

# Report

## Introduction:

This thorough report is a tribute to the coordinated efforts and creative teamwork of our team, which consists of Yassine Ben Ayed, Tasnim Mahjoubi, Oussema BelKadhi, and Mohamed Baccar Fayache. Our goal was to conduct a quantitative investigation into the intricate field of financial risk management with a focus on the interest rate risk that leasing companies face. With a strong case for how interest rate variability affects leasing companies' operations, the study aims to condense all key findings from our research and analysis. Finally, we suggest realistic risk-reduction strategies based on our findings.

## Step 1: Leasing Company Choice

### Benchmark Study

TAUX MOYEN REALISÉ PAR LES SOCIÉTÉS DE LEASING EN 2022													
	TRIMESTRE				TAUX ANNUEL PONDÉRE PAR LE MONTANT DES M.E.E.								
	1er	2ème	3ème	4ème		1er trim	2è Trim	3è trim	4è trim				
Tunisie Leasing	14.59%	14.61%	14.88%	14.97%	14.76%	74.8 10.91434	95.5 13.9539	81.44 1212%	89.556 1341%	341.31	50.39	14.76%	
C.I.L	14.13%	14.11%	14.75%	14.84%	14.43%	70.6 9.97691	101.3 14.2874	72.69 1072%	78.638 1167%	323.19	46.65	14.43%	
A.T.L	15.02%	15.08%	15.10%	14.92%	15.02%	69.8 10.48319	70.8 10.6771	75.20 11.3552	99.100 1479%	314.90	47.30	15.02%	
Attijari Leasing	14.37%	14.16%	14.26%	14.19%	14.24%	54.2 7.78682	65.9 9.3267	52.98 755%	64.810 920%	237.84	33.86	14.24%	
BH Leasing (ML)	14.47%	14.74%	14.81%	14.71%	14.68%	33.0 4.77322	28.9 4.2541	28.93 428%	29.964 441%	120.74	17.72	14.68%	
BTK LEASING	14.60%	14.66%	14.70%	14.80%	14.69%	33.6 4.90560	33.5 4.9111	35.50 522%	35.500 525%	138.10	20.29	14.69%	
BEST LEASE	15.95%	15.80%	15.82%	15.82%	15.84%	22.7 3.62033	31.7 5.0140	32.90 520%	33.280 526%	120.61	19.10	15.84%	
Hannibal Lease	15.12%	15.08%	15.04%	15.04%	15.07%	66.1 9.98827	79.5 11.9811	75.10 1130%	80.900 1217%	301.51	45.43	15.07%	
Taux moyen pondéré par le montant des mises-en force...	14.70%	14.68%	14.90%	14.88%	14.79%	424.7 14.70%	507.0 14.68%	454.73 14.90%	511.748 14.88%	1898.21	280.75	14.79%	

“Approbations”: Attijari Leasing's approbations of 244,243 in 2020 and 283,176 in 2021 are relatively higher than the industry standard values of 231,083 and 278,463, respectively. This indicates that Attijari Leasing has been successful in securing a larger number of leasing approvals, demonstrating its market presence and potential for growth.

“Taux de transformation”: Attijari Leasing's Taux de transformation of 74% in 2020 and 72% in 2021 align closely with the industry standard values of 81% and 79%, respectively. This indicates that Attijari Leasing is efficiently converting approved leasing contracts into engagements, demonstrating operational efficiency in its business processes.

“Total des engagements”: Attijari Leasing's total engagements of 510,230 in 2020 and 494,604 in 2021 are higher than the industry standard values of 549,005 and 533,203,

respectively. This suggests that Attijari Leasing has a substantial portfolio of leasing engagements, indicating a potentially higher exposure to interest rate risk.

“Dotations nettes and Coût du Risque”: Attijari Leasing’s Dotations nettes values of 4,770 in 2020 and 4,350 in 2021, as well as its Coût du Risque values of 0.93% and 0.88%, respectively, demonstrate effective risk management practices. These figures compare favorably to the industry standard values of 7,449 and 7,427 for Dotations nettes, as well as 1.36% and 1.39% for Coût du Risque. Attijari Leasing's ability to allocate provisions effectively indicates a proactive approach to mitigating potential losses from defaulting leases.

