

Mutual Fund Ratings

Mutual fund ratings

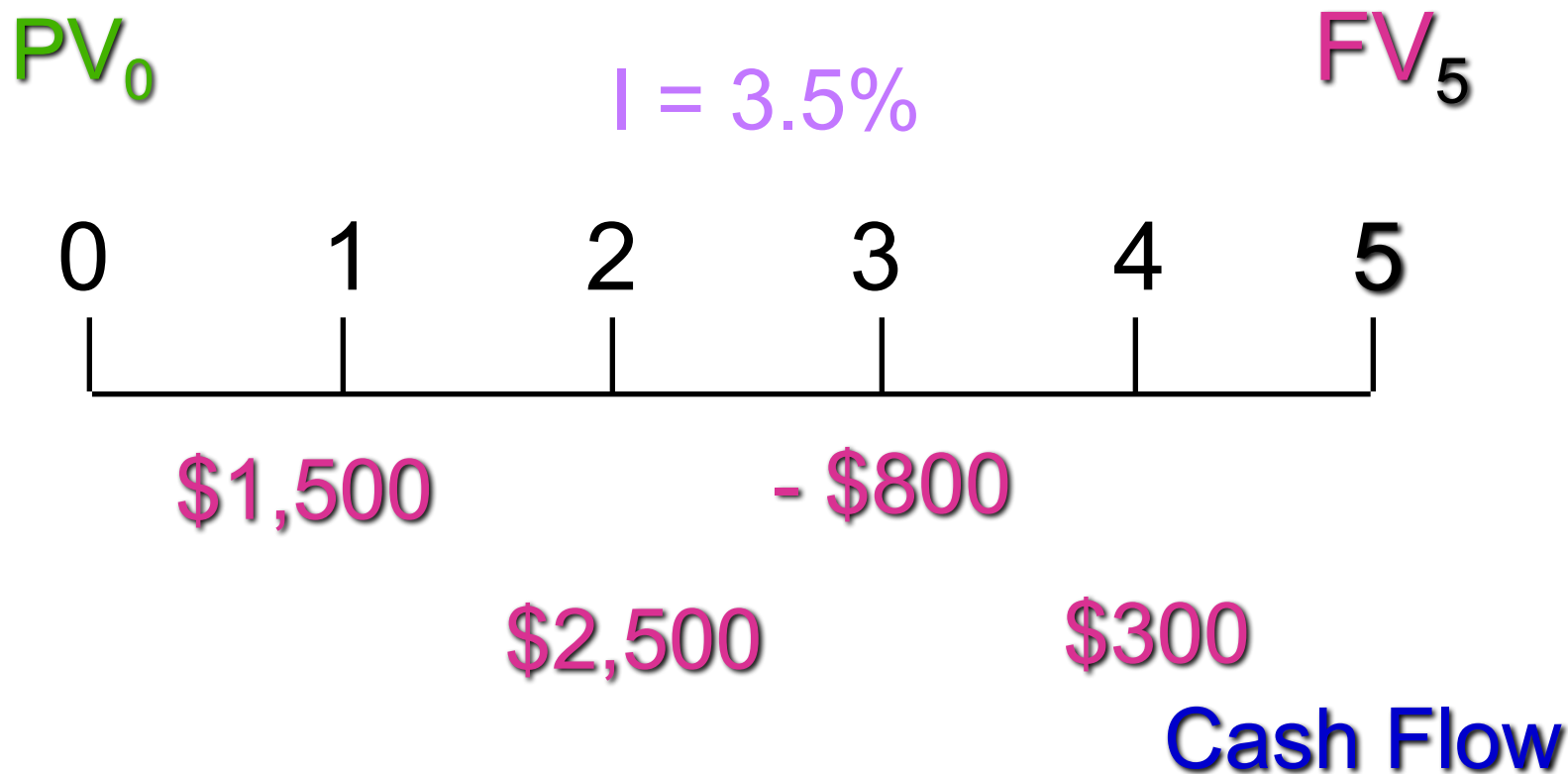
- Investment Return
 - Time value of money
 - Investment return calculation
- Passive fund vs. Positive fund
 - Return comparison: can you beat the market?
- Mutual fund ratings

What dose time value of money mean?

