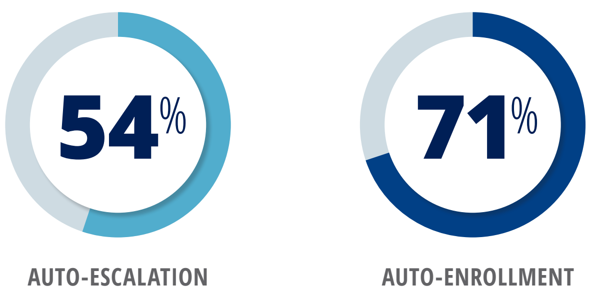
Roth vs. pretax deferrals: Is there a clear winner?

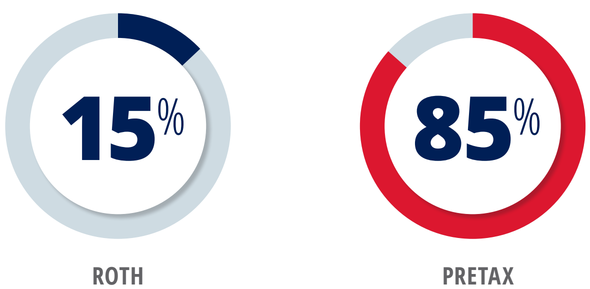
Executive summary

- Today 71% of large 401(k) plans automatically enroll participants, and more than half use auto-escalation.
- Among auto-enrollment plans, the default contribution type is almost always pretax.
- Pretax and Roth deferrals may offer tremendous benefits, but those benefits differ depending on factors we examined, including: tax rates, wage growth, earned income tax credits, Social Security and lifestyle in retirement (among others).
- Based on our research, we believe there is an opportunity for greater personalization of pretax or Roth contributions to improve retirement outcomes.

Plans that use auto-escalation and auto-enrollment



Participant deferral selection[1]



Initially authorized by the Pension Protection Act of 2006 (PPA), automatic features in defined contribution plans, like auto-enrollment and auto-escalation, have become a cornerstone of plan design. Over 71% of large 401(k) plan sponsors automatically enroll participants at a contribution rate of between 3% and 7%.[2] The use of auto-escalation is now also commonplace, with 54% of large 401(k) plan sponsors incorporating it into their plans' designs.[3]

PPA also ushered in the ability of defined contribution plan sponsors to amend their plan documents to allow Roth contributions. About half of large 401(k) plan sponsors offer Roth in addition to traditional 401(k) savings accounts. However, of participants in large 401(k) plans, the vast majority of participants make pretax contributions versus Roth contributions.

While the high use of pretax deferrals may be significantly driven by participants' preferences, it is important to keep in mind that among auto-enrollment plans, the default contribution type is almost always pretax. Adding to the imbalance of pretax dollars is the fact that employers who match either pretax or Roth employee contributions are required to allocate the match to a pretax account.

As we will discuss, pretax and Roth contributions both offer tremendous benefits, but those benefits vary depending on age, income level and a number of other factors. Similar to auto-enrollment and auto-escalation, a dynamic strategy to optimize savings type should also become a cornerstone of plan design. Based on our research we believe a recommended savings approach based on the unique circumstances of each saver can lead to improved retirement objectives.

Roth basics

Roth contributions differ from pretax contributions in a number of important ways. Understanding the differences can help inform the optimal contribution strategy for a participant. The table below shows some of the key differences between pretax and Roth contributions.

Treatment of pretax and Roth plan contributions

	Pretax	Roth
Taxation	Not taxed at time of contribution Contributions and earnings taxed at time of distribution	Taxed at time of contribution Not taxed at time of distribution*
Impact on adjusted gross income (AGI)	Decrease AGI at time of contribution Increase AGI at time of distribution	Increase AGI at time of contribution No impact on AGI at time of distribution if holding period met
Income limits	No income limit	No income limit**
Subject to required minimum distributions (RMDs)	Yes	Yes***

Factors that affect the pretax-versus-Roth decision

On the surface, the decision to make pretax versus Roth contributions seems relatively straightforward. If a participant believes their current tax rate will be higher than their tax rate at time of distribution, pretax contributions should be favored. Conversely, if a participant believes their current tax rate will be lower than their tax rate in retirement, Roth contributions should be favored. Unfortunately, the decision is more complicated than that. Complicating factors that should be considered when making the pretax-versus-Roth decision include:

FUTURE TAX RATES — While death and taxes may be the only certainties in life, the tax rate is anything but certain. The top marginal tax rate in the United State fluctuated from 91% in 1963 to 28% in 1990 to 39.6% in 2017.[4] Over the last 20 years alone we have seen four changes in the marginal tax rates.[1] Given the historical volatility of tax rates, we believe it is prudent to assume tax rates will continue to change in unpredictable ways. As a result, tax rate diversification achieved through a combination of pretax and Roth contributions is an important consideration.