Revenu nets de leasing/ Factoring: Attijari Leasing's Revenu nets de leasing/ Factoring values of 57,807 in 2020 and 60,773 in 2021 are lower than the industry standard values of 63,316 and 66,796, respectively. However, it's important to note that Attijari Leasing's revenue figures are still within a reasonable range and may indicate potential for growth and improved performance.

Résultat Nets: Attijari Leasing's Résultat Nets values of 3,228 in 2020 and 7,058 in 2021 are lower than the industry standard values of 4,342 and 8,180, respectively. However, it's worth considering that Attijari Leasing has shown an upward trend in profitability, suggesting positive momentum and the potential for further improvement.

We've concluded, based on the information at hand, that Attijari Leasing stands out among rivals as the best partner for our project's requirements. Their substantial market presence attests to their skill in efficiently carrying out leasing agreements while successfully managing related risks. We have faith that Attijari Leasing will be able to assist us in successfully managing interest rate risks.

## **Step 2 : Contact With Attijari Leasing Company**

Alpha Capital Team initially used their professional network to make connections with pertinent professionals in order to establish contact with Attijari Leasing. Along the way, our communication plan underwent some changes. We persevered despite initial difficulties that led to key personnel's responses to potential contributions to our goals being limited; as a result, we eventually got in touch with Mr. Nizar Bchini from the Attijari Leasing Financial Control Department.

### **Contact Information:**

**Number :+216 20 484 151**

**Mail :nizarbchini@gmail.com**

When Mr. Nizar Bchini responded and offered to continue the conversation with us, we were overjoyed.

Nizar explained the concept of a leasing company to us during the meeting. This company borrows money primarily at floating rates because financial institutions typically give floating rates (including TMM) before lending money at fixed rates.

Speaking of leasing resources, he explained to us why Attijari Bank is primarily the only bank that lends the Leasing at a fixed rate. He also stressed the concept of bonds, where investors place their money in the market. He also showed us where to find pertinent information, such as the CMF, which was incredibly helpful to us later.

### Step 3: Services Proposal for Attijari Leasing

During our first meeting with Attijari Leasing, we presented a thorough strategy aimed at reducing their interest rate risk.

[Our pitch](#) also outlined how we can optimize their financing costs by locking in a fixed interest rate for an extended period, reducing their exposure to short-term interest rate fluctuations. Additionally, we assured Attijari Leasing that we could help enhance their financial flexibility, thus enabling them to pursue growth opportunities confidently.

Finally, we shared a succinct summary of the upcoming tasks, which involve computing the resources' duration, allocations' duration and net duration. These are crucial metrics that will assist us in designing the optimal interest rate swap contract for Attijari Leasing. It's essential to note that these steps will provide an accurate gauge of how market values of liabilities and assets react to fluctuations in interest rates.

Our proposal was tailored to illustrate the benefits of partnering with Alpha Capital and how our services align with Attijari Leasing's risk management needs. This presentation set the groundwork for our subsequent analyses and laid the foundation for our mutual cooperation. we asked for:

1. Balance sheets, Financial statements including Assets, Liabilities and their ledgers
2. The frequency of their resources payment, their principals and maturities
3. The maturity of each Leasing contract, Nominal interest rate
4. 2021 Leasing report, Credit risk, and general ideas concerning the leasing company

### Step 4: Risk Calculations

#### Assets Duration: 1.732602536 :

1 - The Leasing Company provided allocation contracts with their respective sizes, maturity dates, start dates, and interest rates.

To calculate the assets duration, the following steps were followed:

a. An annuity (PMT) was calculated using the contract amount and the time to maturity (from the reference date of 04/05/2023).

b. The total expected amount for each future date was calculated based on the annuity.

2 - Time to maturity was determined for each allocation contract. This represents the remaining time until the contract's maturity date.

3 - The risk-free rates for the respective cash flow dates were obtained using the risk-free rate curve provided by Tunisie Clearing. These rates reflect the market's expectations of risk-free interest rates over time. **(Today's time is set to 04/05/2023)**

4 - The spread, which represents the additional interest rate charged by the leasing company above the risk-free rate, was calculated.

