

КЛУБ КОНТЕКСТ

# CAN FINANCIAL INNOVATIONS KILL BANKS: STS ON MARKETS, GOODS AND ORGANIZATIONS .

VINCENT ANTONIN LEPINAY. EUROPEAN UNIVERSITY AT ST.PETERSBURG

I N V E S T O R S R F I R M S  
T S R O P H E D G I N G U N A  
R C O D E S D C A S H F L O W  
A O F E C F O S E K P R I C E  
D R F R U O F E R B A N K S M  
E I E C L R F F I N A N C E A  
R N R A A M I M F F R A U D R  
O D G P T U A S S E T S O M K  
P E N I E L A N G U A G E O E  
T X V T N A F U T U R E S D T  
I T W A D E R I V A T I V E S  
O O S L L G E N G W U N E L G  
N O T E S U R R L A C A P S S  
G L O B A L E E I T I C K E T  
E S P C O S T B A N K O E D O  
O P E R A T O R R L G E A K P

Vincent Antonin Lépinay **CODES OF FINANCE**

ENGINEERING DERIVATIVES IN A GLOBAL BANK

# STS AND THE ELUSIVE NATURE OF THE ECONOMY

The economy is not a substance, just an unstable agreed-upon domain of calculation

Markets as performance

§ Design

§ Standardization

Economic actors as achievements

§ Homo oeconomicus needs to be produced

§ Social and economic are not antithetic

# WHY CALCULATION

- § Revisiting the value/values division of labor (Stark)
- § Paying attention to the sites of most intense economic effervescence
- § Socio technical economic networks matter
- § Different forms of calculation provide different moral grounds

|- 100% Capital Guarantee At Maturity

- 120% Participation in the Quarterly Average Rise of the Portfolio

- 120% Participation in the Best Performing index in Case of Portfolio Underperformance

**Maturity date** February 25, 2008

**Underlying** Equally weighted basket composed of the following indices:

- DJ EUROSTOXX 50 (STX)

- S&P 500 (SP)

- NIKKEI 225 (NIX)

**Capital Guarantee** 100% of Nominal Amount at Maturity

**Redemption at Maturity** Maturity, the holder will receive the greater of the following:

- Nominal x 100%

- Nominal x (100% + 120% [ $\text{Max}(BKT_m - 1; 0)$ ])

with

$$BKT_m = \frac{1}{32} \sum_{t=1}^{32} BKT_t$$

$$BKT_t = \left[ \frac{1}{3} \times \frac{SP_t}{SP_i} \right] + \left[ \frac{1}{3} \times \frac{STX_t}{STX_i} \right] + \left[ \frac{1}{3} \times \frac{NIX_t}{NIX_i} \right]$$

**Double Chance** If  $BKT_m < BKT_{i,t}$ , the Note pays

$$\text{Nominal} \times \left( 100\% + 120\% \times \text{Max} \left[ \frac{SP_m}{SP_i} - 1; \frac{STX_m}{STX_i} - 1; \frac{NIX_m}{NIX_i} - 1; 0 \right] \right)$$

**With**  $\underline{SP_m} = \frac{1}{32} \sum_{t=1}^{32} SP_t$  ;  $\underline{STX_m} = \frac{1}{32} \sum_{t=1}^{32} STX_t$  ;  $\underline{NIX_m} = \frac{1}{32} \sum_{t=1}^{32} NIX_t$

# METHOD

- § Enrolled in a Master's degree in mathematical finance
- § 18 months of participant observation – late December 1999 to late July 2001
- § Internship in 3 different offices and 2 different trading rooms
- § Front Office
- § Middle Office
- § Back Office

# PRECEDENTS

- § Detailed ethnographies of markets and exchanges
- § Mackenzie 2011 American Journal of Sociology
- § Detailed studies of banks trading rooms
- § Knorr Cetina forthcoming Maverick Markets
- § Economic analyses of market microstructure
- § Product specific studies

