College Planning Essentials

A comprehensive guide to saving and investing 2018-2019



MAIN SECTIONS KEY INSIGHTS



Section 1 | COLLEGE MATTERS

Discover how a college diploma can pay off with higher income, lower unemployment and other lifelong benefits.



91%

New jobs going to college-educated workers in the past year.¹



Section 2 | COLLEGE COSTS

See how quickly tuition costs are rising and what you can expect to pay.



79%

Families having to rule out colleges because of cost.²



Section 3 | FINANCIAL AID

Learn what financial aid is, how it works and why it's important to save for the expenses not covered by free grants and scholarships.



62%

Student borrowers who haven't paid off loans 20 years after starting college.³



Section 4 | SAVING & INVESTING

Make informed decisions about how much to save, when to start, where to invest and which plan can help your money work hardest.



59%

Families without a plan to pay for college.2

Section 5 | APPENDIX



^{1.} MarketWatch.com, based on May 2018 data from U.S. Department of Labor.

^{2.} Sallie Mae, How America Values College, 2018.

³ PTI International December 201

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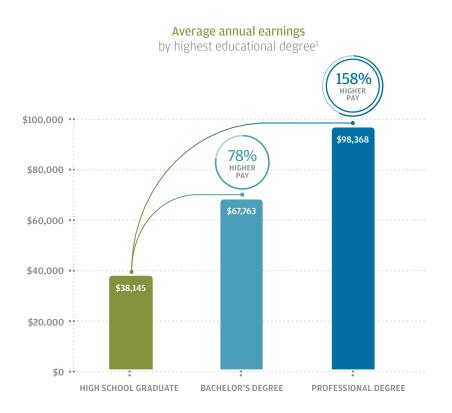
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A college diploma opens the door to a lifetime of higher earnings.



DEGREES OF DIFFERENCE

- Bachelor's degree holders could earn about \$1.5 million more over a lifetime than high school graduates. Those with professional degrees may earn over \$3.7 million more.²
- Bachelor's degree holders earn enough extra in a single year to recoup nearly three semesters of current public college costs.¹

U.S. Census Bureau, J.P. Morgan Asset Management. For workers aged 18 and older, 2017. Data come from the Current Population Survey and are published
under historical income tables by person by the U.S. Census Bureau. College costs are based on The College Board's 2018 Trends in College Pricing for average
tuition, fees and room and board at an in-state four-year university.



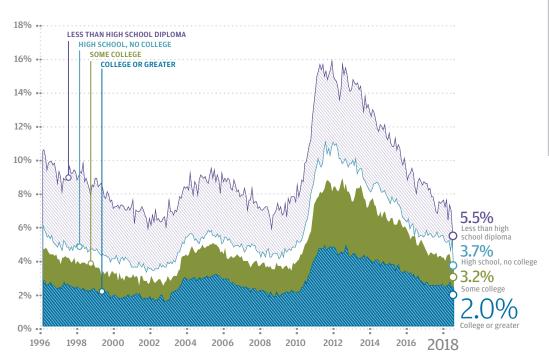


More education, less unemployment

College graduates enjoy much better job security and opportunity, especially during economic downturns.

Unemployment rates by education level

as of September 2018¹



BRIGHT JOB PROSPECTS

- The number of collegeeducated Americans with jobs has increased 29% since the beginning of the Great Recession in December 2007.²
- Only 3.7% of recent college graduates are unemployed, vs. 7.5% of young workers without college degrees.³



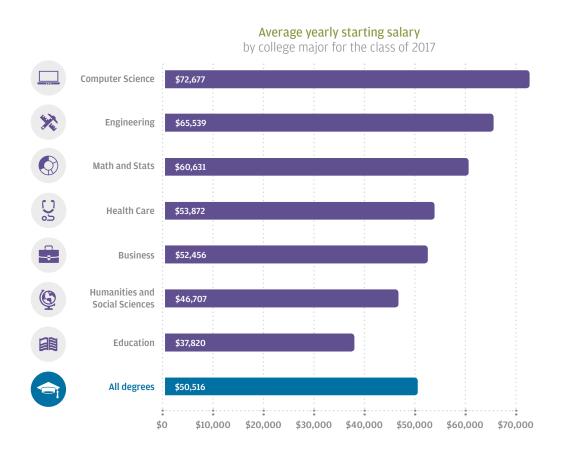
^{1.} J.P. Morgan Asset Management, Bureau of Labor Statistics, FactSet. Unemployment rates shown are for civilians aged 25 and older. Data are as of 9/30/18.

^{2.} Bureau of Labor Statistics. *Employment Situation Report*, December 2007 and September 2018

Federal Reserve Bank of New York, June 2018

"Major" differences in salaries

Choice of college major has a significant impact on a graduate's starting salary.

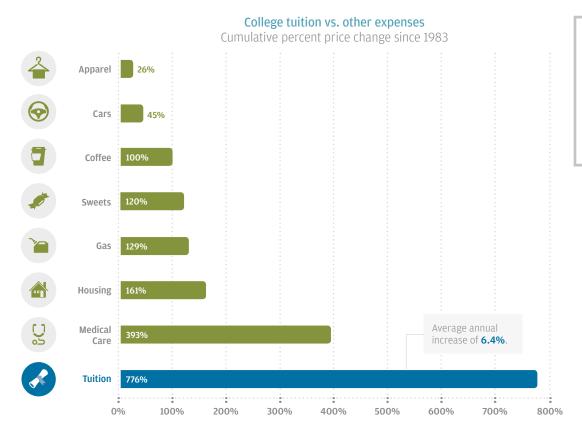


SALARIES ON THE RISE

- Average starting salaries for the class of 2017 are
 12.4% higher than for the class of 2013.
- If salaries continue rising at this pace, the average child born today would earn roughly \$93,480 in the first year after college.



College tuition costs have increased faster than any other household expense in recent decades.



WHY COSTS ARE RISING

- Colleges spend more to attract the best students.
- Colleges hire more faculty and administrative staff.
- Colleges receive less financial support from states.



Future four-year college costs

The younger the child, the more college is likely to cost. Add up four years per child, and it equals one of a family's largest expenses.

