Financial Derivatives, Uses and Regulation

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Proceedings of a Seminar sponsored by
North Central Regional Project NC-207
"Regulatory, Efficiency and Management Issues Affecting Rural Financial Markets"
Hyatt-Regency Crystal City
October 3, 1994

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April 1995

FINANCIAL DERIVATIVES
Uses and Regulation

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for NC-207 Committee Meeting
Hyatt-Regency Crystal City
October 3, 1994

What is a derivative?

- Familiar example: commodity futures and options
  - Principle: Value depends on value of underlying "commodity".
- Another example: mortgage backed securities
  - Principle: Value depends on a portion of the cashflows expected from a pool of underlying mortgages.

- Common Feature: Derivative price may respond differently to an economic stimulus than the price of the underlying "commodity" - leverage.

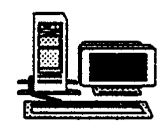
- NOTE: Commodity can mean mean a commodity, a security, an index or a rate

KINDS OF FINANCIAL DERIVATIVES

1. **Derivative securities**

   - on balance sheet
   - organized exchanges assume credit risks
   - may be investments, if not too risky
   - Subtype: Structured notes

     - standard securities with derivative-like pricing;
     - caps, floors, collars or other features alter their cashflows in complex ways.



KINDS OF FINANCIAL DERIVATIVES - 2

2. Derivative contracts

   - off balance sheet, but modify its characteristics
   - only in footnotes to financials
   - usually traded OTC, with counterparty credit risks.
   - Example: Interest rate swaps or foreign exchange contracts.

PREFACE

This publication contains papers and presentation materials from the 1994 annual meeting of the North Central Regional Project NC-207, *Regulatory, Efficiency, and Management Issues Affecting Rural Financial Markets*, held at the Hyatt Regency Crystal City (Arlington, VA), October 3-4, 1994. The program included invited presentations from the Farm Credit Administration, Farm Credit Council, USDA-ERS, and the Federal Agricultural Mortgage Corporation. Copies of the supporting materials used in those presentations are included where possible. Selected papers were presented in sessions addressing: State and Federal Programs Affecting Agricultural Credit; Factors affecting the Supply and Demand for Agricultural Debt Capital; and Credit Scoring, and Efficiency Measurement.

Cooperating agencies in the NC-207 Project are Agricultural Experiment Stations at the University of Arkansas, North Dakota State University, University of Illinois, Purdue University, Cornell University, Iowa State University, Texas A&M University, Kansas State University, University of Kentucky, Michigan State University, Pennsylvania State University, Southern Illinois University, The Ohio State University, South Dakota State University, University of Florida and University of Minnesota, as well as University of Guelph, Farm Credit Administration, the Federal Reserve Banks of Chicago and Kansas City, Federal Reserve Board of Governors, and the Economic Research Service of the U.S. Department of Agriculture.

In addition to those providing papers and materials for the meetings, thanks are due to Barb Bohor as well for her work in organizing and producing this publication.

Bruce J. Sherrick
NC-207 Chairman, 1995

ECONOMIC FUNCTIONS OF DERIVATIVES

- Enable splitting out of separate risks bundled into a traditional financial instrument and pricing each separately.
- Risks can be shifted to parties willing to bear them at least cost.
- Derivative markets tie both to their underlying commodity and to each other: can component price different risk bundles.

POSSIBLE USE OF DERIVATIVES IN A FINANCIAL INSTITUTION

1. Lower funding costs. Issue in one market, reprice in another with a swap to provide each party its preferred funding
2. Manage exposure to interest rate risk that could adversely affect Net Interest Income (NII) or Market Value of Equity (MVE) or
3. Provide a financial service to customers. Brokerage or pricing of options on loans
4. Speculate on future movements in interest rates or currency values

KINDS OF RISKS TO INSTITUTIONS IN DERIVATIVE PROGRAMS

1. Credit Risk -- A concern in over the counter (OTC) markets, because exposure is to a counterparty, with no intervening exchange. Addressed by netting contracts, collateralization, etc.
2. Interest Rate Risk -- Objective is to manage risk, or adjusting to the level appropriate to capital strength/Board policy.
   Accounting impact of changing value of investment security If:
      Trading account Adjust to market fluctuation by charge to income
      Held for Sale Adjust to market fluctuation by charge directly to capital
      Held to Maturity Booked on cost basis

KINDS OF RISKS TO INSTITUTIONS - 2

3. Liquidity Risk -- more of a concern in thinly traded OTC markets. Especially a concern if the purpose of the investment is to provide liquidity.

4. Operating Risk -- Complex activity controlled by few individuals, a key took in overall ALM programs. Overseer knowledge and controls essential

5. Legal Risk -- Interpretations continue to evolve

6. Fiduciary Risk -- Question of suitability of the derivative for the customer

REGULATORY AREAS THAT MAY BE AFFECTED

- Risk based capital
  - Amt. for IRR reduced?
  - Amt. for Credit risk up, esp. in derivative contracts and structured notes?
  - More for liquidity, operating, legal, fiduciary risks?
- Financial Reporting and Disclosure
- Examination Procedure
- Investment Eligibility Regulations
- Financial Services Authorities

CURRENT REGULATORY ENVIRONMENT FOR DERIVATIVES

- International Basle Committees for banking and securities
- Legislation
  - HR 4503 – Gonzales-Leach bill
  - GAO report – Focus on Investment Banks
  - Markey Bill – SEC powers
  - Enactment possible in 1995
- Banking
  - FFIEC Proposal on Reporting/Disclosure
  - Letters, manuals: guidelines on deriv.use
- Securities
  - FFIEC proposals for disclosure
  - SEC proposal on Mutual Funds

LATEST STATUS INFORMATION ON REGULATION OF DERIVATIVES

- Report of the Secretary of Treasury, Chair, President's Working Group on Financial Markets. Financial Market Coordination and Regulatory Activities to Reduce Risks in the Financial System in 1993 and 1994. October 1994

USE OF DERIVATIVES IN THE FCS

Derivative Securities and Structured Notes

- **Investments <= 30% of $ loans**
  - **Near $9.4 billion on 12-31-93**
  - **Some are derivative securities/structured notes**
- **Eligible purposes**
  - **short term cash management**
  - **liquidity**
  - **managing interest rate risk**
- **Restrictions on kinds of govt and corp. paper and diversification requirements**
- **Tests for eligibility of mortgage backed securities, average life, volatility of price and maturity under shock test**

DERIVATIVES IN THE FCS - 2

- Derivative Contracts

  $10.3 billion notional amount on 12-31-93, 98% in interest rate swaps
  Most common use is in issuing structured notes as part of a funding, to lower costs.

  Example: Issue fixed rate medium term note and simultaneously swap the fixed rate payments for variable rate based on LIBOR. Then price loans to farmers indexed to the variable rate.

- Derivatives as a Financial Service authorized for CoBank in dealing with needs of cooperative customers.

FAR OUT IN THE FUTURE?

- Commodity futures and options to reduce cashflow risks in customer repayment? Managing risk exposure in underlying loans.

- Chicago Board of Trade Proposal -- a futures contract in price of real estate. What impacts?