

# HACKATHON CHALLENGE

## « THE HOLDING STRATEGY »



# INTRODUCTION

## Who we are :

- ▣ Students from HEC-Liège (BE). Master in Banking and Asset Management. Multi-cultural team.
- ▣ Winners of the Risk & Regulatory Hackathon ; organized by Reply and PRMIA

## International competition against Universities from :

- ▣ Amsterdam (NL) 
- ▣ Frankfurt (GE) 
- ▣ Liège (BE) 
- ▣ London (UK) 
- ▣ Roma (IT) 

## Goal :

- ▣ Offering solutions to face bankrupt in several banks, each of them having different issues

SA BANK  
LUXEMBOURG

SG BANK  
GERMANY

SA HOLDINGS  
LUXEMBOURG

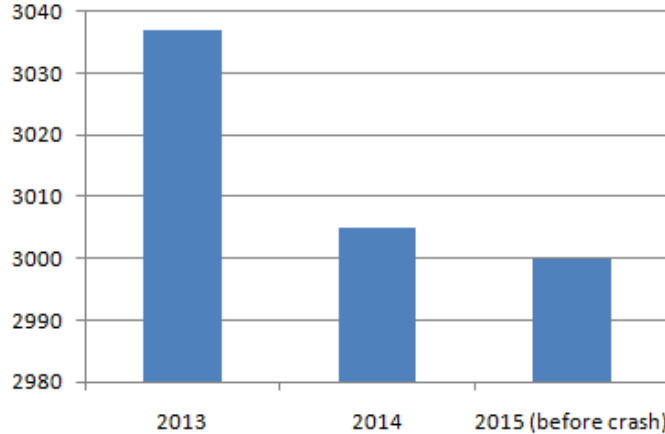
SPS BANK  
UNITED KINGDOM

BANCA SAC  
ITALY

# BANCA SAC - ITALY

## Balance Sheet: L & R from Clients

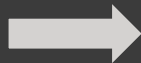
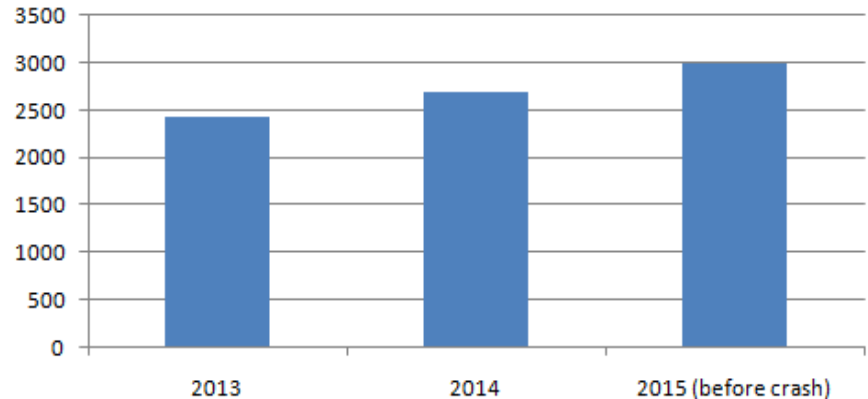
€ million



