 was USD 56,545. This illustrates that U.S. retirees must get by with substantially less money than they earned during their working years. In general, the median household income is significantly lower for these groups: females, people age 80 and older, blacks, Hispanics and people who are single or who have little education. Poverty rates are highest for these groups, which receive most of their income from Social Security. People in the top income bracket get less from Social Security and more from earnings, assets and pensions.

Table 1 shows average values from the different income sources for the elderly U.S. population. *Figure 7* contrasts the impor-

Table 1: Median annual income from different sources for elderly U.S. households (65+) receiving such income

	Social Security	Private-sector pension	Public-sector pension	Income from assets (interest income, dividends etc.)
Median USD amount*	15,012	8,052	17,400	2,254
%age receiving such income	89%	30%	15%	57%

** Median: 50% of the observations are above and 50% lie below this value. The median is a better measure for central tendency than the arithmetic mean for skewed distributions. It is a more robust measure for samples with extreme values. With a great disparity in income, the simple mean would overstate the average income.*

Source: Congressional Research Service, Domestic Social Policy Division, Aging Seminar Series: Income and Wealth of Older Americans, November 19, 2008 tance of those sources among different income groups. Here are some of the key findings.

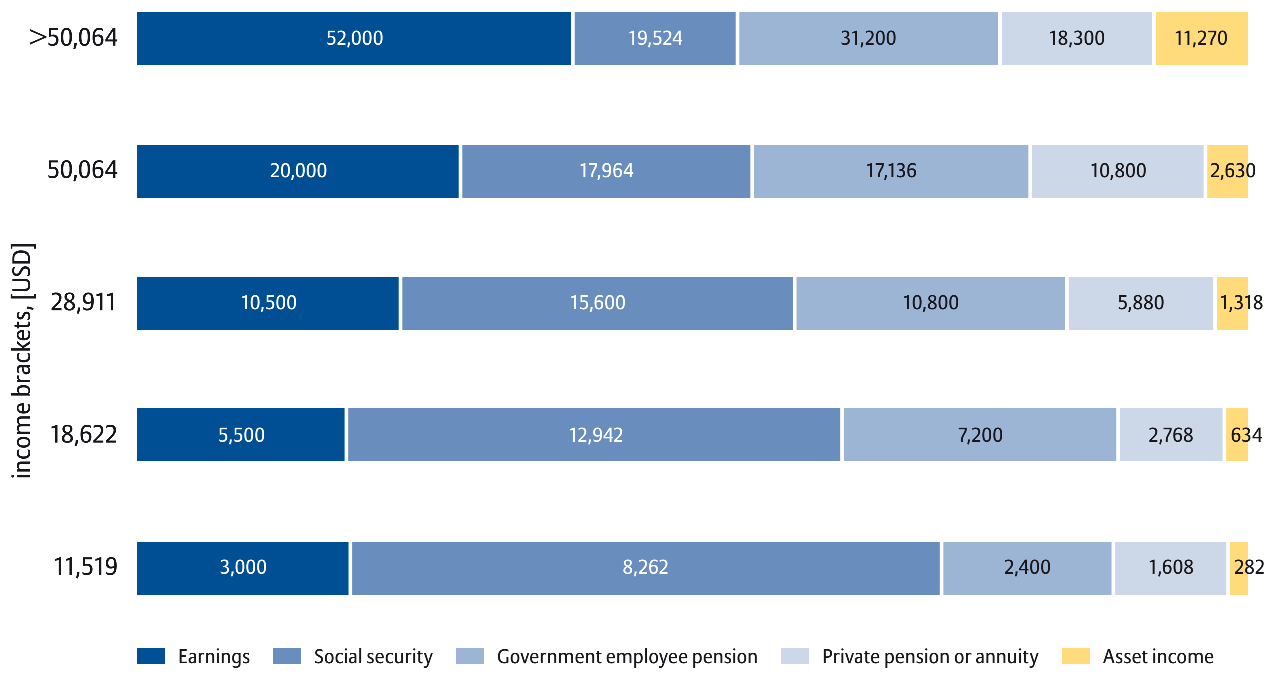
- Almost 90% of retirees receive Social Security, which is the main source of income for lower-income households. Earnings represent the largest share of income for the top earners age 65 and older.

- Only 30% of elderly households receive a private-sector pension.

- Most elderly households receive at least some income from assets. However, for most households these amounts are relatively small. The median asset income amounted to USD 2,254 in 2007 and ranges from USD 282 in the lowest bracket to a median value of USD 11,270 in the highest income class.

Earnings provide the largest share of income for top earners age 65 and older. With increasing age, a person's ability to keep working declines, which leads to a significant decrease in income. The median income for people age 80 and older is about half as much as the income for people age 65 to 69. Saving for retirement means turning human capital into financial and nonfinancial assets that can be tapped in the future. When a certain age is reached, human capital declines and eventually won't be able to

Figure 7: Relative importance of various income sources and median values by income brackets of people 65 and older*



** Data do not take into consideration any non-cash benefits and other potentially important resources as income. These include housing and energy subsidies, food stamps, lump-sum pension payments and capital gains.*

Source: Social Security Administration, Income of the Population 55 or Older, 2006, February 2009 contribute to overall income. To maintain a certain standard of living, sufficient retirement savings are necessary to compensate for the decline in human capital. However, many near-retirees must stay in the work force longer than they planned to try to recoup losses their retirement portfolios suffered during the recent market downturn.

Due to changes in the retirement landscape, future retirees might see a structural shift in the composition of their old-age income. Social Security benefits are expected to decrease. This decline will be the result of two developments: 1) the retirement of baby boomers; and 2) the huge increase in national debt caused by the global economic crisis.

The Social Security financing basis will be eroded as the 78 million baby boomers start to retire and begin collecting benefits. By 2017 at the latest, revenues collected from Social Security contributions will be lower than the benefit payouts. This will force the Social Security Trust Fund to liquidate its holdings of U.S. government bonds. That means the government will have to repay national debt. For financing purposes, the government could either issue new debt or use general tax revenues. The retirement of the baby boomers will boost expenditures for Social Security, which is part of the federal budget. If the buffer funds are exhausted, general tax revenues will have to fill the gap.

Given the huge increase in national debt from the stimulus packages used to reflate the U.S. economy, the government might be limited in its ability to allocate more tax revenues to Social Security. In summer 2009, President Obama released a proposal that foresees that increases in spending or decreases in revenues need to be offset elsewhere either through savings or revenue increases. This could mean a cut in Social Security benefits as well as tax increases.

In a recent interview, Wharton professor Kent Smetters said that not even record tax hikes would be sufficient to pay off the national debt, and he added that cutting back on Social Security and Medicare is most probable.[18] Long before the global economic crisis hit, experts continually urged the U.S. government to provide more funding for Social Security. The deep recession has made the system's future even more uncertain. In the long-term, we expect Social Security to further decline in importance as a primary source of retirement income.

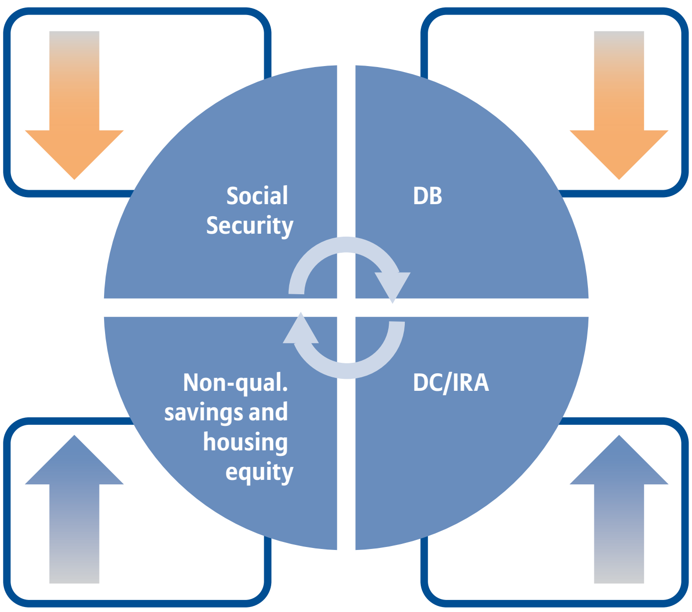
The losses in financial and nonfinancial assets that many Americans experienced from 2007 to 2009 might force people to work longer than originally planned because they cannot afford to retire on the benefits they expect to get from Social Security. In addition, those who intended to use their assets to complement their retirement income need to find alternative income sources. Income from earnings is expected to be increasingly important in the coming years. A current trend that is expected to continue is that people who are covered by a DC plan will remain in the work force longer than people who are covered by DB pension plans. The reason for this is that DC plans lack characteristics such as early retirement incentives, lifelong benefits and reduced investment risk.[19]