5 - The cash flows were then discounted using both the risk-free rate and the spread. This calculation involved applying the appropriate discount factors derived from the risk-free rates and spreads to determine the present value of each cash flow.

### **Liabilities Duration: 1.35934462**

The Leasing Company provided expected cash flows (without interest) for each liability, including their type and reference.

To calculate the liabilities duration, the following steps were followed:

a. Using the reference, the corresponding interest rate amount was matched and added to each expected cash flow. The interest rates were obtained from the Leasing Company's statements.

b. The expected cash flows, including both principal and interest amounts, were calculated.

Time to maturity was determined for each liability. This represents the remaining time until the liability's maturity date.

The risk-free rates were obtained from the risk-free rate curve, using linear interpolation to determine the rates corresponding to the cash flow dates. This curve reflects the market's expectations of risk-free interest rates over time. **(Today's time is set to 04/05/2023)**

The spread was calculated using linear interpolation based on the BTA Curve and the Average Emprunts Obligataires. The spread represents the additional interest rate charged by the Leasing Company above the risk-free rate.

The cash flows were discounted using the risk-free rate, deriving the present value of each cash flow. This involved applying the appropriate discount factors derived from the risk-free rates to account for the time value of money.

Finally, the liabilities duration was calculated, providing a measure of the average time it takes for the cash flows from the leasing company's liabilities to be paid. This duration helps assess the liabilities' sensitivity to changes in interest rates and facilitates the identification of interest rate risk exposure.

## **Net Duration: 0.373257916**

The net duration is the difference between the assets duration and liabilities duration. It represents the net interest rate risk exposure of the leasing company. A positive net duration indicates a higher exposure to interest rate increases, while a negative net duration suggests higher exposure to interest rate decreases.

## **Analysis**

The computed assets duration of 1.7326 signals a significant exposure to interest rate risk. This risk originates from the fact that the company's assets, primarily composed of fixed-rate contracts, are subject to changes in the value of expected cash flows due to interest rate shifts. The elevated assets duration reveals that these shifts may significantly influence the company's financial stability.

Conversely, the liabilities duration of 1.3593 is primarily influenced by the variable interest rate nature of the company's liabilities. This floating interest rate environment exposes the firm to the risk of unexpected changes in interest payments, which could affect its ability to manage cash flows effectively. The relatively lower liabilities duration, in comparison to the assets duration, implies that the immediate threat posed by the floating interest rates is somewhat restrained but still prevalent.

The net duration of 0.3733, the difference between the assets and liabilities durations, indicates the overall exposure to interest rate risk. A positive net duration highlights a vulnerability to increasing interest rates, demonstrating that a rise in rates could negatively impact the company's financial health due to its liabilities being indexed to floating rates.

## **Step 5: Design of the perfect swap contract to mitigate this risk**

We'll begin by introducing the type of swap we'll be engaging in, the interest rate swap. In an interest rate swap, two parties will agree to swap interest payments based on a predetermined notional amount, a tenor, and a frequency. For instance, two parties may agree that one which is In our example, the leasing company would pay a fixed interest rate while the other party would receive a variable interest rate set by the bank based on a benchmark rate like LIBOR or TMM.

## **Weighted average rate:**

First, to mitigate the risk We calculated the weighted average rate, in which we took all the remaining assets (credit contracts) and calculated their weights by multiplying the nominal interest rate of each contract by its value HT ; to do by then the sum of the weighted averages rate to find the swap rate, which is a kind of guarantee to not exceed, and this value is highly sensitive to TMM, then after that , we tried to showcased in the figure of the first sheet page 'weighted average rate'

## **Calculation process(rates,fixed and floating cash flows) :**

In the process of constituting the swap rate , we choose semi-annual frequency for more organization in the payments because of the convention of Interest rate exchange swap system in general and according to ISDA, which will result in two periods per year in this case.

To estimate the TMM rates, we did a linear interpolation as shown in the excel sheet Linear Interpo from Tunisie Clearing website, and we took 05/20/2023 as our start date by taking the rate every 6-month .

As sent in both of excel sheets, we choose **5 periods** for the first offer(**Attijari bank**) because of its approximation to both ressources and allocations ressources (step4) to help manage them both.(this was the first offer)

After that to ensure our offer and reaching **BIAT bank** , we decided to change the tenor to 4 years to assure the offer after taking permission and adequate the leasing company preference on this tenor subject.