- L&R **decreasing** on the Balance Sheet
- L&R **increasing** on the RWAs

## RWAs on-BS assets: L & R from Clients

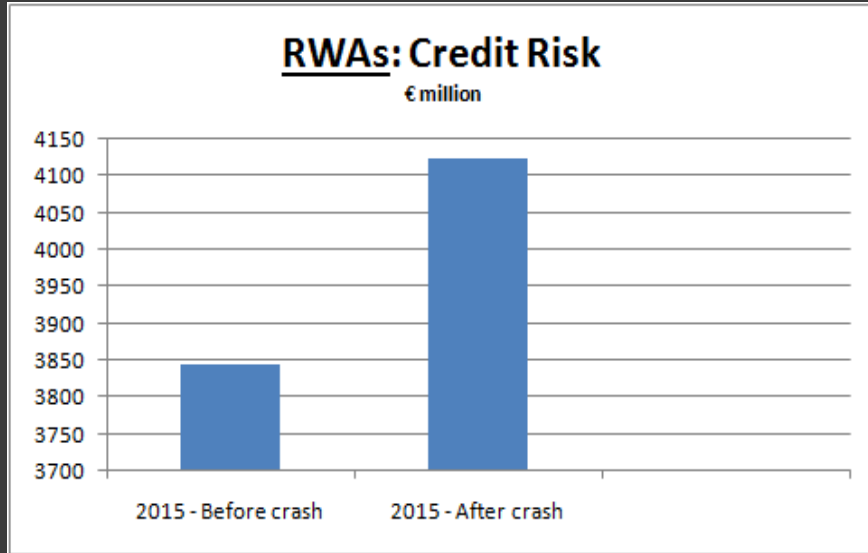
€ million



Change in the credit quality

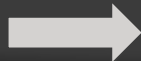
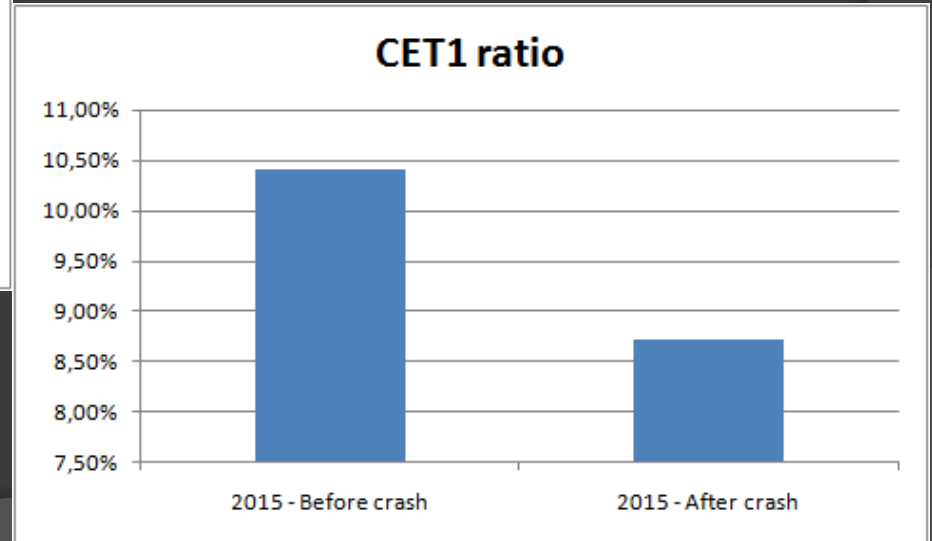
# BANCA SAC - ITALY

Change in the credit quality



**After Crash** → **NPLs** increased to **15%** of loans outstanding, from 5% before crash:

- RWAs for credit risk → increases
- CET1 ratio → decreases due to the impairment loss

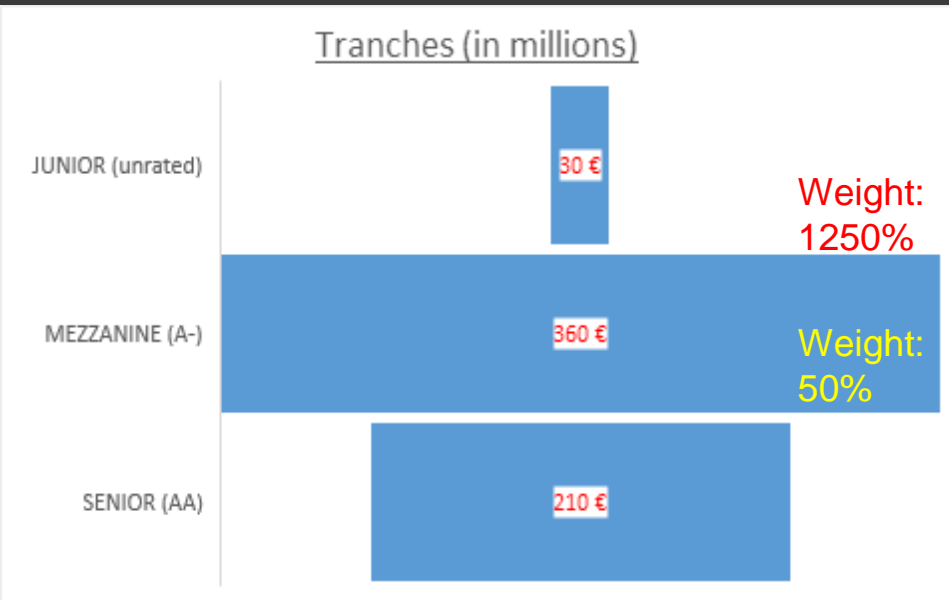


**SOLUTION: Securitization**

# BANCA SAC - ITALY

## SOLUTION: Securitization

- Divest the burden of € M 525 in order to reach the CET1 ratio regulatory minimum;
- Securitize € M 600 of loans by building 3 tranches:



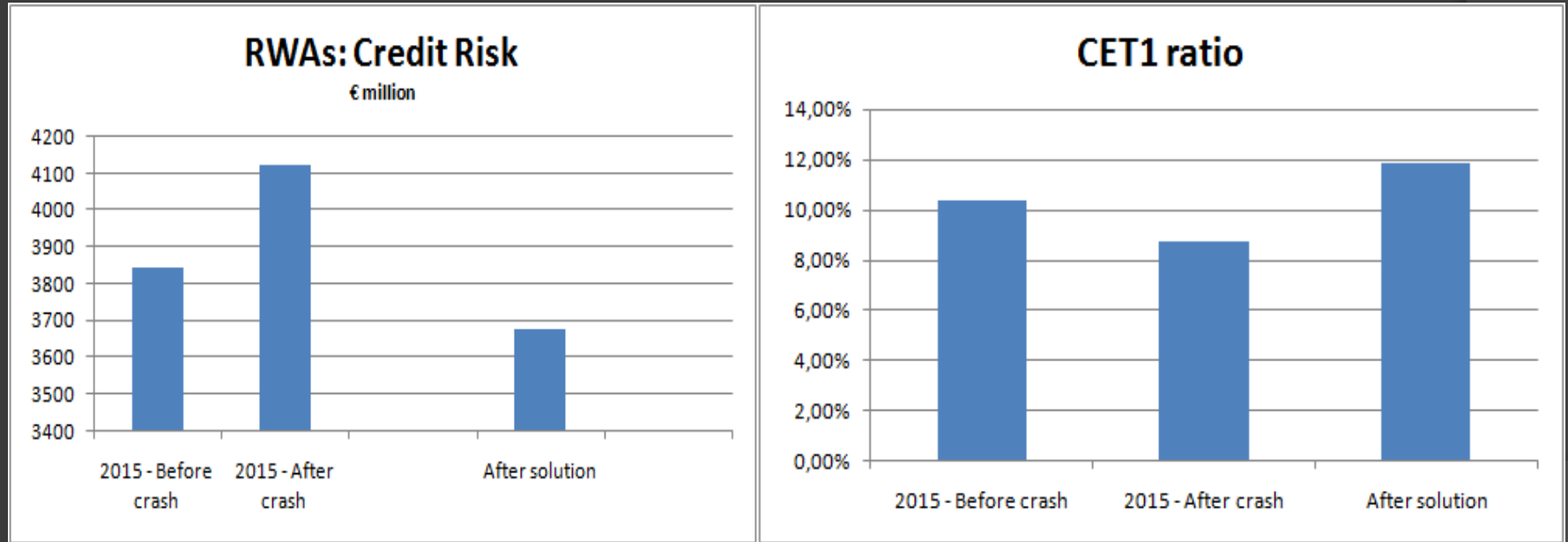
→ € M 75 kept by the originator  
→ € M 300 transferred

→ € M 180 transferred in Lux Bank

→ € M 210 sold to the market at book value

# BANCA SAC - ITALY

➔ **After Securitization**



Assumption:

- Costs and fees of securitization did not have a strong impact on the income statement and to shareholders' perspective.

# SG BANK GERMANY

☰ Issue :

Due to fraud, the SG BANK GERMANY investment portfolio has been revalued down by € 150 million



	2015	2015 After the crash	After the solution	
<b><u>Assets</u></b>				
Investments		125	-25	0
<b><u>Total Capital</u></b>				
Tier1 Capital		450	450	300
<b><u>Risk asset ratios</u></b>				
CET1		15,30%	15,30%	10,18%
Total Capital		28%	28%	22,90%



# UK BANK: LIQUIDITY PROBLEM

## Issue:

308,88 M€ withdrawn from investment funds  
⇒ LCR not compliant anymore

## Solution:

LT loan of 308,88M € from the German bank  
⇒ LCR compliant  
(Leverage ratio still > 3%)

