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A SOUND RETIREMENT PLAN

Make the most of the things that you can control but be sure to evaluate factors that are somewhat or completely out of your control within your comprehensive retirement plan.

If you’re 65 today, the probability of living to a specific age or beyond

Average life expectancy at age 65

<table>
<thead>
<tr>
<th>Year</th>
<th>Women</th>
<th>Men</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>84.1</td>
<td>80.1</td>
<td>4.0</td>
</tr>
<tr>
<td>2015</td>
<td>85.5</td>
<td>83.1</td>
<td>2.4</td>
</tr>
<tr>
<td>2090</td>
<td>89.6</td>
<td>87.6</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Average life expectancy continues to increase and is a mid-point not an end-point. You may need to plan on the probability of living much longer – perhaps 30+ years in retirement – and invest a portion of your portfolio for growth to maintain your purchasing power over time.

Probability at least one member of a same-sex female couple lives to age 90 is 55% and a same-sex male couple is 39%.
### Percent of people in the civilian labor force 1994-2024

<table>
<thead>
<tr>
<th>Year</th>
<th>65-69</th>
<th>70-74</th>
<th>75-79</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>7%</td>
<td>12%</td>
<td>19%</td>
</tr>
<tr>
<td>2004</td>
<td>15%</td>
<td>22%</td>
<td>28%</td>
</tr>
<tr>
<td>2014</td>
<td>28%</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>2024</td>
<td>36%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Total civilian population 65+

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>31M</td>
</tr>
<tr>
<td>2004</td>
<td>35M</td>
</tr>
<tr>
<td>2014</td>
<td>45M</td>
</tr>
<tr>
<td>2024</td>
<td>62M</td>
</tr>
</tbody>
</table>

### Major reasons people work in retirement

<table>
<thead>
<tr>
<th>Reason</th>
<th>65-69</th>
<th>70-74</th>
<th>75-79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy extras</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make ends meet</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep insurance or benefits</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased value of savings or investments</td>
<td>21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stay active and involved</td>
<td></td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Enjoy working</td>
<td></td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>Job opportunity</td>
<td></td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Try new career</td>
<td></td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>


Managing expectations of ability to work

Expectations of workers vs. retirees
Retire at age 65 or older

<table>
<thead>
<tr>
<th>Expectations of workers' expectations</th>
<th>Experience of actual retirees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current workers' expectations</td>
<td>67%</td>
</tr>
<tr>
<td>Experience of actual retirees</td>
<td>23%</td>
</tr>
</tbody>
</table>

Median retirement age
65 = Expected
62 = Actual

Reasons cited for retiring earlier than planned

- Health problems or disability: 60%
- Changes at company (downsizing/closing): 27%
- Other work-related reason: 22%
- Care for spouse or family member: 22%
- Outdated skills: 10%
- Able to afford early retirement: 31%
- Want to do something else: 17%

You may not have complete control over when you retire, so you should consider having a back-up plan. You may have to draw income earlier and make your portfolio last longer than you anticipate.

Benefits differ by birth year and claim age
Full Retirement Age = 100% benefit

Birth year: 1954 or earlier
Full Retirement Age: 66
- Decreased benefits
  - 75%
  - 74.2%
- Increased benefits
  - 100% benefit
  - +8% per year
  - 132%

Birth year: 1955 (currently age 62)
- Full Retirement Age: 66 + 2 months
- 1956 (61) 66 + 4 months
- 1957 (60) 66 + 6 months
- 1958 (59) 66 + 8 months
- 1959 (58) 66 + 10 months

Birth year: 1960 or later
Full Retirement Age: 67
- Decreased benefits
  - 70%
- Increased benefits
  - 100% benefit
  - +8% per year
  - 124%

Cost of living increase for benefits (2017) 0.3%
Average cost of living adjustment (1985-2017) 2.6%

UNDERSTAND THE TRADEOFFS
Deciding when to claim benefits will have a permanent impact on the benefit you receive. Claiming before your full retirement age can significantly reduce your benefit, while delaying increases it.

In 2017, full retirement age begins to transition from 66 to 67 by adding two months each year for the next six years. This makes claiming early even more of a benefit reduction.

For illustrative purposes only. For those born in 1956 or earlier, there is a 7.3% compound growth rate for each year of waiting to take benefits; 7.4% for those born in 1957 or after. The Social Security Amendments Act of 1983 increased FRA from 65 to 67 over a 40-year period. The first phase of transition increased FRA from 65 to 66 for individuals turning 62 between 2000 and 2005. After an 11-year hiatus, the transition from 66 to 67 (2017-2022) will complete the move.

Source: Social Security Administration, J.P. Morgan Asset Management
Maximizing Social Security benefits

Cumulative individual benefit by claim age
Full Retirement Age (FRA) = Age 66 & 2 months

- **Claim at 70:** $4,646 per month
- **Claim at FRA:** $3,209 per month
- **Claim at 62:** $2,141 per month

**Age**

- **At age 62, probability of living to at least age:**
  - Male: 100%, 94%, 87%, 73%, 60%, 21%
  - Female: 100%, 97%, 92%, 81%, 71%, 32%

**Source:** Social Security Administration, J.P. Morgan Asset Management.

*Couple assumes at least one lives to the specified age or beyond. Breakeven assumes the same individual, born in 1955, earns the maximum wage base, retires at the end of age 61, and claims at 62 & 1 month, 66 & 2 months and 70, respectively. Benefits are assumed to increase each year based on the Social Security Administration 2016 Trustee’s Report “intermediate” estimates (annual benefit increase of 2.9% in 2018 and 2.6% thereafter). Monthly amounts without the cost of living adjustments (not shown on the chart) are: $2,141 at age 62; $2,888 at age 66; and $3,773 at age 70. Exact breakeven ages are 76 & 2 months and 80 & 5 months.

PLANNING OPPORTUNITY

Delaying benefits means increased Social Security income later in life, but your portfolio may need to bridge the gap and provide income until delayed benefits are received.
Older individuals experience higher inflation

Comparison of inflation 1985-2016
1985 = $100

<table>
<thead>
<tr>
<th>Year</th>
<th>CPI-E</th>
<th>Headline CPI</th>
<th>CPI-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>11.9</td>
<td>8.4</td>
<td>7.0</td>
</tr>
<tr>
<td>1990</td>
<td>22.9</td>
<td>14.6</td>
<td>14.7</td>
</tr>
<tr>
<td>1995</td>
<td>34.4</td>
<td>17.5</td>
<td>17.8</td>
</tr>
<tr>
<td>2000</td>
<td>48.1</td>
<td>21.2</td>
<td>21.5</td>
</tr>
<tr>
<td>2005</td>
<td>60.7</td>
<td>23.0</td>
<td>22.7</td>
</tr>
<tr>
<td>2010</td>
<td>73.2</td>
<td>24.4</td>
<td>23.0</td>
</tr>
<tr>
<td>2015</td>
<td>86.7</td>
<td>26.0</td>
<td>24.7</td>
</tr>
</tbody>
</table>

CPI-E is 6.1% over Headline CPI and 8.3% over CPI-W after 31 years

Weighting and inflation by spending category (%)

<table>
<thead>
<tr>
<th>Spending Category</th>
<th>Health care</th>
<th>Housing</th>
<th>Food &amp; bev.</th>
<th>Transport.</th>
<th>Entertain.</th>
<th>Apparel</th>
<th>Edu.</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI-E</td>
<td>11.9</td>
<td>46.0</td>
<td>13.0</td>
<td>13.9</td>
<td>5.4</td>
<td>2.2</td>
<td>4.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Headline CPI</td>
<td>8.4</td>
<td>42.2</td>
<td>15.0</td>
<td>15.3</td>
<td>5.7</td>
<td>3.1</td>
<td>7.1</td>
<td>3.2</td>
</tr>
<tr>
<td>CPI-W</td>
<td>7.0</td>
<td>40.7</td>
<td>16.2</td>
<td>17.0</td>
<td>5.3</td>
<td>3.3</td>
<td>7.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Inflation</td>
<td>4.9</td>
<td>2.8</td>
<td>2.8</td>
<td>2.1</td>
<td>1.1</td>
<td>0.7</td>
<td>5.1</td>
<td>4.7</td>
</tr>
</tbody>
</table>

* CPI-E is an experimental index from BLS that is based on elderly households with the referenced individuals at age 62 and older.
Headline CPI is also referred to as CPI-U, including food and energy.