To be able to calculate the continuous risk-free rate we utilized the logarithm function to then pass it forward continuous rate continuously compounded by using the difference of rates multiplied by their periods divided by difference of their periods, To be able to calculate floating cash-flow it was required to find the semi annual forward rate by applying the exponential formula( $\exp(\text{forward continuous rate}/\text{number of periods}) - 1$ )\*number of periods)).

Calculating the fixed and floating cash flows is a crucial step to form an IR swap .We used the chapter 7 formula by multiplying the notional amount that we choose based on the floating credits (that involve TMM in the rate that the company borrows ) by the swap rate and dividing it by the number of periods per year , to subtract it then by floating cash flow, which is calculated on the basis of semi annual forward rate, to find the net cash flow of every period, then discounting all of them and doing the sum to find the swap value.

## **ZERO-SPREAD Swap value**

We supposed in this case that no spread is in between means the calculation of the value only using the weighted average rate.

## **PERFECT Swap value**

To offset the TMM increase risk The leasing company declared to us that at swap value equal to 0 Attijari leasing would offset that risk and enter into a swap contract which is perfectly fitting for them , so as shown in the excel sheet we sent as we used the Goal Seek method by changing the swap rate which gave us **9.346%** for **tenor=2.5 years** with a spread equals to **14.129%-9.346%=4.783%** (**ATTIJARI BANK**) as a spread value ; For The second calculations (**BIAT BANK**) we had 9.536% as a perfect swap rate which made the spread value equals to **14.129% - 9.536%= 4.593%** for **tenor=4 years** equaled to the perfect swap which is paying **9.536%** while receiving a TMM.

## **Step 6: Presentation and Pitch Preparation**

Our presentation's goal is to effectively communicate the specifics of an original swap contract that Attijari leasing has created.

In order to successfully accomplish this goal, all presentational elements were strategically to avoid confusing or obscuring crucial information points that are essential for lenders' decision-making processes.

Before presenting their exposure levels specifically related to various forms of interest risks across various portfolios held by them at the moment, we first provided contextual background information about Attijari Leasing generally.

We went over the tactical details and advantages of entering into a swap contract later in our presentation. Such an agreement gives Attijari Leasing strong tools to improve their financial performance by successfully reducing risks, lowering costs, and stabilizing cash flows.

We took the initiative to talk about how each of these goals is addressed in this particular swap contract. Clear explanations of notional amounts, optimisation plans for fixed and floating rates, and new tenor terms are all provided; these are all presented with effective visual aids to prevent unnecessary confusion. And mainly how this swap contract will bring more benefits for the Bank too.

In particular, this agreement will enhance portfolio-optimization initiatives, provide efficient risk management strategies, and offer both an attractive and stable return on investment. It also offers diversified investment opportunities. Finally, this customization kicks off a collaboration between two businesses with strong risk profiles, and both parties stand to gain a lot from it.

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## Step 7: Establishing Contact With The Bank



التجاري بنك  
Attijari bank

### *Why we chose Attijari Bank:*

Finding a suitable banking partner to help minimize interest rate risks took much consideration from our Alpha Capital team, who conducted extensive research on various factors before making any decisions. Our ultimate choice was Attajiri Bank due to several key factors, including their status as parent bank of Attijari Leasing - this unique connection could speed up acceptance processes related to any swap contracts significantly due to their

already-established relationship status. This close collaboration fosters trust while simultaneously setting up productive partnerships when it comes time for properly managing potential risks together.

### *Steps how we arranged a meet with Attijari Bank:*

#### **Step 1: Initiating Contact with Attijari Bank**

To establish communication with Attijari Bank, the team initially utilized LinkedIn as a means of connecting with relevant professionals associated with the organization. Our communication strategy saw some shifts along its way. We persisted and eventually made fruitful connections with Mr. Hamdi Laabidi from the Financial Officer Department and Mr. Amine Langazou- specialists of financial markets.