In million euros			
	2015	After the crash	After the solution
<b>Crash</b>			
<b>Assets</b>			
Government Bonds	950	641.12	
<b>Liabilities</b>			
Client deposits	675	366.12	
<b>Ratios</b>			
LCR	100%	96,99%	
<b>Solution</b>			
<b>Assets</b>			
Cash	225	225	533.88
<b>Liabilities</b>			
Other liabilities	1735	1735	2,043.88
<b>Ratios</b>			
LCR	100%	96,99%	100%

# SPS BANK UK : COMMERCIAL PROPERTY

## Issue:

- housing prices have fallen by 5%
- 10% of highly levered clients lent to are effectively insolvent
- another 20% of clients have breached their Loan-to-Value covenants



# SPS BANK UK : COMMERCIAL PROPERTY

	(million €)	2015	after crash	after solution
<b>Step 1</b>				
Cash		533,88	723,88	
Loans & receivables: clients		2375	2137,5	
CET1		375	327,5	
Total Capital		625	577,5	
CET1 ratio		10,13%	8,85%	
Total Capital ratio		16,88%	15,60%	
<b>Step 2</b>				
Provisions		0	47,5	
Total Capital		625	530	
Total Capital ratio		16,88%	14,32%	

## Step 1:

Bank seizes the houses and sells them at a discount

## Step 2:

Bank makes provisions to be prepared for a future default

# SPS BANK UK : COMMERCIAL PROPERTY

(million €)	2015	after crash	after solution
<b>Step 3</b>			
Cash	533,88	723,88	
Share capital issued	105	105	
CET1		327,5	390,5
Total Capital		530	593
CET1 ratio	10,13%	8,85%	10,55%
Total Capital ratio	16,88%	14,32%	16,02%

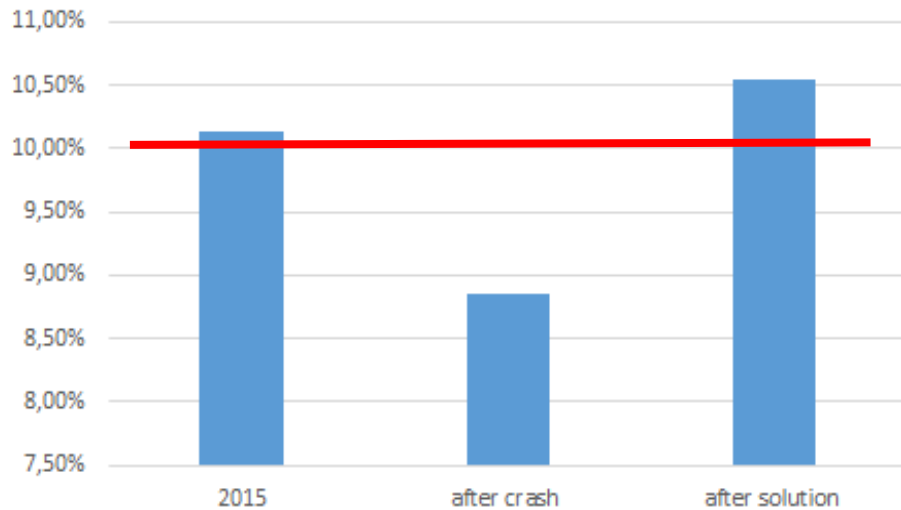
## Step 3 (Solution):

Transfer of the required capital from the Bank Luxembourg to the Bank UK:

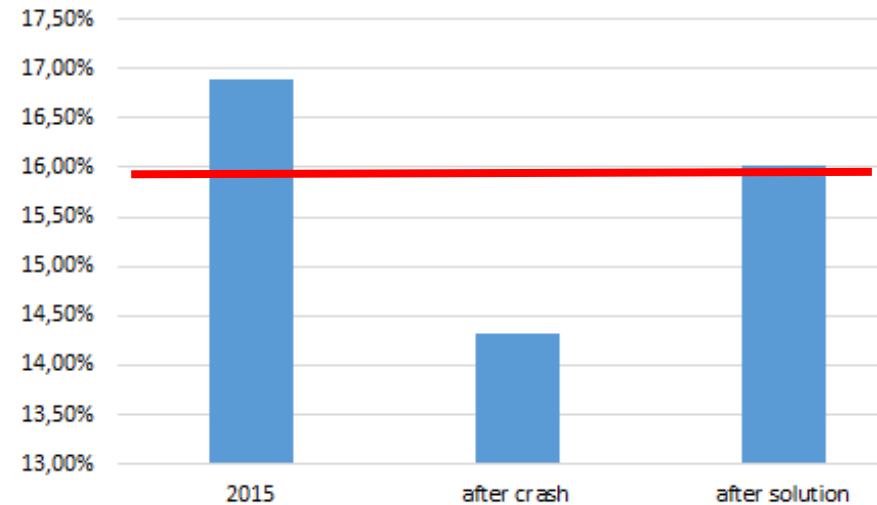
UK Bank issues new shares that are bought by the Bank Luxembourg

# SPS BANK UK : COMMERCIAL PROPERTY

**CET1 Ratio**

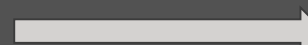


**Total Capital Ratio**



# THE BREXIT TRADE

Issue: Short Position by selling £50 million of premium of OTC European puts.

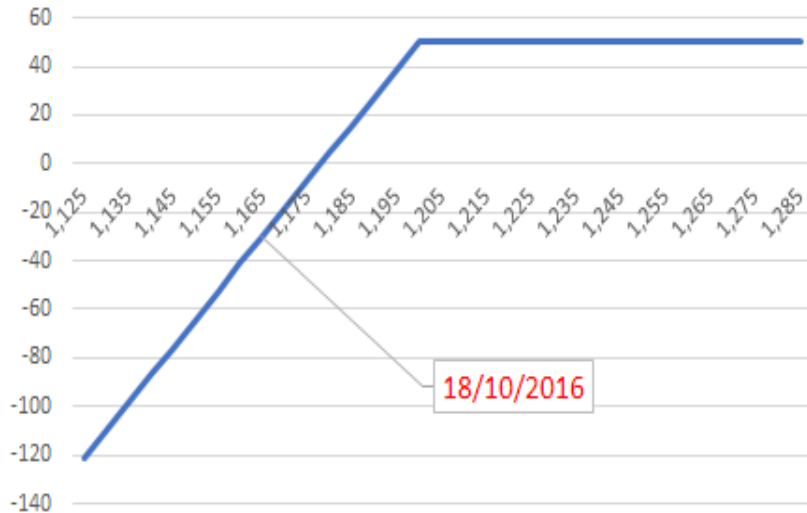


Settlement date 28th of October 2016

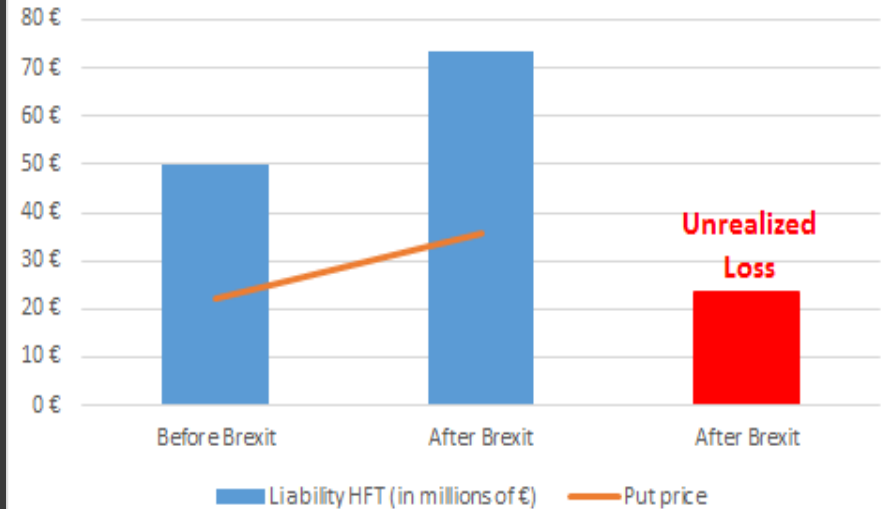
# THE BREXIT TRADE

Our analysis:

