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“Too often, our industry is addicted to conventional wisdom and allergic to arithmetic and empirical testing.”

## KEY POINTS

1. With target date funds (TDFs) prevalently the default choice in defined contribution (DC) plans, young workers' equity concentrations are growing ever higher.
2. Young workers, who are more likely than older workers to lose their jobs in a recession, frequently cash out part or all of their DC assets to meet living expenses during a period of unemployment.
3. Young workers would be well advised not to invest in TDFs until their less risky “starter portfolio” reaches a certain minimum balance, for example, six months' income.

## What Are We Doing to Our Young Investors?

by Rob Arnott and Lillian Wu

Most target date fund (TDF) products—also known as glidepath investing—start our youngest employees with a heavy equity allocation and slowly shift their portfolio holdings into bonds as they age. With growing use of automatic enrollment in 401(k) plans, and the prevalence of TDFs as the default choice in defined contribution (DC) plans, we're seeing an ever-higher equity concentration in young workers' DC portfolios.

So what?

A recent Fidelity (2014) study reports that, among 12.5 million DC participants, 41% of those between ages of 20 and 39 cashed out part or all of their DC assets when switching jobs, incurring tax penalties along the way. A rhetorical question: Do they lose their jobs more often in a bull or a bear market? Maybe a high-risk profile is unwise for young savers. When some of them lose their jobs in a bear market, and find that they need to dip into their DC reserves while looking for another job, it's a triple-whammy. If their 401(k) is their only serious savings:

- they may have to cash out to meet basic living expenses,
- their assets may be less than the money they set aside from their paychecks, and
- they have to pay the IRS a stiff penalty for early withdrawals.

Ouch!

## Employment Risk

The literature of consumption finance suggests—and tangible evidence corroborates—that people try to smooth their lifetime consumption by overspending when young, long before their income peak, then saving more and more aggressively as they approach their peak earnings years. Many young adults are establishing their financial self-reliance, starting families, and saving down-payment money for their first homes, often while burdened with student loans. As a result, young adults have different saving incentives from those who are further along in their careers: their savings are precautionary (to offset income uncertainties), not for retirement.<sup>1</sup>

Work is less stable among young adults, as demonstrated by the higher unemployment rates. **Figure 1** (left axis) shows the monthly unemployment rates, seasonally adjusted, for different age groups. From January 1990 to mid-2014, workers between ages of 20 and 24 experienced an average unemployment rate of 10%; the average unemployment rates for those age 25–34 and 35–44 drop to 6% and 5%, respectively. The older age groups, those above 45, seem to have a better chance of staying employed, experiencing the lowest average unemployment rate (4%) among all age groups.



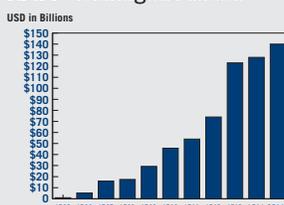
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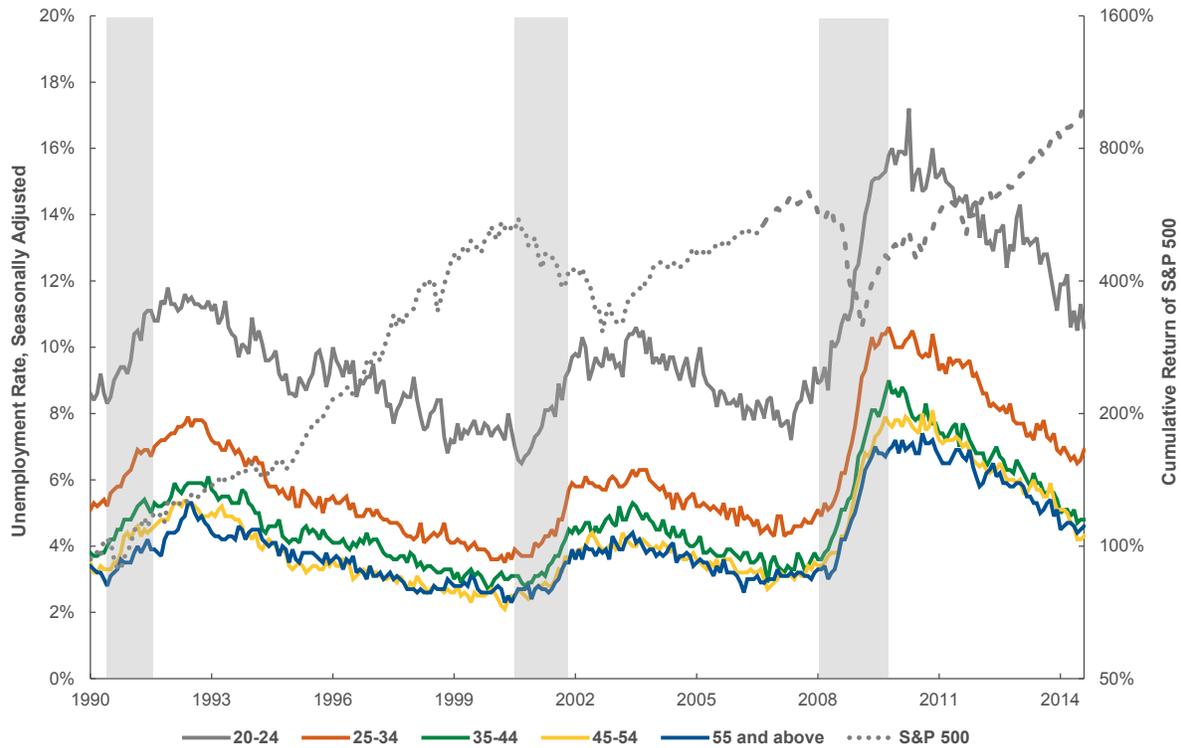


