**Van Tharp's**

**Definitive Guide to**

**Position** SizingSM.

How to Evaluate Your System and Use

Position SizingsM to Meet Your Objectives

by

Van K. Tharp, Ph.D.

Copyright © 2008 by The International Institute of Trading Mastery, Inc.

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval

system, or transmitted, in any form or by any means, electronic,

mechanical, photocopying, recording, Of otherwise, without prior written

permission. For information:

*International Institute of Trading Mastery. Inc.*

*102A Commonwealth Ct., Cary, NC 27511*

*(919) 466-004-3----*

Interne~ *http://www.iitm.com*

This publication is designed to provide accurate and authoritative

information in regard to the subject matter covered. It is sold with the

understanding that the publisher is not engaged in rendering legal,

accounting, or other professional service. ' If legal advice or other expert

assistance is required, the services of a competent professional person

should be sought.

Printed in the United States of America

The following phrases are a trademark of the International Institute of

Trading Mastery: "System Quality Number," "SQN," and "Position

Sizing." These trademarks are denoted by the character "SM" meaning

service mark.

*This book* is *dedicated*

*to Melita Hunt, the CEO 0/ the International Institute*

*o/Trading Mastery. This book would not be possible without Melita's*

*inspiration. Melita, you will always be in my heart.*

**Contents**

Preface

Acknowledgments

PART I

**THE GOLDEN RULES OF TRADING AND HOW TO EVALUATE THE**

**QUALITY OF YOUR TRADING SYSTEM**

**Introduction to System Evaluation**

**Chapter 1**

**The Golden Rules of Trading**

**Chapter 2**

**Risk (R) and R-Multiples**

Understanding R-Multiples

Using Your Total Risk to Keep Track of Your R-Multiples

What If You Don't Know Your Initial Risk?

More Thoughts about Expectancy

What about the Variability?

So What's the Downside?

Chapter 3

**Evaluating the Quality of Your Trading System**

Rating Your System

One Problem with System Quality NumbersM and How to Overcome It

Statistical Assumptions in Using This Material

33

Improving Your System Quality NumbersM (SQNSM)

What's Important in Getting High SQNsSM?

Chapter 4

What Can I Expect in the Future?

Question I: Is My Sample Representative?

Question 2: Is My System Valid?

Question 3: What Can I Expect from My System in the Future?

Question 4: What Kinds of Markets Will My System Work In?

Question 5: What IfI Have Multiple Correlated Trades?

Summary: What Do I Know about My System at This Point?

How Will I Trade Differently with This Information?

Chapter 5

Are You Doomed to Failure?

