THE OPTION TRADER'S HEDGE FUND

A BUSINESS FRAMEWORK FOR TRADING EQUITY AND INDEX OPTIONS

DENNIS A. CHEN | MARK SEBASTIAN

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Published by Pearson Education, Inc.
Publishing as FT Press
Upper Saddle River, New Jersey 07458

Printed in the United States of America

First Printing May 2012

ISBN-10: 0-13-282340-3
ISBN-13: 978-0-13-282340-1

Pearson Education LTD.
Pearson Education Australia PTY, Limited.
Pearson Education Singapore, Pte. Ltd.
Pearson Education Asia, Ltd.
Pearson Education Canada, Ltd.
Pearson Educación de Mexico, S.A. de C.V.
Pearson Education—Japan
Pearson Education Malaysia, Pte. Ltd.

Library of Congress Cataloging-in-Publication Data

Chen, Dennis A. (Dennis Anthony), 1970-

The option trader's hedge fund : a business framework for trading equity and index options / Dennis A. Chen, Mark Sebastian.

p. cm.

Includes index.

ISBN 978-0-13-282340-1 (hardcover : alk. paper) -- ISBN 0-13-282340-3

1. Options (Finance) 2. Portfolio management. 3. Risk management. I. Sebastian, Mark, 1978- II. Title.

HG6024.A3C4852 2012

332.64'524--dc23

2012007222

For Melinda,
Thank you for encouraging me and standing by me
in all of our endeavors.

For my partners at Smart Income Partners, Ltd.,
Thank you for your trust and support. Thank you for believing and
investing in our business.
—Dennis

To Lauren, thank you for putting up with me through thick and thin;
without you all of this is nothing.

To my parents, thank you for pushing me to constantly try to exceed
expectations and never settle.

To my son, may the road that lies ahead be all you could hope for.

To my partner, co-workers, and all of those associated with Option Pit,
thank you for making what I do not seem like work.
—Mark

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Contents

Foreword

As Director of Research and Co-Portfolio Manager of Jim Cramer's Charitable Trust, I continuously look for more effective ways to oversee the fund and improve returns. Although it is a long-only equity fund, it is imperative to have a working knowledge of all asset classes and their effects on the broader market and trading psychology. One of the most impactful metrics of managing money in today's market is, without question, volatility.

Volatility as an asset class is a rapidly growing concept in the marketplace. Indexes and products have been introduced to trade, hedge, and use as forecasting mechanisms.

Financial media commonly portrays the VIX, or CBOE Volatility Index, as an indication of "fear" in the market. Typically, when the VIX is trading higher, stocks are moving lower and the inverse applies. Yet it is far more important than that, as the VIX and volatility-based products have brought the market to its next stage of evolution.

The Chicago Board Options Exchange began its academic work on the VIX in the early 1990s. Today's index has evolved into a product with futures and options contracts based on the S&P 500, which allows for a more accurate view of investors' expectations on future market volatility. Following the financial meltdown in the back half of 2008, implied volatility exploded as the market imploded, and that is when market participants embraced volatility as a diversification tool. Other exchanges have now developed their own futures and derivatives products across multiple asset classes and commodities, including currency, gold, and oil.

Mark Sebastian is truly a master of trading options and futures on volatility derivatives. When it comes to the technical subtleties of complicated markets, his analysis and ability to break down the mathematical and quantitative complexities in an intelligent and understandable style is second to none. Mark forces you to think in different ways about the option and futures markets, often in ways that are outside the comfort zone.

For this book, Mark joined forces with his friend Dennis Chen and convinced him to share the framework and processes used when managing his hedge fund. By doing so, they provide you with a real-world perspective to the business of trading options.

Albert Einstein said, "Any intelligent fool can make things bigger, more complex, and more violent. It takes a touch of genius—and a lot of courage—to move in the opposite direction." Mark and Dennis's uncanny way to consistently come up with out-of-the-box strategies encourages traders to dig deep and really understand the world of derivative-based products. From my perspective, Mark and Dennis's ideas, strategies, framework, and concepts are sophisticated yet easy to understand and implement, which is invaluable when trying to beat the competition and the broader averages.

The Options Trader's Hedge Fund is a unique tool that carefully explains how traders can effectively identify and manage positions like the top volatility experts do using key strategies in trend, time, and volatility. As unique as its authors, it encourages investors to embrace their individuality when developing a trading plan and discipline for trading options.

A captivating and masterful read, *The Options Trader's Hedge Fund* is a must-have guide that every professional trader should have in his or her library. The biggest takeaways center on methodology, risk control, and effective use of capital—the cornerstones for successful money management and trading.