Lastly, with the shift from DB to DC plans, fewer people receive a guaranteed pension income for life. As lump-sum payments are often preferred over annuities, there might also be a decline in "pension and annuity income" as a future revenue source. There are many reasons why people are reluctant to buy annuities: One of the key reasons is their lack of liquidity. However, this trend could be reversed if the U.S. government decides to provide tax incentives on annuities, something that is currently being discussed. A new bill introduced in Congress in June 2009 aims to provide a partial income-tax exemption on money earned from qualified and nonqualified lifetime annuities. Opponents of the bill are concerned about giving up potential tax revenues when the government has a huge and growing budget deficit. Proponents of the bill argue that with Social Security declining and many retirement accounts ravaged by the financial market downturn, this legislation is more necessary than ever. In any case, governmental guidance on the design of the payout could be very effective, as was the case with the PPA's regulation on automatic enrollment and qualified default investment options.

In summary, many arguments support the view that there will be a structural shift in the future income sources used by the elderly U.S. population. There are both long-term and short-term indicators showing that people will need to take more responsibility for securing their retirement incomes. *Figure 8* illustrates these trends, with DB plans and Social Security losing importance and the other sources gaining.

The changing retirement landscape is challenging future retirees. The Social Security system will come under increased pressure so it will be difficult for it to provide a general pension safety net in the future. As a result, occupational and private pension assets will play a more crucial role. These assets will evolve from being a supplementary source to an integral part of a person's retirement income. In the future, people will rely more than ever on their DC balances and IRA assets to provide income for their retirement.

Figure 8: There will be shifts in the composition of retirement income for future retirees



IV. Freedom of choice – Payout solutions in the U.S.

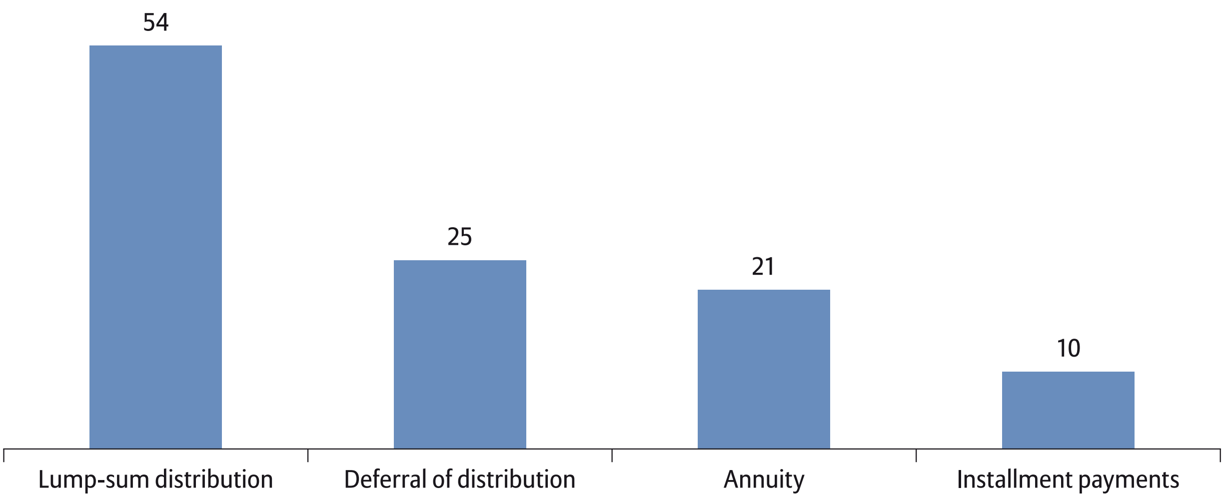
For years, planning and saving for retirement has been a matter of contributing a sufficient amount of income toward pensions and making the right investment options. People were predominantly focused on accumulating pension wealth. Accumulation remains important, but people are now assuming more responsibility for managing the dissaving process. The objective is to convert accumulated pension assets into a retirement income stream.

The baby boomers are shifting their focus from asset accumulation to income generation. The design of the payout phase is an important issue for assets accumulated in DC pension plans and IRAs. There a several options possible, although, employer-sponsored DC plans do not always offer the whole spectrum of choices. In general, the options are: take a lump-sum payment, buy an annuity, defer distributions or receive installment payments from the plan. Employers decide which options the pension plans will offer.

In theory, the availability of payout options should be determined by the level of secured retirement income that already protects against longevity risk. The higher the guaranteed income from sources such as Social Security and DB pensions, income that already is annuitized, the more payout options can be made available. By implication, restrictions on the payout options should be imposed in cases where accumulated DC assets are supposed to finance a significant share of retirement income, a view supported by the OECD. However, there is no empirical evidence that shows governments follow this recommendation. In fact, quite the opposite is true. There is no logical link between the state pension replacement rate and the flexibility in the payout phase of DC pension assets.[20]

There is a powerful argument that with a sufficient level of financial literacy greater flexibility in the payout phase should be allowed. A higher level of financial savvy increases one's chances to effectively handle

Figure 9: Distribution options selected by retirees having more than one option, [Percentage of respondents who had multiple options from their DC plans]



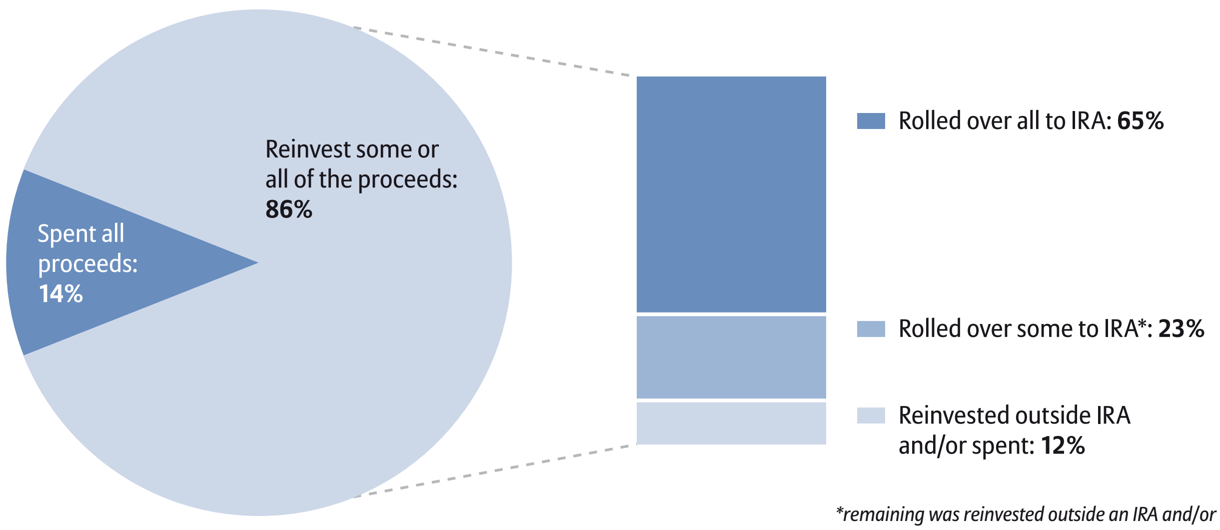
Source: Investment Company Institute, Defined Contribution Plan Distribution Choices at Retirement, 2008 the complex job of overseeing retirement assets. This is the logic behind the implementation of programs aimed at increasing individuals' financial education. On the other hand, some people may hire financial advisers to manage their accounts. Research shows that pre-retirees often are more willing than younger workers to take financial advice and consolidate assets for easier income management.[21]

The U.S. regulatory framework gives individuals a lot of freedom with regard to the payout option for accumulated retirement assets. This freedom comes despite the fact that many investors have a limited understanding of finances and many will have to rely more and more on account-type pension savings, which can be outlived if they are not properly managed. Americans pride themselves on their ability to be self-reliant; therefore, there is less emphasis in the U.S. on providing state-regulated social benefits than in other industrialized economies.

