Basics of Investing

Ravi Shukla
Associate Professor of Finance
Syracuse University

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Investing

**Setting money aside now with the expectation
of getting back more in the future**

**Objective of investing
Make more money
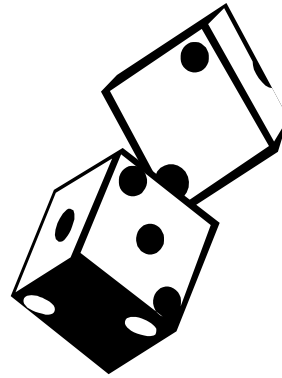without breaking laws
or being unethical**

Basics of Investing

Risk

Diversification

Expenses and Taxes

Compounding

Risk

Uncertainty about profits

All investments have risk

What is risk?

Which investment do you like?			
	1	2	3
Heads	10%	15%	30%
Tails	10%	5%	-10%
Average	10%	10%	10%

What is risk?

Round		1	2	3
		$100.00	$100.00	$100.00
1	Heads	110.00	115.00	130.00
2	Heads	121.00	132.25	169.00
3	Tails	133.10	138.86	152.10
4	Tails	146.41	145.81	136.89
5	Heads	161.05	167.68	177.96
6	Tails	177.16	176.06	160.16
7	Tails	194.87	184.86	144.15
8	Heads	214.36	212.59	187.39

What is risk?

Now which investment do you like?			
	1	**2**	**3**
Heads	10%	20%	40%
Tails	10%	2%	-14%
Average	10%	11%	13%

What is risk?

Round		1	2	3
		$100.00	$100.00	$100.00
1	Heads	110.00	120.00	140.00
2	Heads	121.00	144.00	196.00
3	Tails	133.10	146.88	168.56
4	Tails	146.41	149.82	144.96
5	Heads	161.05	179.78	202.95
6	Tails	177.16	183.38	174.53
7	Tails	194.87	187.04	150.10
8	Heads	214.36	224.45	210.14