Trade well,

Stephanie Link
Director of Research, Co-Portfolio Manager, & VP of Strategy
The Street

Acknowledgments

This book is the result of a set of experiences that we have collected over the years. Whether knowingly or unknowingly, many people and organizations have directly and indirectly helped shape the content of *The Option Trader's Hedge Fund*. We would like to thank the following people and organizations for sharing with us experiences that helped create this book:

- Adam Paris, Cofounder of the OptionPit.com
- Alexander Elder, Trading Coach and author of *Trading for a Living*
- Jim Boyd, Executive Editor, FT Press
- Cheri Clark, Copy Editor, FT Press
- Betsy Harris, Project Editor, FT Press
- Harry Strachan, Partner at Bain & Co. and Mesoamerica Partners
- Jeremy Siegel, Finance Professor at the Wharton School and author of *Stocks for the Long Run*
- Kerry Lovvorn, Trading Coach
- Livevol
- OptionVue
- Paul Hayward, Michael Shore, Nina Yoo, and the CME Group's Corportate Communications team
- Robbie Garcia, Cofounder, Smart Income Partners, Ltd.
- Robert Walberg, Stephanie Link, Jill Malandrino, and The Street
- Shawn and Shelly Howton, Professors at Villanova
- The Chicago Mercantile Exchange

- The Chicago Board Options Exchange
- The Options Institute
- The team at FT Press who assisted in the production of this book
- TD Ameritrade and ThinkorSwim

About the Authors

Dennis A. Chen is a hedge fund manager, investor, management advisor, and entrepreneur. He is the founder and Chief Investment Officer of Smart Income Partners, Ltd., a hedge fund specializing in generating income using index and equity options. Dennis has been investing and trading equities and options for many years. He has previously served as a management consultant at Bain & Company where he focused on financial services (banking and insurance). He was a principal at Diamond Technology Partners, Inc. As an entrepreneur, Dennis has purchased, improved, and sold several small businesses. He has experience in multiple industries, including banking, insurance, real estate, computer technology, Internet, publishing, advertising, construction, commodities, quick-service restaurants, and automotive. His broad business experience enables him to make better investment decisions at his hedge fund. Dennis earned his MBA from The Wharton School of Business. He also holds a Master's in Computer Science from Arizona State University and a Bachelor's degree in computer science from the University of Texas.

Mark Sebastian is a former member of both the Chicago Board Options Exchange and the American Stock Exchange. He is the Chief Operating Officer of Option Pit Mentoring and Consulting, a Chicago-based option education firm. Sebastian has been published nationally on Yahoo! Finance and has been quoted in *The Wall Street Journal,* Reuters, Bloomberg, and on Jim Cramer's *Mad Money* show on CNBC. He has appeared on CNBC, Fox Business, and Bloomberg. He is an "all-star contributor" for The Street's Option Profits Team. Mark is also the Managing Editor for *Expiring Monthly: The Option Traders Journal* digital magazine focused exclusively on options trading. He has spoken for the CBOE, the ISE, CME, and VOLX; is a co-host on the popular *Option Block* podcast; and the *Volatility Views* podcast. Mark has a Bachelor's of Science in finance from Villanova University.

Preface

The idea of this book began in Las Vegas in 2010. Mark and I were attending a conference and we were working on growing our respective businesses. Mark is the founder, COO, and Director of Education at OptionPit.com. He is a former market maker at the CBOE and AMEX. He has appeared on CNBC, Fox Business, and Bloomberg. He has also been quoted in *The Wall Street Journal* and is a featured contributor at Option Profits of TheStreet.com. He is an expert in the field of options trading. On the other hand, I am more of a behind-the-scenes guy. I operate more like a KGB or CIA operative. Up to now, you would have known what I have been doing only if you were a partner at my hedge fund. I trade options for a living. I am the co-founder and Chief Investment Officer of Smart Income Partners, Ltd., a hedge fund that trades options to generate consistent income for its partners. I earned an MBA from The Wharton School. I have experience in many different businesses, including financial services and insurance, that I gained as a management consultant at Bain & Co. and as an entrepreneur.

Mark and I share a passion for trading options profitably. We have read many books on options and options trading. Most of them answer the question of "what" options are. They are very descriptive and provide useful information. However, rarely do you find a book that answers the question of "how" to make money in an option trading business. How do you develop the framework for an option trading business? How do you implement a system? How do you actually trade? How do you make money consistently? How do you build a business out of trading options?

Given that void, we decided to write this book. We believe that we bring a different perspective to the business of trading options. This book brings you our combined experiences to help you build a successful option trading business. We will show you the "how-to" and give you a framework in which to operate. The book is based on the way I manage Smart Income Partners, Ltd. Smart Income Partners is a hedge fund that specializes in trading options to generate consistent monthly income for its partners. The fund is managed exactly like an insurance company.