Projected cost of a four-year college education

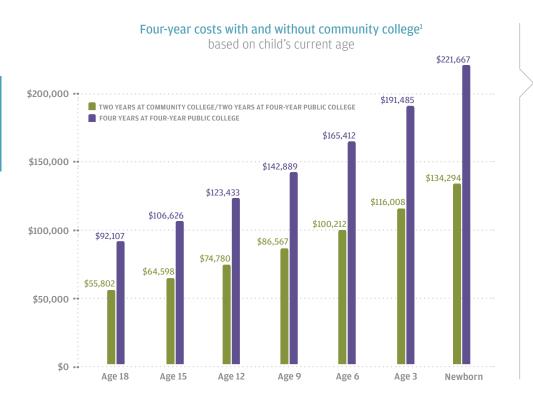
based on child's current age





The community college option

Some students choose to live at home and attend community college in their freshman and sophomore years.



Save 39% by attending two years of community college¹

\$3,660 Average annual tuition and fees at community college¹

AN AFFORDABLE FIRST STEP



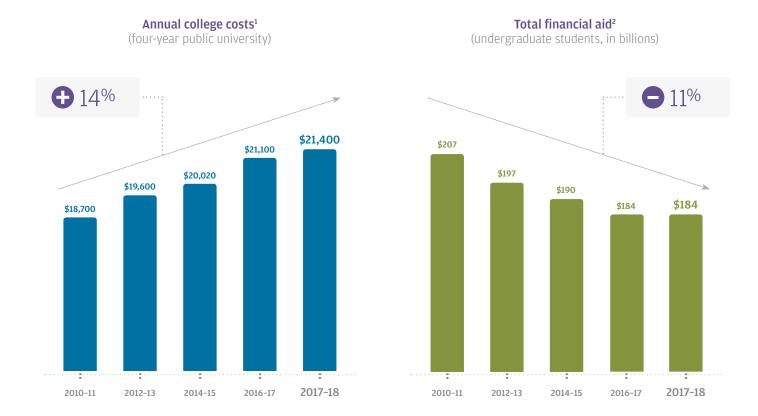
Two-thirds of community college students expect to go on to earn bachelor's or master's degrees.²







College costs continue rising while financial aid has been declining — leaving families to cover more of the expenses.



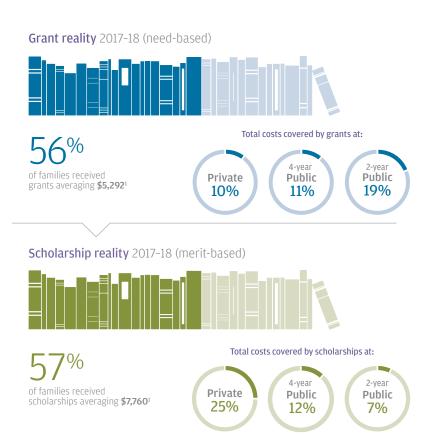
^{1.} The College Board, 2018 Trends in College Pricing, Based on average tuition, fees and room and board at an in-state four-year university,

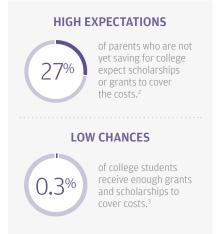


The College Board, 2018 Trends in Student Aid. Includes federal, state, institutional and private grants as well as federal work-study, tax benefits, veterans benefits and loans.

Financial aid reality check

Many families expect more free money from grants and scholarships than they are likely to receive.







^{1.} Sallie Mae, How America Pays for College, 2018.

Sallie Mae, How America Saves for College, 2018

s. Same wae, now America Saves for conege, 2010. B. Finaid org. Based on full-time students at four-year college

The facts about athletic scholarships

Athletic scholarships usually cover only a small portion of college costs...and only for the select few who receive them.



IMPACT ON 529 PLANS

If students earn scholarships, families can either:

- Transfer unused 529 plan assets to another family member;² or
- Withdraw an amount equal to the scholarship without paying the 10% federal penalty tax.³



- 1. ScholarshipStats.com, for National Collegiate Athletic Association (NCAA), National Association of Intercollegiate Athletics (NAIA), Junior colleges and community colleges All data are for 2017-18 school year.
- 2. Section 529 defines a family member as a son, daughter, stepson or stepdaughter, or a descendant of any such person; a brother, sister, stepbrother, or stepsister; a father or mother, or an ancestor of either; a stepfather or stepmother; a son or daughter of a brother or sister; a brother or sister of the father or mother; a son or daughter of a brother; a storther in-law, the spouse of the beneficiary or the spouse of any individual described above; or a first cousin of the beneficiary. Gift or generation-skipping transfer taxes may apply. Please consult your tax advisor for more information.
- 3. Federal and state income taxes are due on any investment earnings. Consult your tax advisor for more information
- A NCAA March 2019



Federal financial aid eligibility

The Department of Education calculates the Expected Family Contribution (EFC) used to determine your financial aid eligibility.

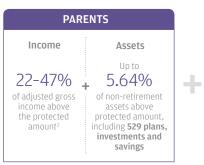


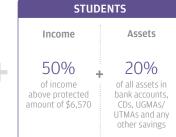
WHEN TO APPLY

Apply as early as October 1 of the year before college, using income and tax information from two years before college.

HOW EFC IS CALCULATED¹

A family's annual income, including the student's, counts far more in the formula than savings and investments, especially when held in the parents' names.





TOTAL EFC

EFC is not the amount your family will pay for college or get in federal aid. It's a number used to calculate how much aid a student is eligible to receive.

Families may be expected to pay more than their EFC.

GRANDPARENTS/OTHERS

0%

of income and assets considered in federal financial aid formulas. However, withdrawals for college by grandparents or others may be considered student income and must be reported on future financial aid forms. Such income can reduce the amount of aid by 50%, two years after distribution.

Based on federal methodology for 2018-19 school year. To learn more about how EFC is calculated, see https://ifap.ed.gov/efcformulaguide/attachments/071017EFCFormulaGuide1819.pdf.





Estimating Expected Family Contribution

Use this chart to estimate your Expected Family Contribution, the amount used to determine federal financial aid eligibility.

Annual Expected Family Contribution (EFC)

Examples based on income and assets

ASSETS (EXCLUDING PRIMARY RESIDENCE AND RETIREMENT ACCOUNTS)

Income has a much bigger impact than assets.