LIFESTYLE IN RETIREMENT — When planning for retirement, households generally desire to maintain the standard of living in retirement they achieved before retirement. As retirees no longer have to save for retirement or pay FICA taxes (Social Security, Medicare and Medicare surtax if applicable), the common assumption is that they can live off a lower level of income and maintain their pre-retirement standard of living. This line of thinking is frequently used to justify pretax savings because a lower level of income in retirement should translate to a lower tax rate. However, most households make pretax contributions in their working years, lowering their adjusted gross incomes (AGIs) and subsequently their tax rates. As a result tax rate decreases in retirement aren't as dramatic as some assume, and workers may have a hard time maintaining the standard of living they achieved before retirement.

*Contributions are not taxed, and earnings are not taxed if a five taxable-year holding period is met. **Contributions to Roth IRAs begin to phase out at $118,000 and $196,000 for single and joint households, respectively. ***Roth IRAs are not subject to required minimum distributions (RMDs). Roth defined contribution balances can be rolled into a Roth IRA, allowing for the avoidance of RMDs.

WAGE GROWTH — In general, real wage growth is at its greatest for workers between the ages of 21 and 35. Growth slows between 35 and 55 and actually begins to decline after 55.5 This pattern means younger workers start their careers in a lower tax bracket and change tax brackets more quickly as they approach age 35. Between 35 and 55 workers may continue changing tax brackets but at a slower rate, and then after 55 they begin backtracking to previous tax brackets. All else equal, this pattern also implies that Roth contributions are probably most valuable for workers experiencing more rapid wage growth (those under the age of 35) while pretax contributions are most valuable for workers over the age of 35. Because wages also tend to increase with inflation and tax brackets are indexed to inflation, real wages should be considered over nominal wages.

EARNED INCOME TAX CREDIT (EITC) — Low-wage earners are eligible for tax credits in the form of earned income tax credits (EITCs). Instead of paying tax, these workers actually get a credit from the government. The credits are based on a person's AGI, filing status and number of dependents, among other factors. Pretax contributions lower current AGI, which results in greater credits for those who are eligible. Roth contributions increase current AGI and can result in lower or no credits. All else equal, workers who are eligible for EITCs should consider making pretax contributions.

TAXABILITY OF SOCIAL SECURITY — Social Security affects taxes in a number of ways. In the AGI calculation, only half of the Social Security payment is counted. A lower AGI in retirement results in a lower percentage of Social Security being taxed. As a result, given the same level of earnings, someone collecting more earnings from Social Security will have a lower AGI and therefore a lower tax rate. As most workers collect Social Security in retirement, this results in a greater benefit for Roth contributions. Roth contributions are not counted toward AGI at the time of distribution while pretax contributions are. Consequently, Roth distributions can be used to decrease the level of Social Security that is taxed.

MEDICARE PART B INCOME TEST — Medicare Part B payments are based on modified adjusted gross income (MAGI). Households earning less than $85,000 pay the lowest premiums: $1,608 annually. Premiums increase as AGI increases, maxing out at an AGI of $320,000 and an annual premium of $5,143. As Roth distributions don't count toward AGI, Roth contributions can lower Medicare part B premiums.

ESTATE PLANNING — Roth contributions can offer a significant advantage for use in estate planning. Roth defined contribution accounts can be converted to Roth IRAs, and Roth IRAs are not subject to RMDs. Since beneficiaries have the option of stretching withdrawals out over their life spans, and as a result potentially capturing decades of tax-free growth, households that intend to leave a bequest to their heirs may benefit from making Roth contributions.

RETIREMENT READINESS — As mentioned above, most often retirement planning assumes a household will maintain its standard of living in retirement. Unfortunately, that may not be a reality for many Americans as data points to a lack of retirement savings for a significant number of households. If households are underfunded for retirement, their income and tax rates in retirement will be lower, resulting in more value in pretax contributions.

Analysis

Making the right decision regarding contribution type can have a meaningful impact on one's financial situation. In the section below, we provide guidelines for a contribution strategy and attempt to show the benefits of making the right decision in light of the factors previously noted.