It uses the business model of an insurance company. In this book we will share with you the concept of The One Man Insurance Company (TOMIC). TOMIC is the business framework that is used at Smart Income Partners, Ltd.

The book also offers insights drawn from the vast experience in trading options that Mark has had as market maker at the CBOE and NYSE. Mark also draws from all his experiences from coaching students at OptionPit.com. I must say, not because he is my friend and co-author, that Mark provides one of the best option coaching programs available today. I highly recommend OptionPit.com, where I personally am subscribed as a professional member. Mark is consistently thought provoking, and he pushes the envelope on option trading. You may refer to Appendix C, "OptionPit.com," for an overview of OptionPit.com services.

I must warn you, this book should not be your first book in dealing with the options world. It is worthwhile if you have a working knowledge about options or if you currently trade options. If you are a novice in trading options, we suggest you read some other primers on options before reading this book. Readers will benefit most if they have some knowledge of options.

A small but necessary disclaimer: *The Option Trader's Hedge Fund* is intended for educational purposes only. The book reflects the philosophy of how Smart Income Partners is managed. However, due to regulatory restrictions, this book does not share any performance information about Smart Income Partners, Ltd., and is not intended to solicit any business for the hedge fund. The fund is offered only to qualified investors on a one-on-one basis through a private placement memorandum. If you would like information about Smart Income Partners, Ltd., you may contact me directly at dchen@smart-advisors.com.

Mark and I want to thank you in advance for taking the time to read this book. We hope this book will help you build a profitable option portfolio.

Dennis A. Chen
January 2012

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Introduction

The world of investments is very large. You can invest in stocks, bonds, options, real estate, CDs, commodities, or futures. Regardless of where you choose to invest your money and time, it would be very wise to have a framework with which to manage your investments. This book suggests a framework for trading options profitably; this framework has been used by an option trading hedge fund. The book is a road map for anyone wanting to trade options. We provide guidelines on how to run an option trading business successfully. We also provide you with our own experiences, learned along the way as a professional hedge fund manager (Dennis Chen) and a former market maker and trading coach (Mark Sebastian).

If you are reading this book, you already may have experienced trading options. We will not teach you how to set up a hedge fund or how to invest in hedge funds. There are other books to help you set up a hedge fund if you so desire. This book gives you a glimpse of how a particular hedge fund, Smart Income Partners, Ltd., successfully trades options for its partners. Smart Income Partners, Ltd., is an option trading hedge fund managed by Dennis Chen, a co-author of this book.

At his hedge fund, Dennis views trading options in a different light. He thinks of his business not as a hedge fund, but as an insurance company. When asked the question "What do you do for a living?" most hedge fund managers would say, "I manage a hedge fund," or "I'm a money manager." When someone asks Dennis what he does for a living, he answers, "I manage risk for a financial insurance company." Let us introduce to you the concept of "The One Man Insurance Company," or TOMIC. TOMIC is the business framework Dennis uses to

operate and guide his hedge fund. TOMIC is a framework that anyone could use to manage their option portfolio. You too could run The One Man Insurance Company. In the following pages we introduce the concept, explain the framework, and show you how to manage your option trading business like Dennis does at his hedge fund. Also, you will find throughout the book key lessons they have learned during their trading careers.

Part I of the book, "The Framework," shows you the framework details of TOMIC.

Chapter 1, "The Insurance Business," provides an overview of the insurance business and compares it to the way the hedge fund thinks about its option trading operations. You will review the value chain of a traditional insurance company and compare it to the value chain of The One Man Insurance Company. You will learn what key success factors are needed to run a successful TOMIC. You will gain a better understating of the business of TOMIC.

Chapter 2, "Trade Selection," provides you with guidelines of trades chosen for TOMIC. You will learn about market selection, direction, timing, volatility, and pricing. Each of these five factors impact your trade selection, which is the underwriting function at TOMIC. It is the key to making money trading options.

Chapter 3, "Risk Management," reviews the risks taken at TOMIC and how to manage those risks to avoid a terminal loss of the business. This chapter discusses position sizing, money management, diversification, protection against "black swan" events,[1] and trade exits.

Chapter 4, "Trade Execution," explains how to implement the trades you place. It shows how to get them done efficiently. This chapter gives you a better understanding of the conditions to look for before placing the trade and how to place the trade in order to get better fills.

Chapter 5, "The Trading Plan," discusses the importance of having a plan, and it reviews the process of creating your trade plan.

Chapter 6, "Trading Infrastructure," reviews all the tools and services you need in order to be able to run a successful option trading business.

Chapter 7, "Learning Processes," reviews the importance of a feedback loop. We include suggestions on supporting functions necessary to maintain the edge in the business of trading options.