Table: Weightings: BLS, as of December 2015. Inflation: BLS, Consumer Price Index, J.P. Morgan Asset Management. Data represent annual percentage increase from December 1981 through December 2016 with the exception of entertainment and education, which date back to 1993. The inflation rate for the Other category is derived from personal care products and tobacco. Tobacco has experienced more than 7% inflation since 1986 but each age group only spends 0.4%-0.7% on tobacco (27%-37% of combined personal care products and tobacco), which is a lower proportion than represented in the Other inflation rate.
LOSING GROUND
Inflation disproportionally affects older Americans due to differences in spending habits and price increases in those categories.

Spending by age and category

Average inflation by spending category 1982-2016

*There are no individual inflation measures for these specific subcategories.

Source (top chart): BLS. 2015 Consumer Expenditure Survey for households where at least one member has a bachelor’s degree. Charitable contributions include gifts to religious, educational and political organizations, and other cash gifts. Spending percentages may not equal 100% due to rounding.

Source (bottom chart): BLS, Consumer Price Index. J.P. Morgan Asset Management. Data represent annual percentage increase from December 1981 through December 2016 with the exception of entertainment and education, which date back to 1993. The inflation rate for the Other category is derived from personal care products and tobacco. Tobacco has experienced more than 7% inflation since 1986 but each age group only spends 0.4%-0.7% on tobacco (27%-37% of combined personal care products and tobacco), which is a lower proportion than represented in the Other inflation rate.
Lower forward-looking returns may require higher savings going forward
Values assume you would like to maintain an equivalent lifestyle in retirement

<table>
<thead>
<tr>
<th>Current age</th>
<th>$50,000</th>
<th>$75,000</th>
<th>$100,000</th>
<th>$150,000</th>
<th>$200,000</th>
<th>$250,000</th>
<th>$300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
<td>0.7</td>
<td>1.0</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>30</td>
<td>-</td>
<td>0.5</td>
<td>0.8</td>
<td>1.3</td>
<td>1.8</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>35</td>
<td>0.3</td>
<td>1.2</td>
<td>1.5</td>
<td>2.1</td>
<td>2.6</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>40</td>
<td>0.8</td>
<td>1.9</td>
<td>2.3</td>
<td>3.1</td>
<td>3.7</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>45</td>
<td>1.5</td>
<td>2.8</td>
<td>3.3</td>
<td>4.2</td>
<td>4.9</td>
<td>5.4</td>
<td>5.7</td>
</tr>
<tr>
<td>50</td>
<td>2.4</td>
<td>3.9</td>
<td>4.5</td>
<td>5.6</td>
<td>6.4</td>
<td>7.0</td>
<td>7.3</td>
</tr>
<tr>
<td>55</td>
<td>3.4</td>
<td>5.2</td>
<td>5.9</td>
<td>7.2</td>
<td>8.2</td>
<td>9.0</td>
<td>9.3</td>
</tr>
<tr>
<td>60</td>
<td>4.5</td>
<td>6.8</td>
<td>7.5</td>
<td>9.1</td>
<td>10.4</td>
<td>11.2</td>
<td>11.7</td>
</tr>
<tr>
<td>65</td>
<td>6.1</td>
<td>8.8</td>
<td>9.8</td>
<td>11.7</td>
<td>13.3</td>
<td>14.3</td>
<td>14.8</td>
</tr>
</tbody>
</table>

How to use:
- Household income is assumed to be gross income (before tax and savings).
- Go to the intersection of your current age and your closest current household income.
- Multiply your salary by the checkpoint shown. This is the amount you should have saved today, assuming you continue contributions of 10% going forward.
- Example: For a 40-year-old with a household income of $100,000: $100,000 x 2.3 = $230,000.

This chart is for illustrative purposes only and must not be relied upon to make investment decisions. J.P. Morgan’s model is based on J.P. Morgan Asset Management’s (JPMAM) proprietary long-term capital market assumptions (10-15 years) and an 80% confidence level. Household income replacement rates are derived from an inflation-adjusted analysis of: Consumer Expenditure Survey (BLS) data (2011-2014); Social Security benefits using modified scaled earnings in 2017 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums. For more details, see slide 14 of the Guide to Retirement.

Consult with a financial advisor for a more personalized assessment. Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward tradeoffs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.
Income replacement needs in retirement

**Income replacement rate methodology**
Based on gross annual household income

<table>
<thead>
<tr>
<th>Income needed to maintain an equivalent lifestyle</th>
<th>Amount required from private + employer sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>$150,000 income</td>
<td>$67,500</td>
</tr>
<tr>
<td>100%</td>
<td>45%</td>
</tr>
<tr>
<td>Pre-retirement</td>
<td>Post-retirement</td>
</tr>
<tr>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>Less pre-retirement savings</td>
<td>Less change in expenditures</td>
</tr>
<tr>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Less change in taxes</td>
<td></td>
</tr>
<tr>
<td>REPLACEMENT RATE: 72%</td>
<td></td>
</tr>
<tr>
<td>Social Security benefit $40,500</td>
<td></td>
</tr>
<tr>
<td>27%</td>
<td></td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management analysis, 2016. Household income replacement rates are derived from an inflation-adjusted analysis of: Consumer Expenditure Survey (BLS) data (2011-2014); Social Security benefits using modified scaled earnings in 2016 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums; and 2016 OASDI and FICA taxes. The income replacement needs may be lower for households in which both spouses are working and the second spouse’s individual benefits are greater than their spousal benefit. Single household income replacement needs may vary as spending is typically less than a two-spouse household; however, the loss of the Social Security spousal benefit may offset the spending reduction. Percentages and values may not sum due to rounding.
Income replacement needs vary by household income