- This is one of the most basic financial principle
- The idea that money available at the present time is worth more than the same amount in the future due to its potential earning capacity. This core principle of finance holds that, provided money can earn interest, any amount of money is worth more the sooner it is received.

Draw a time line

A time line is simply a diagram of the cash flows associated with a TVM problem.



The Time Value of Money(货币的时间价值)

考试

- 终值: Future Value (FV): The value of an asset or cash at a specified date in the future.
- 现值: Present Value (PV) : The current worth of a future sum of money or stream of cash flows given a specified rate of return
- 现金流: Cash Flow: A series of cash inflow and outflow associated with timeline.
 - A cash flow that occurs in the present (today) is put at time 0.
 - Cash outflows (payments) are given a negative sign.
 - Cash inflows (receipts) are given a positive sign.
 - **Discounting** calculate the PV to the beginning of the investment period.
 - **Compounding** calculate the FV to the end of period.

The Time Value of Money

- Stated annual interest rates, or nominal rates – Financial institution usually quote rates
- Periodic rates – the rate of interest earned over a single compounding period
- Effective annual rate (EAR) – annual rate of return actually being earned after adjustments have been made for different compounding periods.
- $EAR = (1 + \text{periodic rate})^m - 1$
- Where:
- Periodic rate(期间利率) = nominal rate/m
- M= the number of compounding periods per year

Computing EAR

- If the nominal rate is 12%, compounded quarterly, compute EAR
- Answer:
 - Here $m = 4$, so the periodic rate is $12/4 = 3\%$
 - Thus, $\text{EAR} = (1 + 0.03)^4 - 1 = 1.1255 - 1 = 0.1255 = 12.55\%$
- Computing EARs for a range of compounding frequencies
- Using a stated rate of 6%, compute EARs for semiannual, quarterly, monthly, and daily compounding.
- Answer:
 - Semiannual compounding $= (1 + 0.03)^2 - 1 = 6.09\%$
 - Quarterly compounding $= (1 + 0.015)^4 - 1 = 6.136\%$
 - Monthly compounding $= (1 + 0.005)^{12} - 1 = 6.168\%$
 - Daily compounding $= (1 + 0.00016438)^{365} - 1 = 6.183\%$

人民币存款利率表（2015年10月24日起）

项目	年利率 %
（一）活期	0.30
（二）定期	
1.整存整取	
三个月	1.10
半年	1.30
一年	1.50
二年	2.10
三年	2.75
五年	2.75

各项贷款利息

二、各项贷款	
金融机构贷款利率	
短期贷款	
一年以内（含一年）	4.35
中长期贷款	
一至五年（含五年）	4.75
三、个人住房公积金贷款	
五年以下（含五年）	3.50
五年以上	4.00

Future Value and Present Value

- $FV = PV(1 + i)^n$
- $PV = FV / (1 + i)^n$
- Present Value of a Perpetuity
- $PV = PMT / i$

Notes:

i=interest rate

FV=Future Value(终值)

PV=Present Value(现值)

PMT = Perpetual Annuity(永续年金)

The Rule of 72: double your Money!!

Quick! How long does it take to double \$5,000 at a compound rate of 12% per year (approx.)?

We will use the “Rule-of-72”.

The Rule of 72: double your Money!!

Quick! How long does it take to double \$5,000
at a compound rate of 12% per year
(approx.)?