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Figure 1. Unemployment Rate and Equity Market Performance, January 1990–August 2014



Source: Research Affiliates, based on data from Bureau of Labor Statistics, National Bureau of Economic Research, and Bloomberg.

Moreover, the young adult’s job security is also highly correlated with the business cycle. The gray-shaded areas in Figure 1 indicate the three U.S. recessions that took place during our sample period. Naturally, all age groups suffer an increase in unemployment rates during recessions. But, in addition to higher job turnover, higher rates of unemployment, and longer-lasting unemployment, young adults suffer a bigger jump in unemployment—by about 60%—than their middle-aged brethren over 45.

In Figure 1 we also overlay stock market performance over the same time span. The dotted line (right axis) represents the cumulative total return of the S&P 500 Total Return Index. As is obvious from the chart, recessions usually follow

a period of market downturns. This should not be surprising because stock market declines typically begin prior to the arrival of a recession. So, young investors’ equity-heavy TDF investments plunge just when they’re more likely to be laid off, and/or just before they cash in their DC fund!

*“Maybe a high-risk profile is unwise for young savers.”*

The magnitude of the increase in unemployment experienced by workers in different age groups is shown in **Table 1**. Here, again, we see that the risk of losing a job when the economy falters has been greater for young people than for their older colleagues.

### “100 Minus Your Age”

Why do we subject our newest savers to the highest risk?

Too often, our industry is addicted to conventional wisdom and allergic to arithmetic and empirical testing. Conventional wisdom suggests a percentage allocation to equities which is “100 minus your age,” and the notion that the young can bear more risk than those of us who are middle aged (or older!). True, the young have more time to recover losses, but what losses are more insidious for retirees than inflation sapping the real income of a bond-centric portfolio? Until we published our “Glidepath Illusion” papers,<sup>2</sup> was this conventional wisdom ever seriously tested?

**Table 1. Average Change in Unemployment Rates by Age Group, 1990-2014**

Stage of Cycle	Age Group				
	20-24	25-34	35-44	45-54	55 and above
During Recessions	3.0%	2.5%	2.3%	1.9%	1.8%
From Recessionary Unemployment Trough to Peak	4.8%	3.9%	3.3%	2.8%	2.8%
From Recessionary S&P Total Return Peak to Trough	2.7%	2.2%	1.9%	1.6%	1.5%

Source: Research Affiliates, based on data from Bureau of Labor Statistics and National Bureau of Economic Research.

Finance theory was then called upon to justify this *untested* conventional wisdom. Academia advanced the *unexamined* thesis that human capital is like a bond, so that, as we age, we should replace our diminishing human capital with bonds. Now we have an established literature which demonstrates that—assuming human capital resembles a bond—we should move from risk-tolerant to risk-averse as we age. Pardon me, but doesn't employment income feel more like equities, with income typically growing at the rate of inflation plus a bit, and with ever-rising uncertainty the farther we look into the future? Which are more highly correlated with young adults' income streams: The total returns and income streams for stocks or for bonds? Just asking.