Risk

Low risk
    Smooth "ride"
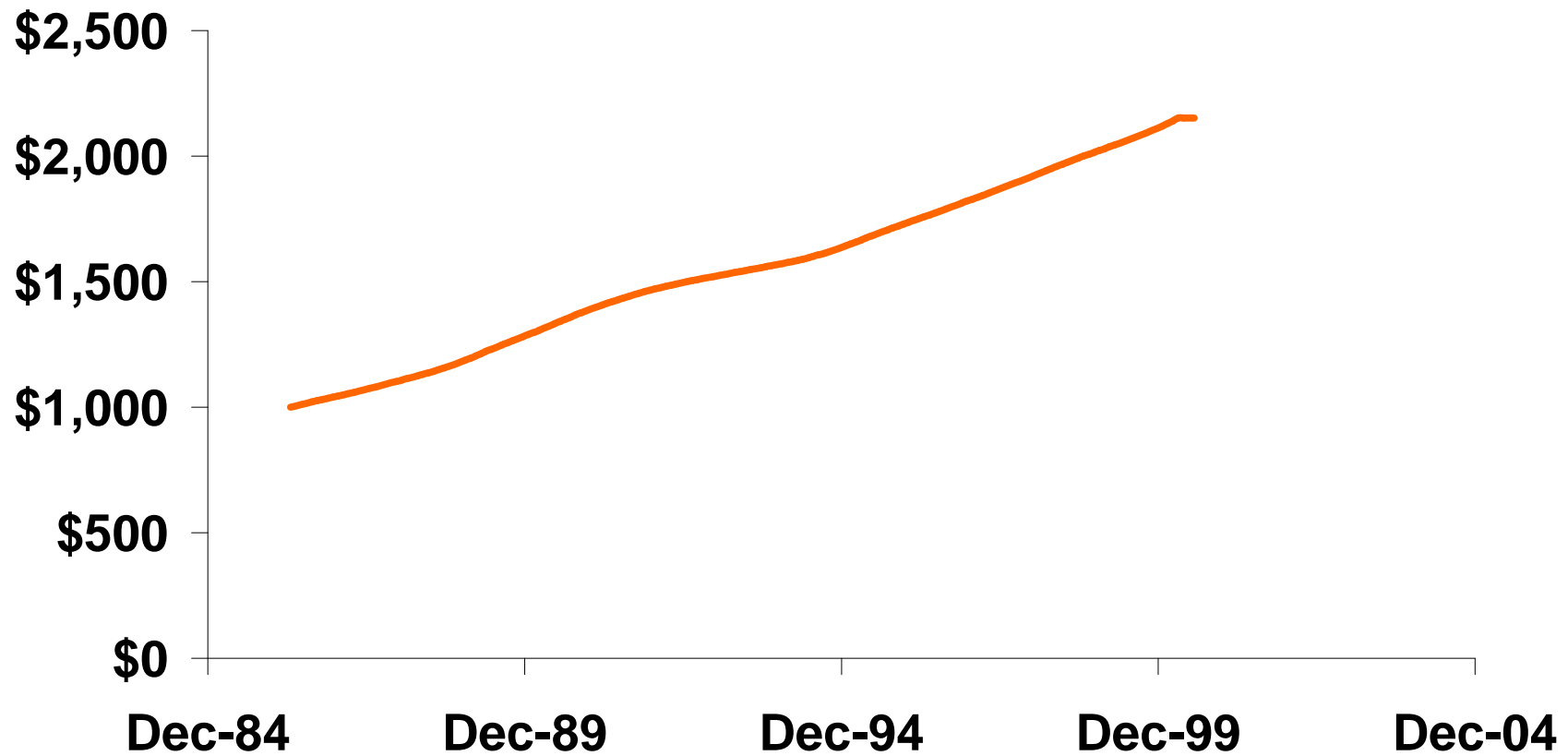
High risk
    Bumpy, scary "ride"
    Potential for huge profits and disasters
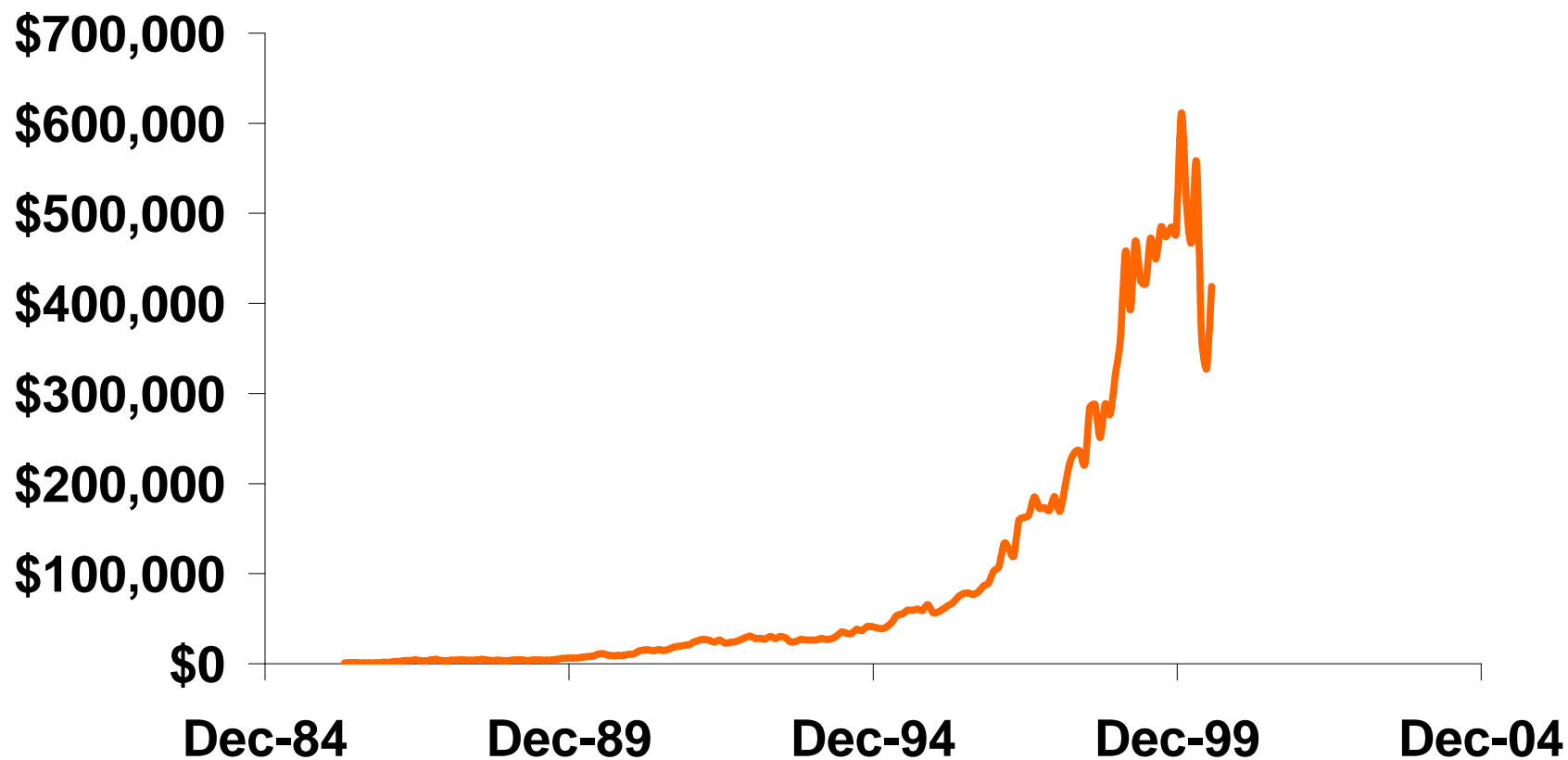
Want to earn higher average return?
    Take higher risk
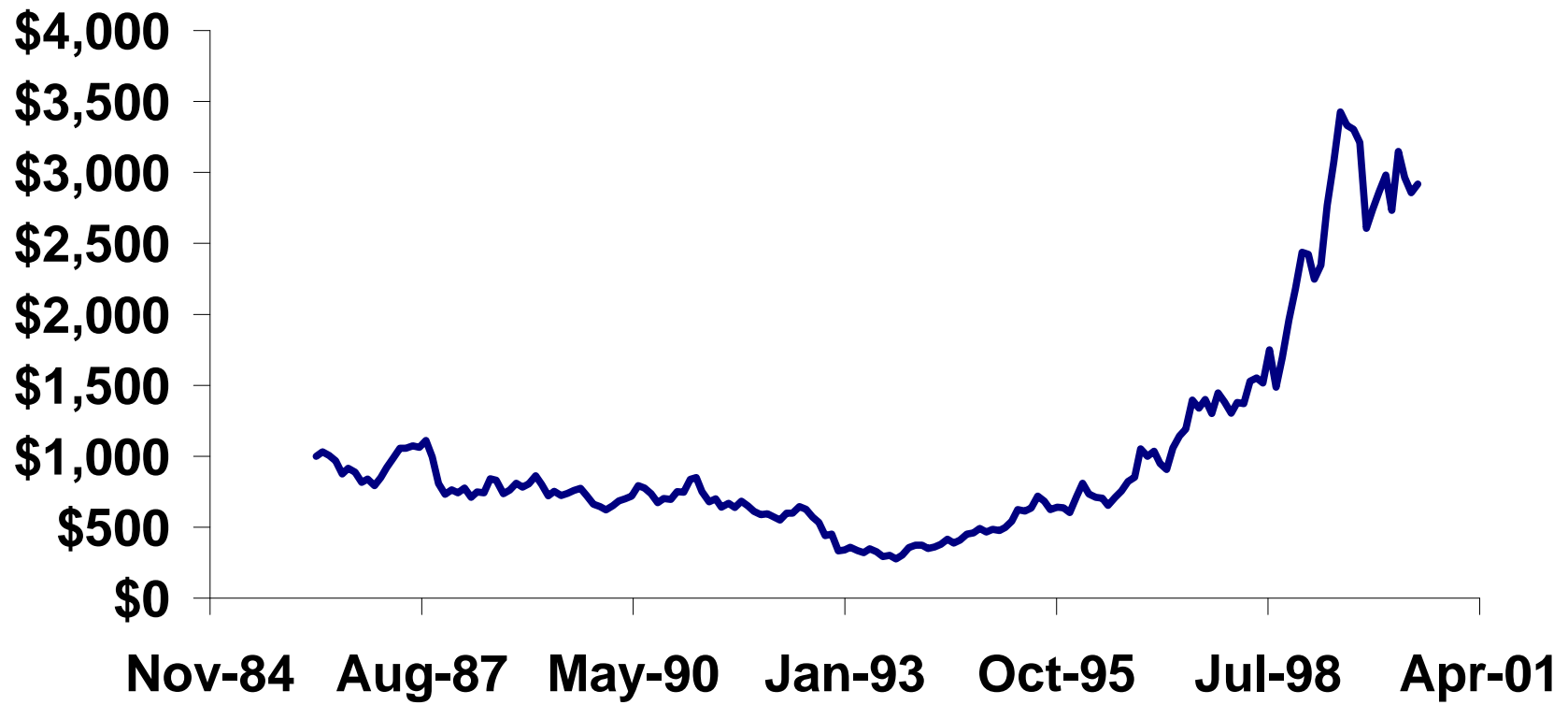   **Find your level of comfort**