In contrast to the United States, several European countries force annuitization or at least encourage it through tax incentives. In these countries, where lifelong annuity payments are favored, there are rules that aim to prevent retirees from spending all their retirement income and then having to rely on the social safety net to avoid poverty. The United States only requires that payouts from qualified plans, excluding Roth 401(k)s and Roth IRAs, begin no later than age 70½. There are no rules on the payout alternatives.

According to a survey of the Investment Company Institute, 70% of employees enrolled in a pension plan at work have multiple distribution options. These include: lump-sum payments, installment payments, deferral of distribution and annuities. The remaining 30% generally are required to take a lump-sum payment. The majority of retirees who were given more than one retirement distribution option chose to receive the balance in one sum. Only every fifth retiree opted to

Figure 10: Use of lump-sum distributions at retirement [Percentage of respondents]



**remaining was reinvested outside an IRA and/or spent*

Source: Investment Company Institute, Defined Contribution Plan Distribution Choices at Retirement, 2008 receive annuity payments (*see Figure 9*). Of those who opted for a lump-sum payment, 86% reinvested all or some of their assets. Most transferred the assets to an IRA (*see Figure 10*).

Surveys showed that most people who received their pension plan balances acted responsibly and reinvested the proceeds. Most rolled over the payout to an IRA. In almost 69% of the cases, people consulted a professional adviser to reinvest the proceeds. Of the people in that group, 73% followed this advice.[22] Investing lump-sum payments from a DC plan into an IRA account is the preferred way to preserve the tax-deferred status of those assets. An analysis of the withdrawal activity from IRA accounts shows that in the majority of cases people take the required minimum distribution required by law. Others make a lump-sum withdrawal. Only a small percentage of IRA account holders withdraw a fixed dollar amount or a fixed percentage each year. Most people say that they consult with their financial advisers to help determine how much they should withdraw.[23]

Research done by the Investment Company Institute (ICI) indicates that withdrawal activity from IRAs is mostly the result of the required minimum distributions. This means that the majority of households with an IRA do not intend to tap this asset until forced to do so. Those age 70 and older are most likely to make a withdrawal. The money primarily is used to cover living expenses. The second-most-frequent use of the funds is for reinvestment, which once again shows that these individuals are less dependent on their IRAs to provide a regular income stream in retirement.[24] Research indicates that IRA values are the highest for people in the wealthiest income brackets.[25]

Sustainable spending is central to every decumulation strategy. The asset allocation of the retirement portfolio from which income is supposed to be generated should match individual needs and should depend on individual circumstances. These can include personal tolerance for risks in financial markets, the flexibility when it comes to getting access to assets and what investors want to pass on to their heirs.

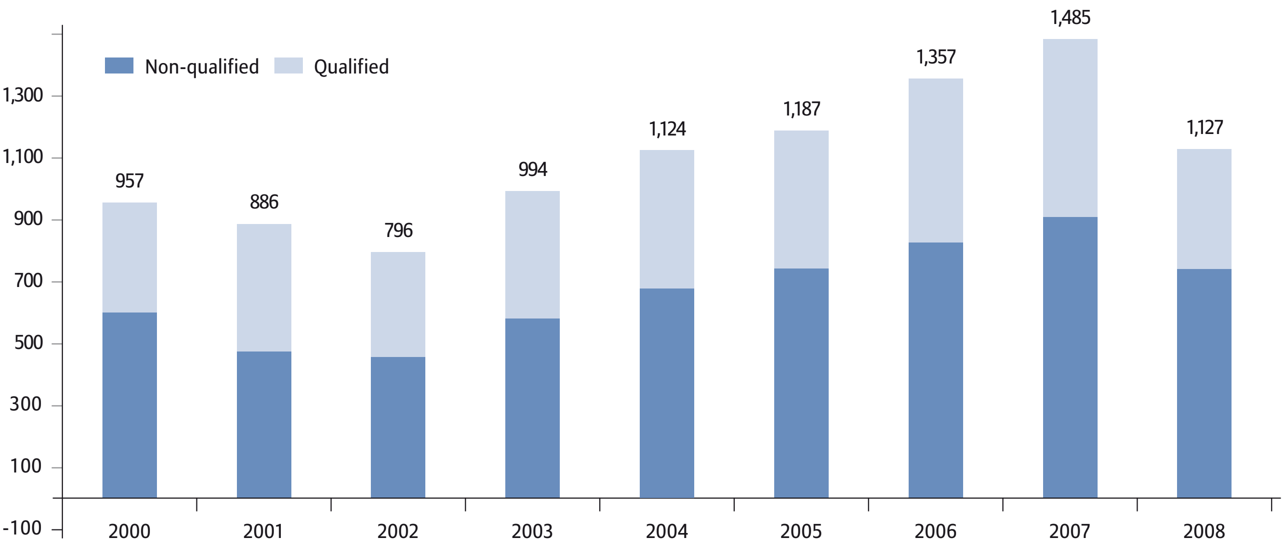
V. Sharper focus on risk management and fiduciary duty

The U.S. financial industry offers a wide range of products designed for the accumulation phase. These products are specifically geared toward building assets to finance retirement. Products designed to effectively use those retirement assets are in the early stages of development. The need for decumulation products was triggered by the pending retirement of the baby boomers, who represent the largest segment of the U.S. population and control a massive stockpile of assets.

There are some basic product types that are commonly used to generate income during retirement. These include banking, investment and insurance products as well as hybrids that combine features of at least two of the three previously mentioned categories. In general, investors must make a trade off. They can pick between longevity coverage and downside protection or flexibility and liquidity. Insurance products usually satisfy the need for security while investment products provide flexible access to cash to cover unanticipated liquidity needs. Dividend-yielding stocks, mutual funds and variable annuities with living benefits are popular investment products used to construct retirement income portfolios.

Only recently a new category of mutual funds has emerged – so-called target distribution funds – which are geared toward the payout phase. Funds in this category are based on the target date model and employ a lifecycle or life-style concept. But instead of accumulating toward a specified date, these funds pay a certain percentage each year from an originally invested amount. There are two types of target distribution funds: endowment-style funds and pay-down funds. Endowment-style funds pay out a fixed percentage annually with the purpose of capital preservation. The percentage withdrawn should be aligned with the expected return on investment. This preserves the principal and provides the investor the returns.

Figure 11: Variable annuity net assets [USD billions]



Source: Insured Retirement Institute, Annuity Fact Book 2009

Depending on the payout rate, this fund also can provide growth. In contrast, pay-down funds are geared toward asset consumption. They provide a regular income stream. The percentage withdrawn annually increases over time to 100% at the specified target date. Target distribution funds, and mutual funds in general, neither guarantee a certain return nor do they cover the longevity risk. But they provide flexibility and liquidity to cover unanticipated expenses as well as the possibility to leave an inheritance.

Like target date funds, variable annuities have experienced impressive growth (*see Figure 11*). Net assets in VAs have almost doubled over the past few years to approximately USD 1.5 trillion in 2007. But variable annuities have been hit hard by the huge decline in the equities market. The 24% drop in the value of VA assets between 2007 and 2008 was largely due to a 45% decrease by equities.[26]

Minimum investment guarantees of variable annuities have been popular with many contract owners. The value of these assets fell sharply during the credit market meltdown, which means the provided guarantees were put under pressure. This led to massive losses for insurance companies. On one hand, insurers were not perfectly hedged. On the other hand, the costs of hedging strategies have skyrocketed as a result of the market volatility and significantly reduced profit margins. Some VA providers made adjustments to their product range and frequently adjusted prices to reflect the changing market environment. As a result, annuities became more expensive or offered reduced benefits. Insurers considered reducing the possible equity share and the number of funds offered when a certain guarantee was demanded. The experience has shown that it is extremely important that an insurance company is strong enough to survive such adverse market developments.

Individuals increasingly wish to protect against capital market volatility and the risk of outliving their savings. The demand for living benefits in variable annuities has gained momentum.[27] Traditionally, private investors in the United States have tended to have a smaller portion of their overall assets allocated to insurance products than people in continental Europe. Whether the current increase in the demand for products with guarantee features indicates a structural shift and a long-term trend will be determined when the stock markets start to grow again.