# SOMETHING NEW

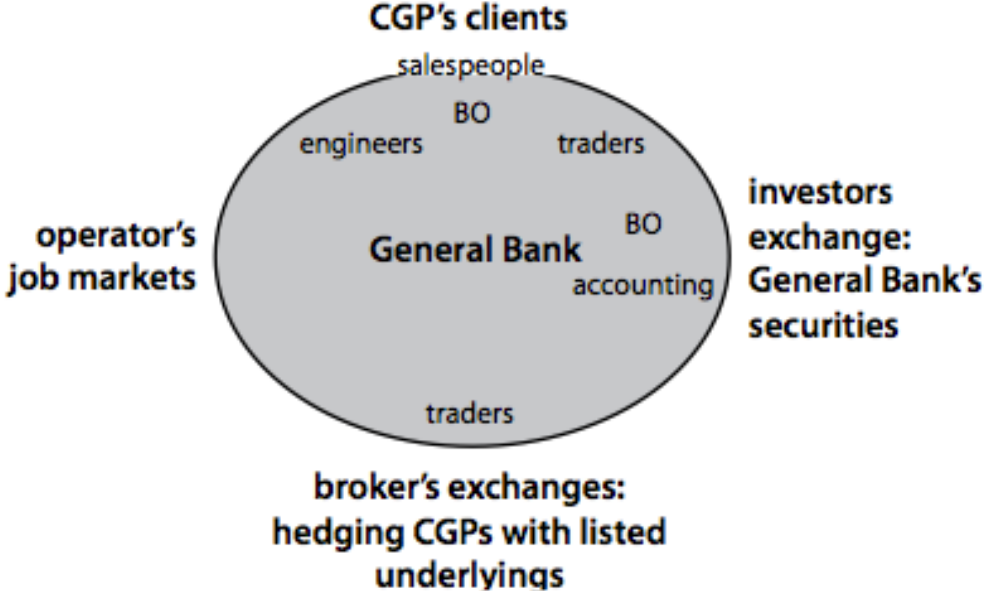
- § Tracking the product from its design to the point of sale
- § Innovation
- § Multiple experts
- § Transformation of an organization in the wake of a new product
- § An organization on the edge, trying to outpace competition
- § A porous organization



# ORGANIZING: THE SPACE OF FINANCE DOCUMENTS

- § From a dream of ethereal finance to a team of salespeople, engineers and traders and all the others
- § The role of the client
- § The topography of the bank with the client
- § Conclusion: customized finance + hedging requirements cost much money

# THE BANK ECOSYSTEM



# ORGANIZING: THE SPACE OF FINANCE DOCUMENTS

- § From a dream of ethereal finance to a team of salespeople, engineers and traders and all the others
- § The role of the client
- § The topography of the bank with the client
- § Conclusion: customized finance + hedging requirements cost much money

# A TICKET

**CAP DIGITALE / INNOVATION**

BO and FCM references:

PORTUGAL:  N°:  N°:   
 CONTINENTE:  N°:  N°:   
 COUNTRY:  COURTAGE:

PLACE NEG:  DATE DE NEGOCIATION:  DATE DE VALER:  DATE DE RENDE:

PRODIGE:  DEVS:

OFFICE:  NON-CHAL:   
 TAUX GARANTI:  TAUX VARIABLE:   
 TEND:

METHODE / BASE:  SPREAD ADD:   
 % R ROLL:  SPREAD MULT:   
 DATE:  DATE DE PAY:   
 N° CLIENT LIMITE:  REGIME:

REPLACEMENT:  OPTIONNEL - Base:  DATE DE PAY:   
 TAUX GARANTI:  TAUX VARIABLE:

PRODS:  DEVIS:  N°:  N°:  N°:  N°:  N°:  N°:   
 TYPE PLAN:  PRODUITS:

QUALITE:  DEVISE:  DEVISE:  LE:   
 QUALITE:  DEVISE:  DEVISE:  LE:

COMPLET:  CODE ES-100:

ANNUAL AMORTISSON:   
 TAUX GARANTI AMORTISSON:  LIMITE AMORTE (AN):   
 RIQUE:  ALIC:  AGENCE:

COMMENTS: *2019A reje- d's de nominal tous les ans  
 de l'innovation est > 2%*

$$\left( \frac{1 + \frac{r}{n}}{1 + \frac{a}{n}} \right)^n > 1$$

*Si n = 20 > pour être inférieur à 1, il faut prendre  
 l'année 1 de la période de 20 ans*

COORDONNEES DE RENDEMENT:

BOULEVARD DE L'INNOVATION DE LA COMPTABILITE P.A. 2019

manual product formula

# BACK OFFICE VERSION

Application: TALK  
 Deal Id: TAU 271036  
 FO Ref: 655 0389524 001

User: VLEPI  
 Date: 29/06/2001  
 Time: 10:30

### TRANSACTION

**BO and FO references**

Product Code:  Version User:  Approval Status:   
 Deal Type:  Effective Date:   
 Portfolio Mne:  Entity Id:   
 Counterparty Mne:  Type:   
 Trade Date:  BIO Manager Initials:   
 Trader Initials:  Capture Group Id:   
 FO Reference:  Trade Location:   
 Special Flag:  Charat Flag:  Start Principal Exchange  
 Up front fee Nbr:  Broker:  End Principal Exchange

**Characteristics**

Accounting  
 MTM Valuation Flag  
 Accruals Flag  
 Daily Accounting Flag  
 Porex Off balance sheet  
 Rate Off balance sheet  
 Settlement  
 Auto Amortization Flag  
 Sol Settlement Flag  
 Netting Flag  
 ELS  
 Early Termination Possible

Cancellation  
 Orig. Cancellation Id  
 Orig. Cancellation Type  
 Final Cancellation Id  
 Final CancellationType  
 Risk  
 International TRAAB Flag  
 BSA Flag  
 File Id  
 Business Id

**CounterParty**

Counterparty Reference  
 Intern  
 Internal Deal Id  
 Reconciliation Date  
 Intra-back  
 Deal Id  
 Reconciliation Date  
 Inter-back  
 Deal Id  
 Reconciliation Date

Pending  
 Reconciliation Status  
 Back To Back  
 Intra-Back Approv. Stat  
 Mirror Entity Id  
 Inter-Back Approv. Stat

Comment  
 CAC à terme w EIB +6.30 (B) recot EIB-5 w EIB +6.30 (B) wpt EB -6.30  
 Prime indexée sur IPC inflation Espagne + 13% (R10-17) nominal  
 Operation liée à un swap 271039 et CAP 271036  
 ROLL AU 30

**Information in the comment box**

# SPECULATION

- § Speculation about an “engineered kind”
  - § Entangling services as anti competition strategy
  - § The consequences of innovation: no market price
- Model-based pricing
- Room-based pricing

|- 100% Capital Guarantee At Maturity

- 120% Participation in the Quarterly Average Rise of the Portfolio

- 120% Participation in the Best Performing index in Case of Portfolio Underperformance

**Maturity date** February 25, 2008

**Underlying** Equally weighted basket composed of the following indices:

- DJ EUROSTOXX 50 (STX)

- S&P 500 (SP)

- NIKKEI 225 (NIX)

**Capital Guarantee** 100% of Nominal Amount at Maturity

**Redemption at Maturity** Maturity, the holder will receive the greater of the following:

- Nominal x 100%

- Nominal x (100% + 120% [ $\text{Max}(BKT_m - 1; 0)$ ])

with

$$BKT_m = \frac{1}{32} \sum_{t=1}^{32} BKT_t$$

$$BKT_t = \left[ \frac{1}{3} \times \frac{SP_t}{SP_i} \right] + \left[ \frac{1}{3} \times \frac{STX_t}{STX_i} \right] + \left[ \frac{1}{3} \times \frac{NIX_t}{NIX_i} \right]$$

**Double Chance** If  $BKT_m < BKT_{i,j}$ , the Note pays

$$\text{Nominal} \times \left( 100\% + 120\% \times \text{Max} \left[ \frac{SP_m}{SP_i} - 1; \frac{STX_m}{STX_i} - 1; \frac{NIX_m}{NIX_i} - 1; 0 \right] \right)$$

**With**  $\underline{SP_m} = \frac{1}{32} \sum_{t=1}^{32} SP_t$ ;  $\underline{STX_m} = \frac{1}{32} \sum_{t=1}^{32} STX_t$ ;  $\underline{NIX_m} = \frac{1}{32} \sum_{t=1}^{32} NIX_t$

# HEDGING: DESIGNS TEARING THE ROOM APART

- § The puzzle of correlation formulas
- § Hedging in multiple locations
- § Room simulations catching up with changing prices



# THE CALCULATING CALCULATED

§ The price of success

§ How to avoid calculation?

§ Building an infrastructure

§ The irony of General Bank's fate

From infinite mobility and the denied infrastructure ...  
to slowing down the calculation of their activity

# THE FINDINGS

§ A self annihilating form of life: an organization in denial of its corporate body

§ The impossibility of a global service

§ The mystery of General Bank lifted....

Delta One desk

Jerome Kerviel and the understanding of the many layers of the bank