COMBINED INCOME

	\$0	\$25,000	\$50,000	\$100,000	\$150,000	\$200,000	\$250,000	\$300,000
\$50,000	\$2,113	\$2,451	\$3,111	\$4,537	\$6,302	\$8,513	\$11,230	\$14,050
\$75,000	\$6,694	\$7,216	\$8,388	\$11,084	\$13,904	\$16,724	\$19,544	\$22,364
\$100,000	\$14,413	\$15,153	\$16,545	\$19,365	\$22,185	\$25,005	\$27,825	\$30,645
\$125,000	\$21,742	\$22,445	\$23,855	\$26,675	\$29,495	\$32,315	\$35,135	\$37,955
\$150,000	\$29,460	\$30,182	\$31,592	\$34,412	\$37,232	\$40,052	\$42,872	\$45,692
\$175,000	\$37,250	\$37,971	\$39,381	\$42,201	\$45,021	\$47,841	\$50,661	\$53,481
\$200,000	\$44,777	\$45,499	\$46,909	\$49,729	\$52,549	\$55,369	\$58,189	\$61,009
\$225,000	\$52,126	\$52,848	\$54,258	\$57,078	\$59,898	\$62,718	\$65,538	\$68,358
\$250,000	\$59,476	\$60,198	\$61,608	\$64,428	\$67,248	\$70,068	\$72,888	\$75,708

Example: If you earn \$150,000 in income and have \$200,000 of savings, your estimated EFC is **\$40,052**.



The effect of savings on financial aid

Savings count far less than income when calculating your Expected Family Contribution and financial need.

Big difference in college savings, little difference in financial aid

Federal financial aid for two families earning identical income and sending a child to the same college costing \$50,000 per year



529 PLAN ADVANTAGE

When a 529 account is owned by parents, it has much less impact on federal financial aid eligibility than custodial accounts or other student-owned assets.





Families can file their Free Application for Federal Student Aid (FAFSA) as early as October 1 of the year before college classes begin, using income and tax information from two years before college.

Example: Student starting college in 2020



529 plans owned by grandparents or others

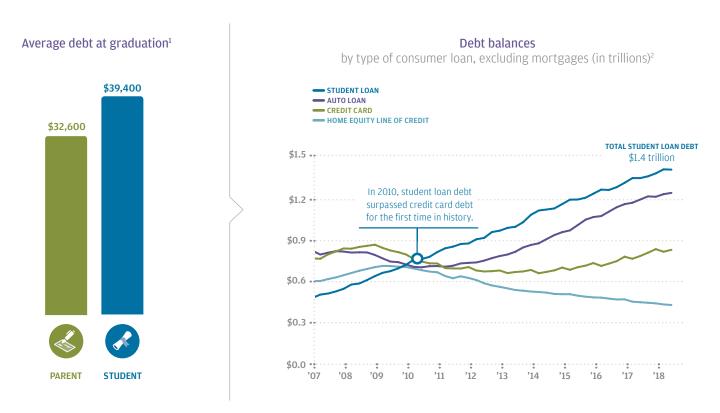
Consider using in later years, when withdrawals would not be reported as income on FAFSA until after the student has likely graduated.

DID YOU KNOW?

- For students to be considered for aid, FAFSA must be filed for every year in college, based on income and tax information from two years prior.
- Withdrawals from parentowned 529 plans are not considered income on FAFSA.
- Withdrawals from 529 plans owned by grandparents or others are treated as student income.



Families that don't save enough for college often have no other choice than to borrow.



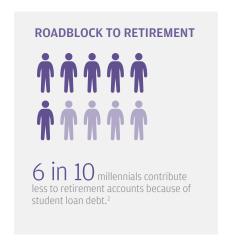


Balancing student loans and retirement savings

Degree holders with debt are able to save more for retirement than students who never borrowed but didn't graduate.

Average retirement plan account balances1











Comparing college savings vehicles

Understanding the different college savings vehicles can help you choose the right one for your needs.



529 college savings plan

- Tax-free investing and withdrawals for qualified education expenses¹
- Account owner control for the life of the account
- No income limits on contributors or age restrictions on beneficiaries
- High contribution maximums, often
 \$400,000 or more per beneficiary²
- · Low impact on financial aid eligibility
- Assets removed from taxable estate
- Tax-free gifts of up to \$150,000 per beneficiary in a single year³



of parents own 529 plans⁴



Custodial account (UGMA/UTMA)

- Some investment earnings may be taxed at child's rate, the rest at rates for trusts/estates
- **Child assumes control** at age of majority, usually 18 or 21
- Funds must be used for the child's benefit, not necessarily for college
- **High impact** on financial aid eligibility
- Assets not removed from taxable estate if donor is also custodian



of parents own UGMA/ UTMA accounts⁴



Coverdell Education Savings Account

- Tax-free investing and withdrawals for any level of education⁵
- Must contribute before beneficiary turns
 18 and must use assets by 30
- Income limits on contributors
- Maximum contribution of \$2,000 annually per beneficiary
- Low impact on financial aid eligibility
- Assets removed from taxable estate



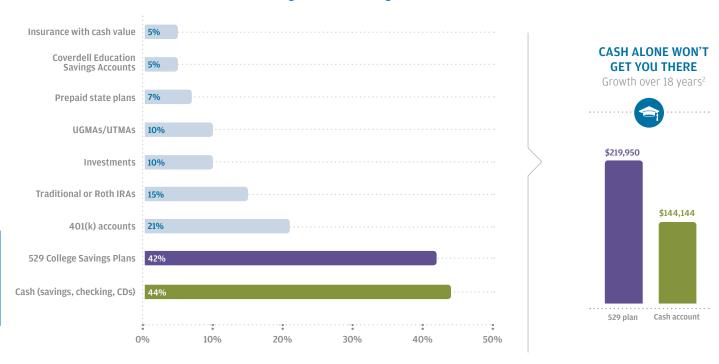
- 1. Earnings on non-qualified withdrawals may be subject to federal income tax and a 10% federal penalty tax, as well as state and local income taxes. Federal law allows distributions for tuition expenses in connection with enrollment or attendance at an elementary or secondary public, private or religious school ("K-12 Tuition Expenses") of up to \$10,000 per beneficiary per year. Under New York State law, distributions for K-12 Tuition Expenses will be considered non-qualified withdrawals and will require the recapture of any New York State tax benefits that have accrued on contributions.
- In emaximum aggregate balance of all Accounts for the same Beneficiary in Qualified Tuition Programs sponsored by the State of New York, as established by the Program Administrators from time to time, which will limit the amount of contributions that may be made to Accounts for any one Beneficiary, as required by Section 529 of the Code The current Maximum Account Balance is \$520,000.
- 3. Maximum gifts are \$150,000 per beneficiary from married couples and \$75,000 from single tax filers. No additional gifts can be made to the same beneficiary over a five-year period. If the donor does not survive the five years, a portion of the gift is returned to the taxable estate.
- 4. Strategic Insight, 529 Industry Analysis: 2018
- . Earnings on non-qualified withdrawals may be subject to federal income tax and a 10% federal penalty tax, as well as state and local income taxes.