#### **Step 2: Confirmation of Meeting Arrangement**

We were thrilled when Mr. Amine Langazou responded and offered to continue the conversation with us. This change was important because it represented progress toward opening productive lines of communication with Attijari Bank. From that point forward, we planned and coordinated every aspect of the meeting in advance, setting up a face-to-face meeting where we could present our proposal and discuss the benefits of using swap contracts.

#### **Step 3: Meeting at Attijari Bank Headquarters**

The team arrived at the prestigious Attijari Bank headquarters in the vibrant Centre Urbain Nord on the appointed day. Being on time was essential, so we made sure to arrive 15 minutes early for the meeting. We were greeted with a professional and competent atmosphere at the Attijari Bank Trading Room on the fifth floor. This reinforced our dedication to maintaining a serious and focused demeanor during the negotiation phase. As we waited for our appointment with Mr. Amine Langazou, we observed the dynamic trading floor to gain insights into the bank's operations and the level of expertise exhibited by its personnel.

Seeing highly skilled professionals only bolstered our commitment to presenting a well-prepared pitch for the swap contract that would effectively communicate the benefits and usefulness of the proposed swap contract.

#### **Step 4: Presentation of the Swap Contract and Its Usefulness**

We commenced our presentation by highlighting the importance of interest rate risk management in today's economic landscape. Recognizing the challenges faced by most organizations- including Attijari Leasing. Our audience paid keen attention as we began our presentation emphasizing how vital it is to manage interest rate risks.



We introduced the Interest Rate Swap Concept which generated lively conversations amongst attendants due to its potential value proposition on risk management techniques that minimize dangers resulting from varying market trends over time.

### **Benefits and Usefulness of the Swap Contract for Attijari Bank:**

During this important part we outlined in detail during our session what this unique solution involved an agreement whereby Attijari Leasing pays a fixed-rate while Attijari Bank pays a floating-rate realizing prospects for attaining more stable cash flows while mitigating any financial instabilities provoked by unforeseen fluctuations in interest rates. In our presentation, we elucidated the benefits and usefulness of the swap contract for Attijari Bank, highlighting the following points:

This swap contract also enables Attijari Bank to incorporate a range of diverse financial products that collectively serve as a mechanism for reducing risk through the balanced allocation of exposure across varied market factors generating greater stability and overall resilience for the bank's portfolio.

Furthermore, Attijari Leasing's stable risk profile ensures that the counterparty risk tied to the swap contract is maintained responsibly. This not only enhances security for Attijari Bank but also guarantees that the leasing company is capable of upholding its commitments. In turn, this decreases counterparty risk, adding to the swap contract's reliability and appeal as a source of risk mitigation.

We continually underlined how this collaboration contributes significantly towards ensuring sound financial decision-making, emphasized the benefits for both Attijari Leasing and Attijari Bank, and how this innovative solution strengthens their financial foundations while also aligning interests, making it a high probability success if implemented correctly.

Our presentation effectively demonstrated that these swap contract terms were not just numbers on a page but a carefully crafted formula for success. By accepting this offer, Attijari Bank would not only safeguard itself against interest rate risk but also seize a unique opportunity to optimize its investment portfolio, fortify its financial performance, and forge a mutually beneficial partnership with Attijari Leasing.

To further solidify our case and enhance the appeal of the swap contract, we strategically presented the contract terms to Attijari Bank.

We highlighted the sizable notional amount of 152 123 443.77 TND as an indication of substantial potential returns and significant impacts on both entities. With semi-annual payments an integral part of our strategy, we underlined how these regular cash flows brought stability, predictability and immense value in today's constantly changing financial terrain.

The tenor of the contract, spanning two years and a half and five periods, was meticulously chosen to strike a balance between long-term risk management and flexibility. which was

optimal since it would enable them to manage market fluctuations well and take advantage of investment opportunities.

The swap contract had many appealing aspects but one outstanding feature was the fixed rate of 14.129% with a Floating rate of TMM+4.783% that the bank will pay. This feature made it viable for Attijari Bank as they could reap steady attractive returns on investments without worry about speculative interest rates. As such this created consistent income streams providing continuity in their financial performance and strengthening their market position.

### **Step 5: Q&A part**

Question 1: How does semi-annual payment frequency affect Attijari Leasing & Attijari Bank's cash flow management?

