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Average Standard Deviation of Annual Portfolio Returns	(2)	Number of Stock in Portfoli
23.93%	49.24%	
50	20.20%	
100	19.69%	
300	19.34%	
500	19.27%	
1,000	19.21%	
These figures are from Table 1 in Meir Statma Diversified Portfolic?" <i>Journal of Financial and</i> (September 1987), pp. 353–64. They were de Gruber, "Risk Reduction and Portfolio Size: An <i>Business</i> 50 (October 1977), pp. 415–37.	Quantitative Analysis	22







Why invest in mutual funds?

Instant diversification

Clear objectives

- Level the playing field • between professional and • Liquidity individual investors
 - Minimal transaction costs

10

 Share administrative expenses

Convenience

Types of mutual funds Money market mutual funds • international) Fixed income funds Asset allocation funds

- - Stock mutual funds (U.S. and
 - Real estate investment trusts
 - Life cycle (target date) funds

Making money with mutual funds Mutual funds own money market securities, bonds, stocks, etc. Mutual fund shares increase in value as securities in mutual fund increase in value Dividends or interest are reinvested into more shares



- Loads sales commissions charged to the investor
- Management fees and expenses fees associated with the operation of the company
- 12b-1 fees annual fees charged to cover the fund's cost of advertisement and marketing

13

14

15

Actively-managed vs index funds

- Index funds
 S&P 500, Wilshire 5000, Russell 3000
- Actively-managed funds

 Large-cap value funds, emerging market equity
- Which performs better on average?

Mutual fund information

- Morningstar
- FINRA (Financial Industry Regulatory Authority)
 - <u>http://apps.finra.org/fundanalyzer/1/fa.aspx</u>
 - Find mutual funds and compare their performance and cost.

Exchange traded funds (ETF)

- Security that tracks an index
- Trades throughout the day
- Buy and sell through brokerage account
- "Spider"



Tax-sheltered retirement optionsImage: options available through employerImage: options available outside employer

18



401(k), 403(b), 457 plans

- Employer-sponsored savings plan
- Employee contributions are made by payroll deduction a 'deferred' compensation plan
- Many companies pay a matching contribution into the employee's account



20

401(k) matching

- Companies usually match a percentage of each dollar contributed up to a given percentage of the employee's total pay.
- Let's say your company matches 50¢ for each dollar you pay in, up to 5% of your yearly salary.
- If you make \$30,000 and you pay in 10% of your salary, you save \$3,000 per year and you avoid \$750 in taxes (at a 25% effective rate). Your company will match up to 5% of your salary, or \$1,500.

401(k) matching

- If you make \$30,000 and you pay in only 5% of your salary, you save only \$1,500 per year and avoid only \$375 in taxes (at a 25% effective rate). Your company will match 50¢ of each dollar you save, up to 5% of your salary, or only \$750.
- How much free money do you give up by saving 5% of your salary instead of 10%? \$750 every year!
- How much free money do you give up if you don't save in the 401(k)? Up to \$1,500 every year!

22

23

24

Growth of \$100 monthly contribution to 401(k) with \$100 employer match

10 \$12,000 \$24,000 \$2 15 \$18,000 \$36,000 \$3	\$6,800 \$15,528	\$13,601 \$31,056
15 \$18,000 \$36,000 \$	\$15,528	\$31,056
20 \$24,000 \$48,000	\$26,729	\$53,458
20 \$24,000 \$48,000 \$	\$41,104	\$82,207
25 \$30,000 \$60,000	\$59,551	\$119,102
30 \$36,000 \$72,000	\$83,226	\$166,452

401 (k) basics

- Individual stocks and bonds, including company stock
 - RESIST THE TEMPTATION

• Mutual funds.

- Employees are offered several funds to choose from, with varying levels of risk and diversification.
- Employees may move money between funds to increase returns or reduce risk.





Non-employer tax-sheltered retirement plans

- Traditional IRA
- Roth IRA
- Keogh plan
- SEP-IRA



Traditional versus Roth IRAs

- Traditional
 - You pay taxes on investment gains and your initial contributions when you withdraw the money
- Roth
 - You pay taxes on your IRA deposits when you make them but pay no taxes on the gains when you withdraw the money

28

29

http://www.irs.gov/Retirement-Plans/Traditional-and-Roth-IRAs

Small business plans

- Keogh plan self-employed full-time or parttime, for self or employees, tax deferred
- Simplified employee pension plan (SEP-IRA) like Keogh aimed toward small businesses usually with no employees

Investing in non-employer plans

- Same as before
 - Money market mutual funds
 - Stocks
 - Bonds
 - Mutual funds
 - Real estate
 - Other



Remember Cliff and Sarah?

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Sarah:

to \$458,776

Cliff:

- By the time he stopped putting in money at age 30, Cliff would have around \$37,000.
- By the time he retires at age 65, his \$24,000 investment would have grown to \$596.128.
- \$200 a month for 35 years— a total of \$84,000 When Sarah retires at age 65, her investment (at 8% return) would have grown

31

32

Sarah would contribute

Tax-sheltered education plans

- 529 Plan
 - Prepaid tuition plan versus college savings plan
 Pay no taxes on the gains on savings used for
 - education
 - Set up by the states and not restricted to Alabama's plans
- Coverdell Education Savings Accounts
 - College and K-12
 - Pay no taxes on the gains on savings used for education

Resources for tax-sheltered education investing

- http://www.irs.gov/uac/529-Plans:-Questions-and-Answers
- <u>http://www.sec.gov/investor/pubs/intro529.htm</u>
- <u>http://www.savingforcollege.com/college_savings_101/</u>
- Alabama 529 Plan
- <u>http://www.collegecounts529.com/planbenefits.asp</u>
- FINRA expense analyzer <u>http://apps.finra.org/investor_Information/Smart/529/Calc/529_An</u> <u>alyzer.asp</u>

33

Investing in education plans

- Same as before
 - Money market mutual funds
 - Stocks
 - Bonds
 - Mutual funds
 - Real estate
 - Other



Investing on your own

- Open a brokerage account
 - Buy individual securities or mutual funds
 - Check out a broker at FINRA <u>http://www.finra.org/Investors/ToolsCalculators/BrokerCheck/</u>
- Go to a mutual fund site
 Buy mutual funds
- No special tax advantages or tax penalties

 Pay taxes on interest, dividends, and capital gains
- Watch the fees and commissions!

Let's review!

Diversify to reduce risk!

- Mutual funds give instant diversification.
- Invest to reach your goals.
 - Use employer and non-employer retirement accounts to reduce taxes.
 - Use employer retirement matches to the maximum.
 - Use tax-sheltered methods for education savings.
 - Invest on your own to add to your savings.

36

35

Your money tools

- Ballpark E\$timate
 for Retirement
- Financial Tasks Check Sheet