The global financial crisis has demonstrated the vulnerability of retirement portfolios to unexpected shocks. In such situations what is crucial is generating sustainable income while simultaneously considering a range of auxiliary conditions. When it comes to wealth decumulation the key risks are (*see chart below*):

Table 2: Key risks in the context of wealth decumulation

Risks	Product requirements
Volatility of capital markets	• Downside protection • Suitable asset allocation
Longevity risk	• Longevity coverage
Inflation risk	• Inflation protection
Rising health care costs	• Flexible access to cover unanticipated expenses
Depletion of assets	• Principal preservation for bequest

Source: Allianz Global Investors

Volatility of capital markets

Two economic crises in one decade and the increasing volatility of capital markets provide proof that retirement assets should not carry the same risk as other long-term investments that are not due at a certain point in time. What people need to ask themselves is how much volatility in portfolio value they can tolerate before jeopardizing their current spending needs. Downside protection is particularly important prior to retirement as the last 8 to 10 years of the accumulation phase generate half the dollar amount saved for retirement.[28] Most retirees will be unable to recover their losses if their retirement funds drop sharply in the last decade they work.

Over the past few years people have changed their views on saving for retirement. More emphasis has been placed on balancing retirement assets. People are diversifying their assets rather than concentrating them on one stock, which was the case with Enron. There has been a steady increase in awareness of the risks of concentrating too much wealth in a limited number of assets. Recent research shows that new employees are much more likely to try to balance their portfolios by choosing assets such as target date funds for their 401(k) plans.[29] However, large across-the-board losses resulting from the most recent downturn illustrate that despite this shift many retirement assets remain in risky investments. In 2007, almost half of 401(k) participants who were close to retirement had at least 70% of their balances invested in equities, company stock and the equity portion of balanced and target date fund.

Compared with people in other industrialized nations, investors in the United States tend to have more allocated toward equities. Western European investors, for example, invest more conservatively than their U.S. counterparts. Hence, the downturn had a much greater effect on investment portfolios in the United States. In 2007, about two-thirds of 401(k) assets were allocated to equities through equity funds, the equity portion of lifecycle funds and company stocks.[30] Recent results have shown that most portfolios were not well positioned to handle the sharp decline in the capital markets. Already in the accumulation phase, a retirement portfolio must be designed to provide sufficient income once a person leaves the work force. The accumulation phase cannot be managed separately from the payout phase; both must be connected through an appropriate asset mix. Having a balanced retirement portfolio is a step in the right direction.

The benefits of diversification are one of the key findings of modern portfolio theory. The financial crisis, however, has changed the general market conditions. A recent study by risklab investigating the correlation between asset classes over the past 20 years has revealed that prices move increasingly in accordance reducing the benefits of diversification. An ever more globalized world creates greater uniformity among financial markets. The phenomena of growing correlation were particularly evident in times of market turmoil. These findings force investors to adjust their strategies. Broadening the asset base which would then comprise new asset classes, prudent monitoring of market developments as well as the use of a dynamic asset allocation can help to tackle the shortfalls of increasing correlations among traditional asset classes.[31]

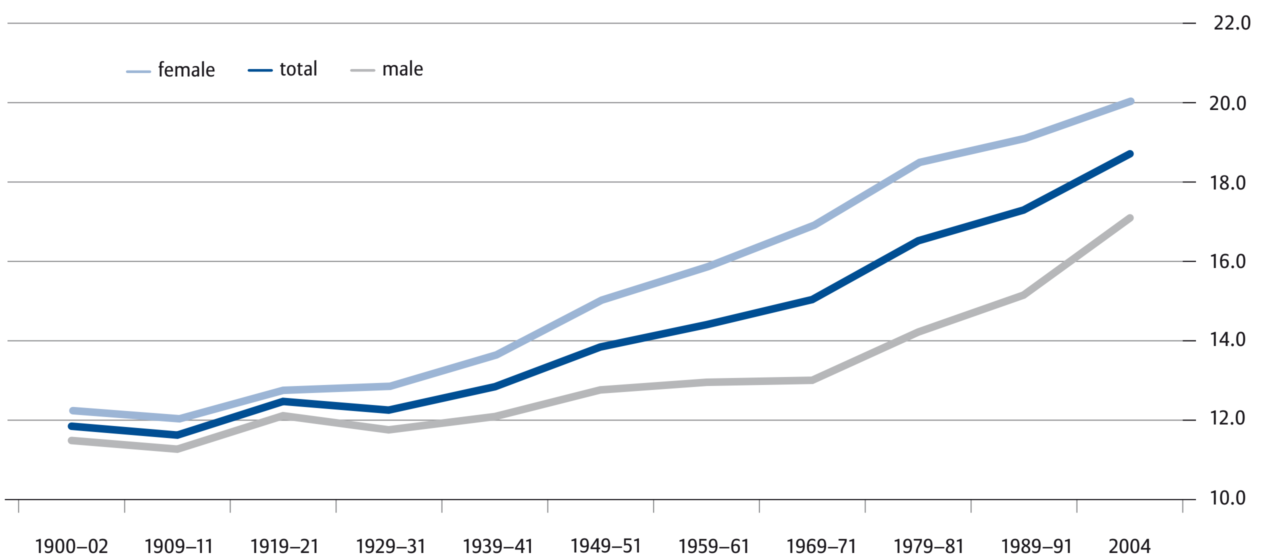
Longevity risk

Longevity risk refers to the risk of living longer than expected and eventually outliving one's assets. If this happens, a person experiences a decline in his or her standard of living. The traditional way to avoid longevity risk is to purchase annuities that provide a guaranteed lifelong income stream.

In 2004, the average U.S. life expectancy was 77.8 years. But this can be misleading as the actual life expectancy increases as a person ages and significantly differs from the figure at birth. Life tables from the National Vital Statistics Report show that people who have reached age 65 are expected to live another 19 years (*see Figure 12*). The older a person gets the more the actual life expectancy expands (*see Figure 13*).

In the last 100 years, life expectancy has increased significantly while the retirement age increased only slightly. People spend fewer and fewer years working. This is because they are spending more time getting their educations and are retiring earlier. The combination of these factors creates an unsustainable work-to-retirement ratio, which presumably will make it challenging for the average household to save enough money to retire.[32] Today's generations live longer than previous generations and this trend presumably will continue. Life expectancy steadily increases over an individual's lifetime, therefore a retirement plan needs to be reviewed and adjusted regularly. Longevity risk is significant and should not be underestimated.

Figure 12: Increase in life expectancy of the U.S. population at age 65, 1900 – 2004 [years]



Sources: National Vital Statistics Reports, Vol. 56, No. 9, December 28, 2007

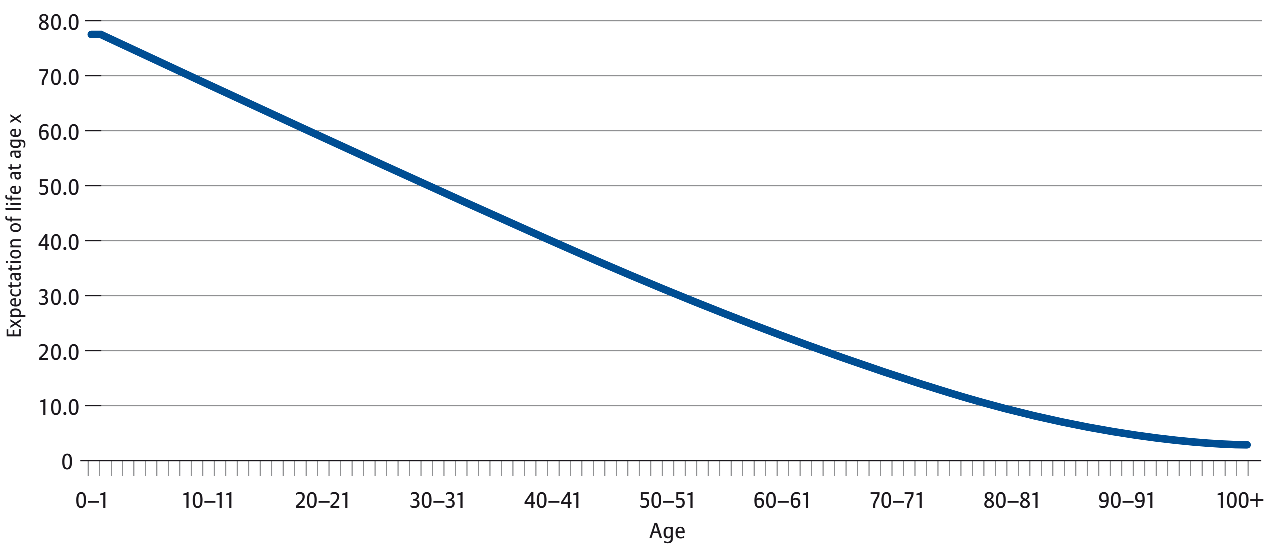
Inflation risk

Saving for retirement requires a long-term commitment. Inflation is a major concern as purchasing power can deteriorate when inflation exceeds the nominal return on the investment. What matters most to people is inflation-protected income. Over time, rising inflation decreases a person's purchasing power considerably. For example, at an inflation rate of 10%, USD 1 invested today loses more than 96% of its current value over a 30-year period. Even at a moderate inflation rate of 2%, almost half of the assets' value is eaten up. *Figure 14* charts the remaining value of USD 1 invested today based on different inflation levels and different time periods.