Our response: Semi-annual payments enable both parties to benefit from stable and predictable income streams, which improves the allocation of financial resources and streamlines cash management, allowing for greater transparency throughout the course of each exchange.

Question 2: Tell us more about the swap contract's floating rate component's calculation, How is this advantageous to both parties?

Our response: Adding a spread to a reference rate of TMM+4.783% yields the floating rate component. With this all-encompassing structure, flexibility of terms and market responsiveness are easily attainable during transactions. However, if rates fall, both parties are taken care of, resulting in fair and balanced outcomes for Attijari Leasing and Attijari Bank. When TMM increases, the floating rate also increases, incentivizing Attijari Bank by further improving the returns available.

### **Step 6: Contract Rejection**

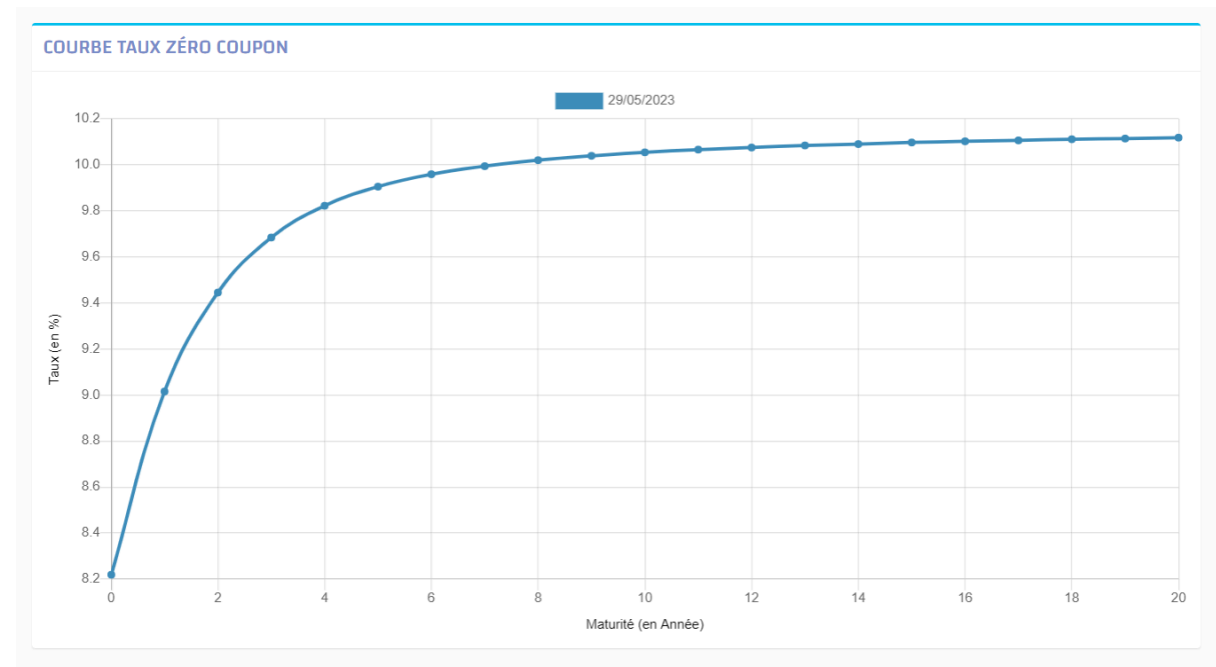
Our team patiently awaited Attijari Bank's feedback after providing a thorough presentation on the variable-to-fixed interest rate swap contract and taking part in a thoughtful Q&A session. We were inspired when Mr. Amin gave encouraging and positive feedback about the benefits this proposed contract could have for both Attijari Leasing and their bank operations. However, when we discovered that Attijari Bank had no prior experience with interest-rate exchange swaps and had, up until this point, and they primarily focused on currency exchange swaps, negotiations ran into an unexpected roadblock.

#### ***Why Attijari Bank rejected our contract offer:***

**1-** The primary reason for their refusal, which accounted for 90% of their decision, was the absence of a swap program that could perform accurate calculations with the swap numbers we provided. They were unable to accurately assess the risks and potential outcomes as a result of this limitation.