Don't just save, invest

Families often choose vehicles that don't maximize growth potential, such as savings accounts, CDs and taxable investments.

Percentage of families using¹



I. Strategic Insight, 529 Industry Analysis: 2018

^{2.} J.P. Morgan Asset Management. Illustration assumes an initial \$10,000 contribution and monthly contributions of \$500 for 18 years. Chart also assumes an annual investment return of 6% and an annual cash return of 2%, both compounded monthly. Investment losses could affect the relative tax-deferred investing advantage. This hypothetical illustration is not indicative of any specific investment and does not reflect the impact of fees or expenses. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 520 plan participant. Such costs would lower performance. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.



Small investments help meet large goals

College savings goals are more manageable when you break them down into monthly investments and start early.

		PUBLIC COLLEGE ¹					
Child's current age	Total four- year cost	Monthly 50%	y investment 75%	to pay: 100%			
Newborn	\$221,667	\$290	\$434	\$579			
3	\$191,485	\$332	\$498	\$664			
6	\$165,412	\$396	\$594	\$792			
9	\$142,889	\$502	\$753	\$1,004			
12	\$123,433	\$714	\$1,071	\$1,429			
15	\$106,626	\$1,352	\$2,028	\$2,704			

PRIVATE COLLEGE ¹						
Total four- year cost	Monthl 50%	y investment 75%	to pay: 100%			
\$503,186	\$657	\$986	\$1,314			
\$434,671	\$754	\$1,131	\$1,508			
\$375,485	\$898	\$1,348	\$1,797			
\$324,358	\$1,139	\$1,709	\$2,279			
\$280,193	\$1,621	\$2,432	\$3,243			
\$242,041	\$3,069	\$4,603	\$6,138			

BIG PLANS

Nearly **nine in 10** parents want to pay **at least 50%** of college costs.²

ARE FOUR YEARS ENOUGH?



- 1. J.P. Morgan Asset Management. Based on tuition, fees and room/board costs for 2018-19 school year, The College Board, 2018 Trends in College Pricing. Costs estimated to inflate 5% per year. This hypothetical example illustrates the future values of different regular monthly investments for different time periods and assumes an annual investment return of 6%, compounded monthly. This hypothetical example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. These figures do not reflect the impact of fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. A plan of regular investment cannot assure a profit or protect against a loss in a declining market.
- 2. Savingforcollege.com, 2017 Annual College Savings Survey.
- 3. National Student Clearinghouse Research Center, Time to Degree, September 2016



The benefits of compounding

The sooner you start saving, the more time you have to grow your college fund through the power of long-term compounding.

Start early, accumulate more

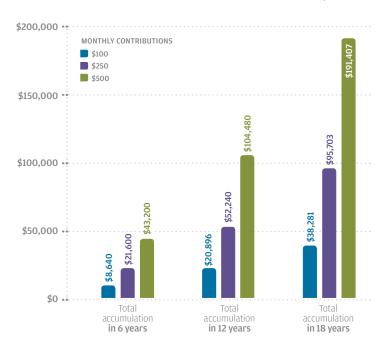


If you start saving \$500 per month when a child is born, you'll earn

\$86,927 more than if you start at age 6.

Start early, small savings add up

Total amounts accumulated over 6, 12 and 18 years



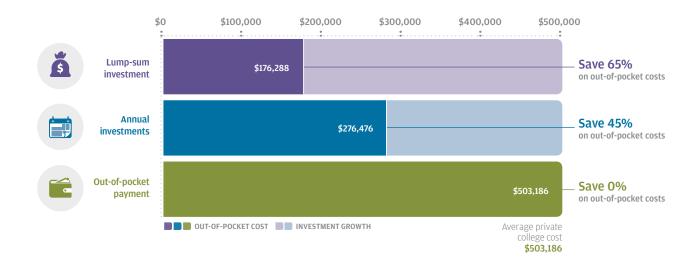




529 plans allow large contributions that can help you pay for much of college from investment earnings instead of your pocket.

Investing vs. paying out of pocket

Amounts needed to fund four years of private college for a newborn



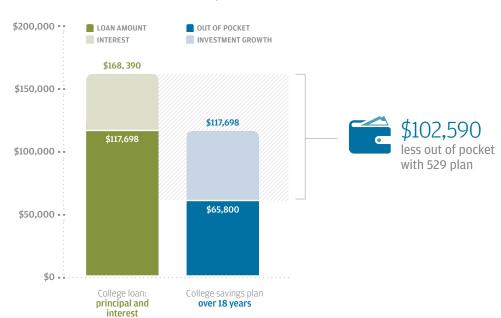
Source: The College Board, 2018 Trends in College Pricing, Based on tuttion, fees and from/board costs for 2018-19 school year. Costs estimated to inflate 5% per year. This example is hypothetical and assumes a 6% annual rate of return, compounded monthly and annual contributions of \$15,360 over an 18-year period. This example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. Contributions should consider the potential gift tax implications of making large contributions. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.



It costs less to invest than borrow because you're earning interest and other investment returns instead of paying interest.

529 college savings plan vs. college loan

Initial investment of \$1,000 plus monthly investments of \$300¹



IT TAKES A PLAN

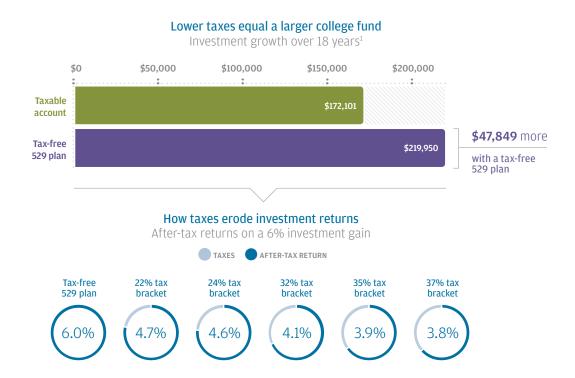
Without a plan, families run the risk of not saving enough and borrowing too much. Yet **59% don't have a plan** to pay for college.²

1. J.P. Morgan Asset Management. The investing illustration assumes an initial lump-sum investment of \$1,000, subsequent monthly investments of \$300 thereafter for 18 years, and assumes an annual investment return of 6%, compounded monthly. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. The borrowing illustration assumes an interest rate of 7.6% and a payback period of 10 years. 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.





