

WILEY FINANCE

Structured Finance & Insurance

The ART of Managing Capital and Risk

CHRISTOPHER L. CULP

Contents

Foreword: Wherefore ART Thou? The Importance of Principle-Based Structured Finance

Preface

Part One: Integrated Risk and Capital Management

Chapter 1: Real and Financial Capital

Real Capital and The Value of The Firm

Financial Capital and The Value of The Firm

Financial Capital Through an Options Lens

Economic Balance Sheet of The Firm

Chapter 2: Risk and Risk Management

Financial Versus Nonfinancial Risks

Core Versus Noncore Risks

Risk Management Alternatives

Chapter 3: Leverage

Benefits of Leverage To The Value of The Firm

Costs of Leverage

Optimal Capital Structure?

Chapter 4: Adverse Selection and Corporate Financing Decisions

Adverse Selection and Markets For Lemons

Adverse Selection in Securities Markets

Implications of Adverse Selection in Securities Markets

Chapter 5: Capital Budgeting, Project Selection, and Performance Evaluation

Accounting Metrics For Project Selection and Performance Measurement

Discounted Cash Flow Methods With No Risk Adjustment

Net Present Value Rule

Shareholder Value Added

Economic Value Added and Residual Income

Cash Flow Return On Investment

Chapter 6: Risk Transfer

Risk Transfer and Equity Capital

Risk Transfer and The Value of The Firm

Risk Transfer Versus Risk Capital

Chapter 7: Risk Finance

Cash Flow Distinctions Between Pre- and Postloss Funding

Irrelevance of Risk Finance Under M&M

Motivations For Funding A Retention

Part Two: Traditional Risk Transfer

Chapter 8: Insurance

Insurance Products As Contracts

Insurance Pricing

Moral Hazard and Insurance Contract Design

Adverse Selection and Insurance Contract Design

Insurance Companies

Reserve and Asset-Liability Management at Insurance Companies

Chapter 9: Reinsurance

The Basics

Risks of Writing Primary Insurance

Motivations For Purchasing Reinsurance

Facultative Versus Treaty Reinsurance

Proportional Reinsurance Treaties

Excess of Loss Reinsurance

Horizontal Layering and Blended Cover

Syndication

Chapter 10: Credit Insurance and Financial Guaranties

Credit Insurance Products

Letters Of credit

Who Bears The Cost of Acquiring Credit Protection?

Distinctions Between Different Credit Protection Products

When is A Guaranty Not A Guaranty?

Chapter 11: Derivatives

What Are Derivatives?

Forward and Forwardlike Contracts

Options

Chapter 12: Credit Derivatives and Credit-Linked Notes

Scope of Credit Derivatives Activity

Single-Name Credit Default Swaps

Portfolio Credit Default Swaps

Asset Default Swaps

Equity Default Swaps

Total Return Swaps

Credit-Linked Notes (Recourse)

Part Three: Structured Finance

Chapter 13: The Structuring Process

Types of Structured Financial Solutions

Structuring Process

Tranching and Subordination

Chapter 14: Hybrids, Convertibles, and Structured Notes

Hybrids and Convertibles

Structured Notes

Chapter 15: Contingent Capital

Contingent Capital Facilities As Options

(Re)Insurance Applications of Contingent Capital

Corporate Applications of Contingent Capital

Synthetic Contingent Capital

Chapter 16: Securitization

Securitization Process

Credit Enhancement

Liquidity Support

Interest Rate and Currency Risk

Securitization as Credit Risk Reinsurance

From ABS and ABCP to CDO

Chapter 17: Cash Collateralized Debt Obligations

Types of CDOs

Balance Sheet CDOs

Arbitrage CDOs

Cash CDOs as Whole Capital Structure Products

Chapter 18: Synthetic Collateralized Debt Obligations

First-Generation SCDO Structures

Appeal of Synthetic Structures

Second-Generation SCDO Structures

Flirting With Insurance?