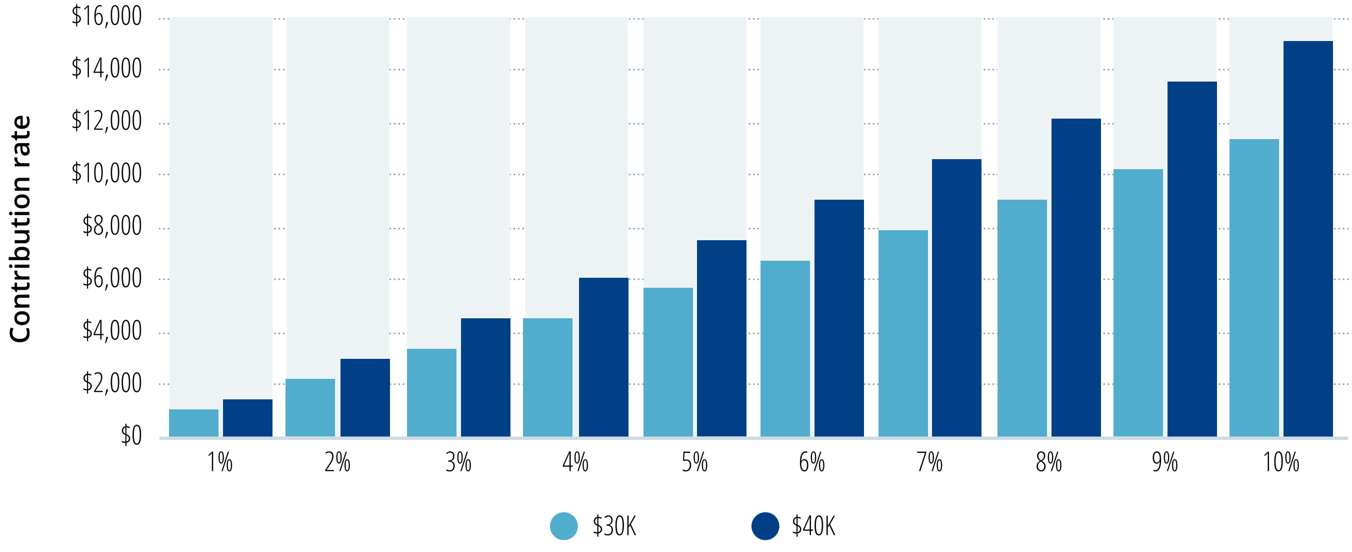
Lower-wage earners should contribute pretax due to EITC

A household filing jointly with two children and an AGI between $13,930 and $23,740 is eligible for a maximum benefit of $5,572. The benefit begins to phase out for households filing jointly earning more than $23,740 and reaches zero dollars at $53,930. We assume a household filing jointly will earn the EITC for 18 years. The graph below shows the lifetime impact of EITC when pretax contributions are made assuming a range of savings rates (from 1-10%) and income levels ($30,000 or $40,000 annual income).

Maximum income levels to qualify for the EITC

	Qualifying children claimed[5]			
If filing ...	Zero	One	Two	Three or more
Single, head of household or widowed	$15,010	$39,617	$45,007	$48,340
Married filing jointly	90%	$20,600	$45,207	$53,930

Lifetime impact of EITC on Roth pretax contributions



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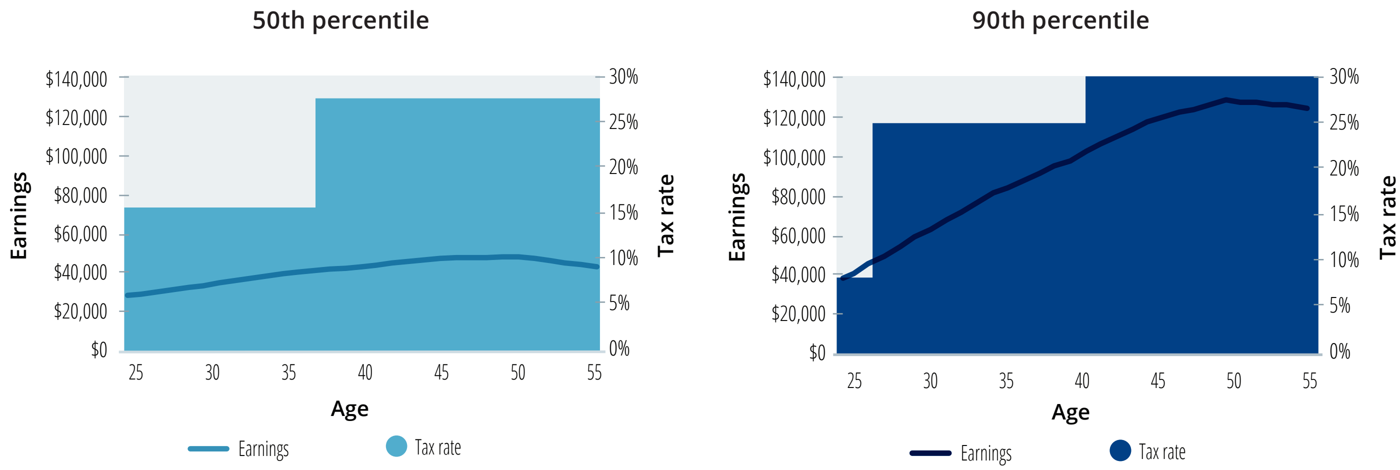
EITC in the current year is the only benefit that is 100% certain. As a result, we believe anyone qualifying for the EITC should make pretax contributions to maximize this benefit.