A tax-advantaged 529 plan has the potential to grow faster than a taxable investment earning the exact same returns.



STATE TAX BENEFITS

Many 529 plans offer state tax benefits in addition to federal tax-free investing. See the Appendix on page 41 for more information.

^{1.}J.P. Morgan Asset Management. Illustration assumes an initial \$10,000 investment and monthly investments of \$500 for 18 years. Chart also assumes an annual investment return of 6%, compounded monthly, and a federal tax rate of 32%. Investment losses could affect the relative tax-deferred investing advantage. This hypothetical illustration is not indicative of any specific investment and does not reflect the impact of fees or expenses. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.





BENEFIT	WHAT IT MEANS
Tax-advantaged investing	 Tax-deferred compounding of contributions and earnings Tax-free withdrawals for qualified higher education expenses¹ Tax-deductible contributions in some states
Estate planning benefits	 Contributions and investment gains removed from taxable estate Option to make five years of tax-free gifts in a single year – up to \$150,000 per beneficiary from couples and \$75,000 from individuals² The only gift that can be revoked under current laws
Control and flexibility	 Account owner retains full control over assets Can change beneficiaries or transfer unused assets to certain other family members Covers any qualified expense at accredited schools throughout the U.S. and overseas³ Minimal impact on financial aid eligibility when owned by parents
Accessible	No income limits on contributors No age limits on beneficiaries or contributors
Affordable	Very low investment minimums make it easy to get started High contribution limits, often \$400,000 or more per beneficiary

QUALIFIED HIGHER EDUCATION EXPENSES



Tuition & fees



Room & board



Books & supplies



Special services



Computers & related equipment

Source: Internal Revenue Service.

- 1. Earnings on non-qualified withdrawals may be subject to federal income tax and a 10% federal penalty tax, as well as state and local income taxes. Federal law allows distributions for tuition expenses in connection with enrollment or attendance at an elementary or secondary public, private or religious school ("K-12 Tuition Expenses") of up to \$10,000 per beneficiary per year. Under New York State law, distributions for K-12 Tuition Expenses will be considered non-qualified withdrawals and will require the recapture of any New York State law benefits that have accounted on contributions.
- 2. No additional gifts can be made to the same beneficiary over a five-year period. If the donor does not survive the five years, a portion of the gift is returned to the taxable estate.
- Visit fafsa.gov for a list of qualified schools.



Making the most of college gifts

Only 529 plans allow five years of tax-free gifts in one year to help families meet college costs and manage estate taxes.

One gift at birth can pay for nearly four years of college



All 529 plan gifts and investment gains are removed from the contributor's taxable estate — without losing control.

- No additional gifts can be made to the same beneficiary over a five-year period. If the donor does not survive the five years, a portion of the gift is returned to the
 taxable estate.
- 2. J.P. Morgan Asset Management. Illustration assumes an annual investment return of 6%, compounded monthly. This example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. Projected four-year college costs are based on The College Board's 2018 Trends in College Pricing, assuming 5% annual inflation. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.



Any money left in a 529 plan after college can continue growing for the next generation.





Total contribution \$150,000

Amount spent on child

\$221,667

Amount available for grandchild

\$1.29 million

Source: J.P. Morgan Asset Management. Illustration assumes an annual investment return of 6%, compounded monthly. This example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. Illustration assumes the child attends an in-state public college. Projected four-year college costs are based on The College Board's 2018 Trends in College Pricing, assuming 5% annual inflation. Changing a 529 plan beneficiary to another generation may result in generation-skipping transfer taxes. Please consult a tax professional for advice specific to your situation. This chart is shown for illustrative purposes only. Past performance is no guarantee of

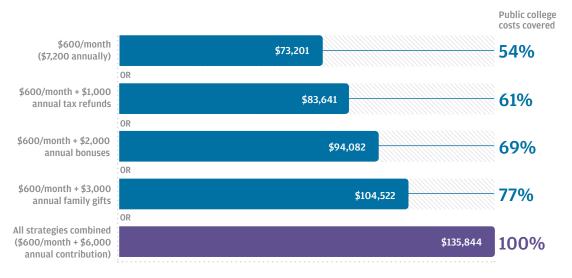


Catching up on college savings

By funding 529 plans with manageable amounts from multiple sources, later starters may still have time to achieve their goals.

Combining savings strategies can increase college funds

Investment growth over 8 years

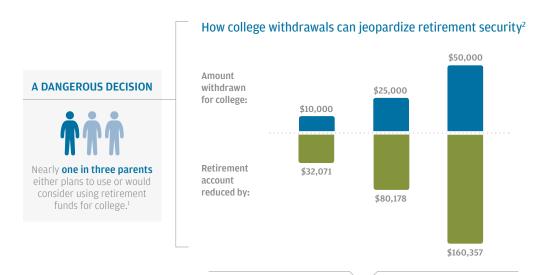


Source: J.P. Morgan Asset Management. This hypothetical illustration assumes an annual investment return of 6%, compounded monthly. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. "All strategies combined" reflects \$600 monthly investments, plus \$6,000 in combined annual tax refunds, bonuses and family gifts. Projected four-year college costs are based on The College Board's 2018 Trends in College Pricing, assuming 5% annual inflation. Projected college costs for this example are \$136,085, which includes tuition, fees and room and board at an in-state public college. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. This example does not represent the performance of any specific investment and does not reflect any management fees or expenses that would be paid by a 529 plan participant. These costs would lower performance. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.



Don't pay for college with retirement funds

Every dollar used for college can mean several less for retirement, due to years of lost investment earnings and compounding.



THE RELATIONSHIP BETWEEN RETIREMENT SAVINGS AND COLLEGE FINANCIAL AID Of retirement assets are considered in federal financial aid formulas while in the account. of withdrawals for college may count against federal aid as student income.