Replacement rate detail by household income

<table>
<thead>
<tr>
<th>Pre-retirement income</th>
<th>Less pre-retirement savings</th>
<th>Less change in expenditures</th>
<th>Less change in taxes</th>
<th>Social Security benefit</th>
<th>Amount required from private + employer sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50K</td>
<td>5%</td>
<td>15%</td>
<td>57%</td>
<td>23%</td>
<td>10%</td>
</tr>
<tr>
<td>$75K</td>
<td>5%</td>
<td>15%</td>
<td>47%</td>
<td>34%</td>
<td>20%</td>
</tr>
<tr>
<td>$100K</td>
<td>2%</td>
<td>15%</td>
<td>40%</td>
<td>38%</td>
<td>34%</td>
</tr>
<tr>
<td>$150K</td>
<td>9%</td>
<td>14%</td>
<td>27%</td>
<td>45%</td>
<td>51%</td>
</tr>
<tr>
<td>$200K</td>
<td>11%</td>
<td>12%</td>
<td>20%</td>
<td>51%</td>
<td>55%</td>
</tr>
<tr>
<td>$250K</td>
<td>11%</td>
<td>12%</td>
<td>12%</td>
<td>55%</td>
<td>57%</td>
</tr>
<tr>
<td>$300K</td>
<td>11%</td>
<td>12%</td>
<td>12%</td>
<td>57%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management analysis, 2016. Household income replacement rates are derived from an inflation-adjusted analysis of: Consumer Expenditure Survey (BLS) data (2011-2014); Social Security benefits using modified scaled earnings in 2016 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums; and 2016 OASDI and FICA taxes. The income replacement needs may be lower for households in which both spouses are working and the second spouse’s individual benefits are greater than their spousal benefit. Single household income replacement needs may vary as spending is typically less than a two-spouse household; however, the loss of the Social Security spousal benefit may offset the spending reduction. Percentages and values may not sum due to rounding.
Benefit of saving and investing early

Account growth of $5,000 invested/saved annually

- **Consistent Chloe** invests from ages 25 to 65 earning 6.0% ($200,000 total)
- **Late Lyla** invests from ages 35 to 65 earning 6.0% ($150,000 total)
- **Quitter Quincy** invests from ages 25 to 35 earning 6.0% ($50,000 total)
- **Nervous Noah** saves from ages 25 to 65 in cash earning 2.0% ($200,000 total)
- **Late Lyla** invests from ages 35 to 65 earning 6.0% ($150,000 total)

---

**ENDING PORTFOLIO**

- **Consistent Chloe**: $820,238 (76%)
- **Late Lyla**: $419,008 (64%)
- **Quitter Quincy**: $401,230 (88%)
- **Nervous Noah**: $308,050 (35%)

---

**SAVING FUNDAMENTALS**

Saving early and often, and investing what you save, are some of the keys to a successful retirement due to the power of compounding over the long term.

The above example is for illustrative purposes only and not indicative of any investment. Account value in this example assumes a 6.0% annual return and cash assumes a 2.0% annual return. Source: J.P. Morgan Asset Management, Long-Term Capital Market Assumptions. Compounding refers to the process of earning return on principal plus the return that was earned earlier.
### Annual savings needed if starting today

<table>
<thead>
<tr>
<th>Start saving age</th>
<th>$50,000</th>
<th>$75,000</th>
<th>$100,000</th>
<th>$150,000</th>
<th>$200,000</th>
<th>$250,000</th>
<th>$300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>7%</td>
<td>10%</td>
<td>11%</td>
<td>13%</td>
<td>15%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>19</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>35</td>
<td>11</td>
<td>17</td>
<td>18</td>
<td>22</td>
<td>25</td>
<td>27</td>
<td>28</td>
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<tr>
<td>40</td>
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<td>22</td>
<td>25</td>
<td>29</td>
<td>33</td>
<td>36</td>
<td>37</td>
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<tr>
<td>45</td>
<td>21</td>
<td>31</td>
<td>34</td>
<td>41</td>
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</tr>
<tr>
<td>50</td>
<td>31</td>
<td>45</td>
<td>50</td>
<td>60</td>
<td>68</td>
<td>73</td>
<td>76</td>
</tr>
</tbody>
</table>

**Savings rate** (as current household income)

**How to use:**
- Go to the intersection of your current age and your closest current household income.
- This is the percentage of your current household income you should contribute annually going forward if you have $0 saved for retirement today.
- Example: A 40-year-old with household income of $100,000 and $0 saved for retirement today, will need to save 25% every year until retirement.

**Important things you need to know:**
- Lower forward-looking returns may require higher savings going forward.
- Values assume you would like to maintain an equivalent lifestyle in retirement.
- Household income is assumed to be gross income (before tax and savings).

### Model Assumptions

- **Pre-retirement investment return:** 6.0%
- **Post-retirement investment return:** 5.0%
- **Inflation rate:** 2.25%
- **Retirement age –**
  - Primary earner: 65
  - Spouse: 62
- **Years in retirement:** 30

This chart is for illustrative purposes only and must not be relied upon to make investment decisions. J.P. Morgan’s model is based on J.P. Morgan Asset Management’s (JPMAM) proprietary long-term capital market assumptions (10-15 years) and an 80% confidence level. Household income replacement rates are derived from an inflation-adjusted analysis of: Consumer Expenditure Survey (BLS) data (2011-2014); Social Security benefits using modified scaled earnings in 2017 for a single wage earner at age 65 and a spousal benefit at age 62 reduced by Medicare Part B premiums. For more details, see slide 14 of the Guide to Retirement.

Consult with a financial advisor for a more personalized assessment. Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward tradeoffs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.
The power of tax-deferred compounding

Taxable vs. tax-deferred investing over a 30-year timeframe
Growth of $100,000 for a household in the 28% tax bracket

Source: JP Morgan Asset Management. Chart shows after-tax $100,000 initial account value in the beginning of year one for a tax-deferred account and a taxable account. Assumes a 6.0% annual return for both accounts. Investment returns in taxable account are taxed annually at 28% (capital gains and qualified dividends are not considered in this analysis). Tax-deferred account balance is taken as a lump sum after year 30 and taxed at 28% federal tax rate. If tax-deferred account is taken as lump sum at other tax rates, after-tax balance will be $503,197 (15%), $455,762 (25%), $417,814 (33%), $386,507 (39.6%). This hypothetical illustration is not indicative of any specific investment and does not reflect the impact of fees or expenses. This chart is for illustrative purposes only. Past performance is no guarantee for future results.
If eligible to make a deductible contribution (based on your MAGI). The illustration reflects savings options into Traditional and Roth IRA accounts, as well as into pre-tax retirement and Roth 401(k) accounts.

RMD = Required Minimum Distribution. RMDs are calculated every year based on the account value and the owner’s life expectancy using IRS actuarial data. IRA owners must begin taking RMDs no later than April 1 following the year the owner turns age 70½. For owners of employer-based qualified plans, RMDs must begin at age 70½ or when the owner retires, whichever is later. Owners of Roth IRAs are not required to take RMDs; however, RMDs are required in Roth 401(k) accounts. Any employer contribution will be applied to the participant’s pre-tax retirement account for both Traditional and Roth 401(k) plans, and subsequent distributions will be subject to tax.

The above example is for illustrative purposes only. Source: J.P. Morgan Asset Management

**THINK OPPORTUNISTICALLY**

Effectively managing taxes over a lifetime requires a careful balance of your current income tax picture and building income tax diversification. Consider:

1. Contributing to a Roth early in your career and shifting as your income increases.
2. Roth 401(k) contributions in peak earning years if wealth is concentrated in tax-deferred accounts.
3. Proactive Roth conversions in lower income retirement years if RMDs are likely to push you into a higher tax bracket.
**Savings rate**

**Personal savings rate**
Annual, % of gross income

---

**BEWARE THE WEALTH EFFECT**

During economic expansions when the value of stocks and homes increase, Americans tend to save less than during recessions. On average, Americans are saving well below the 10%-15% consistent annual savings rate required to successfully fund retirement.*

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*Recommended savings rates are based on J.P. Morgan analysis of median and affluent households. Source: J.P. Morgan Asset Management, Bureau of Economic Analysis, National Bureau of Economic Research. Personal savings rate is calculated as personal savings (after-tax income minus personal outlays) divided by gross income. Employer and employee contributions to retirement funds are included in after-tax income but not in personal outlays, and thus are implicitly included in personal savings. Savings rate data as of December 31, 2016.
Changes in spending

WHAT TO EXPECT

Household spending peaks at the age of 45, after which spending declines in all categories but health care and charitable contributions and gifts. Housing is the largest expense, even at older ages.