In Part II of the book, "Implementing the Business," we give you a taste of how to implement the business. This part of the book shows you specific examples of different trades that are used at the hedge fund that you could implement in your TOMIC. You will see how to trade a vertical spread, an iron condor, a butterfly, a calendar spread, and a ratio spread.

Chapter 8, "Understanding Volatility," shows you what you need to know about volatility to implement the TOMIC.

Chapter 9, "Most Used Strategies," shows you in detail the five most frequently used strategies at TOMIC. It provides you with the key criteria for using each strategy.

Chapter 10, "Operating the Business: Putting Together TOMIC 1.0 from A to Z," provides guidelines for creating TOMIC 1.0. It provides you the answer to how to create your own TOMIC.

Part III, "Lessons from the Trading Floor," is a selection of blogs written by Mark Sebastian for OptionPit.com, with an occasional guest blog written by Dennis Chen. The section covers lessons learned at the option pits on different topics. You will find words of advice on risk management, volatility, trading and execution, and the Greeks.

Once you have finished reading this book, you will have a good understanding of the insurance company framework used to build a profitable option portfolio. As you build your option trading business, you might decide to read the book again because there are additional insights you will get after you've experienced real trading conditions. The markets are constantly changing. We encourage you to continuously learn and seek to improve your trading every day. This book was written to be a guide, but you must walk your own path.

Endnote

1. A black swan event is an unexpected event of large magnitude and consequence. The black swan theory was developed by Nassim N. Taleb. Refer to his book *The Black Swan.*

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1

The Insurance Business

In this chapter we show you how to create a business of trading options successfully by using the framework of an insurance company. This is the same framework used at a hedge fund managed by Dennis (the co-author of this book). So, for this book, we create the concept of The One Man Insurance Company (TOMIC). You will need to know how the insurance business works. What is the good, the bad, and the ugly of the insurance business? How does an insurance company make money? How does it lose money? What are the key profit drivers of the business, and what are the key success factors?

Insurance is the equitable transfer of risk from one entity to another in exchange for compensation, called a premium. The insurance companies make money by taking risks from others in exchange for a premium. For example, if you own a vehicle, you probably have car insurance that protects your asset against a big loss like theft or accident. The insurance company collects a premium each year to protect you against the big loss. The insurance company pays you to make you whole. For an insurance company to function, it must know what risks it is willing to insure. It also needs to know how much premium it needs to charge to be able to back the risks and still earn a profit. It will need to know the car-theft statistics and accident statistics for your car's model and year. Using that information, the company is able to price coverage and charge a premium that allows the company to make a profit on the large pool of car insurance it writes.

Figure 1.1 illustrates a generic value chain of an insurance company.

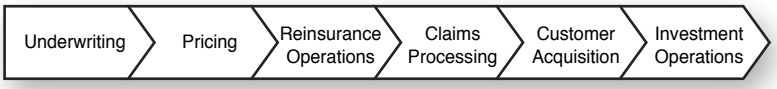

Figure 1.1 Insurance company value chain.

The main functions in an insurance company are these:

- Underwriting: Defining and selecting risks to insure
- Pricing: Identifying the insurance premium for the risk taken
- Reinsurance: Divesting or redistributing unwanted risk
- Claims processing: Dealing with customers and payout of insurance losses
- Customer acquisition: Selling insurance policies
- Investment operations: Earning additional income on reserves (float)

The underwriting function selects risks the insurance company is willing to insure. This function defines characteristics of the risk and analyzes the statistical outcomes of the risk. For example, the underwriting function of a property and casualty insurance company would look at the auto insurance market and decide which segment of the market they would like to insure. The underwriters, through their analysis, may find out that the small-SUV segment driven by married women between the ages of 24 and 36 have only a 1% chance of an accident versus the general average SUV accident rate of 5%. The underwriters may decide that this is a segment they would like to have in their portfolio of insurance policies.

The pricing function determines the amount of premium to charge for the risk being insured. Continuing this example, the insurance company prices the small SUV driven by married women between ages 24 and 36 at a price that generates a positive expected return. They price it at an expectation of a 20% return on premiums written for the year.

The reinsurance operation divests or relocates unwanted risk. The insurance company buys insurance from other insurance companies or

reinsurance companies to spread risk among many. In effect, it transfers the unwanted risk to other entities (reinsurance companies) that are willing to bear the unwanted risks in exchange for compensation. An example of this is a property and casualty insurance company (Auto Insurance Co.) with a large base of auto insurance subscribed in the San Francisco Bay Area. The company is not willing to take the risk of an earthquake wiping out all the insured vehicles. Auto Insurance Co. is comfortable insuring the vehicles for normal accidents and theft, but if the Big One (earthquake) happens it will cause damage to all the company's insured cars. Therefore, the insurance company reinsures earthquake risk by buying earthquake insurance from a reinsurance company (let's call it Reinsurance Co.) that specializes in catastrophic insurance and is willing to assume the earthquake risk. So, if the Big One hits, Auto Insurance Co. would not lose because Reinsurance Co. would pay the Auto Insurance Co. for the earthquake claims, which in turn uses the funds to pay the individual auto claims. Hence, its risk of an earthquake was undertaken by the reinsurer and not the auto insurance company.