Retirement accounts may also be reduced by:



Potential taxes

Taxes may be due on amount withdrawn³



Potential penalties

May owe 10% penalty if under age 59½3

- 1. Sallie Mae, How America Saves for College, 2018.
- 2.1.P. Morgan Asset Management. This illustration assumes that assets would have remained in a tax-advantaged retirement account instead of being withdrawn for college, earning 6% annual investment returns for 20 years, compounded monthly. This example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses. Such costs would lower performance. Shown for illustrative purposes only. Past performance is no guarantee of future results.
- 3. Distributions from certain retirement accounts, including IRAs, may not be subject to the 10% penalty tax if used for qualified higher education expenses. Income taxes may be due on withdrawals if certain requirements are not met. Refer to IRS Publication 970 or consult your tax advisor regarding your personal circumstances.

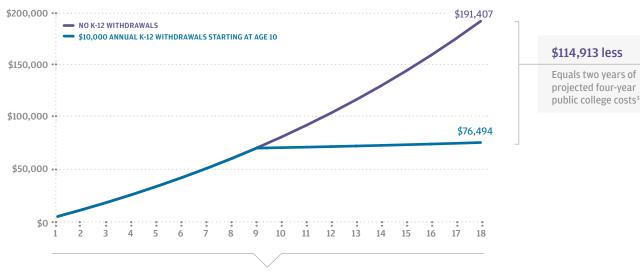


How K-12 withdrawals impact college savings

Withdrawing money from a 529 plan before college can leave families with less during college.

The price of K-12 withdrawals

Growth of \$500 monthly investments over 18 years¹





CHECK YOUR 529 PLAN

Annual withdrawals of up to \$10,000 per beneficiary for private K-12 tuition are now free from federal taxes, but state tax consequences still apply with some 529 plans.²

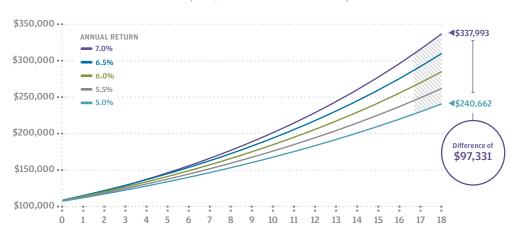
- 1. J.P. Morgan Asset Management. Illustration assumes an annual investment return of 6%, compounded monthly. It also assumes \$10,000 annual K-12 withdrawals between ages 10 and 18. This example does not represent the performance of any particular investment. Different assumptions will result in outcomes different from this example. Your results may be more or less than the figures shown. Investment losses could affect the relative tax-deferred investing advantage. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision, as the illustration may not reflect these factors. These figures do not reflect any management fees or expenses that would be paid by a 529 plan participant. Such costs would lower performance. This chart is shown for illustrative purposes only. Past performance is no guarantee of future results.
- 2. Under New York State law, distributions for K-12 tuition expenses will be considered non-qualified withdrawals and will require the recapture of any New York State tax benefits that have accrued on contributions.
- 3. The College Board, 2018 Trends in College Pricing, assuming 5% annual inflation. Based on average tuition, fees and room and board at an in-state public college.



Even small increases in investment returns can make a big difference when it comes time to pay for college.



Growth of \$100,000 investment over 18 years



SEEKING HIGHER RETURNS

- Be an investor, not just a saver in low-yielding bank accounts.
- Stay invested for the long haul to avoid the risk of being out of markets during upswings.
- Reduce taxes to keep more of what you earn.
- Invest in actively managed funds with potential to outperform passive indexes.

Slightly higher returns can pay for a full year of college

5.0% \$240,662 initial investment of \$100,000 5.5% +\$21,485

covers a full year's cost at year's cost at public college (in-state) covers nearly a year's cost at private college

6.0% 6.5% +\$44,772 +\$70,004

year's cost at

Ivy League college

^{7.0%} +\$97,331

covers two full years' cost at private college

Source: J.P. Morgan Asset Management, using The College Board, 2018 Trends in College Pricing. This hypothetical illustration assumes an investment of \$100,000 over an 18-year period, with returns compounded monthly. Different assumptions will result in outcomes different from this example. Investment losses could affect the relative tax-deferred investing advantage. This hypothetical illustration is not indicative of any specific investment and does not reflect the impact of fees or expenses. Such costs would lower performance. Each investor should consider his or her current and anticipated investment horizon and income tax bracket when making an investment decision.



Staying diversified over 18 years

Compare the best, worst and average annual returns for different investments over rolling 18-year periods.

Best, worst and average rolling 18-year periods

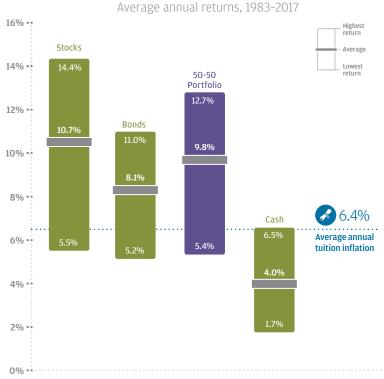


CHART HIGHLIGHTS

- Average returns for both stocks and bonds outpaced tuition inflation.
- The diversified portfolio delivered higher returns than bonds with lower volatility than stocks.
- Average returns for shortterm cash did not keep pace with tuition inflation.



Financial aid and college planning websites

Federal financial aid

fafsa.gov

studentaid.ed.gov

irs.gov

(IRS Publication 970, Tax Benefits for Education)

529 college savings plans

collegesavings.org savingforcollege.com

College preparation

collegeboard.org collegeconfidential.com

Grants and scholarships

fastweb.com

cappex.com

petersons.com

finaid.org

College loans

studentloans.gov

Aid for New York residents (including the Excelsior Scholarship)

hesc.ny.gov

Aid for students studying overseas

iefa.org



Sources of financial aid

	TYPES OF FINANCIAL AID	DETAILS
U.S. federal government	Grants and scholarships Loans Work study Tax credits and deductions	In addition to aid from the U.S. Department of Education, scholarships and loan repayment may be available to qualified students through other government entities.
States	Grants and scholarships May be available even if families aren't eligible for federal aid	Example: New York's Tuition Assistance Program offers grants of up to \$5,165 per year to eligible residents attending approved New York State schools.
Colleges	Grants and scholarships	Aid may be available for attending a particular college and/or studying specific majors.
Nonprofit or private organizations	Grants and scholarships	Possible sources include charitable foundations, religious and community organizations, local businesses, ethnicity-based organizations, students' and parents' employers, civic groups and professional associations related to a field of study.
Banks, credit unions or other lenders	Private loans	Tend to have higher interest rates and less flexible repayment options than federal loans.