**2-** Their concern about the rising TMM rate accounted for the final 10% of their decision. They estimated that the TMM would rise above the anticipated rise in the yield curve. For

Attijari Bank, this disparity in projections led to uncertainty, especially with regard to the proposed spread risk, which they were unwilling to take on. Despite exhaustive efforts on our side and discussions we held trying to resolve issues like technical limitations on software or apprehensions arising from TMM rates fluctuations projected, nothing worked.



Our initial reaction after learning of Attijari Bank was a mixture of disappointment, frustration, and a sense of failure. We were unsure of how to proceed after what felt like a major setback in our journey. We debated whether to proceed with this project, considering the alternative of presenting to a fictitious or virtual bank.

Though our proposed swap contract was ultimately declined, we consider this experience as an opportunity for growth and learning. We were reminded that effort, tenacity, and life lessons are just as important as the final result in determining success.

With renewed determination, we embarked on a fresh stage of research and goal-setting. Aiming for the moon, even if we might only land among the stars. Amongst financial giants, Biat Bank emerged as our lunar landing point. Unwaveringly determined to attain success, we spearheaded attempts to contact Biat outlining an extensive action plan that would engage them while securing their accord for our swap contract.

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So considering both the rankings of the bank and leasing company, the idea of initiating a swap contract between the top-ranked bank, Biat Bank, and the lowest-ranked leasing company, Attijari Leasing, in terms of weighted average asset, appeared enticing. The potential benefits of such an arrangement became evident as we considered the synergies and advantages that could arise from this combination.

Therefore, our detailed examination not only substantiated Biat Bank's excellence compared to other banks, but it also emphasized the advantageous prospect of collaborating with Attijari Leasing for enhancing our financial arrangements. Consequently, Biat Bank acknowledged and accepted our proposal.

### **Step 8: The Discussion of the pricing with the bank and getting their interest**

Two days before our meeting with the bank, we were anxious, wondering how the bank would react to our pricing. Is it appealing or not? Do you believe it is worthwhile? The proverb came to mind because the majority of us felt that the ideal swap was possibly a fairytale, that the bank would 99% reject it, and that it was more leasing-oriented.

### ***'Attack is the secret of defense; defense is the planning of an attack'***

It happened to us to make a move that will make us gain time , easier negotiation and more rate efficiency, We tried hard to make an appointment with Mr Nizar Bchini, Financial control director of ATTIJARI LEASING, to negotiate a more logic pricing with and try to win more rate in the bank's favor,

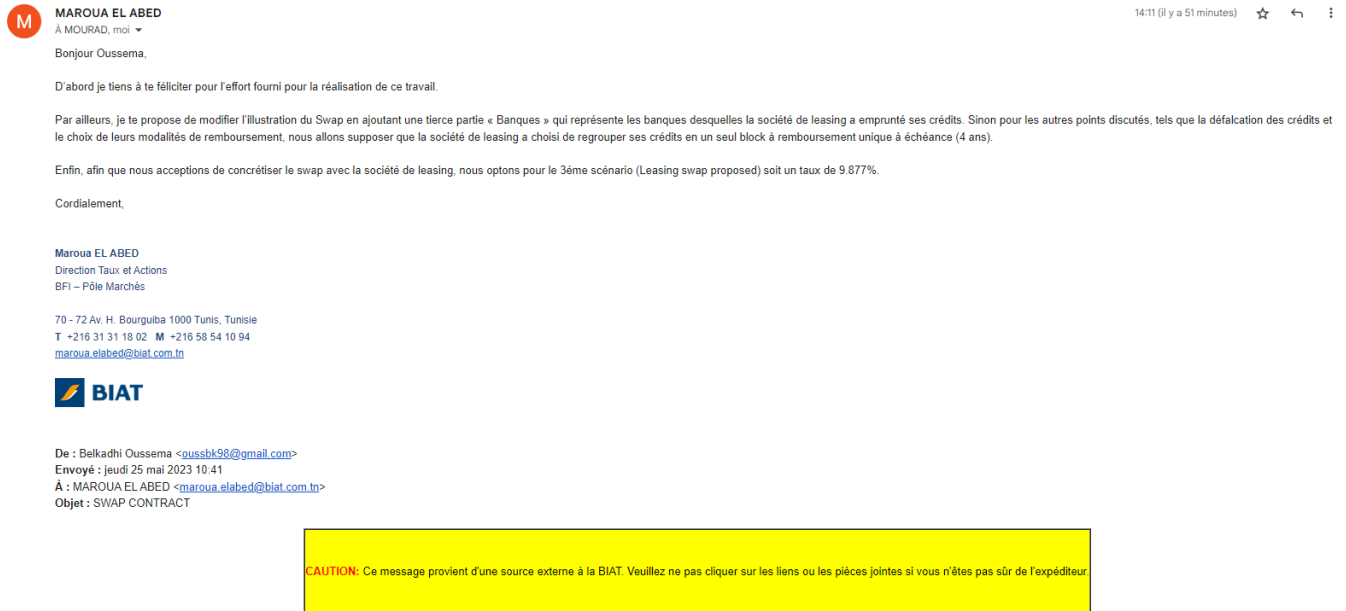
The main objective of this appointment was to take the most data we needed, which was particularly the interest losses in last 4 years to try to interpolate them to the next 4 years of our swap , and as you can see in the excel sheet 'Leasing swap proposed' the leasing had a purpose to reduce the interest losses estimated for the next four years by **at least 12.236% and preferably 16.878% according to their calculations.**