Chapter 19: Structured Synthetic Hybrids

Equity Default Obligations

Hybrid CDO

Nth to Default Basket Hybrid CDO

Rebound Notes

Chapter 20: Securitizing Private Equity and Hedge Funds

Hedge Funds and Private Equity Funds As Collateral

Single-Tranche Capital-Protected Notes

Multiclass CFOs

Chapter 21: Project and Principal Finance

Project and Principal Finance

Project Loan Securitizations

Future Flow Securitizations: Development and Infrastructure

Future Flow Securitizations: Principal Finance

Synthetic Commodity-Based Project Financing

Part Four: Structured Insurance and Alternative Risk Transfer

Chapter 22: Risk Securitizations and Insurance-Linked Notes

General Structure

Synthetic Reinsurance

Corporate Risk Securitizations

Derivatives Structures

Chapter 23: Captives, Protected Cells, and Mutuals

Balance Sheet Self-Insurance

Captives and Other Risk Financing Vehicles

Mutuals or “Self-Insurance Syndicates”

Captives and Mutuals as Users of Other Structured Solutions

Chapter 24: Finite Risk

A Simple Example

Typical Finite Risk Structures

Legitimate Transactions Versus Opportunities For Abuse

Examples of Legitimate Uses of Finite

Sound Principles For Finite

Chapter 25: Multiline and Multitrigger Insurance Structures

Multiline Integrated Risk Transfer

Examples of Multiline Structures

Multitrigger IRM Products

Examples of Multitrigger Structures

Dual-Trigger Insurance Versus Derivatives and FAS 133

Chapter 26: Contingent Cover

Premium Protection Options

Contingent Cover Embedded in Existing Programs

Contingent Insurance-Linked Notes

Part Five: Case and Issue Studies

Chapter 27: The Emerging Role of Patent Law in Risk Finance

Basics of Patentability

Illustration: Method of Exercising A Cat (U.S. PAT. NO. 5,443,036)

A Few Examples of Risk Finance Patents

Evolution of Financial Patents: A Thumbnail Sketch

Conclusion

Chapter 28: Critical Distinctions between Weather Derivatives and Insurance

What Are Weather Derivatives?

What is Insurance?

Distinctions Between Insurance and Derivatives

Analysis of Weather Derivatives As Insurance Discredited

Documentation Considerations

Tax Distinctions

Conclusion

Chapter 29: Is Insurance a Substitute for Capital under the Revised Basel Accord?

Definition of Operational Risk and Related Risk Types

Risk Measurement, Capital Allocation, and Relief For Insurance

Insurance as A Risk Mitigant

Data Dilemma and 20 Percent Capital Relief Limitation

Precursors to Further Regulatory Capital Relief

Conclusion

Chapter 30: Is My SPE a VIE under FIN46R, and, If So, So What?

Scope Exceptions

Variable Interests

Expected Losses and Expected Residual Returns

Primary Beneficiary

Variable Interest Entities

Fin46R Determination Timing

Required Vie Disclosure

Transition

Proposed International Accounting Standards Convergence

Conclusion

Chapter 31: Credit Derivatives, Insurance, and CDOs: The Aftermath of Enron

Management of Credit Risk

What are Credit Derivatives?

Misuse of Credit Derivatives

Credit Derivatives or Insurance

Ongoing Efforts To Improve Documentation

Conclusion

Chapter 32: Project Finance Collateralized Debt Obligations:
What? Why? Now?

What?

Why?

Now?

Chapter 33: 2004 Review of Trends in Insurance
Securitization: Exploring Outside the Cat Box

New Securities

Pricing Theory

Other Trends

Concluding Remarks

Chapter 34: Enterprise Risk Management: The Case of United
Grain Growers

Enterprise Risk Management

The Silo Approach Can Be Inefficient

Enterprise Risk Management at UGG

Erm Process at UGG

UGG'S Decision On Managing Weather Risk

The Contract

Benefits To UGG

Lessons For Other Firms

Appendix To Chapter 34

Chapter 35: Representations and Warranties Insurance and Other Insurance Products Designed to Facilitate Corporate Transactions

Products Designed To Facilitate Mergers, Acquisitions, and Other Transactions

Development of The Market For Tips

Appendixes

Appendix A: Capital Structure Irrelevance

Appendix B: Risk-Based Capital Regulations on Financial Institutions

Appendix C: Risk Capital

Commonly Used Abbreviations

References

Index

Founded in 1807, John Wiley & Sons is the oldest independent publishing company in the United States. With offices in North America, Europe, Australia, and Asia, Wiley is globally committed to developing and marketing print and electronic products and services for our customers' professional and personal knowledge and understanding.