Younger workers may benefit from Roth contributions while older workers may benefit from pretax contributions

Lifetime earnings and implied tax rates



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Since changing tax rates play a key role in contribution decisions, it is important to analyze the typical tax rate progression of a worker over their lifetime. In order to estimate the typical lifetime progression of tax rates we used earnings data based on research from the Federal Bank of New York, which analyzed 200 million salary data points from 1978 to 2010. The chart above shows lifetime earnings and the implied tax rate using 2016 tax rate tables.[6]

Naturally, younger workers tend to take entry-level jobs that don't pay as well as jobs that require work experience. At this time workers tend to be in their lowest maximum tax rate. Over time, these workers get promotions and pay increases, causing their top maximum rate to increase. As Roth contributions are taxed at the time of contribution, it makes sense for younger workers to prefer Roth contributions while their marginal tax rate is lower. As you can see, at around 35 or 40, workers reach their maximum tax rate. At this point, pretax contributions should be preferred.

The previous analysis does not consider tax rates in retirement. As noted, tax rates in retirement are dependent on a number of variables, including the taxability of Social Security, retirement readiness, retirement lifestyle and other considerations like Medicare part B payments. Given the complexity of determining whether a pretax or Roth contribution makes the most sense, we assumed taxable income in retirement will equal 80% of taxable income at age 55. This assumption resulted in a maximum tax bracket of 15% for the 50th-percentile earner and 25% for the 90th-percentile earner. A tax rate of 15% was the lowest tax rate during the accumulation phase for the 50th-percentile earner, and 25% is the second-lowest tax rate for the 90th-percentile earner. In instances where there isn't an obvious contribution choice, a diversified strategy is ideal. A strategy of Roth first may make sense given that employers must match using pretax dollars.

High earners of all ages should make Roth contributions

Very high-income earners (over $196,000 for joint households, $133,000 for single households) are prevented from making Roth IRA contributions.[7] One of the reasons for the income phaseout is that Roth IRAs are not subject to required minimum distributions (RMDs). This makes Roth IRAs an excellent vehicle for estate planning as Roth defined contribution accounts can be rolled into Roth IRAs. Roth IRA assets can be transferred to heirs, and their RMDs can be spread over a very long time period. Spreading RMDs over a long time period can lower the tax rate applied at time of distribution to beneficiaries. In addition, if the Roth account is inherited by someone in a lower tax bracket, it will also lower the tax rate applied.

Roth contributions also give households more flexibility in their planning. Wealthier households are more likely to have discretionary spending needs, which tend to be more flexible than non-discretionary needs. As RMDs don't apply to Roth IRAs, this gives households a lot more flexibility in terms of timing their income from retirement accounts.

It is important to note that Roth defined contribution accounts are subject to RMDs, so those accounts need to be rolled into Roth IRAs to avoid RMDs.

A diversified tax strategy reduces retirement income risk

While it's possible to estimate future earnings and levels of retirement income, it's more complicated to estimate pretax and Roth due to the unpredictability of future tax rates. Most tax tools leave the contribution decision up to the user or use today's tax rates, assuming the participant will remain in the same tax bracket going forward. Unfortunately, as shown in the chart at top right, tax rates change frequently.[8]

Year	Number of tax tiers	Top tax rate	Tax tier at 50K	Tax tier at 100K
1981	17	70%	34%	49%
1982	14	50%	31%	50%
1987	5	38.5%	28%	35%
1988	2	28%	28%	28%
1991	3	31%	28%	31%
1993	5	39.6%	28%	31%
2003	6	35%	25%	28%
2013	7	39.6%	25%	28%

In general, tax rates have come down since the 1980s, which has favored a pretax contribution strategy. That said, we are fairly certain tax rates will continue to change, but the direction of change is uncertain. Given that tax rates may change, a diversified strategy may help reduce uncertainty related to taxes and their impact on income in retirement. A diversified contribution strategy leads to a diversified tax strategy and can provide for the most even benefits regardless of future tax changes.