Average household spending patterns by various age groups

Source: J.P. Morgan Asset Management. Estimates based on average consumer expenditure from the 2015 Consumer Expenditure Survey (BLS) for each age group excluding pension contributions. Population includes households where a bachelor’s degree or higher is achieved by any member. Average household size for age 45–54 is 3.0, age 55–64 is 2.3, age 65–74 is 1.9 and age 75+ is 1.9.
50th percentile means that 50% of the time you’ll have better outcomes. Based on the high percentage of outcomes that tend to be clustered near the median, this may be considered the most likely potential outcome. For the 40/60 portfolio at a 4% withdrawal rate, the real portfolio value at period 30 is $212,029 vs. $413,328 nominal.

These charts are for illustrative purposes only and must not be used, or relied upon, to make investment decisions. Portfolios are described using equity/bond denotation (e.g. a 40/60 portfolio is 40% equities and 60% bonds). Hypothetical portfolios are composed of US Large Cap for equity, US Aggregate Bonds and US Cash for cash, with compound returns projected to be 6.25%, 3.00% and 2.00%, respectively. J.P. Morgan’s model is based on J.P. Morgan Asset Management’s (JPMAM) proprietary Long-Term Capital Markets Assumptions (10–15 years). The resulting projections include only the benchmark return associated with the portfolio and does not include alpha from the underlying product strategies within each asset class. The yearly withdrawal amount is set as a fixed percentage of the initial amount of $1,000,000 and is then inflation adjusted over the period (2.25%).

Higher initial withdrawal rates or overly conservative portfolios can put your retirement at risk. However, setting your spending at retirement too low and not adjusting along the way may require unnecessary lifestyle sacrifices in retirement. You may want to consider a dynamic approach that adjusts over time to more effectively use your retirement savings.
Dollar cost ravaging—timing risk of withdrawals

**Growth of an investment 1966-1995**

- Assumed annual rate of return: 8%
- 40/60 portfolio: Actual average annual return: 9.1%

**Assumptions:** Enter retirement at age 60 with $1,000,000. Start with a 5.4% withdrawal of $54,000. Increase dollar amount of withdrawal by overall rate of inflation (3%) each year, which is lower than the average inflation rate of the period between 1966-1995.

**Rate of return: average vs. actual 1966-1995**

- Assumed annual rate of return: 8%
- 40/60 portfolio: Actual average annual return: 9.1%

**SEQUENCE RETURN RISK**

Withdrawing assets in volatile markets early in retirement can ravage a portfolio. Adjust your plan regularly, and you may want to evaluate investment solutions that provide downside protection.

Source: J.P. Morgan Asset Management. Returns are based on a hypothetical portfolio, which is assumed to be invested 40% in the S&P 500 Total Return Index and 60% in the Barclays Capital U.S. Aggregate Index. The assumptions are presented for illustrative purposes only. They must not be used, or relied upon, to make investment decisions. There is no direct correlation between a hypothetical investment and the anticipated future return of an index. Past performance does not guarantee future results.
Comparison of state taxes paid by a retiree household

MODEL ASSUMPTIONS

Scenario based on retired married couple filing jointly

State income tax on1 –
- Annual retirement plan distribution: $80,000
- Total Social Security benefits: $42,000

Property tax on2: 2.5x median home value by state

Sales/average local sales tax on3: Remaining income net of federal & state income tax and property tax

Tax favorability based on household overall effective state tax rate: Top tax friendly (<8%), Tax friendly (8%-9.9%), Less tax friendly (10%-13%), Not tax friendly (>13%). Retired married household age 65. 1 State income tax liability is based on all taxable sources of retirement income minus allowable state personal exemptions and a standard deduction. State-specific exemptions, deductions and/or credits related to eligible retirement income and Social Security are included. States with no income tax: AK, FL, NV, SD, TX, WA, WY. States that tax interest and dividends only: TN and NH. States that tax Social Security: CO, CT, KS, MN, MO, MT, NE, NM, ND, RI, UT, VT, WV. States that do not tax retirement plan distributions or Social Security: IL, MS, PA. 2 State property tax applies to home value only and includes state-specific homestead exemptions/credits. 3 States with no sales tax: AK, DE, MT, NH, OR (local taxes may apply).

Of note: CA imposes a 1% surtax on taxpayers earning more than $1M ($1,052,886 married) for a top marginal tax rate of 13.3%. NYC levies an additional 2.907-3.876% on taxable income. HI top marginal income tax rate reduced to 8.25% in 2017.

Source: J.P. Morgan Asset Management. The presenter of this slide is not a tax or legal advisor, and this slide should not be used as such. Clients should consult a personal tax or legal advisor prior to making any tax- or legal-related investment decisions.
A closer look at state taxes paid by a retiree household

**Composition of estimated state taxes**

- **Sales**
- **Property**
- **Income**

**MODEL ASSUMPTIONS**

Scenario based on retired married couple filing jointly

**State income tax** on¹ –
- Annual retirement plan distribution: $80,000
- Total Social Security benefits: $42,000

**Property tax** on²: 2.5x median home value by state

**Sales/average local sales tax** on³: Remaining income net of federal & state income tax and property tax

Retired married household age 65. ¹ State income tax liability is based on all taxable sources of retirement income minus allowable state personal exemptions and a standard deduction. State-specific exemptions, deductions and/or credits related to eligible retirement income and Social Security are included. States with no income tax: AK, FL, NV, SD, TX, WA, WY. States that tax interest and dividends only: TN and NH. States that tax Social Security: CO, CT, KS, MN, MO, MT, NE, NM, ND, RI, UT, VT, WV. States that do not tax retirement plan distributions or Social Security: IL, MS, PA. ² State property tax applies to home value only and includes state-specific homestead exemptions/credits. ³ States with no sales tax: AK, DE, MT, NH, OR (local taxes may apply).

Of note: CA imposes a 1% surtax on taxpayers earning more than $1M ($1,052,886 married) for a top marginal tax rate of 13.3%. NYC levies an additional 2.907-3.876% on taxable income. HI top marginal income tax rate reduced to 8.25% in 2017.

Source: J.P. Morgan Asset Management. The presenter of this slide is not a tax or legal advisor, and this slide should not be used as such. Clients should consult a personal tax or legal advisor prior to making any tax- or legal-related investment decisions.
Consider proactive tax management strategies

Taxable vs. tax-deferred investing over a 30-year timeframe

KEEP A BIGGER SLICE

Tax-advantaged accounts can shelter income-producing investments from current income taxation and result in greater long-term growth than taxable accounts. Actively managing your tax picture in retirement may help you keep even more of your tax-deferred wealth.