Social Security benefits are adjusted regularly for inflation. However, people with privately managed retirement portfolios must guard against inflation by picking the right investments. Several assets – such as real estate, commodities and equities – can provide a natural hedge against inflation.

In general, property that generates a regular cash flow has proved to provide a hedge against inflation because rents and terminal value move in line with inflation. In the case of equities, it is assumed that the corporate sector can pass on inflation in the form of higher prices to the consumer. Empirical evidence has shown that equities are an effective hedge, however, only over the very long term. Research shows that commodities provide an effective short-term inflation hedge. The demand for commodities usually increases when the economy recovers and is highest during a boom. A positive correlation between commodity values and inflation also has been found for longer-term horizons in the United States. However, commodities provide varying levels of protection.[33] Treasury inflation protected securities (TIPS) are an-

Figure 13: Life expectancy at increasing ages, 2004

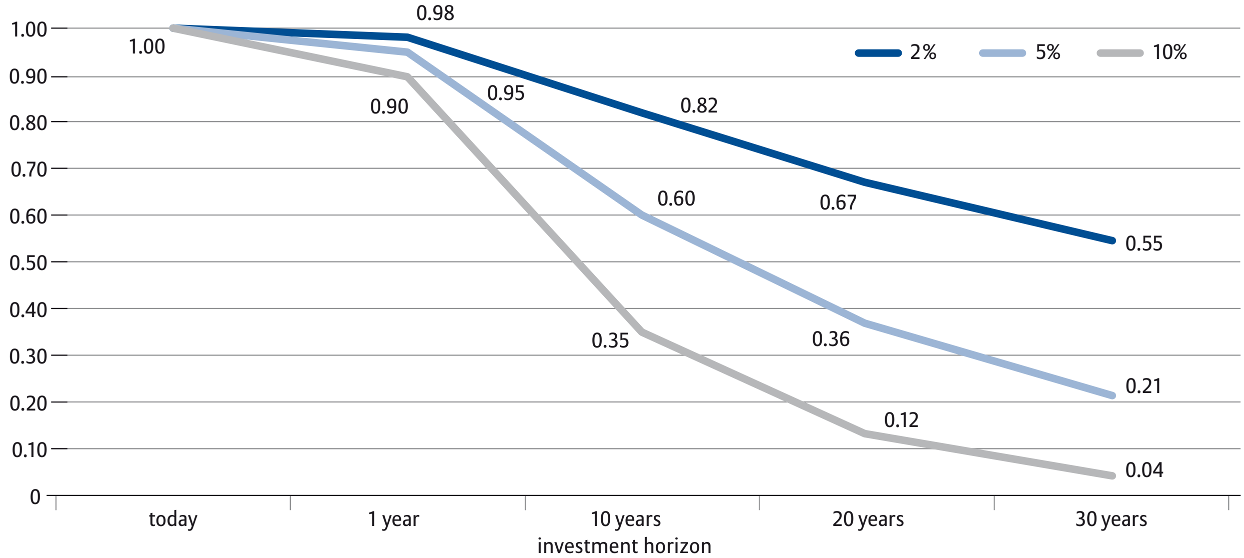


Sources: National Vital Statistics Reports, Vol. 56, No. 9, December 28, 2007 other popular investment tool used to hedge against the risk of eroding buying power. TIPS are long-term investments with maturities ranging from 5 to 20 years. The principal against which semi-annual coupon payments are calculated is regularly adjusted in line with inflation. The terminal value, however, cannot be less than the original invested amount.

Opinions are divided on how the inflation rate will develop in the future. On one hand, a steep increase in inflation could result from the massive stimulus packages and injections of liquidity that governments around the world have used to reflate their economies and to fight against a deep global recession. In addition, experts worry about the expansive monetary policy and predict that inflation will rise in the coming years. Others argue that inflation rates won't be a major short- or mid-term concern because of the economy's low capacity utilization rate and record high unemployment.

Even if inflation rates are moderate over the medium term, inflation protection is expected to be a key part of designing long-term investment strategies. Retirement spans multiple decades so any loss in purchasing power could have a far-reaching effect.

Figure 14: Real value of USD 1 invested today at various inflation levels



Sources: Own calculations

Rising health care costs

With health care costs increasing faster than general inflation and wages, there is a risk that medical inflation will erode retirement assets, threatening many retirees' nest eggs. Health care expenditures in the United States amounted to USD 2.1 trillion in 2006 (16% of the GDP) and are estimated to skyrocket to USD 4.3 trillion (19.5% of the GDP) by 2017. According to these figures, more money is spent on health care in the United States than any other industrialized country, both in per-capita terms and in relation to the GDP.

Employers are increasingly backing away from subsidizing post-retirement medical coverage, which means that future retirees will have to use much more of their retirement income to pay their private health care insurance premiums. The structure of the current health care system is very fragmented; a universal system does not exist. The system is made up of a mixture of private and public funding, with private out-of-the pocket payments accounting for 14.6% of all personal health expenditures in 2006. This means that at least a portion of a person's retirement assets will have to be invested into some form of liquid investment to cover unanticipated medical expenses.

Depletion of assets

Based on the traditional lifecycle hypotheses, consumption is smoothed over the entire lifetime. People save while they work in order to finance spending needs in retirement, which implies a decumulation of accumulated wealth while retired. In reality, however, the average savings rate among the elderly is still positive, which contradicts the view of a hump-shaped accumulation of wealth during one's lifetime. The main reasons for this are a strong desire to leave an inheritance and the uncertainty regarding future expenses. Intergenerational wealth transfer requires people to hold a portion of their assets in inheritable forms; this excludes certain products such as annuities and other investments where the principal capital is consumed during retirement. Consequently, product requirements are different for people who plan to leave a financial legacy.

Challenges for product providers and financial advisers

The sunset years of many retirees and preretirees are at risk. The current financial crisis has revealed the vulnerability of many individuals' retirement portfolios. Their losses have been significant. For years, people focused more on generating equity market returns than on sustainable spending. Years of exceptional performance caused people to underestimate the risks associated with investing in capital markets.

The crisis revealed some weak spots in product design. The soon-to-mature target date funds were too heavily invested in the stock market while variable annuities started to hurt insurance companies at the same time that prices for risk hedging exploded. Risk management has become strategically more important for both individuals and product providers. Individuals need to safeguard the assets that they have spent decades accumulating. Product providers must identify and price their risk exposure effectively while simultaneously developing new solutions that, in the context of wealth decumulation, will be sustainable in various market environments.

Professional retirement planning advice is important because it can provide an understanding of the complex product landscape while offering guidance on which combination of investments can help to reach individual retirement targets. The advice from financial experts should transform real retirement needs into an investment and decumulation strategy.

Because of the pressure on the U.S. Social Security system, the importance of supplementary retirement income is growing. Individual investors are playing a more crucial role than ever in their financial futures. These people are making key decisions regarding the retirement savings held in individual accounts and employer-sponsored pension plans. However, it is well documented that financial illiteracy is widespread among older investors in the United States. Even basic financial concepts may not be understood[34]. Professional retirement planning advice can fill this knowledge gap and help the person reach individual retirement targets.