TYPES OF FINANCIAL AID

Grants and **scholarships** are free gifts that generally don't have to be repaid. Grants are typically **need-based** while scholarships are **merit-based**. **Loans** must be paid back with interest.



Financial aid: Types of applications

Nearly 400 mostly private, specialized or highly selective institutions require students to submit the CSS Profile in addition to the FAFSA.¹ The CSS Profile is an online application used to determine eligibility for need-based institutional scholarships, grants or loans and is a more detailed assessment of a family's finances.

	FAFSA (Federal Methodology)	CSS Profile ² (Institutional Methodology)
Type of application	Standard, universal application required by every institution	College-specific application required by nearly 400 institutions in addition to the FAFSA
Type of financial aid	Need-based federal and institutional aid	Need-based institutional aid
Income and assets considered when calculating Expected Family Contribution (EFC)	Taxable income Nontaxable income (child support, workers' compensation, disability, etc.) Interest and dividend income Cash and savings Student trusts Investment and real estate net worth (excluding primary home) Business or farm net worth ³	Same as Federal Methodology, plus: Untaxed Social Security benefits Tax credits and itemized deductions Parents' assets held in all children's names Noncustodial parent information Home equity Business income (losses) Rental income (losses)
Allowances and expenses considered when calculating EFC	Number in household Number of family members enrolled in college at least half-time Federal income tax State tax ⁴ FICA tax Employment expenses Income protection allowance Education savings and asset protection allowance Child support paid	Same as Federal Methodology, plus: Medical and dental expenses Private elementary and secondary school tuition for siblings Emergency reserve allowance

^{1.} The College Board



^{2.} The CSS Profile may vary by institution. See financial aid office or net price calculator at your desired institution for more information about what is used to calculate awards.

[.] Only if more than 100 full-time employees in the Federal Methodology.

^{4.} Sales and property taxes also considered in the Institutional Methodology.

		2018-19 award year
	DETAILS	ANNUAL AWARD LIMIT ¹
Federal Pell Grant	Generally awarded to undergraduate students in financial need	\$6,095
Federal Supplemental Educational Opportunity Grant (FSEOG)	Awarded to undergraduate students with exceptional financial need Federal Pell Grant recipients receive priority Not all colleges participate Funds depend on availability at the college; apply by college's deadline	\$4,000
Teacher Education Assistance for College and Higher Education (TEACH) Grant	For undergraduate, post-baccalaureate or graduate students who are taking or will be taking coursework necessary to become elementary or secondary teachers Must attend a participating college and meet certain academic achievement requirements Must agree to serve for a minimum of four years as a full-time teacher in a high-need field, serving low-income students Failure to complete the teaching service commitment results in grant funds being converted to a Federal Direct Unsubsidized Stafford Loan that must be repaid	\$4,000
Iraq and Afghanistan Service Grant	Non-need-based, this grant is available to any undergraduate student who is not eligible for the Pell Grant and whose parent or guardian died as a result of performing military service in Iraq or Afghanistan after the events of 9/11 Must have been younger than 24 years old or enrolled at least part-time at the time of the parent's or guardian's death	\$6,095



	LENDER	ELIGIBILITY	INTEREST RATE ¹	ANNUAL LOAN LIMIT ²
Direct Subsidized Stafford Loans	U.S. Department of Education	Undergraduate students enrolled at least half-time and demonstrating financial need	5.05% Student not charged interest while in school and during deferment periods	\$3,500-\$5,500 depending on year in school
Direct Unsubsidized Stafford Loans	U.S. Department of Education	Undergraduate and graduate students enrolled at least half-time, regardless of financial need	5.05% for undergraduates 6.6% for graduate students Student responsible for interest during all periods	\$5,500-\$20,500 (minus any subsidized amount received for the same period), depending on year in school and dependency status
Direct PLUS Loan for Parents	U.S. Department of Education	Parents of dependent undergraduate students enrolled at least half-time Parent must not have negative credit history	7.6% Parent responsible for interest during all periods	Cost of attendance (determined by the school) minus any other financial aid received
Direct PLUS Loan for Graduate or Professional Students	U.S. Department of Education	Graduate or professional degree students enrolled at least half-time Student must not have negative credit history	7.6% Student responsible for interest during all periods	Cost of attendance (determined by the school) minus any other financial aid received



Other sources of college funding

Compared to these options, a 529 college savings plan is usually the better choice.

	HOW IT WORKS	PROS	CONS
Roth IRA	Withdraw retirement funds to pay for college	No taxes or penalties when contributions withdrawn ¹ No penalty if investment earnings withdrawn for qualified higher education expenses Assets not considered for federal financial aid	Withdrawals treated as student income for federal financial aid Withdrawals for college reduce retirement savings (see page 30) Potential taxes on investment earnings withdrawn² Annual contributions limited to \$5,500 (\$6,500 if age 50+) Contributors subject to income limits; no gifts allowed from others No state tax benefits
Life insurance	Withdraw or borrow against the cash value of a policy to pay for college	Cash value grows tax-deferred; withdrawals generally tax-free ³ Cash value not considered an asset for federal financial aid	Withdrawals treated as student income for federal financial aid Subject to fees, commissions and surrender charges Loan interest not tax-deductible No state tax benefits
Home equity loan	Borrow against home equity value to pay for college	Have fixed interest rates often lower than federal college loans Not subject to borrowing limits of federal loans	Interest no longer tax-deductible when used for college Unspent loan proceeds considered an asset for federal financial aid Less repayment flexibility than federal loans Risk of foreclosure if loan not repaid
Private loan	Borrow from bank, credit union or other lenders outside the U.S. government	Interest may be tax-deductible, subject to income limits Higher borrowing limits than federal loans	Interest rates often variable and higher than federal loans Interest may be due while student is in college Less repayment flexibility than federal loans Often require cosigners



^{1.} Penalties may be due if contributions from a converted account are withdrawn within five years of the conversion.

^{2.} Withdrawals of investment earnings are tax free if the account owner is over age 591/2 and the Roth IRA has been open at least five years.