The claims processing function determines the cost of a loss and pays claims to the insured. Going back to the auto insurance company example, the claims processing unit sends out adjusters to an accident to evaluate the loss and to start the claim process. This involves customer service as well as compensation since the adjuster deals with the insured and wants to provide good service in order to keep them as a client.

The customer acquisition function is executed through agents and brokers. They are responsible for selling the insurance policies. The agents may be exclusive agents or outside agents. The channels could be through physical agencies (offices), by phone, or online (using the Internet). This function is also supported by marketing and customer service departments.

The investment operation function is a profit center of an insurance company. There are two types of profits generated in insurance: underwriting profits and investment profits. The underwriting profits are generated directly from writing insurance policies. Underwriting profits are what is left after the premiums are collected and claims are paid. The investment profits are generated from investing the premiums and

reserves set up when policies are written. Some people refer to investment profits as income generated from the "float" on the insurance companies. Warren Buffett is a master at investing. The insurance businesses in Berkshire Hathaway (GEICO and General Re, for example) are required to create a set amount of reserves. These reserves are invested by Warren Buffett to generate income. This is the income derived from the investment operations.

How Insurance Companies Make Money

Insurance companies make money from underwriting and from operations. Underwriting profits come from selling insurance and taking on risks. Investment profits are profits in the form of investment returns. TOMIC makes almost all of its money from underwriting operations. TOMIC could make money from investments also, but this topic is not covered in this book.

Here is an example of how an insurance company makes money selling automobile insurance. Each year ABC Auto Insurance Co. insures 10,000 cars with average value of $20,000 per car, and it charges on average $1,000 annual premium for each car. Each year it has on average 1,000 claims where the average cost of a claim is $4,500. Looking at the insurance operations, ABC Auto Insurance Co. earns a profit of $5,500,000.

This is how a gross Profit and Loss summary looks:

Earned Premium =	$10,000,000; 10,000 cars × $1,000 premium
Incurred Loss =	($4,500,000); 1,000 claims × $4,500 cost of claim
Profit =	$5,500,000; Profit from insurance under writing operations

Of course, there will be administrative overhead beyond this gross profit. Also, while ABC is waiting to pay out claims, it makes more profit from investing the money it collects as premiums and earns investment income. So, assuming ABC can earn about 3% on the premiums it collected and it maintained an average float (premium collected and not paid out as claims) of $2,750,000 ($5,500,000/2), it would make another $82,500 in investment income.

ABC Auto Insurance Company makes money by charging sufficient premium to cover the actual losses incurred and leaving a profit for the company. The key to making money for ABC is the expertise in underwriting risk. A 20-year-old single male driving a two-door sports car pays a higher auto insurance premium than a 30-year-old married female driving a minivan. That determination is made by the underwriters at ABC using statistical estimates of the customer and type of vehicle.

So, by now you are probably wondering how an option selling hedge fund works like an insurance company. How is one option trader able to do everything an insurance company does to make money? Keep on reading. We will show you how to trade options exactly like running an insurance company. A side-by-side comparison of the automobile insurance to writing (or selling) a put is shown in Table 1.1.

Table 1.1 shows a side-by-side comparison of auto insurance and option selling. Remember that options are a form of financial insurance. They transfer risks from the option buyer to the option seller. Auto insurance is just like options:

1. First, there is an asset being insured. In the case of auto insurance, the asset insured is the car. In options the asset being insured is the stock, index, or future.

2. Every insurance contract is in effect for a specific time period. In auto insurance the policy usually is for 12 months. In options the period varies depending on the options you buy or sell, and it could range from a duration of one week to 30 months. In this example the option expires in 30 days.

3. For auto insurance there is an amount that is insured, the value of the vehicle. In this example it is a $20,000 car. In options the strike price defines the amount insured. In this case it's $90; this means that the owner of the put has the right to sell XYZ stock at $90 before the option expires. This is like auto insurance: If the vehicle is worth $20,000 and gets into an accident that causes $4,500 in damages, then the auto insurance company needs to make the policy holder whole and pay for the repairs needed to bring back the value of the vehicle to $20,000.