At present, there is an ongoing discussion in the United States regarding the judicial framework of professional financial advice. The current regulations governing financial advisers are considered insufficient when it comes to addressing the problems arising from changing market conditions. Various groups are therefore calling for a reform of the relevant laws. On top of that, consumer advocates consider the inconsistencies in regulations a cause for misguided advice by financial professionals. In the past, some of them steered consumers toward financial decisions that benefited their own interest rather than that of their clients. Part of the issue is that professional advisers have pursued short term profits instead of long-term sustainable business practices. Regulations that concentrate on solving these problems are constantly demanded by consumer federations.

Misselling most frequently occurs in markets with complex products. This problem is particularly severe in the market for retail financial products including pensions, securities and insurance policies. People who lack expertise in financial matters often rely on financial advisers for guidance. The problem is that some financial advisers do not to act in the best interest of their clients. Instead, their advice is biased toward maximizing short-term profit[35]. This happened because of the organizational structures of a firm's sales process, competition within the industry, as well as compensation and incentive structures.

There are various regulatory regimes that apply in the area of consumer protection and pay heed to the important role that professional consultants and advisers play. However, many professionals who provide investment advice to their clients are not required to comply with fiduciary standards. These include certain advisers at banks, lawyers and broker-dealers. In the United States, the title “financial adviser” is not well defined, which has led to investor confusion. The unevenly developed standards that regulate investment advisers and broker dealers are susceptible to multiple and differing definitions and interpretations. Broker-dealers are often called financial advisers even though they are not subject to the same regulations as investment advisers. As the boundaries between investment advisers and broker-dealers have blurred, it has been increasingly difficult for individual investors to understand the differences between the services they provide and the legal duties they are owed[36].

The Consumer Federation of America (CFA) considers the inconsistent regulatory treatment between broker dealers and investment advisers as a reason for recent abuses and has called for the creation of consistent standards[37]. To strengthen the protection of investors, the U.S. Treasury has proposed legislation to apply a fiduciary standard to broker-dealers offering investment advice. The proposal, which is entitled "Establishment of a Fiduciary Duty for Brokers, Dealers, and Investment Advisers, and Harmonization of the Regulation of Brokers, Dealers and Investment Advisers," provides plenary authority to the SEC to regulate disclosure requirements for conflicts of interest, sales practices and compensation schemes for financial intermediaries.

Recent unprecedented financial events have left a lasting effect on the overall retirement landscape. The result of these changes is two challenges: 1) product providers will have to adapt to the new environment by adjusting their general product range to take into consideration the increased volatility, instability and uncertainty of capital markets; 2) the huge wealth decumulation market needs to be addressed because the requirements of decumulation products are different.

Product providers and advisers must make an effort to support the wealth decumulation market in the future. The objective is to develop new solutions and educate advisers on how to best incorporate these offerings into their clients' portfolios. Currently, most financial advisers use a basic set of financial products to construct a retirement-income portfolio. The adviser business model is oriented toward capital accumulation because decumulation would mean a loss in fee income as advisers are usually paid a percentage of their clients' assets or at conclusion of the contract. If the providers of wealth decumulation products want to be successful with pushing their products into the distribution channel, they will need to offer attractive fee-based incentives to those who are supposed to sell these packages.

Retirement assets are growing faster than household financial assets. Retirement assets are the single-largest driver of the increasing wealth of the U.S. population. However, within the retirement market a huge decumulation market is emerging. The financial industry is preparing to serve that market.

VI. FOCUS: The dilemma with variable annuities

by Bernhard Brunner and Mikhail Krayzler, risklab

Variable annuities – an overview

Variable annuities (VAs) have been available in the United States since the mid-1980s. In its basic form, a variable annuity (VA) resembles a package of mutual funds purchased by an investor or policyholder. A VA differs from a classic mutual fund in several important ways.

First, a VA allows policyholders to receive periodic payments for a defined period, usually for the rest of their lives (or the lives of their spouses or any other designated beneficiaries). This feature protects policyholders from outliving their assets. Second, a VA is tax-favored. Depending on the local regulations, VA contributions can be tax-deductible if the VA is part of a retirement plan. Money can be transferred from one investment option to another within a VA without being subject to taxes at the time of transfer. However, when money is withdrawn from a VA, it is taxed on the earnings at ordinary income tax rates rather than capital gains rates, which might be lower.

Table 3: Variable annuity guarantees

Benefit	GMDB	GMAB	GMWB	GLWB	GMIB
Description	Lump sum on death to the beneficiary	Guaranteed lump sum after accumulation period	Guaranteed amounts via parital withdrawals over a specified period during accumulation and/or decumulation period with the possibility to surrender the guarantee	Guaranteed amounts via parital withdrawals during the whole life (policyholder retains control over the investment)	Guaranteed income via parital withdrawals after annuitization (policyholder loses the control after investment is converted to annuity)
Payoff Phase	Accumulation/ Decumulation	Accumulation	Decumulation (occasional Accumulation)	Decumulation	Decumulation
Guaranteed amounts	• Initial premium • Roll-up: premiums paid accumulated at guaranteed rate • Ratchet: optional adjustments of guaranteed amount to the actual account value at specified dates • Greater of fund value, ratchet and roll-up		Annual withdrawals defined as maximum % of • Initial premium • Fund value • Ratchet: optional adjustments of guaranteed amount to the actual account value at specified dates • Bonus options: ability to increase the guaranteed amount if no withdrawals have been redeemed during predetermined periods • Greater of fund value, ratchet at roll-up		Minimum annual income defined as % of • Initial premium • Fund value at the time of annuitization • Roll-up: premiums paid accumulated at guaranteed rate • Ratchet: optional adjustments of guaranteed amount to the actual account value at specified dates • Greater of fund value, ratchet and roll-up

Source: risklab

When a VA is part of a retirement plan, tax-deferred benefits will outweigh the costs only if the tax rate in the decumulation phase is lower than in the accumulation phase and the VA is held as a long-term investment to meet retirement or other long-term goals. Third and most important, VAs combine an investment in mutual funds with an insurance component in the form of a guarantee on underlying fund performance.

Over the years, the guarantees offered on VA products have evolved as the market has adapted to meet customer needs. While the vast majority of current VAs offer a death benefit rider as a default feature, more sophisticated designs include a variety of living benefit riders (*see Figure 1*).

The guaranteed minimum death benefit (GMDB) addresses the concern that the policyholder may die before all payments are made. If this happens, the beneficiary receives a payout, typically the amount of purchase payments made by the deceased policyholder, if at the time of the policy holders' death the account value is less than the guaranteed amount.

In contrast, living benefits can be described as wealth-preservation or wealth-decumulation products. They enable the policyholder to preserve wealth during the drawdown period. They combine some of the advantages of traditional defined benefit and defined contribution retirement plans. There are three common types of living benefit riders: guaranteed minimum withdrawal benefit (GMWB); guaranteed lifetime withdrawal benefit (GLWB); and guaranteed minimum income benefit (GMIB).

GMWB riders guarantee that a certain percentage (usually 5% to 7%) of the amount invested can be withdrawn annually until the entire amount is completely recovered, regardless of market performance. This means that if the underlying investments perform well, there might be even more money than expected at the end of the withdrawal period. Additional features may include a step-up that periodically locks in higher guaranteed withdrawals if investments do well.

The GLWB rider is another type of withdrawal guarantee. It allows the policyholder to make withdrawals for life. The actual percentage allowed to be withdrawn varies according to the person's age and/or fund performance at the time of the first withdrawal.

A GMIB rider is designed to provide the investor with a base amount of lifetime income at retirement, which is at least as valuable as the account value of the investments at the point of conversion. This guarantee is similar to purchasing a typical annuity.

In addition to these three living benefits, which focus on the decumulation or payout phase of a VA, there is also a type of living benefit guarantee particularly designed as a wealth-accumulation product. The guaranteed minimum accumulation benefit (GMAB) rider guarantees that the final contract value at the end of the accumulation phase will not fall below a specified level regardless of the actual investment performance. This type of guarantee is particularly interesting to younger investors.

Over the last decade, VAs have been a major success story in the North American insurance market. They even have overtaken traditional fixed annuities to become the primary form of protected investment. VAs also have been successful in Japan, where the market grew to USD 140 billion in March 2008 from USD 1.3 billion in 2001.