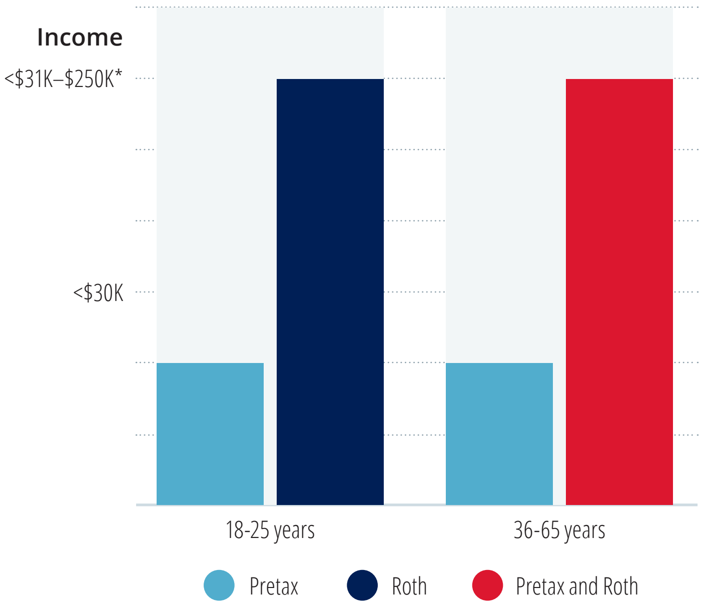
Conclusions

We continue to believe that auto features, like auto-enrollment, auto-escalation and default investment options, are the most impactful ways to increase retirement readiness. Most auto-enrolled participants are defaulted to pretax contributions. However, as we have shown, that may not be the ideal contribution type for many participants. Given the uncertainty of future tax rates, a personalized contribution strategy that considers age, income and EITC is ideal for most participants because it reduces tax risk while improving retirement outcomes in most scenarios.

Unfortunately, electing just one default enrollment type for an entire plan can result in uneven benefits and lost income for low-wage earners. It is important that a plan sponsor works with their recordkeeper, advisor and/or consultant to implement plan design features to include a strategy that helps address the unique circumstances of their employees and the most impactful contribution option.

In addition, we believe it is important to continue to push the evolution and personalization of auto features given their impact on retirement outcomes as outlined above. Newly introduced plan design concepts, like dynamic QDIA, which automatically transitions an investor from a target date fund to a managed account, should also be evaluated as an additional way to enhance the benefits of auto features.

Possible contribution strategies — considerations by age and income



*Households earning more than $250,000 per year should consider contributing on a Roth basis.

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THE PATH FORWARD

Continue the use of auto features

Auto features, like auto-enrollment and auto-escalation, have been very beneficial to plan participants. Plan sponsors should continue to consider these features to improve retirement outcomes.

Work with your recordkeeper to implement a dynamic contribution strategy

Pretax and Roth contributions have unequal benefits for participants based on a number of variables. Each plan sponsor and fiduciary should work with their recordkeeper to consider a dynamic approach to maximize the benefits of the default contribution type based on the individual circumstances of each participant.

Consider resetting the default contribution type for all defaulted participants

Given the imbalance of defined contribution assets in pretax dollars, plan sponsors should consider personalizing the contribution type not only for new auto-enrolled participants but also for existing auto-enrolled participants.

1 Vanguard, “How America Saves” (pressroom.vanguard.com/nonindexed/HAS2016_Final.pdf), 2016.

2 The Cerulli Report, “Retirement Markets: Growth Opportunities in Maturing Markets” page 178, 2015.

3 The Cerulli Report, “Retirement Markets: Growth Opportunities in Maturing Markets” page 179, 2015.

4 taxfoundation.org “Federal Individual Income Tax Rates History (Inflation Adjusted)” (Real 2012 Dollars) Using Average Annual CPI During Tax Year, Income years 1963 – 2017.

5 irs.gov/credits-deductions/individuals/earned-income-tax-credit/eitc-income-limits-maximum-credit-amounts-next-year, 2017.

6 newyorkfed.org/medialibrary/media/research/staff_reports/sr710.pdf, 2017.

7 irs.gov/retirement-plans/amount-of-roth-ira-contributions-that-you-can-make-for-2017, 2017.

8 taxfoundation.org “Federal Individual Income Tax Rate History (Inflation Adjusted)”, Income years 1981-2017.