Approx. Years to Double = $72 / i\%$

$$72 / 12\% = 6 \text{ Years}$$

[Actual Time is 6.12 Years]

Investment return calculation

- Money weighted return
- Time weighted return

Money-weighted return and Time-weighted return

- The money-weighted return is defined as the internal rate of return on a portfolio, taking into account all cash inflows and outflows.
- The time-weighted return measures compound growth 复合增长率.
- Example of the money-weighted return
 - Assume an investor buys a share of stock for \$100 at $t = 0$ and at the end of the first year ($t=1$), she buys an additional share for \$120. At the end of year 2, the investor sells both shares for \$130 each. At the end of each year in the holding period, the stock paid a \$2.00 per share dividend. What are the money-weighted return and time-weighted return

	T=0	T=1	T=2
Purchase	1 stock @ \$100	1 stock @ \$120	
Sale			2 stocks @ \$130 = \$260
Dividend		2 \$	$2 * 2 = 4$ \$

Money-weighted return and Time-weighted return

考试

- Money-weighted return (资本加权收益率)
 - Step 1: Determine the timing of each flow and inflow(+) and outflow(-)
 - $t = 0$: purchase of first share = $-\$100.00$
 - $t = 1$: dividend from first share = $+\$2.00$
 - purchase of second share = $-\$120.00$
 - Subtotal, $t = 1$ = $-\$118.00$
 - $t = 2$: dividend from two shares = $+\$4.00$
 - proceeds from selling shares = $+\$260.00$
 - Subtotal, $t = 2$ = $+\$264.00$
 - Step 2: $PV_{\text{outflows}} = PV_{\text{inflows}}$
 - $\$100 + \$118/(1+r) = \$264/(1+r)^2$
 - Step 3: Solve for r is 13.86%

Money-weighted return and Time-weighted return

- Time-weighted return (时间加权收益率)
 - **Step 1: Break the evaluation period into two subperiods:**
 - Holding period 1: Beginning price = \$100.00
 - Dividends paid = \$2.00
 - Ending price = \$120.00
 - Holding period 2: Beginning price = \$240 (2 shares)
 - Dividends paid = \$4.00 (\$2 per share)
 - Ending price = \$260.00 (2 shares)
 - **Step 2: Calculate the HPR (holding period rate) for each holding period**
 - $HPR1 = [(\$120 + 2) / \$100] - 1 = 22\%$
 - $HPR2 = [(\$260 + 4) / \$240] - 1 = 10\%$
 - **Step 3: Find the compound annual rate over the 2-year period.**
 - $(1 + \text{time-weighted return})^2 = 1.22 * 1.10$
 - Time-weighted return = 15.84%

Money-weighted return and Time-weighted return

- In the investment management industry, the time-weighted rate of return is the preferred method of performance measurement, because it is not affected by the timing of cash inflows and outflows.
- But, however, if the fund manager has discretion over the timing of cash flow, performance should be evaluated based on Money weighted rate of return.

Mutual fund investment return

- Mutual fund return is the Time weighted rate of return.
- From the long run, it is hardly for mutual fund or any investment vehicle to beat the market.
- Passive investment & Positive investment
 - Foreign: Breaking news: Mutual fund managers keep failing to beat the market
 - Standard & Poor's released its latest **Indices Versus Active Funds Scorecard** today, and the headline result **is the same one delivered by almost every study of mutual fund performance since the 1960s:** Most actively managed mutual funds underperform the market. To be precise, 66.21% of actively managed domestic stock funds underperformed the S&P Composite 1500 Index in the five years from 2004 through 2008. During the previous five-year period, a smaller majority—50.76%—had underperformed.

Mutual fund investment return

➤ Passive investment & Positive investment

- Domestic: 股基上半年平均收益超50% 指数基金业绩骄人 (2009年07月01, 新浪财经)
- 据统计,截至6月24日共有202只股票型基金,排除今年成立的还有178只。“包括指数型和QDII在内。截至6月29日,这178只基金的加权平均收益为51.79%。”信达证券基金行业分析师李琛表示。
- 值得一提的是指数型基金。全部开放式基金今年上半年业绩排名前18位的基金中,有12只为指数型基金,占全部19只指数基金(新成立的3只除外)的63.16%。这些基金今年上半年的净值增长率均超过68%。
- 截至2009年6月29日,各分类基金今年来的平均净值增长率分别为:标准股票型基金平均增长50.83%,普通股票型基金平均增长35.75%,标准指数型基金平均增长69.13%,增强指数型基金平均增长69.10%,混合偏股型基金平均增长45.62%,灵活配置型基金平均增长40.05%,股债平衡型基金平均增长34.84%,其余各类型基金的平均净值增长率均有不同程度的上涨。