Following their success in the United States and Japan, VA products are being launched in a number of European markets. What makes these products attractive is that they address the long-term savings and retirement needs of Europe's rapidly aging population. As individuals also become more heterogeneous in terms of their demand characteristics, there is growing recognition in the industry and by governments that existing retirement models have to be improved to better meet consumer needs. In particular, consumers require access to market returns in order to keep pace with the rising cost of living, but they also need to protect their assets and lifestyles from negative economic trends.

Risk management for variable annuities

Because of increasing sales volumes and rising product profitability in the United States and Japan, it is implied that VAs offer strong opportunities for providers. However, caution is needed because VAs can have a high negative impact on the VA provider's balance sheet. Proper risk management is still the main requirement for a successful product. In addition, issuers gain a competitive advantage in the market if they clearly understand and can provide a transparent demonstration of VA risks. Given the highly complex structure of VA products, risk management deserves special attention.

Risks associated with VAs can be divided into three main categories: market risks, insurance risks and operational risks. The most important insurance risks are: longevity, mortality, lapse risk and policyholder behavior. Insurance risks rarely can be hedged out. Just a few instruments have been developed to manage longevity and mortality risks, two examples are longevity- and mortality-linked derivatives. However, the market for these products has not been established yet due to the number of different issues one faces when trying to combine these instruments. Companies launching longevity bonds have experienced major problems, such as very high prices; the basis risk between the underlying index and longevity risk faced by insurances or pension funds; an absence of good models capturing life expectancy data; and a lower degree of standardization in the market.

Another type of insurance risk is caused by unexpected policyholder behavior and the unanticipated rate of policy terminations (lapse risk). This has become a very important issue for many insurance companies and pension funds. Recently, we have seen an increased demand on the VA products by professional investors and hedge funds. These professionals can make more effective decisions than individual policyholders on optimal allocation between underlying funds and when to sell the products. High losses might arise if policy issuers are not prepared to handle the type of policyholder behavior typical of professional investors and hedge funds. Many of these insurance risks can be outsourced or partly eliminated by increasing the size of the VA portfolio – as most of these risks follow the law of large numbers (pooling of risks).

In contrast to insurance risk, market risk, which primarily includes equity, interest rate and volatility risk, won't decrease by enlarging the size of the VA portfolio. However, these risks can be controlled by appropriate hedging strategies. Finally, insurers should be aware of the so-called operational risks.

These consist of model risk, legal risk, wrong implementation of risk management framework, IT breakdowns and similar risks. Unfortunately these risks cannot be easily hedged, so they need to be monitored closely. We will now look at the market risks and examine how the VA issuer will have to manage them.

While the entire risk monitoring system and some hedging programs play an essential role in the success of the product, actual risk management starts even earlier – during pricing and product design. There are several options that can be implemented in the design phase that give more flexibility to insurers. The following measures help to eliminate some potential risks:

- possibility to change the guarantee costs;
- restrictions on fund investments to reduce a portfolio's volatility and to increase its diversification;
- incentives to defer the option (such as a bonus for not withdrawing funds); and
- callable features (such as the right of the issuer to buy back the guarantee from the guarantee holder, which means to cancel the guarantee).

Caps on benefit levels in addition to some of the above-listed options help reduce costs of expensive guarantee riders.

The factors to consider when pricing products, which is the next phase, should include the potential costs of hedging, risk capital and unknown policyholder behavior. In addition, market data should be used to calibrate the pricing models. For all this, a comprehensive pricing framework is necessary.

After products are designed and priced the so-called hedging programs come into play. There are four basic approaches to hedge VAs: run naked, reinsurance, static and dynamic hedging.

Run naked means an absence of any hedge. This approach is often applied if the provider's VA business is small; the expenses combined with a hedge program are too high; or the instruments needed to hedge are not available at a reasonable cost. The advantage of this approach is that it provides the ability to participate in the full upside potential. In addition, there is no need for special risk management and/or asset-liability management (ALM) expertise. However, the absence of downside protection and high earnings volatility mean that only a few VA providers now employ this type of hedging strategy as a stand-alone approach.

Another approach is to transfer the risk to a reinsurer and pay a premium. The advantage is having well-structured, customized global protection as well as the possibility to outsource some insurance risks. Again, no special risk management expertise is required. However, this hedging approach is expensive and illiquid. A separate problem with this strategy is that it can be difficult to adjust the designed reinsurance protection to meet changing market conditions or other requirements. Like any strategy that includes a third party, reinsurance leads to some additional risks due to counterparty credit and operational risk.

The last two concepts are in-house hedging strategies. The first is the static approach. At the beginning of the product's life, the writer of the VA purchases over-the-counter options, or, if possible, exchange-traded options, to hedge against the potential liability risks. In addition to the counterparty risk, a major disadvantage of this strategy is that underlying liabilities might be over or under hedged unless they are rebalanced frequently during the term of the investment. To overcome this, insurers often buy a specific over-the-counter instrument that allows them to keep the same hedge level over time. However, these protections are expensive and again involve counterparty risk.

In contrast, a dynamic hedging program dynamically manages a portfolio of derivatives with sensitivities (in industry parlance, these are referred to as “Greeks”) that correspond to VA liabilities. Depending on the type of sensitivities or risk factors to be hedged, the following subtypes of dynamic hedging are common:

- Delta hedging: insurance against movements in the underlying fund price;

- Rho hedging: protection against negative movements in risk free interest rates;

- Vega hedging: taking into account changes in volatility;

- Gamma hedging: insurance against changes in delta due to a change of the underlying fund price.

The so-called “higher order Greeks” or “cross Greeks” are mainly used in more comprehensive hedging programs. The final hedge portfolio is expected to match movements in liabilities over a short period of time. As a result, the portfolio is adjusted frequently. The rebalancing period should be defined so that it provides an acceptable trade-off between transaction costs and hedge accuracy.

As a consequence, dynamic hedging programs often use exchange-traded derivatives, which are generally less expensive and more liquid than over-the-counter instruments. This makes it easier and cheaper to unwind positions and leads to more flexibility in product design and pricing. In addition, the credit risk from third-party instruments is less than it is with static hedging or reinsurance because the exchanges use the mechanism of clearinghouses, which guarantees fulfillment of the contract. That means the VA writer is no longer linked to one bank or one reinsurance company.

A disadvantage here is that the risk management team must have a high level of expertise as well as the advanced systems necessary for continuous checks, monitoring and execution. In contrast to other approaches, total costs cannot be determined in advance because of the frequent rebalancing required (which can involve potentially high transaction costs). Using this approach also requires a significant capital outlay for training and systems.

One additional strategy is a hybrid approach that combines static and dynamic hedging. The static hedging involves purchasing an over-the-counter hedge when market rates are low, which mitigates some complex risks. Dynamic hedging is used to bridge the remaining gaps.

All hedging programs have their advantages and disadvantages. To find the optimal approach, a cost/benefit analysis has to be done and key factors such as the size of the VA product, the VA provider’s risk appetite and market conditions should be considered.

Impact of recent market crisis on variable annuities

The recent severe market turbulence has resulted in significant declines in equity values. Because of this, most guarantees embedded in VAs have become "in-the-money". This means that the guarantee benefit has greater value than the assets accumulated in policyholders' account balances. As a result, it is likely that the market downturn will boost demand for VA products because customer perception of the value of guaranteed products has increased.

In contrast, insurance companies face new challenges in their VA business as a consequence of the dramatic market development. First of all, the sharp decline in equity prices implies that the profitability of the VA business will reduce an insurer's income stream significantly as fees are based on the actual account values.

Another consequence of the increased equity volatility will be higher guarantee costs, which will be reflected in higher rider fees in new VA products. Policyholders dislike higher product fees. Insurance companies will need to revise their new VA products and rider designs to limit the risks of the underlying fund investments and avoid expensive guarantee riders.

However, the most important consequence of the market crisis is related to risk management and hedging programs. As the guarantees from existing products become more valuable and the possibility rises that the guarantees will end up in-the-money, insurance companies, which provide the guarantees, are forced to increase their risk-based capital requirement. Hedging programs, which are used to counter this increase in liabilities or reinsurance arrangements for risk transfer, will become more important.