Table 1.1 Auto Insurance Comparisons to Option Selling

	Auto Insurance Terminology		Option Selling Terminology	
1	Insured asset	Car	Underlying asset	XYZ stock (trading at $100)
2	Insured period	12 months	Time to option expiration	30 days
3	Value insured	$20,000	Strike price	$90
4	Deductible	$2,000 (10% of insured value)	% OTM (out-of-the-money)	10% (XYZ was trading at $100 when $90 put was sold)
5	Insurance premiums	$1,000	Option premiums	$3
6	Loss ratio	10%	Probability of profit	90%
7	Claims	Yes: Pay out claim No: Keep premium	Expired	ITM[1]: Seller has to buy XYZ for $90 OTM[2]: Option seller keeps the premium
8	Reinsurance	Buy insurance from another company to protect against catastrophic loss (e.g., a tsunami)	Hedge	Buy XYZ put farther OTM or index puts to protect against large market losses (e.g., 9/11/01 attacks)

[1] ITM: In-the-money option is an option that has intrinsic value.

[2] OTM: Out-of-the-money option is an option that has no intrinsic value.

4. To pay less for auto insurance, some car owners are willing to take some risk by agreeing to a deductible in the car insurance contract. In this example, the car owner is willing to pay for the first $2,000 of damages in a claim. Hence, if the car gets in an accident and the repairs are $4,500, the insured will have to pay $2,000 and will be reimbursed $2,500 from the insurance company. This is analogous to selling OTM (out-of-the-money) puts. The option buyer, to pay less for the put that's protecting XYZ stock, is willing to assume 10% of the loss if XYZ stock goes down. So, instead of buying a put with a $100 strike price, he buys a put with a $90 strike price. That means that if XYZ stock's price falls within $0 to $10, or up to 10%, then the owner of the put will not get anything back from the put if held to expiration. He is willing to absorb the first 10% of the fall in XYZ.

5. A premium is paid for insurance, the same as for options. In both auto insurance and options the fee paid for the contract is called a premium. In the example, the car owner paid $1,000 to insure the car for 12 months. The option buyer paid $3 to insure 100 stocks of XYZ at a price of $90 for 30 days.

6. From the ABC Auto Insurance Co. point of view, there is a loss ratio based on actuarial tables expected from selling the auto insurance. In this example ABC expects to have a 10% loss ratio. This means that on average from the auto insurance segment, it expects to have claims on 10% of its policies. From the option seller perspective when writing the put, according to the analytical model used, the XYZ put has a 90% probability of expiring worthless. The underwriting is very important when one is running an insurance business. This topic is addressed in a later chapter.

7. In auto insurance either the company pays out a claim when there is a loss, or it does not have to pay out anything if the policy holder is claims free. In the latter case, the insurance company would have made money since it keeps the entire premium. It is the same case for the option seller. If the put option sold expires in-the-money (ITM), the option seller will have to buy XYZ stock

for $90 from the put option owner. If the put expires out-of-the-money (OTM), meaning that XYZ was above $90 at the time of expiration, then the put seller keeps the premium collected.

8. Most insurance companies reinsure part of their risk. For example, ABC Insurance Company might buy earthquake and tsunami insurance from a reinsurance company to cover all the automobiles for which ABC has written insurance. This is done to avoid a catastrophic event. If there were a tsunami, most likely there would be closer to 100% loss instead of 10% expected loss. Hence, reinsurance against catastrophic losses is a good idea. The option seller can do the same to protect against a catastrophic event (e.g., 9/11/2001, a financial meltdown, or a presidential assassination) by buying a put at lower strikes (OTM) in XYZ or by buying an OTM put at the market (S&P 500 index). By doing this, the options seller reinsures just like the insurance companies to avoid catastrophic losses.

The example shows that selling options is very much like running an insurance company. The business of a one-man insurance company is to collect premiums from option buyers in exchange for the risks of losses in the underlying markets of the options and earn profits from the time decay of the options.

How Insurance Companies Lose Money

Understanding the business is crucial to your success. Now that you know how insurance companies make money, let's talk about how they lose money. The insurance business is fabulous; just make sure you know what you are getting into. Make sure you understand the risks.

Insurance companies can lose money in their investments or on the insurance contracts they have written. Losses from investments are losses that the company had with the float (its reserves). The losses from insurance contracts, commonly known as underwriting losses, come from insurance contracts on which the company had to pay claims. When the claims are more than the premiums received, there is an underwriting loss. The insurance company lost money because it

mispriced the insurance by underestimating the risk. This is why knowing the risk is extremely important in order to not lose money in this business.

The most important function in the insurance company is underwriting. Underwriters select and price risk. They make sure that actuarially the policies written are expected to have a positive return. For example, in a life insurance policy, the underwriting unit is the one that figures out how long a 40-year-old male, nonsmoker, with a clean bill of health is expected to live. Then with this information they figure out how much to price the premium for the life insurance for this segment of the population in order to have a positive expected return.