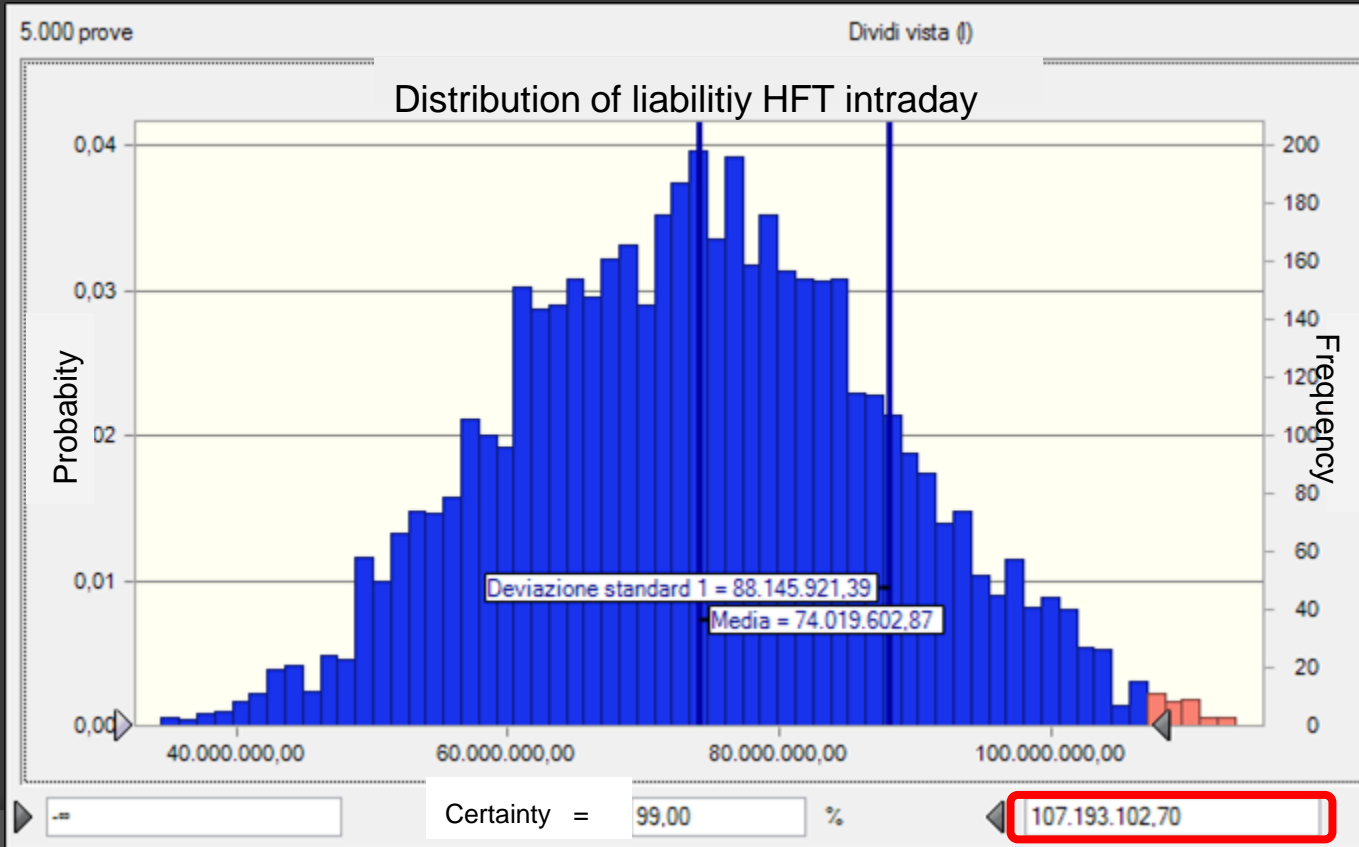
Payoff profile at Settlement date



Evolution of liability HFT



# THE BREXIT TRADE: MONTECARLO





# THE BREXIT TRADE: SOLUTION

For the unrealized loss:



“Holding Strategy”,  
in order to be compliant with the  
Regulatory Framework

For the Future



Delta Hedging the position by  
selling futures on GBP

Not taking into consideration Gamma (Put deep  
out-of-the-money)

# Conclusion

LIQUIDITY

MARKET



*... And thanks to...*



LACK OF CAPITAL



CREDIT QUALITY

