


Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade


for: BullCharts User Group
and U3A (Manningham)
Stockmarket group (2014)

Position sizing




Robert Brain for ATAA Brisbane
June 2022

"The share market can seem mystical and almost like black magic; but with the right support and assistance, it just seems like magic."
Robert Brain



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Introduction & Housekeeping

Position size?

When trading / investing in shares:

- 1) Should we use a fixed position size every time (ie. same dollar amount)?
- 2) Is there a minimum position size to use (ie. minimum dollar value)?
- 3) Is there a maximum position size to use?
- 4) Does it matter?

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Introduction & Housekeeping

Today's agenda


- Is it possible to "optimise" the position size?
- Does it make any difference?
- Let's consider some options.


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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade

 **Introduction & Housekeeping**


Important Notice — No Advice!


- This presentation does not include any advice.
- For proper advice, your personal financial situation needs to be considered.
- This presentation is pure education, only for your general awareness. 
- There are no recommendations to take any action, or to invest any money in any way.
- Always consult a properly licensed advisor before making investment decisions.




 **Introduction & Housekeeping**

Important Notice







 **Position Sizing**


Let's consider three options:
We have \$100,000 to invest:-

- (a) Invest a small portion (eg. \$1,000)
- (b) Invest a large portion (eg. \$70k)
- (c) Equal size positions

Is one of these any better than the others? 

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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade


 **Position Sizing**


Option (a) – small parcel

Let's say we have \$100,000 to invest.

- Is it a good idea to allocate only \$1,000 to any one position?

What about the impact of *brokerage* and *slippage*?

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 **Position Sizing**


Option (b) – large parcel

Let's say we have \$100,000 to invest.

- Is it a good idea to allocate \$70,000 (for example) to just one position?

Excessive risk?


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 **Position Sizing**


Option (c) – same size

Let's say we have \$100,000 to invest.

- Why not invest a round \$5,000 or \$10,000 in every position?
- Could we maximise our profits with the largest possible position size?
- What is the largest possible position size?


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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade


 **Position Sizing**

Is one of these better than the others?
Which option is "best", if any?

- (a) Invest a small portion (eg. \$1,000)?
- (b) Invest a large portion (eg. \$70k)?
- (c) Equal size positions?




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 **Position Sizing**

The experts say:

- *Position sizing* is very important and if applied correctly, it can improve your strategy performance dramatically, and help you to avoid ruin ("optimise").

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 **Position Sizing**

The experts say:


- *Position sizing* is very important and if applied correctly, it can improve your strategy performance dramatically, and help you to avoid ruin ("optimise").

The consequences of not doing it:

- Too much capital at risk; or
- Not enough capital at risk for optimum profits;
- Losses might be too high;
- Potential profit could have been greater;
- Additional positions / investments might have been possible (ie. extra opportunities).

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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade

 **Position Sizing**

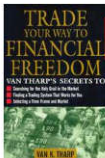
Two approaches to consider

There are two key approaches to position size:


- (a) **Fixed dollar amount** per trade (ie. no position sizing).
- (b) **Fixed "Risk"** per trade

References:

- "Trade your way to Financial Freedom", Van K. Tharp (1998), McGraw Hill.
- <http://www.adaptrade.com/Articles/article-op.htm>




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 **Position Sizing**


\$100k – Consider two options:

Option (1)	Option (2)
Ten parcels of \$10,000 each ie. Fixed Dollar Amount	Utilise the "2 Percent Rule" to optimise the position sizes.

Which do you think might be better?



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 **Position Sizing**

Case study

- Consider the two different position sizing methods;
- Assume a specific trend-following *entry strategy*, and a simple *exit strategy*;
- Look at ten stocks from the XJO index (XJO = S&P/ASX 200)
- Look for stocks that showed an *uptrend*;
- Consider the period 2012-2014.

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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade

Position Sizing

The 10 stocks

Entry dates, exit dates, prices, etc.:

Stock Code	Entry date	Entry Price	Exit date	Exit price	Price Increase \$,c	Price Increase percent	Period (weeks)	Percent annualised	Open or Closed?
TPM	20/02/12	\$1.50	11/06/13	\$3.32	\$1.82	121.3%	68	159%	
FLT	23/07/12	\$21.59	09/12/13	\$45.90	\$24.31	112.6%	72	156%	
RMD	20/08/12	\$3.55	11/11/13	\$5.38	\$1.83	51.5%	64	63%	
AMC	06/09/12	\$6.83	14/03/14	\$10.22	\$3.39	49.6%	79	76%	Open
HGG	24/09/12	\$1.76	14/03/14	\$4.38	\$2.62	148.9%	77	219%	Open
MOA	19/11/12	\$1.51	14/03/14	\$3.14	\$1.63	107.9%	69	142%	Open
ALL	17/12/12	\$3.07	14/03/14	\$5.17	\$2.10	68.4%	65	85%	Open
JBH	25/02/13	\$12.27	28/01/14	\$19.54	\$7.27	59.3%	48	55%	
SHL	20/05/13	\$14.55	14/03/14	\$17.39	\$2.84	19.5%	43	16%	Open
MGX	19/08/13	\$0.67	03/03/14	\$0.85	\$0.18	26.1%	28	14%	