Source: J.P. Morgan Asset Management. Assumes $5,500 after-tax contributions at the beginning of each year for 30 years and 6.0% annual investment return that is assumed to be subject to ordinary income taxes (capital gains and qualified dividends are not considered in this analysis). Tax-deferred account balance is taken as lump sum and taxed at the 15%, 25% and 33% federal tax rate, respectively, at time of withdrawal. Taxable account contributions are after tax and assume a 33% federal tax rate during accumulation. This hypothetical illustration is not indicative of any specific investment and does not reflect the impact of fees or expenses. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.
Rising annual health care costs in retirement

Traditional Medicare estimated median health care costs per person

Additional premium per person for Modified Adjusted Gross Incomes (MAGI) of:

<table>
<thead>
<tr>
<th>FILING SINGLE</th>
<th>MARRIED FILING JOINTLY</th>
<th>ADDITIONAL PREMIUM</th>
<th>TOTAL MEDIAN COSTS</th>
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<tr>
<td></td>
<td></td>
<td>2017</td>
<td>2018*</td>
</tr>
<tr>
<td>$85,001 – $107,000</td>
<td>$170,001 – $214,000</td>
<td>$802</td>
<td>$722</td>
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<tr>
<td>107,001 – 133,500</td>
<td>214,001 – 267,000</td>
<td>802</td>
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<td>133,501 – 160,000</td>
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<tr>
<td>&gt;214,000</td>
<td>&gt;428,000</td>
<td>4,450</td>
<td>4,018</td>
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</table>

Notes: Age 85 estimated total median cost in 2017 is $7,195. Medigap premiums usually increase due to age, in addition to annual inflation, except for most policies in the following states: AR, CT, MA, ME, MN, NY, VT WA, AZ, FL, ID and MO. Analysis includes Medigap Plan F (the most comprehensive plan).

Parts B and D additional premiums are calculated from federal tax returns two years prior; individuals may file for an exception on form SSA-44 if they reduce or stop work. For the definition of MAGI, please see Guide to Retirement slide 36. *Additional premium includes a projection of 2018 costs for a 65-year-old beneficiary in 2018 ($5,076), plus the surcharge percentage specified in the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA / "doc fix bill").

Variation in Medicare Advantage costs

Estimated Medicare Advantage with Part D and out-of-pocket expenses
Annual amount per person

<table>
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<tr>
<th>Age 65 (2017)</th>
<th>Age 85 (2037)</th>
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<tr>
<td>$2,040</td>
<td>$15,980 high</td>
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<tr>
<td>$4,470 high</td>
<td>$7,140 median</td>
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<tr>
<td>$3,840 median</td>
<td>$3,730 low</td>
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<tr>
<td>$2,160 low</td>
<td>$3,220</td>
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</table>

Total costs = annual premium + out-of-pocket costs for those with relatively low costs (those in the lowest third of the cost distribution), median costs and high costs (those in the highest third of the cost distribution).

Age 85 estimated median cost in 2017 is $4,582. Cost estimates above show age 85 in 2037 adjusted for inflation and increased use of medical care at older ages. Since plans are sold by private companies, premiums will vary based on plan characteristics. Out-of-pocket expenses, including out-of-pocket prescription costs, will vary by plan and include co-pays and deductibles. Those with high incomes pay higher premiums (above $85,000 single or $170,000 filing jointly).


DRAMATIC DIFFERENCES IN COSTS DEPENDING ON HEALTH

Be prepared to pay more for health care in the event you experience a health issue, which becomes more common as one ages.

- Be aware: Although Medicare Advantage plans have out-of-pocket caps, those limits do not include prescriptions.
- Consider maintaining an emergency reserve fund for high out-of-pocket cost years.
Note: Annualized historical inflation for nursing home (private room): 3.5%; assisted living (one-bedroom): 2.2%; home health aide: 1.3%. 5-year CAGR represents the compound annual growth rate based on Genworth Cost of Care Survey. Genworth 2016 Cost of Care Survey, conducted by CareScout®, April 2016. © 2016 Genworth Financial, Inc. All rights reserved. Methodology document: https://www.genworth.com/dam/Americas/US/PDFs/Consumer/corporate/48590_050516.pdf

LONG-TERM VISION

Many individuals will need long-term care, which often starts with home care and progresses to a nursing home.

- There is a 1 in 3 chance that a long-term care need will last less than 6 months, but there is a 1 in 10 chance it will last 5 or more years.
THE COST OF CARE

There can be significant variations in cost depending on where care is utilized – depending on state, city and even the facility.
Goals-based wealth management

**Short-term goals**
Includes emergency reserve fund of total spending needs for 3-6 months

**Medium-term goals**
5-10 years, e.g. college, home

**Long-term goals**
15+ years, e.g. retirement

**Range of stock, bond and blended total returns**
Annual total returns, 1950-2016

Source (top chart): J.P. Morgan Asset Management.
Returns shown are based on calendar year returns from 1950 to 2016. Stocks represent the S&P 500 Shiller Composite and Bonds represent Stategas/Ibbotson for periods from 1950 to 2010 and Barclays Aggregate thereafter.

Note: Portfolio allocations are hypothetical and are for illustrative purposes only. They were created to illustrate different risk/return profiles and are not meant to represent actual asset allocation.
For illustrative purposes only. Source: J.P. Morgan Asset Management. Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise. The price of equity securities may rise or fall because of changes in the broad market or changes in a company’s financial condition, sometimes rapidly or unpredictably. Equity securities are subject to “stock market risk,” meaning that stock prices in general may decline over short or extended periods of time. Investing in alternative assets involves higher risks than traditional investments and is suitable only for the long term. They are not tax efficient and have higher fees than traditional investments. They may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain.

*Equity, fixed income and cash are considered “traditional” asset classes. The term “alternative” describes all non-traditional asset classes. They include private and public equity, venture capital, hedge funds, real estate, commodities, distressed debt and more.
Investing

For illustrative purposes only. Source: J.P. Morgan Asset Management. Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise. The price of equity securities may rise or fall because of changes in the broad market or changes in a company’s financial condition, sometimes rapidly or unpredictably. Equity securities are subject to “stock market risk,” meaning that stock prices in general may decline over short or extended periods of time. Investing in alternative assets involves higher risks than traditional investments and is suitable only for the long term. They are not tax efficient and have higher fees than traditional investments. They may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain.

*Equity, fixed income and cash are considered “traditional” asset classes. The term “alternative” describes all non-traditional asset classes. They include private and public equity, venture capital, hedge funds, real estate, commodities, distressed debt and more.

Structuring a portfolio in retirement: The bucket strategy

TIME-BASED SEGMENTATION

Aligning your time horizon with an investment approach may help you be more comfortable with maintaining diversified portfolio allocations in retirement.
Maintain a diversified approach and rebalance

# 10-year asset class returns

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Source: Barclays, Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor’s, J.P. Morgan Asset Management.

Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Barclays Global HY Index, Fixed Income: Barclays Aggregate, REITs: NAREIT Equity REIT Index. The “Asset Allocation” portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Barclays Aggregate, 5% in the Barclays 1-3m Treasury, 5% in the Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period of 12/31/06 – 12/31/16. Please see disclosure pages at end for index definitions. All data represents total return for stated period. Past performance is not indicative of future returns.


# MAINTAIN A DIVERSIFIED APPROACH

The best and worst performing asset classes vary greatly year to year. Failure to rebalance the Asset Allocation portfolio over this time period would have resulted in an average annual return of 4.6%—0.3% lower than the annually rebalanced one. Consider a balanced investment approach with a clearly defined rebalancing policy.
Maximizing the power of diversification 2001–2016

Less diversified portfolio

- S&P 500: 60.00%
- EAFE Equity: 10.00%
- Barclays Aggregate: 30.00%

Return: 6.4%
Volatility: 12.0%

More diversified portfolio

- S&P 500: 25.00%
- Russell 2000: 8.00%
- NAREIT Equity REIT Index: 2.50%
- MSCI EAFE: 10.50%
- MSCI Emerging Markets: 6.00%
- Barclays Capital Aggregate: 35.50%
- Barclays U.S. High Yield: 8.00%
- J.P. Morgan EMBI Global Diversified: 4.50%

Return: 7.2%
Volatility: 11.1%

Diversification may provide better returns with less risk.