Value of $1,000 Investment
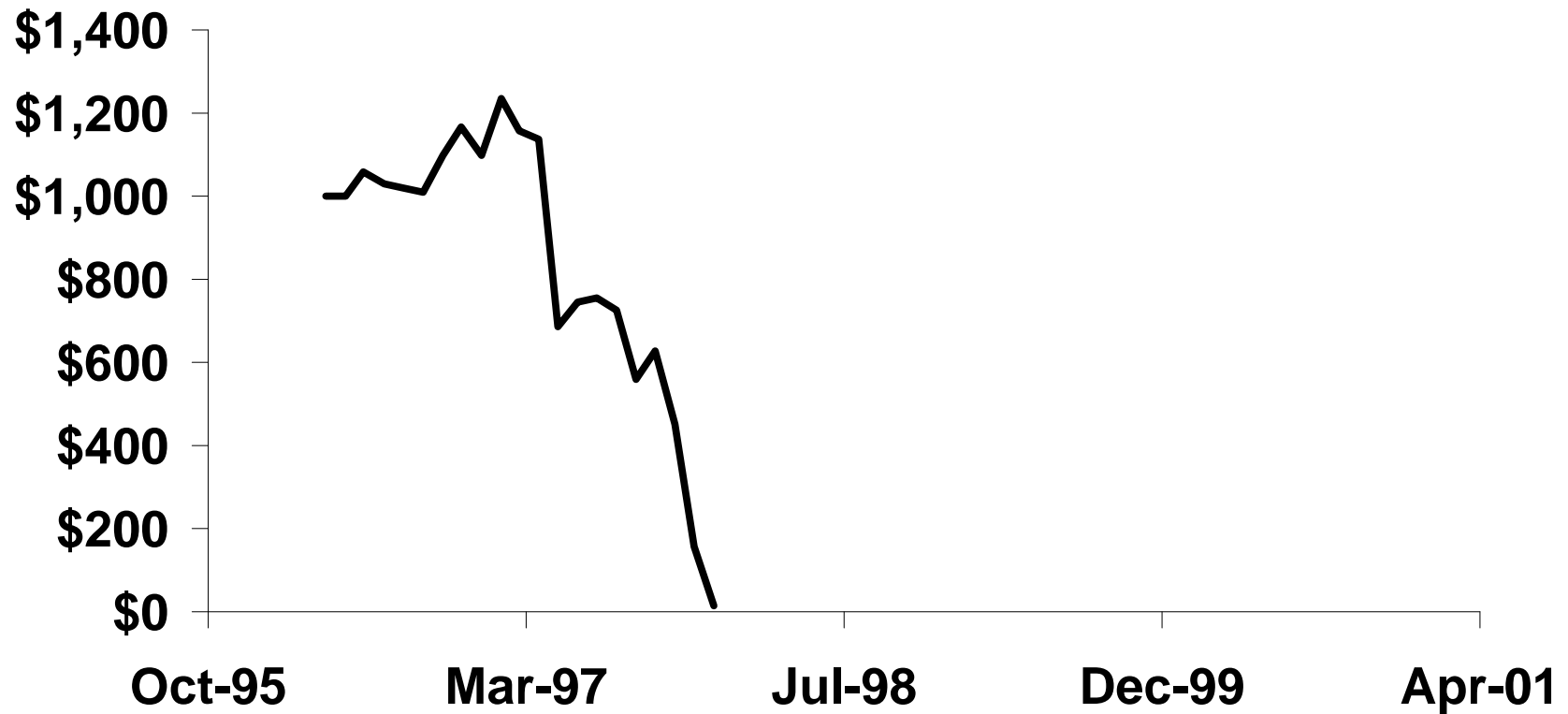**90-day T-bill**