If the underwriting unit is wrong, the loss ratio will be higher than expected, and the company will lose money. They will pay out more than they collect in premiums.

This sounds like a simple business, but it is not. The company estimates the probability of losses to a segment it wants to insure. Next, based on those estimates, it prices the premium needed to make a profit. Then, it sells the insurance policies. It collects the premiums and invests them while it waits for the policy to expire or the event to happen. Finally, if the event happens it pays out the claim, or if the event does not happen it pockets the premiums as profits.

Where is the ugly, you ask? Overall, insurance is a good business. However, the ugly comes when there are risks that are hard to calculate. The financial crisis of 2008, when AIG almost went under and the U.S. Government bailed it out, is an example of the ugly. AIG was selling credit insurance, credit default swaps (CDS), to insure mortgage-backed securities. However, it did not calculate the risks correctly, and when subprime mortgages started blowing up, AIG was in big trouble. AIG sold $450 billion of credit insurance without a clear understanding of how the risks behaved. When the subprime mortgages started to default, the underlying mortgage-backed bonds insured by AIG started failing and AIG was caught without enough liquidity to back the securities it had sold. It turned ugly very fast and was due to poor underwriting. AIG did not know the risks it took on and did not collect the necessary premiums to cover the risks. In fact, it didn't manage its portfolio of risks correctly because it was overexposed to subprime mortgage risks

without knowing their magnitude. It was a disaster that almost brought down the entire financial system. That's the ugly.

Insurance companies sell "paper," a promise to pay in the future in exchange for cash now. In the future who knows whether it will have to pay or not, but most likely it will pay out less than the cash it collected.

Success Drivers of the Insurance Business

The key for an insurance company to be successful boils down to doing four things right:

1. Risk Selection: Identifying the risk it is willing to take, which means being good at underwriting and pricing.
2. Risk Management: Managing risk, reinsuring unwanted risk, and managing claims effectively.
3. Risk Acquisition: Subscribing insurance, using sales channels, and effective marketing to attract clients and sell insurance policies.
4. Investment Operations: Earning good returns on the reserves (or float).

Reviewing the value chain, Figure 1.2, as you compare the traditional insurance company value chain to TOMIC's simplified value chain, you see that their functions and their success factors are the same. The investment operations of TOMIC are very simple. TOMIC keeps the required reserves in money market funds or in cash.

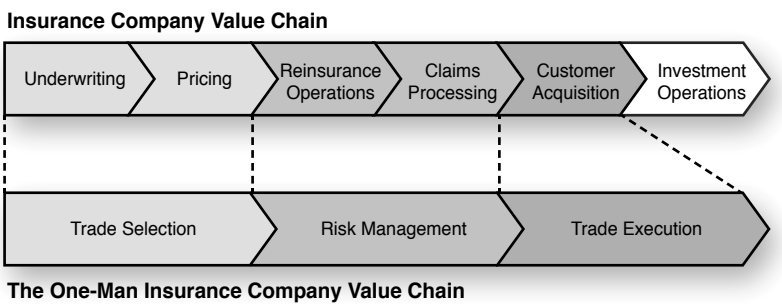

Figure 1.2 Comparison between value chains of a traditional insurance company and TOMIC.

TOMIC's value chain has three primary functions:

1. Trade Selection: Encompasses underwriting and pricing. Selects the market and strategies to trade.
2. Risk Management: Encompasses money management, trade sizing, hedging (reinsurance), trade adjustment (claims), and trade decisions.
3. Trade Execution: Is the equivalent of client acquisition in the traditional insurance company. In this case TOMIC goes to the option exchanges to sell its options (insurance policies).

These success drivers need to be managed in any insurance company that wants profits. At The One Man Insurance Company you need to constantly watch and manage these drivers to avoid ugly results:

1. Trade selection. This function encompasses selecting markets, pricing the risk, and selecting a strategy and a timeframe. Allstate and State Farm select geographic regions where they sell homeowners insurance. It is the same process in The One Man Insurance Company (TOMIC), but instead of homes in different geographies, TOMIC selects which underlying indexes or equities markets it will write options on. TOMIC could write options on the SPX, RUT, NDX, DIA, AAPL, IBM, PG, JNJ, or GOOG, to name a few. Pricing of the insurance is very important. In an insurance company like Allstate the underwriting department defines the expected losses for a specific group of insured. For example, for automobile insurance they would use variables to predict expected losses from a segment of drivers. They know to expect fewer crashes from married women age 32, driving a minivan, than for single males age 18, driving a two-seat convertible. At TOMIC the pricing is very similar. The difference is that you are the underwriter and will need to know the volatility and price of the underlying equity or index you are going to insure (write options against). Once you know the market and the risk you want to take, you select a strategy. Your strategy selection could be a vertical spread, calendar spread, condor, and so on. Finally, you should decide on a timeframe for the trade—a week, 20 days, 30 days, and so on. Homes are usually insured on an annual basis.