Indexes and weights of the less diversified portfolio are as follows: U.S. stocks: 60.00% S&P 500; International stocks: 10.00% MSCI EAFE; U.S. bonds: 30.00% Barclays Capital Aggregate. More diversified portfolio is as follows: U.S. stocks: 25.00% S&P 500, 8.00% Russell 2000, 2.50% NAREIT Equity REIT Index; International stocks: 10.50% MSCI EAFE, 6.00% MSCI Emerging Markets; U.S. bonds: 35.50% Barclays Capital Aggregate, 8.00% Barclays U.S. High Yield; International bonds: 4.50% J.P. Morgan EMBI Global Diversified. Source: Bloomberg, J.P. Morgan Asset Management.

Charts are shown for illustrative purposes only. Percentages may not sum due to rounding. Past returns are no guarantee of future results. Diversification does not guarantee investment returns and does not eliminate risk of loss. Data as of December 30, 2016.
On August 24, 2015 the Dow Jones Industrial Average closed down 588 pts. On August 26, 2015 it closed up 609 pts.

This chart is for illustrative purposes only and does not represent the performance of any investment or group of investments.

### Federal income tax rates applicable to taxable income

<table>
<thead>
<tr>
<th>Tax rate</th>
<th>Single filers</th>
<th>Married filing jointly</th>
<th>Capital gains &amp; dividends</th>
<th>Medicare tax on earned income</th>
<th>Medicare tax on investment income</th>
<th>PEP and Pease limitations**</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>Up to $9,325</td>
<td>Up to $18,650</td>
<td>0%</td>
<td>2.90% (includes 1.45% employer</td>
<td>0%</td>
<td>$261,500 single/$313,800 married AGI threshold</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>portion and 1.45% employee portion)</td>
<td></td>
<td>Pease: Itemized deductions reduced by lesser of a) 3% of AGI above threshold or b) 80% of itemized deductions</td>
</tr>
<tr>
<td>15%</td>
<td>$9,325-$37,950</td>
<td>$18,650-$75,900</td>
<td>15%</td>
<td>3.80% (includes 2.90% tax referenced above plus additional 0.90% tax for earned income above MAGI* $200,000/250,000 threshold)</td>
<td>3.80% (additional tax will be levied on lesser of i) net investment income or ii) excess MAGI above $200,000/250,000 thresholds)</td>
<td>PEP: Exemption reduced by 2% for every $2,500 above AGI threshold</td>
</tr>
<tr>
<td>25%</td>
<td>$37,950-$91,900</td>
<td>$75,900-$153,100</td>
<td></td>
<td></td>
<td></td>
<td>PEP will end at $384,000 (singles)/$436,300 (married)</td>
</tr>
<tr>
<td>28%</td>
<td>$91,900-$191,650</td>
<td>$153,100-$233,350</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33%</td>
<td>$191,650-$416,700</td>
<td>$233,350-$416,700</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35%</td>
<td>$416,700-$418,400</td>
<td>$416,700-$470,700</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.6%</td>
<td>$418,400 or more</td>
<td>$470,700 or more</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Modified Adjusted Gross Income (MAGI) is AGI plus certain deductions added back such as foreign earned income, tax-exempt interest, taxable IRA contributions and Social Security payments.
**Itemized deduction limitation (Pease) and personal exemption phase out (PEP): Does not apply to medical expenses and casualty or theft losses. Standard deduction is $6,350 single/$12,700 married couples. Personal exemption is $4,050.

### Top/tax rates for ordinary income, capital gains and dividend income

<table>
<thead>
<tr>
<th>Type of gain</th>
<th>Maximum rate</th>
<th>Alternative minimum tax (AMT) exemption**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top rate for ordinary income &amp; non-qualified dividends</td>
<td>39.6%/43.4%*</td>
<td>Filing status Exemption Exemption phase-out range</td>
</tr>
<tr>
<td>Short-term capital gains (assets held 12 months or less)</td>
<td>39.6%/43.4%*</td>
<td>Single/Head of Household $54,300 $120,700 - $337,900</td>
</tr>
<tr>
<td>Long-term capital gains (assets held more than 12 months) &amp; qualified dividends</td>
<td>20%/23.8%*</td>
<td>Married filing jointly $84,500 $160,900 - $498,900</td>
</tr>
</tbody>
</table>

*Includes top tax rate plus 3.8% Medicare tax on net investment income beyond MAGI threshold.
**The exemption amount is reduced .25 for every $1 of AMTI (income) above the threshold amount for the taxpayer’s filing status.

### Federal estate, generation-skipping transfer (GST) tax & gift tax exemption

| Top federal estate tax rate | 40% |
| Federal estate, GST & gift tax exemption | $5.49 million per individual |
| Annual gift tax exclusion | $14,000 ($28,000 per couple) |

The presenter of this slide is not a tax or legal advisor. This slide is for informational purposes only and should not be relied on as tax or legal advice. Clients should consult their tax or legal advisor before making any tax- or legal-related investment decisions.
# Traditional IRAs vs. Roth IRAs—2016/2017

<table>
<thead>
<tr>
<th>Traditional IRA</th>
<th>Roth IRA</th>
<th>Roth IRA conversion</th>
</tr>
</thead>
</table>
| **Maximum contribution** | • $5,500 (earned income)  
• $6,500 (age 50 and over)\(^1\)  
• Reduced by Roth IRA contributions | • $5,500 (earned income)  
• $6,500 (age 50 and over)\(^1\)  
• Reduced by Traditional IRA contributions | No limit on conversions of Traditional IRAs, SEP IRAs, SIMPLE IRAs (if open 2+ years) |
| **Age limits to contribute** | Under 70½ in the year of contribution | None | None |
| **Income phase-out ranges for contribution deductibility** | 2016: Single: $61,000-$71,000  
Married: $98,000-$118,000\(^2\)  
2017: Single: $62,000-$72,000  
Married: $99,000-$119,000 | All contributions are non-deductible | N/A |
| **Phase-out ranges for Roth contribution eligibility** | N/A | 2016: Single: $117,000-$132,000  
Married: $184,000-$194,000  
2017: Single: $118,000-$133,000  
Married: $186,000-$196,000 | N/A |
| **Federal tax treatment** | • Investment growth is tax deferred and contributions may be tax deductible. Deductible contributions and investment gains are taxed as ordinary income upon withdrawal.  
• If non-deductible contributions have been made, each withdrawal is taxed proportionately on a pro-rata basis, taking into consideration all contributions made to all Traditional IRAs owned. | • Taxes are due upon conversion of account balances not yet taxed.  
• Qualified withdrawals of contributions at any time are tax free and IRS penalty free; converted amounts may be withdrawn tax free.\(^3\)  
• Qualified withdrawals of earnings are tax free and IRS penalty free if taken after five years have passed since the account was initially funded and the account owner is age 59½ or older (other exceptions may be applicable).  
• Multiple Roth IRAs are considered one Roth IRA for withdrawal purposes and distributions MUST be withdrawn in a specific order deemed by the IRS that applies regardless of which Roth IRA is used to take that distribution. | |
| **Early withdrawals** | Early withdrawals before age 59½ are generally subject to a 10% IRS penalty unless certain exceptions apply. | | |
| **Mandatory withdrawals** | Distributions must begin by April 1 of the calendar year following the year the account owner turns age 70½. | None for account owner | None for account owner |
| **Deadline to contribute** | 2016: April 18, 2017  
2017: April 17, 2018 | 2016: April 18, 2017  
2017: April 17, 2018 | N/A |

\(^1\) Must be age 50 or older by December 31 of the contribution year.