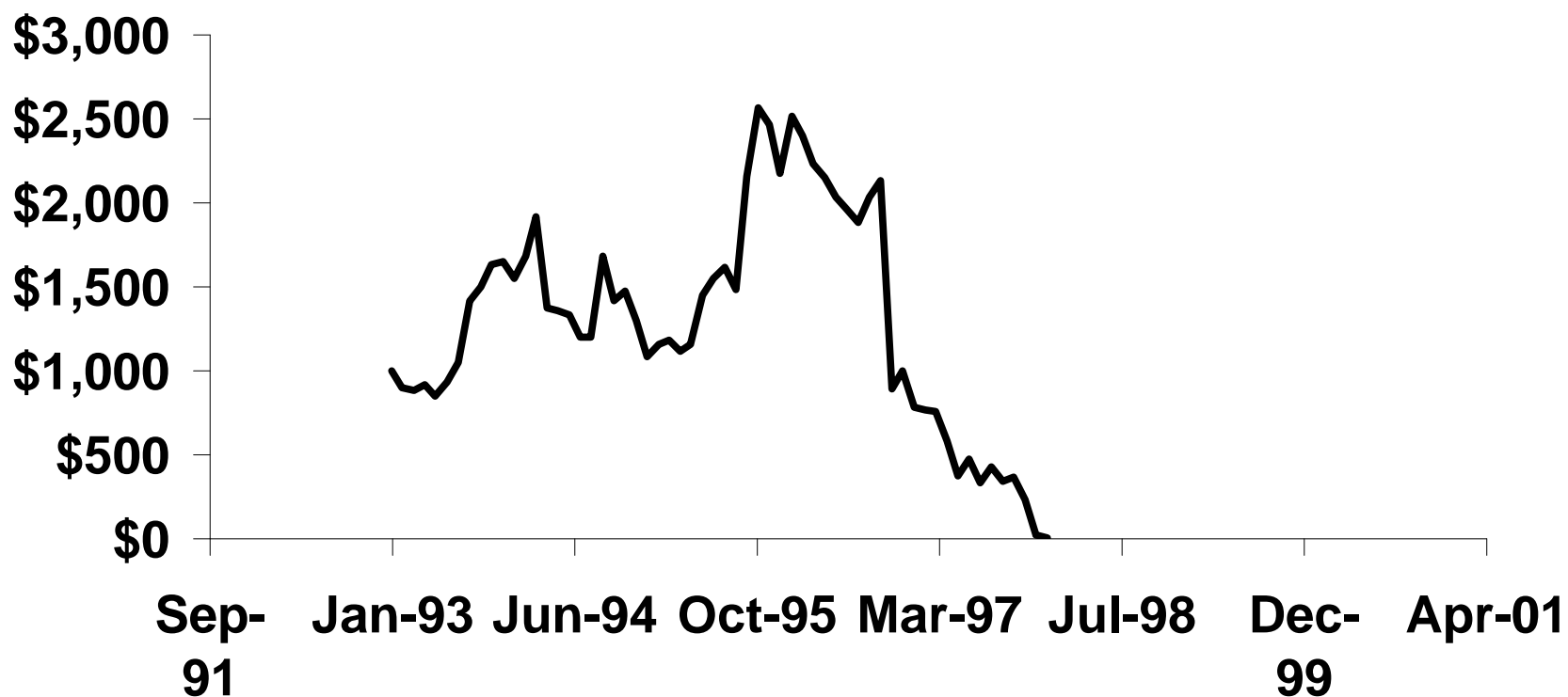# Value of $1,000 Investment
Microsoft

Value of $1,000 Investment
IBM

Value of $1,000 Investment
Microleague Multimedia Inc

Value of $1,000 Investment
Molten Metal Technology Inc

Lesson 1

Two ways to become wealthy by investing

    Patiently

        Make low risk investments

        Become rich slowly

    Quickly

        Make high risk investments

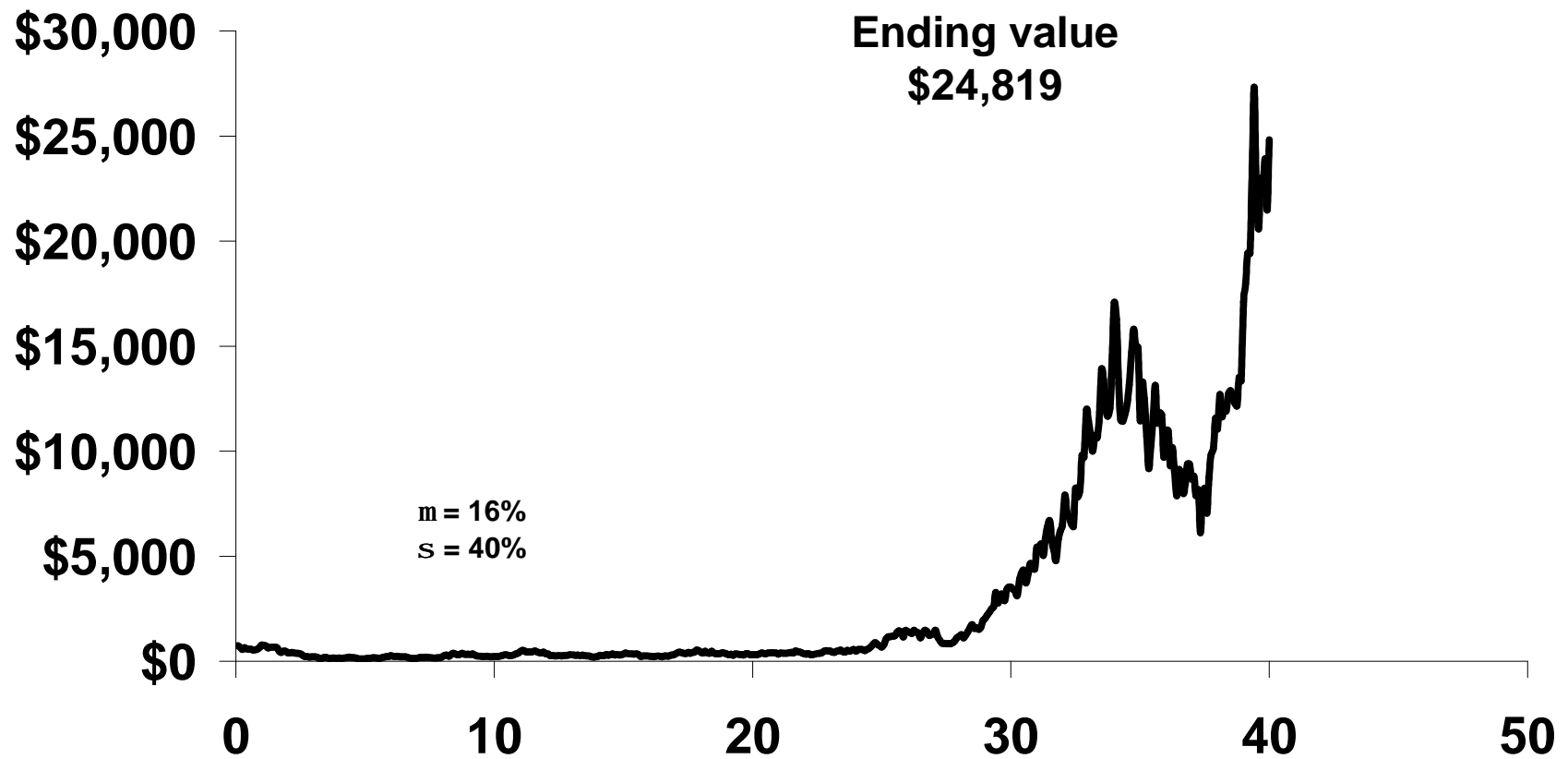   Potential to become rich quickly

        Can also go bankrupt quickly

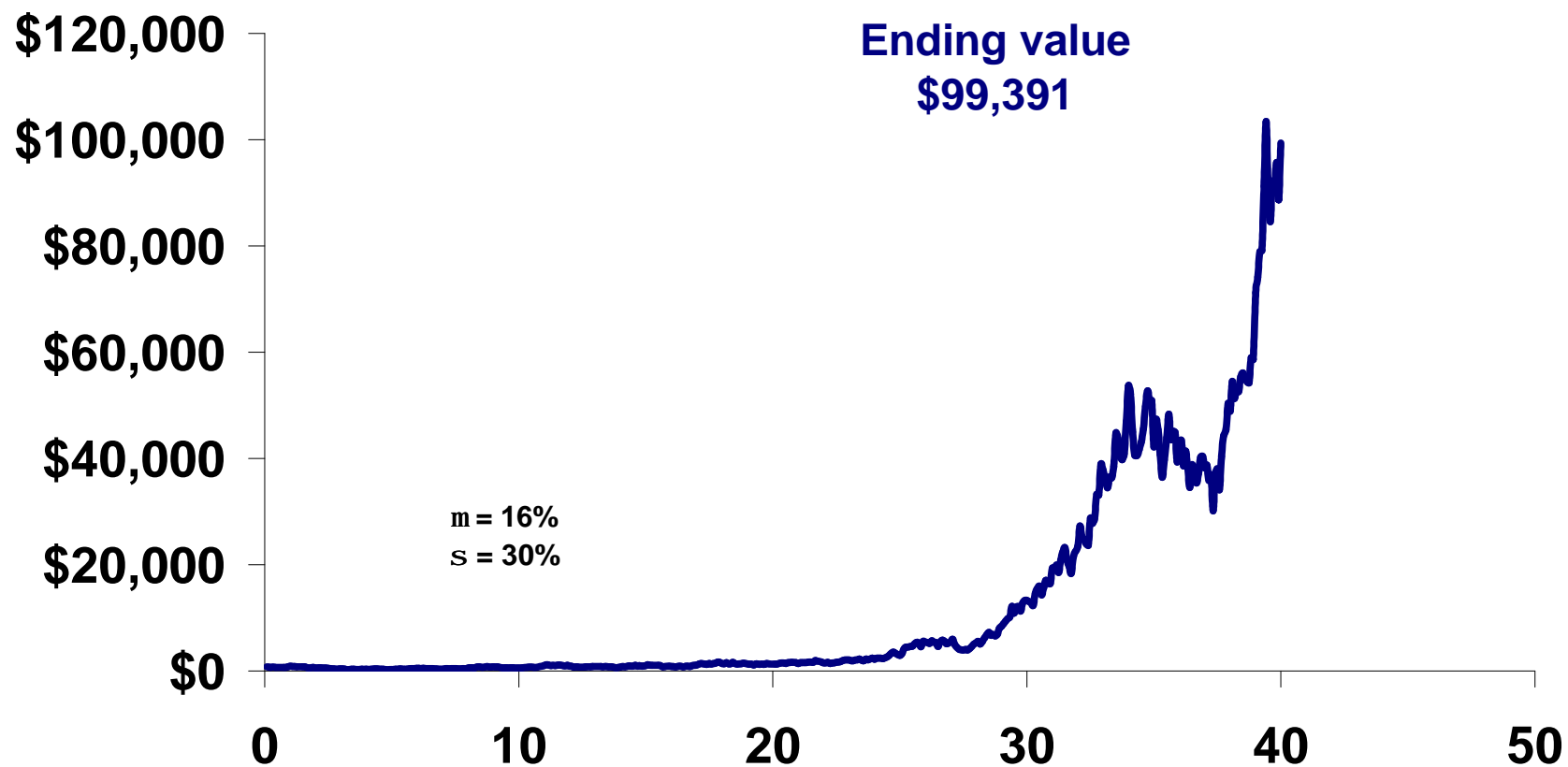# Diversification