J. If withdrawal amounts exceed the premiums paid, taxes may be due on the difference.

	DETAILS		INCOME LIMITS	TAX BENEFIT
Tax-advantaged	529 plans for community college, four-year universities, graduate school and vocational-technical schools		None	Contributions not typically deductible from federal taxes; investments grow tax-deferred,
college savings plans	Coverdell Education Savings Accounts for any level of education, from elementary school through graduate school		Single: \$110,000 Married filing jointly: \$220,000	and withdrawals are generally tax-free for qualified expenses ²
Federal tax credits ³	American Opportunity Tax Credit for qualified expenses in the first four years of college		Single: \$90,000 Married filing jointly: \$180,000	Reduce taxes by up to \$2,500 per student each year
rederal tax credits	Lifetime Learning Credit for qualified expenses in an unlimited number of years of college		Single: \$67,000 Married filing jointly: \$134,000	Reduce taxes by up to \$2,000 per tax return each year
Student loan interest deduction	For interest paid on student loans taken out for yourself, your spouse or dependents; applies to all loans used to pay higher education expenses, not just federal loans		Single: \$80,000 Married filing jointly: \$165,000	Reduce taxable income by up to \$2,500 each year
State tax deductions	Some states allow deductible contributions to a 529 college savings plan for state income tax purposes		Varies by state	Varies by state; see page 41 for more information

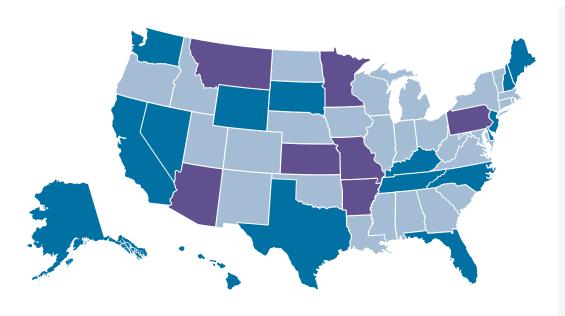


^{1.} Must meet certain eligibility requirements. Information as of August 2018. Please consult a tax advisor for additional details.

^{2.} Tax-free withdrawals cannot be taken for the same expenses used to claim tax credits or deductions.

Taxpayers cannot claim both credits for the same student in the same year

529 plans: State tax benefits¹



Tax parity states

These states offer a tax deduction for contributing to **any 529 plan**, including out-of-state plans that may be more attractive than the in-state option: Arizona, Arkansas,² Kansas, Minnesota, Missouri, Montana, Pennsylvania.

Tax neutral states

These states offer no state tax deduction for 529 plan contributions: Alaska, California, Delaware, Florida, Hawaii, Kentucky, Maine, Nevada, New Hampshire, New Jersey, North Carolina, South Dakota, Tennessee, Texas, Washington, Wyoming.

All other states

These states offer potential tax breaks on contributions made only to in-state 529 plans.



Index definitions and disclosures

Indices are unmanaged, and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

The **Bloomberg 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 indices that are calculated and reported on a regular basis.

The **BofA Merrill Lynch 3-Month U.S. Treasury Bill Index** is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month, that issue is sold and rolled into a newly selected issue. The issue selected at each month-end rebalancing is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date. To qualify for selection, an issue must have settled on or before the month-end rebalancing date.

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.

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.



APPENDIX

NOT FDIC INSURED | NO BANK GUARANTEE | MAY LOSE VALUE

Before you invest, consider whether your or the Beneficiary's home state offers any state tax or other state benefits such as financial aid, scholarship funds, and protection from creditors that are only available for investments in that state's qualified tuition program.

The Comptroller of the State of New York and the New York State Higher Education Services Corporation are the Program Administrators and are responsible for implementing and administering New York's 529 Advisor-Guided College Savings Program (the "Advisor-Guided Plan"). Ascensus Broker Dealer Services, LLC serves as Program Manager for the Advisor-Guided Plan. Ascensus Broker Dealer Services, LLC and its affiliates have overall responsibility for the day-to-day operations of the Advisor-Guided Plan, including recordkeeping and administrative services. J.P. Morgan Investment Management Inc. serves as the Investment Manager. JPMorgan Distribution Services, Inc. markets and distributes the Advisor-Guided Plan. JPMorgan Distribution Services, Inc. is a member of FINRA

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New York's 529 College Savings Program currently includes two separate 529 plans. The Advisor-Guided Plan is sold exclusively through financial advisory firms who have entered into Advisor-Guided Plan selling agreements with JPMorgan Distribution Services, Inc. You may also participate in the *Direct Plan*, which is sold directly by the Program and offers lower fees. However, the investment options available under the Advisor-Guided Plan are not available under the *Direct Plan*. The fees and expenses of the Advisor-Guided Plan include compensation to the financial advisory firm. Be sure to understand the options available before making an investment decision.

For more information about New York's 529 Advisor-Guided College Savings Program, you may contact your financial advisor or obtain an Advisor-Guided Plan Disclosure Booklet and Tuition Savings Agreement at www.ny529advisor.com or by calling 1-800-774-2108. This document includes investment objectives, risks, charges, expenses, and other information. You should read and consider it carefully before investing.

The Program Administrators, the Program Manager and JPMorgan Distribution Services, Inc., and their respective affiliates do not provide legal or tax advice. This information is provided for general educational purposes only. This is not to be considered legal or tax advice. Investors should consult with their legal or tax advisors for personalized assistance, including information regarding any specific state law requirements.

November 2018



New York's 529 Advisor-Guided College Savings Program[®]

Entrust your college fund to one of the world's largest, most respected financial institutions. The Advisor-Guided Plan is the only 529 plan offering you full access to the insights and investments of J.P. Morgan.

- Investment expertise from J.P. Morgan Asset Management
- State tax deductions for account owners living or working in New York¹
- · High contribution limit of \$520,000 per beneficiary
- Upromise® rewards program turns everyday purchases into funds for college
- non-qualified withdrawals.



Expert management

- Investment choices
- Broad diversification

Oversight by J.P. Morgan's Multi-Asset Solutions Group

- Dedicated team of more than 80 investment professionals²
- More than \$290 billion in global assets under management²
- Builds Plan portfolios, selects investments and makes adjustments as market conditions change over time
- One age-based option, automatically shifting to nine different portfolios between newborn and college age
- Six asset allocation portfolios, each pursuing different risk/return objectives
- 16 individual single-asset portfolios for creating your own customized investment mix
- Access to asset classes and investment strategies not often
- Potential for higher returns and lower risk than less diversified portfolios

To learn more.

please consult a financial advisor, visit ny529advisor.com or call 1-800-774-2108.