Conclusion: It's nearly impossible to beat the market constantly

- Choose passively managed fund (Index fund)



指数基金投资核心

约翰·博格尔的投资原则：
“利润等于总收益减去成本”

Mutual fund ratings

- Mutual fund ratings are issued by third party institutions to help investors to evaluate the history performance of a fund
- Most famous rating methods:
 - Morning Star
 - Lipper

Moring Star Rating System (Two features)

- The Morningstar system relies on a **single metric**: a calculation of risk-adjusted return.
 - Also adjusted with investor utility functions, taxes
- Mutual funds are evaluated against a peer group
 - Classification is the base of ratings:
 - Equity, bond, balance, money market, principle preservation

Rating steps

- 1. Classify funds, in each category
- 2. Calculate risk adjusted return
- 3. Rank them, top 10%, 5 Stars; bottom 10%, 1 Star
- 4. Only for past performance, reference for future

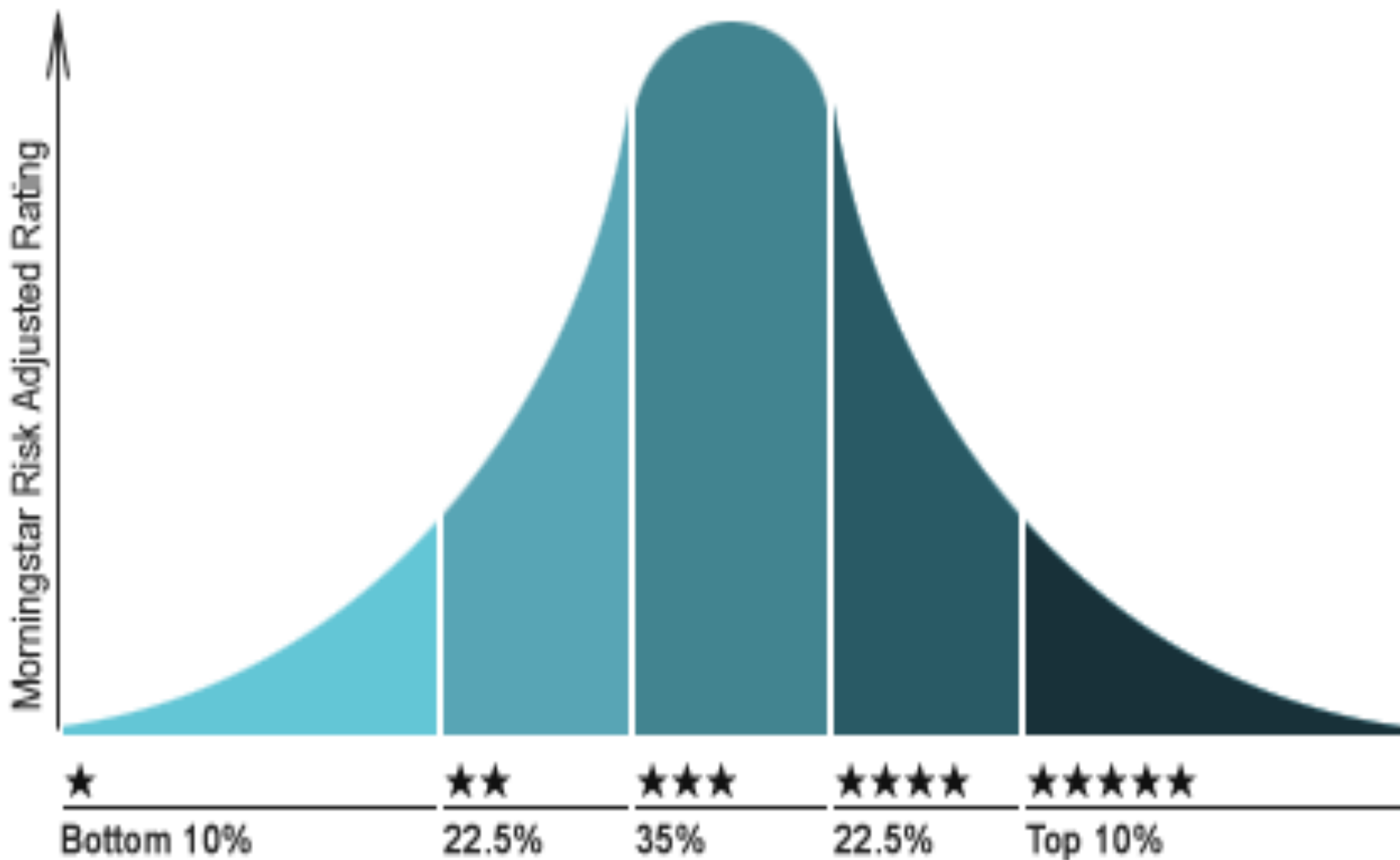
Funds are rated for up to three time periods-three-, five-, and 10-years and these ratings are combined to produce an overall rating. Funds with less than three years of history are not rated.