\(^2\) Assumes participation in an employer’s retirement plan. No income limits apply when investors and spouses are not covered by a retirement plan at work. Income limits based on MAGI. For the definition of MAGI, please see Guide to Retirement slide 36.

\(^3\) Distributions from a conversion amount must satisfy a five-year investment period to avoid the 10% penalty. This pertains only to the conversion amount that was treated as income for tax purposes. The presenter of this slide is not a tax or legal advisor. Clients should consult a personal tax or legal advisor prior to making any tax- or legal-related investment decisions.
## Retirement plan contribution and deferral limits—2016/2017

<table>
<thead>
<tr>
<th>Type of Retirement Account</th>
<th>Specifics</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>401(k), 403(b), 457(b)</td>
<td>401(k) elective deferral limit/catch-up contribution (age 50 and over)</td>
<td>$18,000/$24,000</td>
<td>$18,000/$24,000</td>
</tr>
<tr>
<td></td>
<td>Annual defined contribution limit</td>
<td>$53,000</td>
<td>$54,000</td>
</tr>
<tr>
<td></td>
<td>Annual compensation limit</td>
<td>$265,000</td>
<td>$270,000</td>
</tr>
<tr>
<td></td>
<td>Highly compensated employees</td>
<td>$120,000</td>
<td>$120,000</td>
</tr>
<tr>
<td></td>
<td>403(b)/457 elective deferrals/catch-up contribution (age 50 and over)</td>
<td>$18,000/$24,000</td>
<td>$18,000/$24,000</td>
</tr>
<tr>
<td>SIMPLE IRA</td>
<td>SIMPLE employee deferrals/catch-up deferral (age 50 and over)</td>
<td>$12,500/$15,500</td>
<td>$12,500/$15,500</td>
</tr>
<tr>
<td>SEP IRA</td>
<td>Maximum contribution</td>
<td>$53,000</td>
<td>$54,000</td>
</tr>
<tr>
<td></td>
<td>SEP minimum compensation</td>
<td>$600</td>
<td>$600</td>
</tr>
<tr>
<td></td>
<td>SEP annual compensation limit</td>
<td>$265,000</td>
<td>$270,000</td>
</tr>
<tr>
<td>Health Savings Accounts (HSAs)</td>
<td>Maximum contribution amount/over age 55</td>
<td>Single: $3,350/$4,350</td>
<td>Single: $3,400/$4,400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family: $6,750/$7,750</td>
<td>Family: $6,750/$7,750</td>
</tr>
<tr>
<td></td>
<td>Minimum deductible</td>
<td>Single: $1,300</td>
<td>Single: $1,300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family: $2,600</td>
<td>Family: $2,600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family: $13,100</td>
<td>Family: $13,100</td>
</tr>
<tr>
<td>Social Security</td>
<td>Wage base</td>
<td>$118,500</td>
<td>$127,200</td>
</tr>
<tr>
<td></td>
<td>Maximum earnings test exempt amounts under FRA for entire calendar year/during year of FRA(^3)</td>
<td>$1,310 p/month ($15,720 p/year)/$3,490 p/month</td>
<td>$1,410 p/month ($16,920 p/year)/$3,740 p/month</td>
</tr>
<tr>
<td>Defined benefit-maximum annual benefit at FRA</td>
<td>$2,639 p/month</td>
<td>$2,687 p/month</td>
<td>$2,687 p/month</td>
</tr>
</tbody>
</table>

1 Employer may either match employee’s salary reduction contributions dollar for dollar up to 3% of employee’s compensation or make non-elective contributions equal to 2% of compensation up to $270,000.
2 Employer contributions may not exceed $54,000 or 25% of compensation. Other rules apply for self-employed individuals.
3 In calendar years before FRA, benefit reduced $1 for every $2 of earned income above the limit; during year of FRA, benefit reduced $1 for every $3 of earned income in months prior to FRA.
There are typically four options to consider when leaving an employer’s retirement plan, each with its benefits and considerations. Converting a portion of tax-deferred assets to a Roth IRA may be a fifth option to consider in certain circumstances described below.

<table>
<thead>
<tr>
<th>Options</th>
<th>Potential benefits</th>
<th>Considerations</th>
</tr>
</thead>
</table>
| Roll the retirement account into an IRA account (IRA rollover) | • No income taxes or penalties for a direct rollover\(^1\)  
• Assets maintain tax-deferred status  
• Ability to make additional contributions subject to income limitations\(^2\)  
• Potential for a broader range of investment choices  
• Opportunity to consolidate multiple retirement accounts  
• If balance includes employer stock, may be eligible for preferable tax treatment (Net Unrealized Appreciation) if the stock is not rolled over\(^3\) | • Loans are not allowed  
• Fees may vary, and may be higher than what is charged in an employer plan |
| Leave the money in former employer plan | • Not a taxable event  
• Assets maintain tax-deferred status  
• If you are at least age 55 and are separated from service, you may be able to take withdrawals without penalties  
• Fees may be lower depending on plan size | • Investment options vary according to the plan and may be more limited  
• Ability to leave assets in the plan as well as ongoing plan options are subject to policies and contractual terms of the plan  
• Some plans may not provide periodic payments to retirees |
| Move the assets into a new employer plan | • No income taxes or penalties for a direct rollover\(^1\)  
• Assets maintain tax-deferred status  
• New employer plan may allow loans  
• Ability to make additional contributions potentially with a company match  
• Fees may be lower based on plan size and number of participants | • Investment options vary according to the plan and may be more limited  
• Assets are subject to policies or terms of new employer plan |
| Withdraw balance of assets or “cash out” of plan | • Individual may use remaining funds (after taxes and potential penalties) for other purposes | • Upon withdrawal, account balance is subject to ordinary income tax on pre-tax contributions and investment earnings  
• 20% automatically withheld for taxes upon distribution  
• Additional 10% withdrawal penalty tax may apply for owners younger than age 59½  
• Additional federal, state or local income taxes may apply  
• Loss of tax-deferred growth of assets |
| Convert all or part of retirement account into Roth IRA (Roth IRA conversion) | • May provide income tax diversification in retirement  
• After taxes are paid at conversion, future distributions are tax free\(^4\)  
• Required minimum distributions do not apply at 70½ | • The pre-tax amount is included in gross income in the year of conversion (and is subject to the aggregation rule)  
• Sufficient taxable assets to pay income taxes owed is strongly recommended |

\(^1\) In a direct rollover, qualified retirement assets are transferred directly from the former employer plan to the institution holding the new IRA or plan account, and no taxes or penalties will apply. If an owner chooses to receive the plan assets first, the distribution is subject to 20% mandatory withholding and the entire amount of the distribution must be deposited into a new plan or IRA account within 60 days of receipt to avoid further potential taxes and penalties.

\(^2\) Subject to IRA contribution limits: $5,500 in 2017 ($6,500 if age 50 or older); single filers may make Roth contributions if MAGI is $118,000 or below; married filing jointly if MAGI is $186,000 or below; phase-outs on contributions thereafter.

\(^3\) With the Net Unrealized Appreciation (NUA) strategy, an employee may transfer the employer stock portion of a retirement account to a brokerage account. The employee pays ordinary income tax on the cost basis of the stock at the time of transfer, but will owe capital gains tax when he/she later sells the stock.