Judgmental Shortcuts

Bias I: Locus of Control-The Lotto Bias

Bias 2: The Need to Be Right

Bias 3: Percent Gain

Bias 4: Lots ofInput Says the Same Thing

Bias 5: Authority

Bias 6: Prediction and Understanding

Bias 7: Wanting Lots of Facts

Other Biases That Influence Being Right

Bias 8: The Law of Small Numbers

Bias 9: Once We Think We've Got It, It's Hard to Get Rid ofIt

Bias 10: Representation

Conclusion

PART II

UNDERSTANDING THE BASICS OF POSITION SIZINGsM

Introduction to Position SizingSM Basics

Chapter 6

The Most Important Factor (Besides You) in Your Trading

Understanding Low-Risk Ideas

Psychological Biases Against Proper Position Sizing

The Need to Be Right Bias in Position Sizing

The Gambler's Fallacy

Streaks Cause Us to Doubt Probabilities and Change Our Risk

Not Enough Money or Too Much Greed

Chapter 7

CPR for Traders and Investors

The Importance of Position Sizing

The Three Components of Position Sizing

The CPR Model for Position Sizing

More Basics: Equity Models

Chapter 8

Core Position SizingSM Models

The System Used

Model I: Units per Fixed Amount of Money

Model 2: Equal UnitslEqualLeverage Model

Model 3: Percent Margin

Model 4: Percent Volatility

lOS

ModelS: Percent Risk

More Examples

Chapter 9

More Position SizingSM Models

Model 6: Group Control

Model 7: Portfolio Heat

Model 8: Long versus Short Positions

Model 9: Equity Crossover Position Sizing

Position Sizing Under Unusual Circumstances

Model 10: Asset Allocation to Determine Position Sizing

Model 11: Position Sizing for Portfolio Managers

Model 12: Position Sizing for Professional Traders

Who Don't Know How Much Equity They Have

ChapterlO

Comparing the Impact of Various Models

The Models Compared

PART III

USING POSITION SIZINGsM TO MEET YOUR OBJECTIVES

Introduction to Using Position SizingSM to Meeting Your Objectives

Chapter **11**

Meeting Your Objectives

Objectives Re-examined

A Look at Optimal Bet Size

Expectancy, Win Rate, and Position Sizing

Conclusion

Chapter 12

Position SizingSM Methods to Meet Your Target Profit Objective

Model 13: Using Your Optimal Target Risk Percentage

Model 14: Market's Money Methods

Model 15: Scaling In Techniques

Chapter 13

Using Fixed Ratio Position Sizing (FRPS) to Meet Your Profit Target

Fixed Ratio Position Sizing Explored

Assumptions Necessary to Simulate FRPS

Position Sizing Evaluation

The Models Compared

How to Improve Your Performance with FRPS

Evaluation of Results

Conclusion

Model 16: Using Fixed Ratio Position Sizing

Checklist to Trade FRPS

Advantages and Disadvantages of FRPS

Chapter 14

Position SizingSM Methods to Help You Avoid Ruin

Using Position Sizing to Limit Your Downside Potential

Model 17: U sing Your System Quality NumbersM

to Determine How to Limit Risk

Model 18: Two-tier Position Sizing

Model 19: Multiple Tier Approach

Model 20: Using the Maximum R-Drawdown

Model 21: Scaling Out to Smooth Equity Curves

Model 22: Basso-Schwager Asset Allocation Technique Applied to Systems

Conclusion

PART IV

**MISCELLANEOUS POSITION SIZINGsM INFORMATION**

**Introduction to Miscellaneous Position Sooni'M Information**

**Chapter IS**

**Position SizingSM Strategies to Avoid!**

Martingale Position Sizing Models

Model 23: When Probability Is Out of Line, Increase

Your Position Sizing

Model 24: One Up, Back One

Model 25: One Up, Back One, Version 2

Model 26: Regression toward the Mean Position Sizing

Other Dangerous Models to Avoid

Model 27: Intuitive Position Sizing

Model 28: Joe Ross Method

Model 29: Percent Risk Based Upon Winning Percentage

Model 30: Kelly Criterion

Model 31: Optimal!

Conclusion

**Chapter 16**

**Putting It All Together: An Interview with Chris Anderson**

**Chapter 17**

**Position SizingSM Software Examined**

**235**

My Experiences with Position Sizing Software

Software to Keep Track of Your Trades

Simulation Software

Position Sizing Software

System Specific Software with Position Sizing Capabilities

Multi-Purpose Software that Includes Position Sizing

High-End Software

Conclusion

**Chapter 18**

**Some of Your Questions Answered**

Category 1: Miscellaneous Questions

Category 2: Expectancy versus Position Sizing

Category 3: I Don't Understand One of the Models

Category 4: Position Sizing and Risk of Ruin

Category 5: Account Size and Liquidity

Category 6: Multiple Accounts

Category 7: How Do I Position Size? What Do You Think of My Method?

Category 8: What Do You Think of This Form of Position Sizing?

Category 9: Math Questions

**Chapter 19**

**Self-Evaluation**

**Appendix I**

**Appendix II**

**Glossary**

**Index**

**Preface**

Perhaps the greatest secret to top trading and investing success is appropriate money

management or what we now call position sizing. I call it a "secret" because few people

seem to understand it, including people who've written books on the topic. Some people

call it risk control; others call it diversification. Money managers call it managing other

people's money and still others call it how to "wisely" invest or spend your money.

However, the money management that is the key to top trading and investing simply refers

to the algorithm that tells you "how much" with respect to any particular position in the

market. And because the topic of money management is so conflicting, I've elected to call

it position sizing throughout this book.

I've written this book to give you an overall understanding of the topic and show you

various models of position sizing. Enjoy the journey; it's potentially the most profitable

journey you will ever take as a trader. The material is quite complex, despite my attempt

to make it simple. However, you'll find it well worth your while to go through all the

examples until you have mastered it.

One of the fundamental concepts that you wiIllearn in this book is that position sizing is

the key to meeting your objectives as a trader. Most people assume that there is just one

objective to trading-their own-and thus their view is biased by their objective. As a

result, they never realize that the purpose of position sizing is to meet your objectives.

The purpose of position sizing is to meet your objectives.

There are many other key concepts that stem from this primary one.

There are probably an infinite number of objectives that you could have and thus,

an infinite number of ways for you to use position sizing.

• It is important for you to define your objectives before you develop a system and

before you develop your position sizing routine.

• Although your system has very little to do with meeting your objectives, we have

developed a method to ~uantify the auality of your system, which we call the

System Quality Number M or SQNs for short.

• We've discovered that the higher your System Quality NumbersM, the easier it

is to use position sizing to meet your objectives.

• You might even think of position sizing as a separate system, overlaid upon your

primary system, which is designed to meet your objectives.