2. Risk management. This function could be more accurately called active risk management. This function continuously monitors the risk portfolio and divests any risk that is not wanted. At Allstate if the loss ratio on married women driving minivans starts increasing year after year, they have to determine what has changed. Maybe it is that the women have more children who cause distractions when the women are driving. Given that they are constantly monitoring their insurance portfolio, Allstate adjusts (raises) the price of the insurance for this market, or they might not insure married women with kids driving minivans. The same should happen at TOMIC. For example, if TOMIC insures defense contractors and new legislation from Congress cuts defense spending by half, TOMIC might stop writing options on defense contractors or it might reinsure its position by buying puts. TOMIC has to constantly be aware of changes in volatilities and prices of the underlying market. Risk management at TOMIC involves position sizing, money management, trade adjustments, portfolio insurance, and portfolio diversification.

3. Trade Execution. This function is equivalent to the sales of insurance policies by the traditional insurance sales force. Instead of having agents like Allstate, at TOMIC we have the option exchanges. TOMIC goes to an option exchange, using a broker, to buy or sell options. There is no need for a sales force to sell insurance, only a computer connected to an exchange. The efficiency and effectiveness in which TOMIC can execute a trade will have a direct impact on profitability. There are different ways to execute a complex trade, and there are many factors that impact the execution. The factors could be the size of the market, size of the trade, the time of day, the exchanges the market is traded on, and the market makers. This function is a crucial link to having a successful TOMIC or not, and you must know how to execute your trades well.

All the key success factors of an insurance business need to be in place at TOMIC in order to have an ongoing successful business. TOMIC operating profitably and successfully is, in theory, achievable. Figure 1.3 shows what TOMIC looks like when you include all of its functions: primary and support.

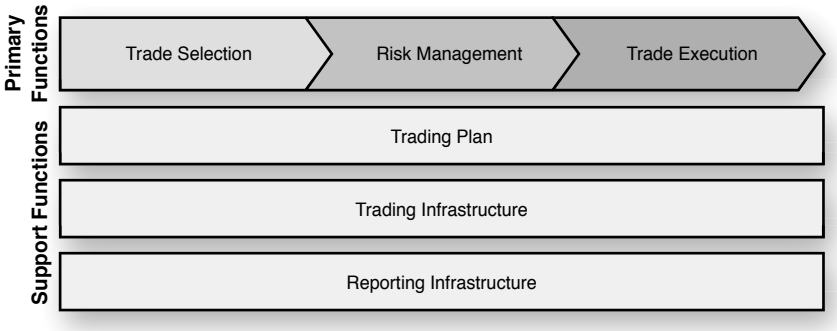

Figure 1.3 TOMIC value chain.

Every business has some kind of "infrastructure" before it begins to operate. For example, a fast-food franchise needs real estate, stoves, refrigerators, and telephones. At TOMIC, you need hardware (computers, Internet connections, and telephones), software (trading software and a plan), and working capital in order to operate. For TOMIC to execute its functions (trade selection, risk management, and trade execution), it needs to have a set of supporting functions in place. The supporting functions allow you to operate TOMIC successfully. These functions are divided into trading plan, trading infrastructures, and learning processes. Table 1.2 shows an outline of the supporting functions and their important processes.

Table 1.2 TOMIC Supporting Functions

Trading Plan
a. Trade goals
b. Markets to trade
c. Strategy selection parameters
d. Risk management checklist
e. Entry/exit plans
f. Checklists
Trading Infrastructure
a. Broker
b. Execution software
c. Analysis software
d. Portfolio margin
e. Information sources
f. Risk capital
Learning Processes
a. Trading journal
b. Trading group
c. Trading coach
d. Continuing education plan

The trading plan is the operational plan of a traditional insurance company. The trading plan specifies trade goals, the markets to trade, the strategies, the risk management parameters, and the entries and exits. The trading plan is the operational guideline for the manager of TOMIC. It describes the parameters in which TOMIC should operate.

The trading infrastructure is the collection of brokers, execution software, analysis software, information resources, portfolio margin, and risk capital.

The learning processes are a set of habits TOMIC needs in order to continuously improve its business. This function contains a trading journal, a trading group, a trading coach, and a continuing education plan.

In this chapter, we provided you with an overview of the insurance business, and we showed you how TOMIC is just like a traditional insurance company. In the subsequent chapters of Part I, we discuss in detail each of the primary functions and support functions of TOMIC's value chain.

Index

Numerics

A

B

C

D

E

F

G

H

I

J

K

N

O

P

R

S

T

U

V

W