Sample

• 晨星基金评级

评级和风险评价		业绩汇总	业绩排名	净值日期: 2016-10-14 当前排序: 晨星评级(三年)▼ 基金只数: 670					
序号	基金代码	基金名称	单位净值(元)	晨星评级(2016-09-30)		三年风险评价(2016-09-30)			
				三年 ▼	五年	波动幅度(%)	评价	晨星风险系数	评价
21	<input type="checkbox"/> 481012	工银深证红利ETF联接	1.1576	★★★★★ ↑	★★★★☆	28.85	偏低	16.54	低
22	<input type="checkbox"/> 165312	建信央视财经50指数分级	1.3419	★★★★☆	☆☆☆☆☆	24.47	低	15.58	低
23	<input type="checkbox"/> 530010	建信上证社会责任ETF联接	1.4300	★★★★☆	★★★★☆	28.21	低	15.44	低
24	<input type="checkbox"/> 530018	建信深证100指数增强	1.4218	★★★★☆	☆☆☆☆☆	30.50	中	20.13	中
25	<input type="checkbox"/> 159913	交银深证300价值ETF	1.4440	★★★★☆	★★★★☆	28.37	低	18.08	偏低
26	<input type="checkbox"/> 100053	富国上证综指ETF联接	1.1510	★★★★☆	★★★★☆	27.06	低	16.81	低
27	<input type="checkbox"/> 160615	鹏华沪深300指数(LOF)	1.2850	★★★★☆ ↑	★★★★☆	29.06	偏低	17.87	偏低
28	<input type="checkbox"/> 510210	富国上证综指ETF	3.4350	★★★★☆	★★★★☆ ↓	28.53	低	17.68	偏低
29	<input type="checkbox"/> 519117	浦银安盛基本面400指数	1.5840	★★★★☆	☆☆☆☆☆	30.11	中	20.32	中
30	<input type="checkbox"/> 519116	浦银安盛沪深300指数增强	1.1670	★★★★☆ ↑	★★★★☆	28.30	低	16.67	低

Sample



Lipper Rating System

- Lipper ranks mutual funds according to a peer-based performance system which measures returns according to specific time frames and fund classifications (small, mid, multi and large-cap).
- Multi metrics based rating methods
- Scores are subject to change every month and are calculated for the following periods: 3-year, 5-year, 10-year, and overall.

Five Metrics

➤ 1. Total Return Criterion

- Lipper ratings for Total Return reflect funds' historical total return performance relative to peers. A Lipper Leader for Total Return is a fund that has provided superior total returns when compared to a group of similar funds.