Most existing hedging programs have been effective at mitigating the increase in liabilities resulting from the recent capital market crisis. However, despite the dynamic hedging approach used by most of the companies, there were some significant differences in implementation (for example, some companies used "higher order Greeks" and "cross Greeks" rather than simple Delta hedging). This led to considerable differences in hedging performance.

The main sources of variations are the Greeks that are hedged and the frequency with which hedging is applied. The increase in market volatility has generated losses to hedging programs that do not guard against changes to market volatility (Vega hedging). Although it is often argued that these losses are not realized cash losses, the effect on the required risk-based capital can be significant. As a result of the market downturn, hedging activity will increase and hedging programs will be enhanced to cover more risk factors.

The current market environment also will affect the underlying fund investments included within VA contracts. Generally, the funds cannot be hedged directly. Instead, they are mapped to hedgeable indices or risk factors. This mapping is often based on simple linear relationships determined by historical data. However, during extreme market fluctuations this simple approach has often caused basis mismatches (deviations between funds and corresponding indices), which directly contributed to hedge ineffectiveness.

What we see now is an increasing tendency to include investment funds that employ different risk mitigation strategies in VA policies.

Examples of these types of funds are volatility target funds and funds with a built-in downside protection. These allow VA guarantee costs to be shifted to the fund level. To avoid further guarantee costs and to benefit fully from these risk management strategies, it is essential to model these funds properly by using advanced mapping techniques and accounting for the current fund allocation.

Conclusion

The market for variable annuities has been badly affected by the financial crisis; however, the demand for annuities continues and is even on the rise. VAs are likely to make up an increasing share of total assets in the retirement market. For that reason, product providers have a vital interest in increasing the calculability of annuity products as well as providing attractive offers to the customer.

VA providers have been offering new features and guarantees in their products. This has made the products more attractive but at the same time it has made them more expensive and more complicated to monitor and to hedge. In order to manage all types of risks arising in this business, a powerful and comprehensive hedging platform is required.

The current market downturn has underscored the need for a proper risk management system. Many guarantees included in VA products became in-the-money because of the significant decrease in equity values. This caused huge losses for companies without appropriate hedging programs. At the same time, this market downturn showed the attractiveness of such guarantees for policyholders and led to increased demand for VA products, which we assume will continue. However, providers need to address potential problems in product design without the price of guarantees rising to a level that reduces demand. New VA products must limit the risks of the underlying fund investments and avoid expensive guarantee riders.

To achieve this, providers are likely to enhance hedging strategies. They will do this to ensure that more risk factors are addressed. There is a trend toward using funds with built-in risk management strategies, such as volatility target funds, and funds that include downside protection because, if modeled properly, they can help to reduce the costs of additional riders.

VII. Conclusions

Two severe downturns in the financial markets in only one decade significantly hit the pension wealth of the world's largest economy. However, compared with the crises in 2000 and 2001, the current downturn has had a much greater adverse effect on the financial circumstance of many U.S. households. Within one year, from 2007 to 2008, the value of overall retirement assets dropped by more than USD 4 trillion – and this does not yet include losses in housing values and other financial assets. Because of the increasing dependency on supplementary pension coverage to maintain a certain standard of living in retirement, the crisis underscored the need for proper risk management to protect a person's much-needed assets from adverse market movements.

The downturn foiled the retirement plans of many pre-retirees who now have to work out alternative strategies. Delaying retirement and settling for a lower retirement income are two likely scenarios. However, the situation becomes even worse when this backdrop is considered in the context of the general state of the pension system and the trends affecting employer-sponsored pension plan design. The role of Social Security is uncertain. Smaller payouts from an already-low level are presumably unavoidable. As a result, occupational and private pension assets will have to provide for an increasing share of retirees' income.

Making matters more difficult is the ongoing trend by companies to close or freeze their more-generous defined benefit schemes and instead offer less-costly defined contribution schemes in which retirement benefits depend on the return on the chosen investment. What's more, with the ongoing shift from defined benefit to defined contribution pension plans, individuals no longer enjoy lifetime payments from their employer-sponsored pension plans. Instead, lump-sum payments that have to be managed individually are more common. This signifies a shift in responsibility to the individual, who may not have the knowledge and time to design a winning retirement planning strategy.

Defined contribution plans and IRAs are expected to fund an increasing share of retirement income. The role of supplementary pension plans will change from providing complementary income to providing an essential and integral portion of the money needed to cover required spending requirements in retirement. Guaranteed income from Social Security and defined benefit plans will account for less than in the past. Only 21% of the work force is currently covered under a DB pension plan and this share is decreasing. Even before the financial crisis of 2008, Social Security finances were at risk because the baby boomer generation was starting to reach retirement, which put more pressure on the system's finances. The large amount of government financial aid used to support troubled companies will increase the national debt to new record highs. Experts warn that even record tax increases will not be sufficient to repay this debt. It is likely that these factors will tempt the government to cut back further on Social Security benefits, which are one of largest items of public expenditure.

The increasing importance of self-directed retirement plans challenges individuals in many ways. Defined contribution plans have been overtaking defined benefit plans, leaving most individuals with risks that previously were handled by the employer. The Pension Protection Act of 2006 introduced legislation that authorized employers to automatically enroll employees in the company pension plan. If the employee does not play an active role in his financial future, an employer does not have to assume fiduciary responsibility with regard to the investment return as long as the employer directs contributions to one of the defined Qualified Default Investment Options. Many employers are taking advantage of this new rule; the introduction of auto-enrollment has gained speed.

Regulation has shaped the design and development of company pension plans. The response to the new rules on automatic enrollment and QDIAs shows that governmental guidance has a strong impact not only on the structure of pension plans but also on investments and asset allocation in those plans. Prior to the PPA's rules on QDIAs, many employers chose to invest very conservatively to avoid being held responsible for losses in their employees' accounts. Today, target date funds have developed into the investment of first choice. Almost 90% of target date fund assets are held in retirement accounts.[38] Experts predict that in the future these funds might account for the majority of all DC assets. The "auto-pilot" feature with a continuing rebalancing mechanism from risky to less risky assets makes them very attractive.

The products currently used to generate income in retirement do not make much of a difference to those people investing in them during their working years. Recent experiences have shown that most portfolios were not well positioned to weather the storm on the capital markets. With the increasing importance of supplementary income sources in retirement, the construction of retirement portfolios must be geared to provide a reliable income stream once an individual stops working. Risk management is of particular importance. Products and financial advice that are geared to support people in the decumulation phase still need to adapt to this changing environment. Decumulation products must consider and address retirement-specific risks.

The baby boomer generation is on the verge of retirement and has accumulated a massive stockpile of assets. At least a portion of those assets will be needed to finance some of their spending needs in retirement. There is a structural shift in the composition of retirement income, which will increasingly come from the pools of assets in defined contribution and Individual Retirement Accounts. The product spectrum to create income solutions is large, complex and sometimes confusing. In addition, there is a lot of flexibility when choosing a suitable withdrawal strategy.

Pension-related regulation has a strong focus on the accumulation phase. A required minimum distribution from tax-exempt retirement accounts is the only rule that applies to the retirement phase. Financial illiteracy is widespread among older people in the United States. Even basic financial concepts may not be understood. But retirement planning and income generation go beyond basic concepts. Even for the best financial minds, these are complex problems to solve given the number risks and uncertainty linked to an individual's retirement investments. At the same time, Joe Average is being asked to translate his DC and IRA account balances into a regular stream of income that lasts for a lifetime.

The conjunction of financial illiteracy, a complex product landscape and missing governmental guidance makes it difficult for most people to design a suitable retirement income strategy. In the past, the government was very effective in shaping the retirement market. Regulation could again be used to provide guidance, especially for the long-neglected payout phase. At the same time, product providers need to develop products that target the payout phase and that prioritize the retirement-specific risks that were outlined in detail in Chapter V. Product simplicity and robustness are also required. These products must be easy for the customer to understand and, most importantly, they must deliver promised results regardless of the market situation. Finally, product providers and advisers need to cooperate to bring these new solutions and products to the customer. Advisers will need to be educated on the offerings and then determine how to best incorporate them into their clients' portfolios. This might involve changing business models and incentive structures. Providers and advisers must make changes to support the wealth decumulation market in the future. Retirement products will likely be less focused on generating equity market returns, and more focused on sustainable spending.

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