\(^4\) Subject to 5-year Roth account holding period and age requirements.
Medicare is a government health care program available to those who have paid Medicare taxes while working or to non-working spouses of such individuals. Medicare is available when these individuals reach age 65. Citizens who have never paid Medicare taxes may be eligible if they pay a Medicare premium. Individuals under age 65 may also be eligible if they are considered disabled by Social Security or the Railroad Retirement Board for more than 24 months.

<table>
<thead>
<tr>
<th></th>
<th>Traditional Medicare</th>
<th>Medicare Advantage (usually limited to a network of providers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part A: inpatient hospital insurance</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Part B: doctors, tests and outpatient hospital insurance</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Medigap: standardized plans that cover Part A and Part B co-pays and deductibles</td>
<td>✓</td>
<td>Not available</td>
</tr>
<tr>
<td>Part D: prescription drug insurance</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Prescription drug co-pays and deductibles</td>
<td>Not covered</td>
<td>Not covered</td>
</tr>
<tr>
<td>Most vision, dental and hearing expenses</td>
<td>Not covered</td>
<td>✓</td>
</tr>
<tr>
<td>Long-term care*</td>
<td>Not covered</td>
<td>Not covered</td>
</tr>
</tbody>
</table>

* Medicare does not cover most long-term care costs. Medicare does pay for medically necessary skilled nursing facility or home health care on a very limited basis. Custodial care is not covered.
65 and working: Should I sign up for Medicare?

Sign up for Medicare¹
- Enroll in Parts A, B and D up to 3 months before your 65th birthday month to ensure no gap in coverage and no late enrollment penalties
- Decide on and enroll in Medigap or Medicare Advantage (most Medicare Advantage plans include Part D)

Consider signing up for Part A
- Part A is free for people who paid payroll taxes for 40+ quarters (about 10 years)
- Employer coverage is primary (check with plan administrator about any conflicts)

Consider not signing up for Medicare
- “Creditable” employer insurance benefit is primary (pays first)
- IRS tax penalties apply if you sign up for Medicare and also contribute to an HSA

Stop HSA contributions and consider opting out of Medicare Part B
- Once you start Social Security benefits, you will automatically be enrolled in Part A, retroactive six months back to age 65
- IRS tax penalties apply if you are enrolled in Part A and contribute to an HSA
- You may contact Medicare to opt out of Part B

WHAT IF I HAVE COBRA OR RETIREE COVERAGE?
- You must sign up for Medicare when you are first eligible, or you will face late enrollment penalties for Part B and possible underwriting for Medigap if you sign up for these later.
- Most retiree coverage works with Medicare Parts A and B (check with your plan administrator).
- If your COBRA coverage (a temporary extension of your employer coverage) or retiree prescription plan will continue and is “creditable” (ask your plan administrator for documentation), you may choose to delay enrollment in Part D without penalty.

¹ Most employer coverage for <20 people will end at age 65 or become secondary after Medicare has paid. Late penalties will apply if you don’t sign up in your initial enrollment window and Medigap plans may deny coverage or underwrite after the initial enrollment period.

For more information see www.mymedicarematters.org/enrollment/am-i-eligible, sponsored by the National Council on Aging and Medicare.gov.
Understanding annuities: Which annuity may be right for you?

<table>
<thead>
<tr>
<th>RISK TOLERANCE</th>
<th>CONTRACT GROWTH AND PAYOUT</th>
<th>TYPE OF ANNUITY</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCOME NOW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk averse investor</td>
<td>Fixed rate of growth</td>
<td>Single Premium Immediate Annuity (SPIA)</td>
<td>Single premium purchase payment</td>
</tr>
<tr>
<td>Risk averse/ moderate investor</td>
<td>Variable rate of growth</td>
<td>Deferred Rate Annuity</td>
<td>Purchase payments grow at a fixed or market rate for a specified period of time</td>
</tr>
</tbody>
</table>
| Risk averse/ moderate investor | Variable rate of growth | Deferred Income Annuity (DIA) | Often purchased to provide income in late retirement years
| Risk averse/ moderate investor | Variable rate of growth | Qualified Longevity Annuity Contract (QLAC) | May transfer 25% or up to $125,000 from retirement account to fund annuity; this amount exempt from RMDs at age 70½
| Risk averse/ moderate investor | Variable rate of growth | Fixed Indexed Annuity (FIA) | Account growth is tied to a particular index (i.e. S&P 500) with a cap on growth in exchange for downside protection
| Risk averse/ moderate investor | Variable rate of growth | Fixed Indexed Annuity (FIA) | Most contracts provide guaranteed minimum fixed growth |
| Moderate investor | Variable rate of growth | Variable Annuity (VA) | Purchase payments are invested in subaccounts like mutual funds
| Moderate investor | Variable rate of growth | Variable Annuity (VA) | Guaranteed living benefits (“GLBs”) may be available for additional cost to provide minimum guaranteed account growth and/or minimum guaranteed retirement income
| Moderate/ aggressive investor | Variable rate of growth | Investment Only Variable Annuity (IOVA) | Purchase payments invested in a variety of subaccounts, including alternatives and hedge funds
| Moderate/ aggressive investor | Variable rate of growth | Investment Only Variable Annuity (IOVA) | Used for tax deferral, estate planning and asset location

1 DIAs are also known as longevity annuities and purchased during healthy years to provide income in later years when illness, dementia or other disability may set in and hinder sound income planning decisions.

2 Some contracts contain caps on growth and limit gains attributable to account based on participation rate or other factors.

3 Guaranteed living benefits and death benefits may be available with certain fixed and variable annuity products at additional cost.

4 While non-qualified annuities are not generally subject to RMDs, state laws requiring contract annuitization may apply.
Indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

The S&P 500 Index is widely regarded as the best single gauge of the U.S. equities market.

This world-renowned index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. Although the S&P 500 Index focuses on the large cap segment of the market, with approximately 75% coverage of U.S. equities, it is also an ideal proxy for the total market. An investor cannot invest directly in an index.

The Russell 2000 Index measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The MSCI EAFE (Europe, Australia, Far East) Net Index is recognized as the pre-eminent benchmark in the United States to measure international equity performance. It comprises 21 MSCI country indexes, representing the developed markets outside of North America.

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. As of June 2007, the MSCI Emerging Markets Index consisted of the following 25 emerging market country indices: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

The FTSE NAREIT EQUITY REIT Index is designed to provide the most comprehensive assessment of overall industry performance and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The Barclays Capital U.S. Aggregate Index represents securities that are SEC-registered, taxable and dollar denominated. The index covers the U.S. investment-grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities and asset-backed securities. These major sectors are subdivided into more specific indexes that are calculated and reported on a regular basis.

The Barclays Global High Yield Index is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The Barclays US High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody’s, S&P and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified) tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The Bloomberg Commodity Index is composed of futures contracts on physical commodities and represents 22 separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel and zinc.

Unless otherwise indicated, all illustrations are shown in U.S. dollars.

Past performance is no guarantee of comparable future results.

Diversification does not guarantee investment returns and does not eliminate the risk of loss.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

The price of equity securities may rise or fall because of changes in the broad market or changes in a company’s financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk," meaning that stock prices in general may decline over short or extended periods of time.

Small capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.

Mid capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid cap companies' stock has experienced a greater degree of market volatility than the average stock.
Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Also, some overseas markets may not be as politically and economically stable as the United States and other nations.

Investments in emerging markets can be more volatile. As mentioned above, the normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

Investments in commodities may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Investing in alternative assets involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Opinions and estimates offered constitute our judgment and are subject to change without notice, as are statements of financial market trends, which are based on current market conditions. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve.

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