➤ 2. Consistent Return Criterion

- Lipper ratings for Consistent Return reflect funds' historic returns, adjusted for volatility, relative to peers. A Lipper Leader for Consistent Return is a fund that has provided superior consistency and risk-adjusted returns when compared to a group of similar funds.

➤ 3. Preservation Criterion

- Lipper ratings for Preservation reflect funds' historical loss avoidance relative to other funds within the same asset class. A Lipper Leader for Preservation is a fund that has demonstrated a superior ability to preserve capital in a variety of markets when compared with its peers.

➤ 4. Expense

- Lipper ratings for Expense reflect funds' expense minimization relative to peers with similar load structures. Lipper Leaders for Expense are funds that have successfully managed to keep its expenses low relative to its peers and within its load structure.

➤ 5. Tax Efficiency

- Lipper ratings for Tax Efficiency reflect funds' historical success in postponing taxable distributions relative to peers. A Lipper Leader for Tax Efficiency is a fund that has been successful at postponing taxes over the measurement period relative to similar funds.

Lipper China

- 「理柏基金评级系统」每月更新，并按一年、两年、三年和综合的表现计算评级。所有属于股票型、债券型或混合资产型的开放式基金（货币基金和保本基金除外），具有至少一年的价格数据，并且同类型基金中至少有**5**只满足评级条件，就符合评级资格。
同类型基金中，领先的**20%**基金为第**5**级，被授予“优”(Leader)称号，之后均以**20%**为标准再区分为第**4**级、第**3**级、第**2**级及第**1**级。目前在内地所推出的评估标准有四种，包括费用、总回报、稳定回报和保本能力：
 - 在**总回报**上获第**5**级，即被授予“优”(Leader)的基金，反映在其所属基金分类中有较高的总收益。
 - 在**稳定回报**上获第**5**级，即被授予“优”(Leader)的基金，反映在其所属基金分类中有较好的稳定性和风险调整收益。
 - 在**保本能力**上获第**5**级，即被授予“优”(Leader)的基金，反映在其所属资产类别（股票、混合资产、或债券）中有较高的保本能力。
 - 在**费用**上获第**5**级，即被授予“优”(Leader)的基金，反映在其所属基金分类中有较低的总体费用率。
- ※「理柏基金评级」是基于相对性的考虑而非绝对性，而且并没有构成任何买入或卖出基金的建议。投资者应谨记过去表现并不保证未来回报。部分基金分类和资产类别本身潜在的风险较大，甚至在这些风险较大的基金分类或资产类别中获“优”(Leader)的基金也未必适合风险承受能力较少及投资目标较短期的投资者。

① = 最低评级

⑤ = 最高评级 (Lipper Leader)

序号	基金名称	基金代码	整体				一年				两年				三年			
			总回报	稳定回报	保本能力	费用	总回报	稳定回报	保本能力	费用	总回报	稳定回报	保本能力	费用	总回报	稳定回报	保本能力	费用
1	嘉实沪深	160706	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	①	①	①	⑤
2	普天收益	160603	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	③	④	④	⑤
3	诺安成长	320007	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	泰达宏利	162203	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	②	①	⑤	①
5	长城久泰	200002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	②	②	①	⑤
6	景顺长城	162607	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	②	③	②	③
7	南方盛元	202009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	富国天博	519035	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	②	③	③	③
9	大成沪深	519300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	①	②	①	⑤
10	上证50交	510050	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	①	①	①	⑤
11	工银瑞信	481009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	富兰克林	450002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	⑤	④	⑤	③
13	海富通领	519025	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	海富通股	519005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	①	①	②	③
15	易方达策	110002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	③	③	③	③
16	华安中小	040007	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	③	④	②	⑤
17	国投瑞银	121005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	⑤	⑤	③	③
18	浦银安盛	519110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	上投摩根	377020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	④	④	⑤	⑤
20	交银施罗	510054	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Weekly Quiz

- 1. What is the difference between time weighted return and money weighted return? Which is suitable for what scenarios?
- 2. If you have RMB 10,000 money deposit in bank, the interest rate is 7% and is compounded annually, how long will it to double this account?