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Position Sizing

Option (1) – Fixed Dollar Results

(1) Fixed Dollar Amount per Trade

Pos Size: \$10,000.00

Stock Code	Shares qty	Pos Value	CLOSING VALUE	PROFIT or LOSS	Price increase percent	Period (weeks)	Percent increase (pa)
TPM	6667	\$9,999.00	\$22,133	\$12,134	121%	68	159%
FLT	463	\$9,996.17	\$21,260	\$11,264	113%	72	156%
RMD	2817	\$9,996.80	\$15,155	\$5,158	52%	64	64%
AMC	1464	\$9,999.12	\$14,963	\$4,964	50%	79	76%
HGG	5682	\$9,998.56	\$24,886	\$14,888	149%	77	219%
MOA	6623	\$9,999.22	\$20,795	\$10,795	108%	69	142%
ALL	3257	\$9,998.99	\$16,840	\$6,841	68%	65	85%
JBH	815	\$9,987.78	\$15,925	\$5,937	59%	48	55%
SHL	687	\$9,995.85	\$11,952	\$1,956	20%	43	16%
MGX	14925	\$9,999.75	\$12,612	\$2,612	26%	28	14%
		\$99,971	\$176,522	\$76,551	77%		

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Position Sizing

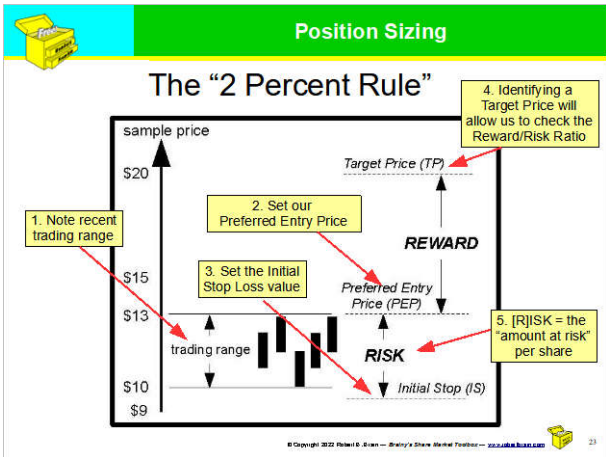
Option (2) – Fixed Risk per trade

Use these money/risk management rules:

- Use the "2 Percent Rule" to "risk" no more than 2% of total capital (see explanation, next slide)
- Have no more than 20% of total capital allocated to any one position.

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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade



Position Sizing

Option (2) – Fixed Risk per trade

Today's Capital: \$100,000

Risk amount using the Percent Rule: 2.00%

Stock Code	Intended Buy Price (= Entry)	Initial Stop Loss (DLY)	R	x% of Capital	Shares qty
TPM	\$1.50	\$1.40	\$0.10	\$2,000	20000
FLT	\$21.59	\$19.95	\$1.64	\$2,000	1219
RMD	\$3.55	\$3.34	\$0.21	\$2,000	9523
AMC	\$6.83	\$6.60	\$0.23	\$2,000	8695
HGG	\$1.76	\$1.63	\$0.13	\$2,000	15384
MOA	\$1.51	\$1.40	\$0.11	\$2,000	18181
ALL	\$3.07	\$2.90	\$0.17	\$2,000	11764
JBH	\$12.27	\$11.45	\$0.82	\$2,000	2439
SHL	\$14.55	\$13.30	\$1.25	\$2,000	1600
MGX	\$0.67	\$0.63	\$0.04	\$2,000	50000

What is the investment cost of these positions?