Finally, we are told that the young are tolerant of risk and that, as retirement approaches, the average investor becomes intolerant of downside risk, fleeing after a serious drawdown. To be sure, we all know people of all ages who got out of stocks, including the stocks held in their 401(k) portfolios, at the 2002 and 2009 market lows. But are there studies examining the

*relative* behavior of young adults, mid-career employees, mature employees, near-retirement employees, and post-retirement investors? Are young employees likely to become risk-allergic—let alone risk-averse—if their first major foray into the capital markets ends with the triple-whammy of a lost job, necessary liquidation of their 401(k) at a loss, and a tax penalty to boot?

**“The young adult’s job security is highly correlated with the business cycle.”**

Now, a huge industry<sup>3</sup> has been formed on the basis of conventional wisdom, backed by finance theory which is itself based on a doubtful core assumption and supported by anecdotal behavioral evidence!

### Starter Portfolio

What could be a possible remedy? Perhaps young workers should *not* invest in TDFs with high equity allocations at all until their *starter portfolio* reaches a

certain minimum balance of, perhaps, six months' income.<sup>4</sup>

What could this starter portfolio look like? The starter portfolio is the rainy day fund.<sup>5</sup> It would be unwise to use the rainy day fund to go gambling in the casino in the hopes of doubling it at the roulette table. Similarly, compared with traditional TDFs, the starter portfolio should be less risky and less correlated with the young saver's primary income. A portfolio invested one-third each in mainstream stocks, mainstream bonds, and diversifying inflation hedges would be a much safer option, compared to the conventional longer-dated<sup>6</sup> TDFs where the average stock allocation is 70% or more.

What comprises that third sleeve of the portfolio, the diversifying inflation hedges? These would typically be lower volatility asset classes, lightly correlated to mainstream stocks and bonds, ideally with higher yield or higher growth or both, and with a positive link to inflation (to diversify against the negative link of mainstream stocks and bonds).<sup>7</sup> This component might augment the classic balanced

portfolio with investments such as TIPs, low volatility equity, and high yielding bonds. Even REITs and emerging market stocks and bonds might, in moderate doses, serve to lower the volatility of the overall portfolio.

By the time the balance meets the minimum amount, the savers would be familiar with the fact that the best investments involve some risk and will fall from time to time, and they will also be confident that they are reasonably well covered for a rainy day. The investors can start loading up allocations to more risky asset classes on the amount exceeding the starter portfolio minimum balance.

## Conclusion

Current savings options blissfully ignore the fact the young use their 401(k) investments as their rainy day fund in

“Why do we subject our newest savers to the highest risk?”

case they have an unexpected and urgent need for cash. Often, this happens when they lose employment. Existing saving options force young savers to gamble aggressively with their early savings in the hope that they have enough time to recover from any unlucky market performance with more savings later in their lives. We can continue pretending that 401(k) portfolios are used only as intended—for retirement savings. Or we can face reality and offer our young investors a more prudent solution, one which would not force them to gamble with savings that they necessarily rely upon as a rainy day fund.

If young workers have to deal with their volatile young human capital over a long horizon—with a heightened need to cash out when the portfolio values are depressed—then it makes even more sense for younger workers to begin with a less risky portfolio. This also helps shape their risk tolerance so that their attitudes about investing and risk-bearing are not poisoned by a bad early experience. A prudent implementation would be to invest into a safer “starter portfolio” within their DC plan. Only when the relatively safe funds reach a comfortable level should investors consider taking more risk in the hope of generating excess return. And they should take that higher level of risk only on the portion of their portfolio that exceeds the starter portfolio’s minimum balance.

## Endnotes

1. See Gourinchas and Parker (2002).
2. See Arnott (2012) and Arnott, Sherrerd, and Wu (2013).
3. As of March 31, 2014, Morningstar reports that target-date mutual fund assets were \$650 billion. See Treussard (2014).
4. The father of one of the authors (Arnott) strongly advocated that no 40-year-old should fail to have a liquid reserve amounting to one year’s income. He liked to refer to this portfolio as his “go to h---” fund, because it gave him the independent self-reliance to be able to say this if anyone thought that he was dependent on his biweekly paycheck. This was colorful language for a theologian, but most of us have heard others on Wall Street describe it in even more colorful language!
5. Let us state most emphatically that young investors should *never* invade their 401(k) to make discretionary purchases. Borrowing against the 401(k) might strike inexperienced investors as an attractive source of funding for a highly coveted but inessential purchase. It is not. We have to help them understand this point.
6. For savers with investing horizons of more than 25 years prior to retirement.
7. We refer to these diversifying asset classes, with their positive correlation with inflation, as a “third pillar,” to complement classic two-pillar investing, especially in today’s low-yielding world. See, for example, West (2012, 2013) and Arnott (2011).

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