The Wiley Finance series contains books written specifically for finance and investment professionals as well as sophisticated individual investors and their financial advisors. Book topics range from portfolio management to e-commerce, risk management, financial engineering, valuation, and financial instrument analysis, as well as much more.

For a list of available titles, visit our Web site at www.WileyFinance.com.

Structured Finance and Insurance

The ART of Managing Capital and Risk

CHRISTOPHER L. CULP



WILEY

John Wiley & Sons, Inc.

Copyright © 2006 by Christopher L. Culp. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.

Published simultaneously in Canada.

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, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the

publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Designations used by companies to distinguish their products are often claimed by trademarks. In all instances where the author or publisher is aware of a claim, the product names appear in Initial Capital letters. Readers, however, should contact the appropriate companies for more complete information regarding trademarks and registration.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books. For more information about Wiley products, visit our web site at www.wiley.com.

Library of Congress Cataloging-in-Publication Data:

Culp, Christopher L.

Structured finance and insurance : the ART of managing capital and risk / by Christopher L. Culp [et al.].

p. cm.—(Wiley finance series)

Includes bibliographical references and index.

ISBN-13: 978-0-471-70631-1 (cloth)

ISBN-10: 0-471-70631-0 (cloth)

1. Asset-backed financing. 2. Securities. 3. Risk management.
4. Risk (Insurance). I. Title. II. Series.

HG4028.A84C85 2006

658.15'5—dc22

2005019905

Foreword

Wherefore ART Thou? The Importance of Principle-Based Structured Finance

Whenever I get a chance to speak to one of Chris's MBA classes at the University of Chicago, I enjoy the look on his students' faces when I start spouting Shakespeare's views on risk management and corporate finance. For practitioners of structured finance and alternative risk transfer (ART), many of his quotes are quite instructive. For example:

Eye of newt, and toe of frog,

Wool of bat, and tongue of dog,

Adder's fork, and blind-worm's sting,

Lizard's leg, and howlet's wing,—

For a charm of powerful trouble,

Like a hell-broth boil and bubble.

Macbeth's witches truly appear to be our first structured finance specialists. At least that is what some may conclude when reading about the efforts of managers and their financial advisers to practice structured finance and ART as a sort of alchemy—turning debt into insurance, taking liabilities off balance sheet, or accelerating earnings to cover known losses. We can't "bid farewell to magic" (Tempest, Act V, Scene I), but we can establish the fundamentals on which the proper

solutions are structured to address fundamental capital and risk management issues.

In Parts One and Two of this book, Chris lays out the building blocks of finance and risk management drawing on corporate finance theory and applied research that has been developed over the past 30 years. These tools are then sharpened in Parts Three and Four as we move from theory to applications involving project finance, securitization, and the convergence between insurance and capital markets solutions such as catastrophe bonds and committed capital. Chris brings together two different worlds—the world of corporate finance and the world of insurance—and explains how the tools, while they may look different, are based on the same fundamentals.

These worlds are complicated on their own. When practitioners bring them together they often create Byzantine structures to address accounting, regulatory, tax, and corporate finance drivers that might lead even the most astute shareholder or analyst to proclaim:

Sir, I am vexed;

Bear with my weakness; my old brain is troubled.

(*Tempest*, Act IV, Scene I)

This is why simple principles are important. Shakespeare's entreaty "To thine own self be true" (*Hamlet*, Act I, Scene III) can be used by any manager to question whether the structured transaction is a means for obscuring or addressing underlying risks. Structured transactions—whether they

securitize assets, cover difficult-to-insure risks, or access capital markets investors more efficiently—are of questionable value if management cannot explain clearly why considerable time and resources were spent to structure such solutions.