Spread risk across investments

Some may go down, others will go up

The ride will be smoother than
   investing in a single investment by itself

Value of $1,000 Investment
Low Diversification

Ending value
$24,819

m= 16%
s = 40%

Value of $1,000 Investment
Medium Diversification

Ending value $99,391

m = 16%
s = 30%

Value of $1,000 Investment
High Diversification

Ending value
$264,775

m= 16%
s = 20%

$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0

0   10   20   30   40   50
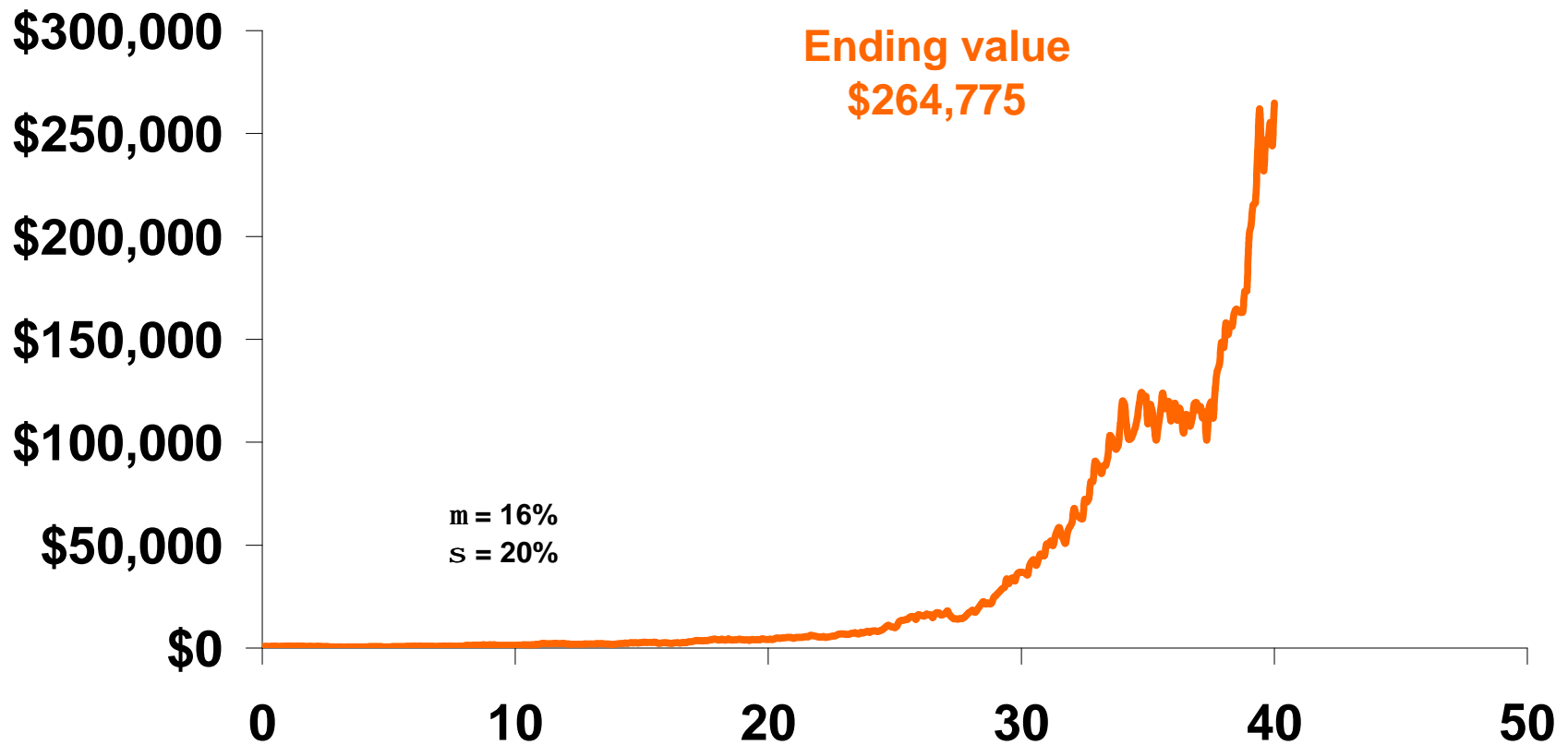
Another Look at the Effect of Diversification