Position Sizing

Option (2) – Fixed Risk per trade

Today's Capital: \$100,000

Risk amount using the Percent Rule: 2.00%

Stock Code	Intended Buy Price (= Entry)	Initial Stop Loss (DLY)	R	x% of Capital	Shares qty	Capital Risk (x% of Capital)			CLOSING VALUE
						Position Value	Reduce Qty if > x% of capital	Reduced Position Value	
TPM	\$1.50	\$1.40	\$0.10	\$2,000	20000	\$30,000	13333	\$20,000	\$44,267
FLT	\$21.59	\$19.95	\$1.64	\$2,000	1219	\$26,316	926	\$20,000	\$42,520
RMD	\$3.55	\$3.34	\$0.21	\$2,000	9523	\$33,807	5634	\$20,000	\$30,310
AMC	\$6.83	\$6.60	\$0.23	\$2,000	8695	\$59,387	2928	\$20,000	\$29,927
HGG	\$1.76	\$1.63	\$0.13	\$2,000	15384	\$27,076	11364	\$20,000	\$49,773
MOA	\$1.51	\$1.40	\$0.11	\$2,000	18181	\$27,453	13245	\$20,000	\$41,589
ALL	\$3.07	\$2.90	\$0.17	\$2,000	11764	\$36,115	6515	\$20,000	\$33,681
JBH	\$12.27	\$11.45	\$0.82	\$2,000	2439	\$29,927	1630	\$20,000	\$31,850
SHL	\$14.55	\$13.30	\$1.25	\$2,000	1600	\$23,280	1375	\$20,000	\$23,904
MGX	\$0.67	\$0.63	\$0.04	\$2,000	50000	\$33,500	2951	\$20,000	\$25,224
						\$326,863		\$200,000	\$353,044

Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade

Position Sizing

Note the Entry dates

Buy progressively

Stock Code	Entry date	Entry Price	Exit date	Exit price	Increase \$,c	Increase percent
TPM	20/02/12	\$1.50	11/06/13	\$3.32	\$1.82	121.3%
FLT	23/07/12	\$21.59	09/12/13	\$45.90	\$24.31	112.6%
RMD	20/08/12	\$3.55	11/11/13	\$5.38	\$1.83	51.5%
AMC	06/09/12	\$6.83	14/03/14	\$10.22	\$3.39	49.6%
HGG	24/09/12	\$1.76	14/03/14	\$4.38	\$2.62	148.9%
MQA	19/11/12	\$1.51	14/03/14	\$3.14	\$1.63	107.9%
ALL	17/12/12	\$3.07	14/03/14	\$5.17	\$2.10	68.4%
JBH	25/02/13	\$12.27	28/01/14	\$19.54	\$7.27	59.3%
SHL	20/05/13	\$14.55	14/03/14	\$17.39	\$2.84	19.5%
MGX	19/08/13	\$0.67	03/03/14	\$0.85	\$0.18	26.1%

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Position Sizing

Option (2) – The results

Stock Code	Intended Buy Price (= Entry)	Include this posn? Y/N	Pos Value	CLOSING VALUE	PROFIT or LOSS	Price Increase percent	Period (weeks)	Percent increase (pa)
TPM	\$1.50	Y	\$20,000	\$44,267	\$24,267	121%	68	159%
FLT	\$21.59	Y	\$20,000	\$42,520	\$22,520	113%	72	156%
RMD	\$3.55	Y	\$20,000	\$30,310	\$10,310	52%	64	63%
AMC	\$6.83	Y	\$20,000	\$29,927	\$9,927	50%	79	76%
HGG	\$1.76	Y	\$20,000	\$49,773	\$29,773	149%	77	219%
MQA	\$1.51	N	\$0	\$0	\$0	0%	69	0%
ALL	\$3.07	N	\$0	\$0	\$0	0%	65	0%
JBH	\$12.27	N	\$0	\$0	\$0	0%	48	0%
SHL	\$14.55	N	\$0	\$0	\$0	0%	43	0%
MGX	\$0.67	N	\$0	\$0	\$0	0%	28	0%
			\$100,000	\$196,796	\$96,796	97%		

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Position Sizing

Results compared:

<p>Option (1)</p> <p>Ten parcels of \$10,000 each ie. Fixed Dollar Amount</p> <p>Profit = \$76,551 77% increase</p>	<p>Option (2)</p> <p>Utilise the "2 Percent Rule" to optimise the position sizes.</p> <p>Profit = \$96,796 97% increase</p>
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Position Sizing - "Fixed Dollar" versus "Fixed Risk" per trade


 **Position Sizing**

Position size — Conclusion?

By adjusting the position size, to “optimise” it based on key criteria, we can:
improve the portfolio performance.

What do you think? 

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 **Summary & Wrap up**

Summary

Optimising position size can be Very useful

Every chart tells a story. Understand the story in the chart.

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 **Summary & Wrap up**

Don't forget my Toolbox 

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Summary & Wrap up

THE END

See free stuff here:
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Summary & Wrap up

THE END

THANK YOU

(Backup slides follow)

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