

Profit/Loss for Open Positions

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This vignette shows how the `vprice` argument of function `pl` can be used.

1 How to use `vprice`

When timestamp is not used

If no timestamp information is used, i.e. if `along.timestamp` is `FALSE`, `vprice` is used to value an open position (or, if you prefer, to simulate the close of an open position). So for a single asset, it should be vector of length one; for N assets, it should be a named vector of length N .

When timestamp is used

If `along.timestamp` is `TRUE`, `vprice` is used to close the final, open position. So for a single asset, it should be vector of length one; for N assets, it should be a named vector of length N .

If `along.timestamp` is a vector of timestamps, `vprice` is used to value any open position along those timestamps. For a single asset, it should then be a vector of prices, with length equal to that of `along.timestamp`. For N assets, it should be a matrix with `length(along.timestamp)` rows and N named columns.

2 Examples

With a single asset.

```
> j <- journal(amount = 1, price = 20)
> pl(j)
```

```
P/L total      NA
average buy     20
average sell    NA
cum. volume     1
```

```
'P/L total' is in units of instrument;
'volume' is sum of /absolute/ amounts.
```

```
> pl(j, vprice = 21)
```

```
P/L total      1
average buy     20
average sell    21
cum. volume     1
```

```
'P/L total' is in units of instrument;
'volume' is sum of /absolute/ amounts.
```

```
> j <- journal(amount = c(1, -1),
               price = c(102, 109),
               timestamp = c(2.5, 9))
> pl(j, vprice = 101:110, along.timestamp = 1:10)
```

timestamp	1	2	3	4	5	6	7	8	9	10
P/L total	0	0	1	2	3	4	5	6	7	7
__ realised	NA	NA	0	0	0	0	0	0	7	7
__ unrealised	NA	NA	1	2	3	4	5	6	0	0
average buy	102									
average sell	109									
cum. volume	0	0	1	1	1	1	1	1	2	2

'P/L total' is in units of instrument;
'volume' is sum of /absolute/ amounts.

With several assets.

```
> j <- journal(amount = c(1, -1, 1),
               instrument = c("A", "A", "B"),
               timestamp = c(1, 2, 1),
               price = c(100, 103, 10))
> P <- cbind(A = c(100, 102, 105),
            B = c( 10,  5,  11))
> pl(j, vprice = P,
     along.timestamp = 1:3)
```

A

timestamp	1	2	3
P/L total	0	3	3
__ realised	0	3	3
__ unrealised	0	0	0
average buy	100		
average sell	103		
cum. volume	1	2	2

B

timestamp	1	2	3
P/L total	0	-5	1
__ realised	0	0	0
__ unrealised	0	-5	1
average buy	10		
average sell	NaN		
cum. volume	1	1	1

'P/L total' is in units of instrument;
'volume' is sum of /absolute/ amounts.

```
> pl(j, vprice = P,
     along.timestamp = 1:3, do.sum = TRUE)
```

timestamp	1	2	3
P/L total	0	-2	4
__ realised	0	3	3
__ unrealised	0	-5	1
average buy	NA		
average sell	NA		
cum. volume	2	3	3

'P/L total' is in units of instrument;
'volume' is sum of /absolute/ amounts.

- R version 3.4.4 (2018-03-15), x86_64-pc-linux-gnu
- Locale: LC_CTYPE=en_US.UTF-8, LC_NUMERIC=C, LC_TIME=en_GB.UTF-8, LC_COLLATE=C, LC_MONETARY=en_GB.UTF-8, LC_MESSAGES=en_US.UTF-8, LC_PAPER=en_GB.UTF-8, LC_NAME=C, LC_ADDRESS=C, LC_TELEPHONE=C, LC_MEASUREMENT=en_GB.UTF-8, LC_IDENTIFICATION=C
- Running under: Ubuntu 17.10
- Matrix products: default
- BLAS: /usr/lib/x86_64-linux-gnu/openblas/libblas.so.3
- LAPACK: /usr/lib/x86_64-linux-gnu/libopenblas-p0.2.20.so
- Base packages: base, datasets, grDevices, graphics, methods, stats, utils
- Other packages: PMwR 0.7-1, zoo 1.7-14
- Loaded via a namespace (and not attached): NMOF 1.4-0, compiler 3.4.4, crayon 1.3.4, datetimetools 0.2-12, fastmatch 1.1-0, grid 3.4.4, lattice 0.20-35, orgutils 0.4-2, parallel 3.4.4, textutils 0.1-8, tools 3.4.4