High
Diversification

Medium
Diversification

Low
Diversification

$300,000

$250,000

$200,000

$150,000

$100,000

$50,000

$0

0   10   20   30   40   50
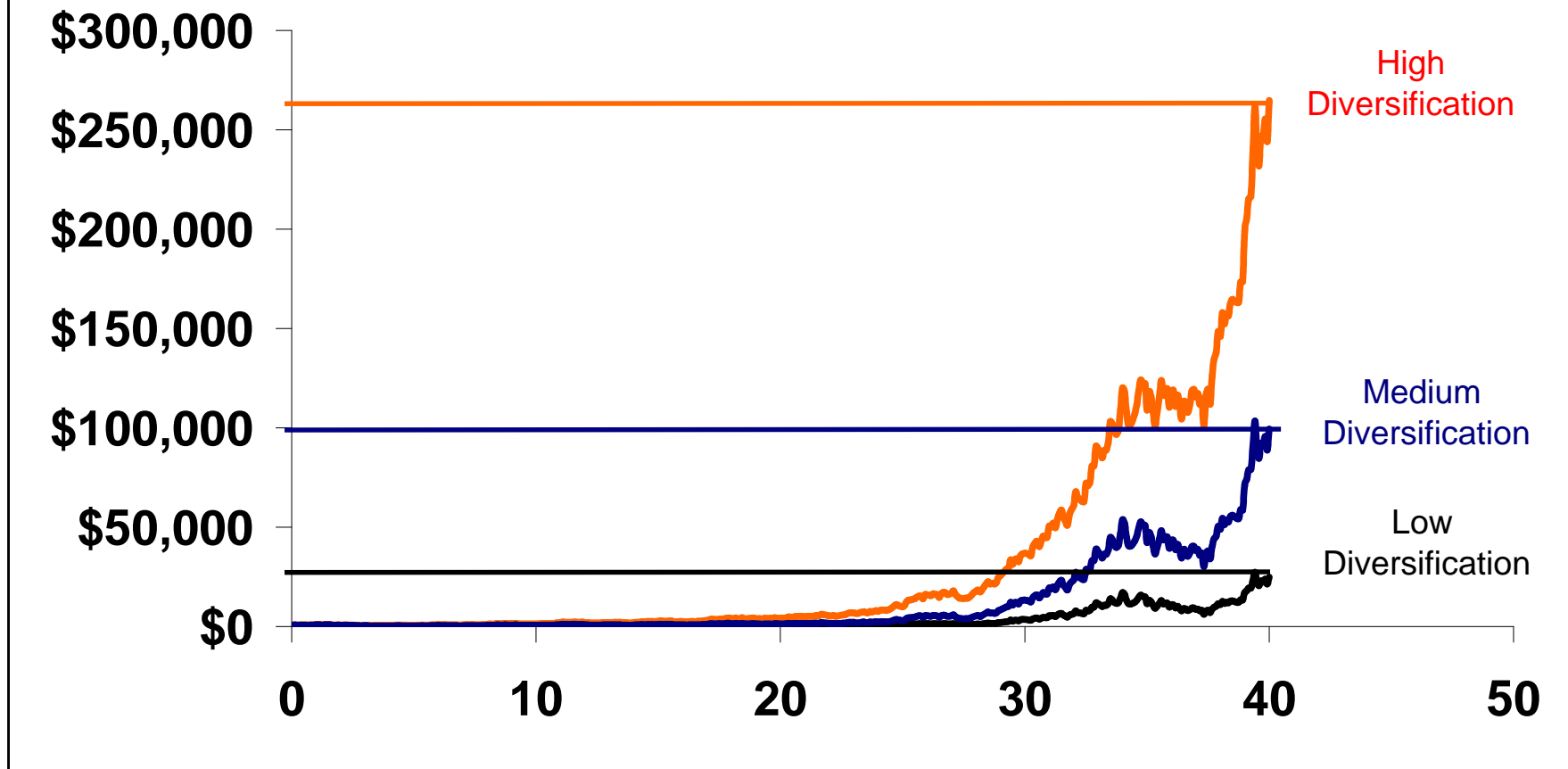
Lesson 2

Diversify

How?
  Mutual funds

Possible to "Pick" Stocks?

Maybe once in a while

Not consistently

Some people may be gifted
   or may have hot hand streaks

It's tougher to "pick" gifted people
   or assess how long the streak will last

Lesson 3

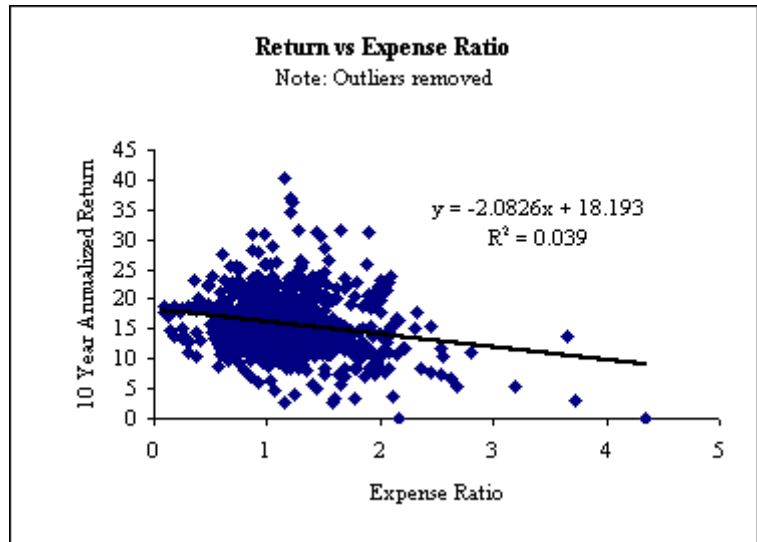Don't expect extraordinary performance
   from mutual funds

Don't invest in
   mutual funds that charge high fees

You will just make fund managers richer

Evidence on the Impact of Mutual Fund Costs on Returns

U.S. Domestic Equity Funds that have existed for at least 10 years		
Data Source: Morningstar, March 31, 2000		
		Pure
	Load	**No Load**
N	477	309
Returns Not Adjusted for Load		
These returns are net of mutual fund expenses but not transaction fees (front-end and deferred loads).		
12 Mo	29.06%	26.18%
3 Yr (Annualized)	22.21%	20.97%
5 Yr (Annualized)	20.67%	20.15%
10 Yr (Annualized)	15.87%	15.45%
15 Yr (Annualized)	15.50%	14.89%
Load Adjusted Returns		
These returns are net of mutual fund expenses as well as transaction fees (front-end and deferred loads).		
12 Mo	23.94%	26.17%
5 Yr (Annualized)	19.76%	20.15%
10 Yr (Annualized)	15.44%	15.45%
Since inception (Annualized)	13.61%	14.37%
Fees, Expenses, etc.		
Front load	3.66%	0.00%
Deferred load	0.57%	0.00%
12(b)-1 fees	0.31%	0.00%
Expense ratio	1.30%	1.08%
Manager tenure (years)	6.4	8.4

This chart shows the relationship between returns (net of mutual fund expenses but not transaction fees) and expense ratios.

