Test-PortfolioSolver

February 2, 2023

[1]:
```
import sys
sys.path.append('qa-ps/')
```

[2]:
```
import optimizer as qa
```

[3]:
```
mean = ["hist", "ewma1", "ewma2"]
covar = ["gl","fixed","gerber1","gerber2"]
rm = ["EVaR","CDaR","EDaR",]
objetivo = ["MinRisk"]
timeframe = ['M']
assets = ['TLT','TIP']
```

[4]:
```
combos = qa.generate_combos(objetivo,mean,covar,rm,timeframe)
```

[5]:
```
len(combos)
```

[5]: 36

[6]:
```
prices, returns = qa.generate_assets_data(start = '2010',assets=assets,)
```

```
[*********************100%***********************]  2 of 2 completed
```

[7]:
```
prices.head(2)
```

[7]:

Date	TIP	TLT
2010-01-04 00:00:00-05:00	75.740135	63.869503
2010-01-05 00:00:00-05:00	75.987404	64.281990

[8]:
```
returns.head(2)
```

[8]:

Date	TIP	TLT
2010-01-05 00:00:00-05:00	0.003265	0.006458
2010-01-06 00:00:00-05:00	-0.002584	-0.013386

[9]:
```
qa.opimize_mosek_portfolios(combos,returns,prices)
```

```
Starting OPTIMIZATION (QA-PORTFOLIOSOLVER- ACOTACION LINEAL EDITION)
Total combinations: 36
USING MOSEK : TRUE
BY JCX@QUANTARMY.COM (C) 2023
----------------------------------------------
{'FuncObj': 'MinRisk', 'rebalancing': 'M', 'mean': 'ewma2', 'covar': 'gerber2',
'rm': 'EDaR', 'sqn': 4.103711334559173, 'profit_factor': 14.859094555527713,
'total_ret': 60.63408792981379, 'max_dd': -0.14340929322422272, 'win_rate':
76.77419354838709, 'ev': 0.3664694926870691, 'Sharpe': None}
```

[11]:

```python
import pandas as pd
a = pd.read_pickle('A28MoqJraH.pickle')
```

[13]:

```python
a.groupby('covar').mean()
```

[13]:

covar	sqn	profit_factor	total_ret	max_dd	win_rate	ev
fixed	3.713526	13.19802	56.188435	-0.143409	75.483871	0.425272
gerber1	3.713526	13.19802	56.188435	-0.143409	75.483871	0.425272
gerber2	3.713526	13.19802	56.188435	-0.143409	75.483871	0.425272
gl	3.713526	13.19802	56.188435	-0.143409	75.483871	0.425272

[ ]:

```python
```