Often, the decision to structure a solution is a type of “To be or not to be” question. Does management of an airline company believe its shareholders wish it to be in the transportation business or the fuel speculation business? To what degree should the future oil price be hedged, for how long, and at what cost? Chris explains the fundamental principles to answer these questions and goes one step further by explaining the confusion shareholders face if they do not know or understand management’s risk management strategy.

Of course, it is because companies can never be “secure from worldly chances and mishaps” (Titus Andronicus) that risk management has a role. It is equally important that risk managers understand that shareholders expect management to take risks. Without taking risk, management cannot create value. It is the balancing act between risk and ruin that Chris concentrates on in such detail by keeping our attention focus on both capital and risk management.

To some financial advisers, ART transactions once appeared as the perfect means to address both core and noncore risks. It was thought that one master insurance policy could cover both insurance and financial risks. Management could use structured insurance transactions as a kind of “cookie jar” to dip into whenever they needed just the right amount of earnings to cover unexpected losses. Chris points out (for example, in Chapters 23 and 24) how this could occur if

management and its financial advisers did not apply two important principles:

1. ART transactions should not be used to cover core business risks.
2. ART transactions should not allow management a cookie jar to obscure the true reasons for unexpected losses.

When ART transactions are transparent, are focused on noncore risks, and avoid creating cookie jars for management, we get back to the fundamental purpose of these products.

In the coming years, we will see insurance and capital markets applications come closer together as capital markets investors and insurance underwriters will accept a common language for risk and risk analysis. In Chapter 22, Chris describes why and how capital markets investors have been tapped to take on insurance-based risks through catastrophe bonds and how insurance underwriters have learned to appreciate that they can participate in the recovery of their clients if they provide capital instead of insurance after an insurable event.

To bring these two markets together into effective and responsible structures, it is important to understand how they differ. Students of corporate finance and risk management require this understanding in order to avoid concluding that an insurance or financial solution is just “a rose by any other name.” The characteristics of a debt obligation or the payment of an insurance premium are critically important differences that Chris describes using common sense and clarity. Hopefully, structured finance practitioners as well as future

risk managers will read these chapters carefully and understand that:

You are a councillor. . . .

Use your authority. If you cannot,

give thanks you have lived so long. . . .

(Tempest, Act I, Scene I)

Structured solutions are a critical element in our sophisticated financial and insurance markets. Used properly, they provide firms with greater financial flexibility and shareholders with greater confidence that management is focusing on the firm's core business rather than being exposed to unmanageable risks. Chris helps to bring needed clarity to the profession of structured finance and the responsibility management has to ensure that shareholders understand the value that structured transactions can create for the firm.

Shakespeare put this best when he admonished us to "Leave not wrack behind." Had he been able to read Chris's book, he may even have added that structured finance was "such stuff as dreams are made on."

Tom Skwarek

Swiss Re Capital Solutions

Mr. Skwarek is Managing Director and Head of Swiss Re's Corporate Capital Solutions Group. He manages this business from London. The thoughts expressed herein are his alone

- [*click Cat Lady Chic*](#)
- [Murder in Sin City: Death of a Casino Boss.pdf, azw \(kindle\)](#)
- [Pulled: A Catalog of Screen Printing online](#)
- [read online The Affair of the Poisons: Murder, Infanticide and Satanism at the Court of Louis XIV here](#)
- [Handbook of Positive Psychology book](#)
- [download online Project 17](#)

- <http://deltaphenomics.nl/?library/Ufos-In-Reality--Programmed-Aerospace-Monitors-Of-Our-Species.pdf>
- <http://www.rap-wallpapers.com/?library/Five-Moral-Pieces.pdf>
- <http://reseauplatoparis.com/library/Deep-Futures--Our-Prospects-for-Survival.pdf>
- <http://omarnajmi.com/library/The-Affair-of-the-Poisons--Murder--Infanticide-and-Satanism-at-the-Court-of-Louis-XIV.pdf>
- <http://www.uverp.it/library/Handbook-of-Positive-Psychology.pdf>
- <http://www.mmastyles.com/books/Project-17.pdf>