Return vs Expense Ratio
Note: Outliers removed

$y = -2.0826x + 18.193$
$R^2 = 0.039$

10 Year Annualized Return vs Expense Ratio
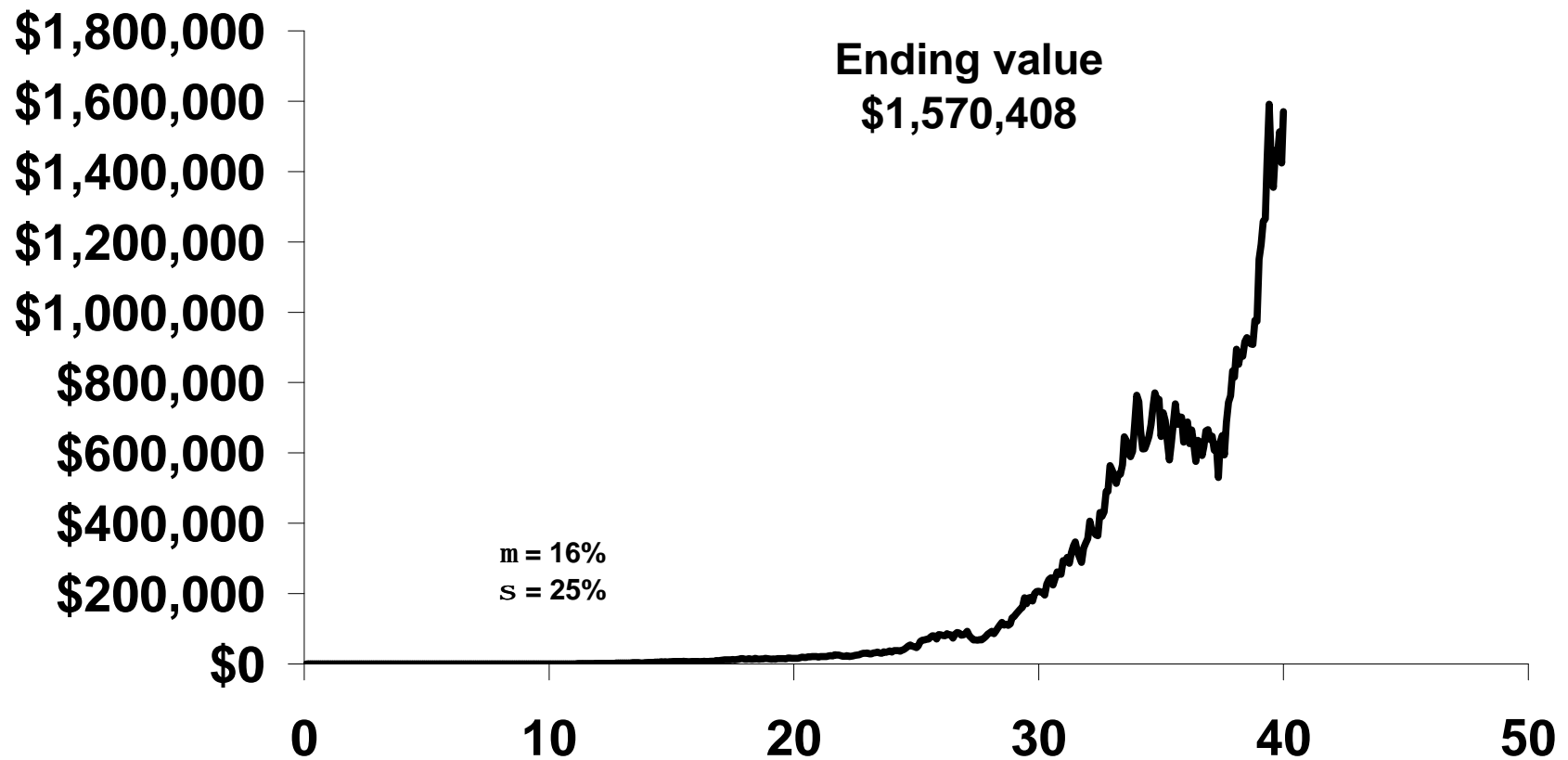
Data Source: Morningstar, March 31, 2000
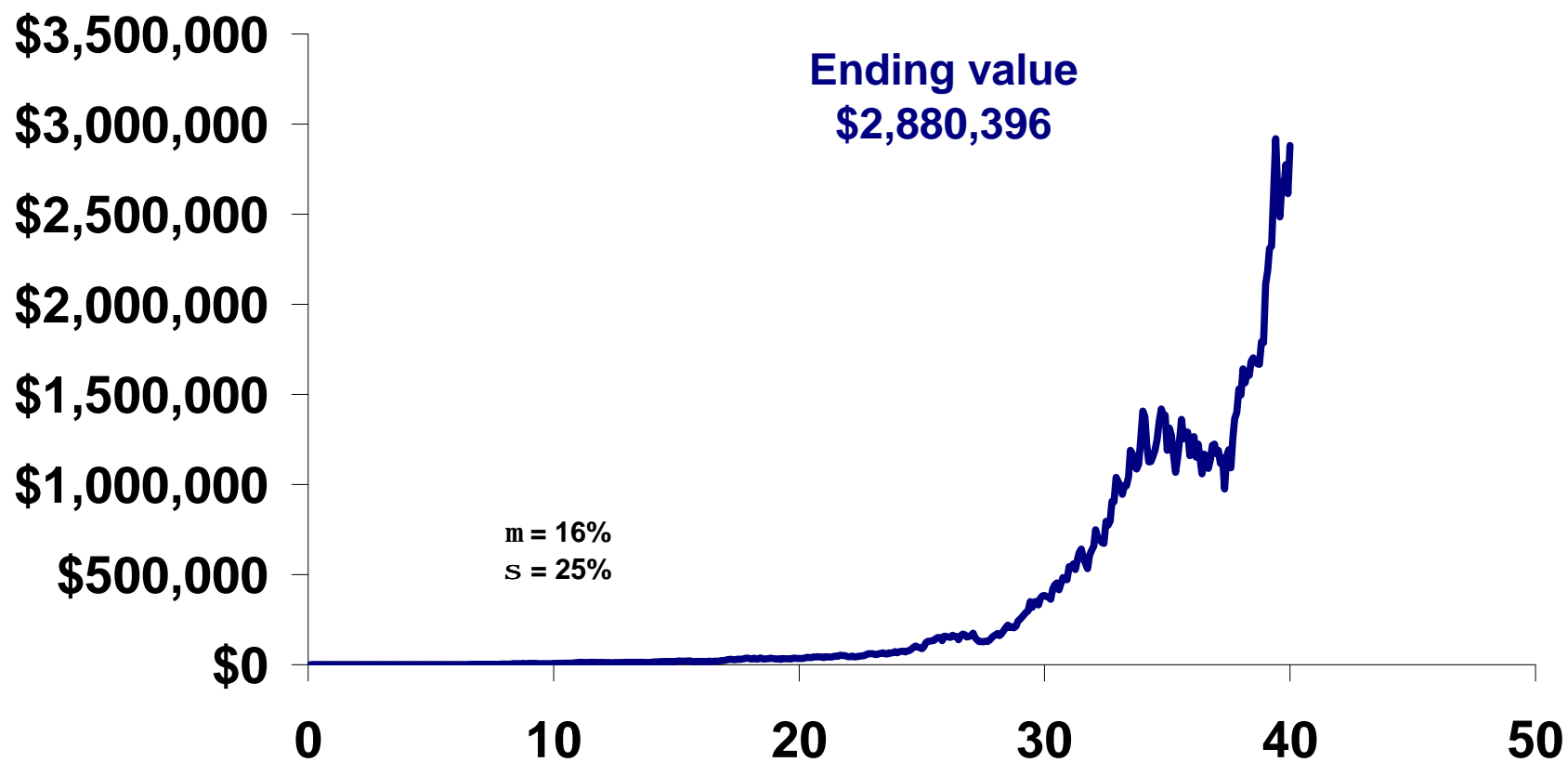
The Power of Compounding

Compounding?
Interest on interest

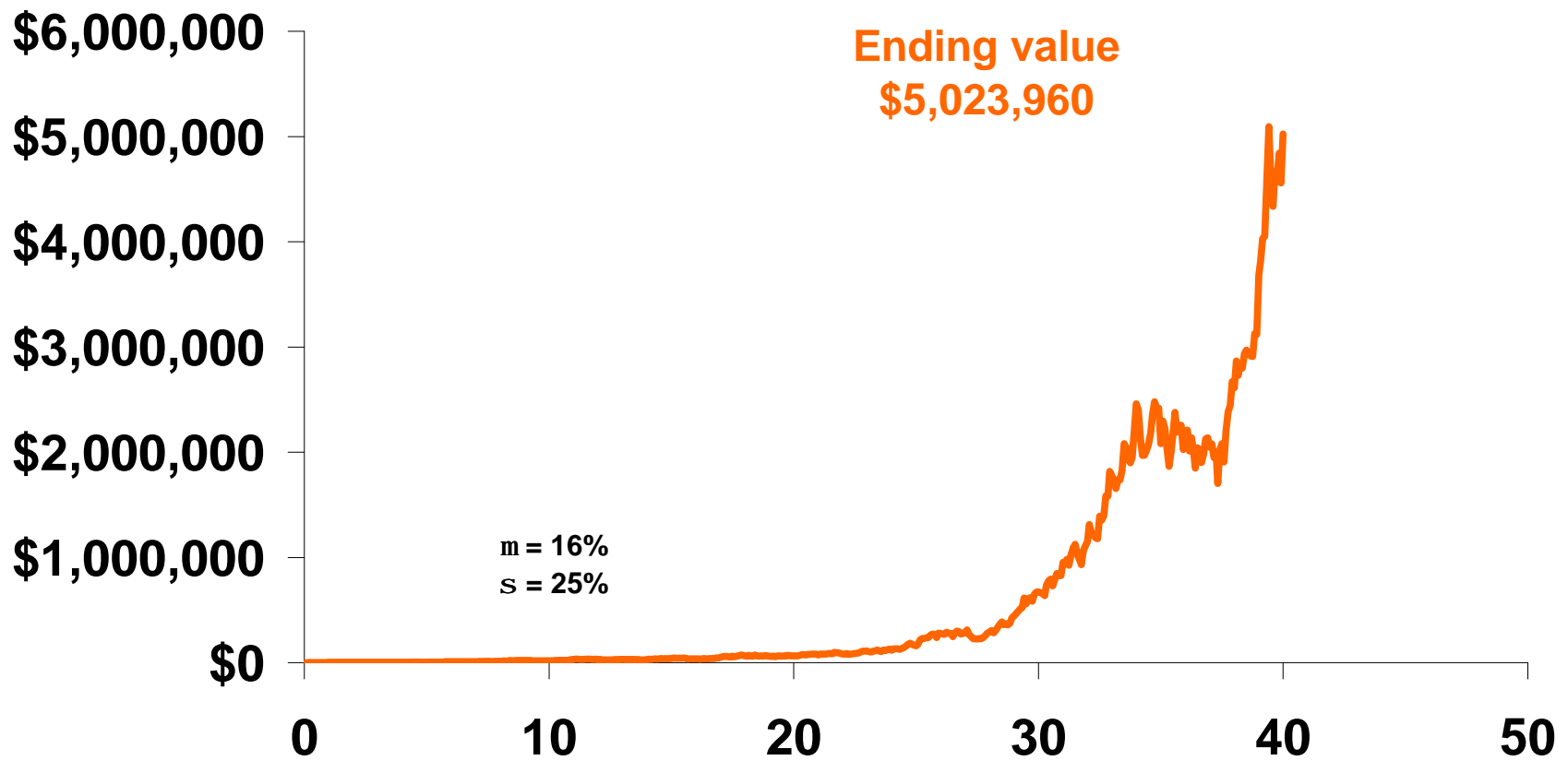**The longer you invest,**
the more interest on interest you earn

Value of $100 Monthly Investment
Delay 10 Years

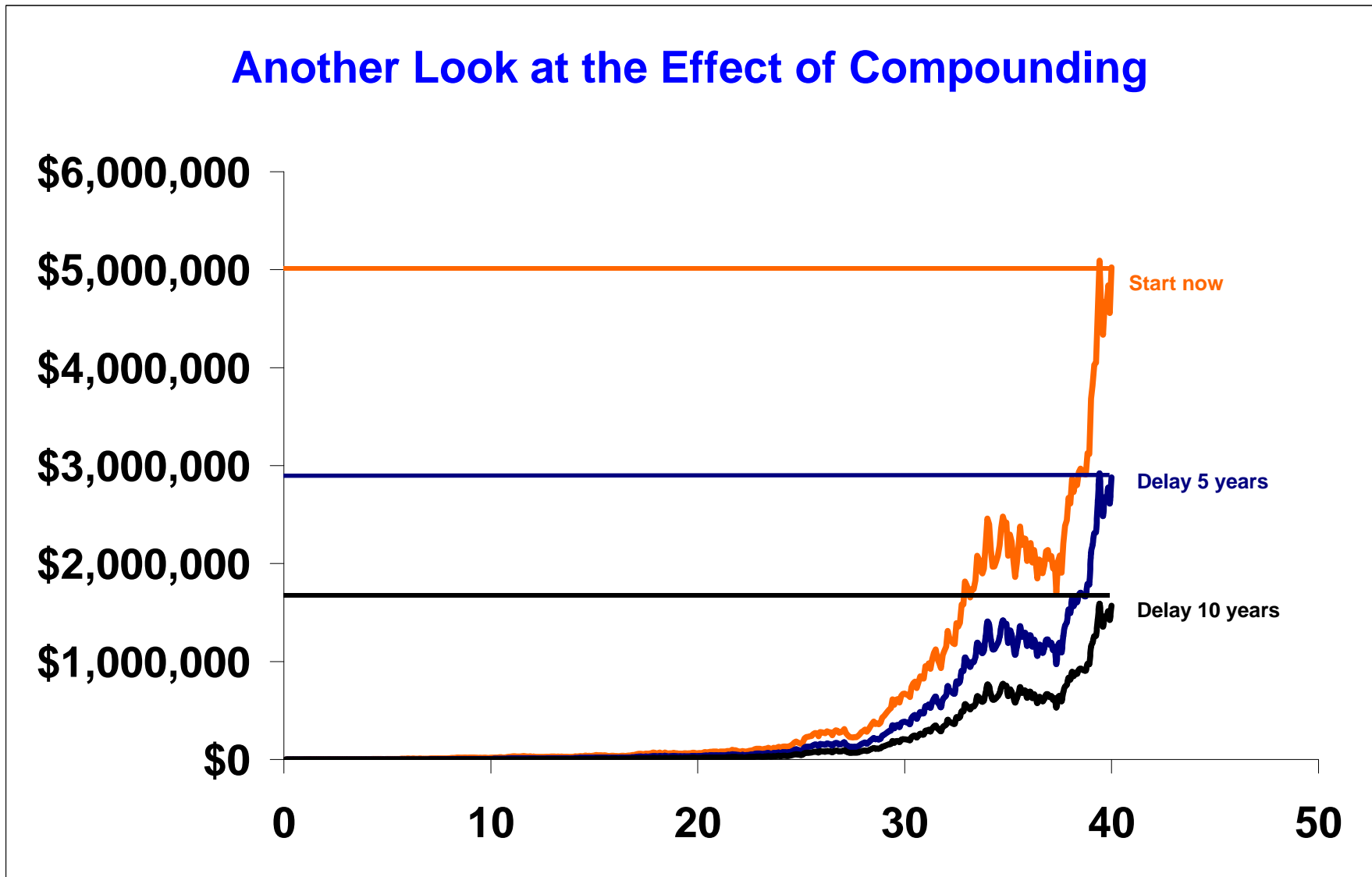Ending value
$1,570,408

m= 16%
s = 25%

**Value of $100 Monthly Investment
Delay 5 Years**

Ending value
$2,880,396

$3,500,000

$3,000,000

$2,500,000

$2,000,000

$1,500,000

$1,000,000

m= 16%
s = 25%

$500,000

$0

0   10   20   30   40   50

Value of $100 Monthly Investment
Start Now

Ending value
$5,023,960

m= 16%
s = 25%

$6,000,000

$5,000,000

$4,000,000

$3,000,000

$2,000,000

$1,000,000

$0

0   10   20   30   40   50

Another Look at the Effect of Compounding

Start now

Delay 5 years

Delay 10 years

Lesson 4

Start early

The longer you wait, the more you lose

Recap

1. Take some risk
2. Diversify using mutual funds
3. Don't pay high management fees
4. Start now