The leasing company was doing better in its interest losses every year which explains how they are hedging their rates by borrowing a higher percentage of fixed borrowings and making a better profit which solves more and more of their insolvency, liquidity and credit risk.

The day after, we went straight to the bank more confident and assured, The team after came with the negotiation art where, at first terms of negotiation we didn't play all our cards to get more chances to get a better deal, We presented at first the perfect swap so we can get the best deal out of it. They asked us about all of the calculations precisely, we discussed all the periods and so on, always according to the zero TMM coupon rates.

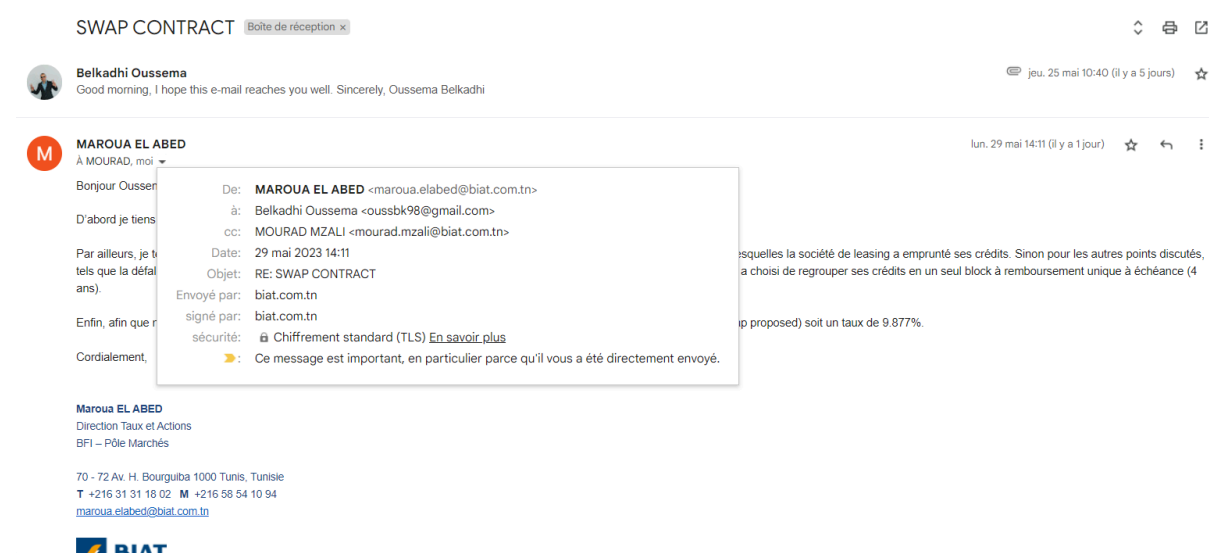
**Mrs.Marwa Ben Elabed** was amazed and showed a positive response from a perspective seeing us as students; she did encourage us after consulting it ,However after getting back to the real world of negotiation, they expressed their unaccountability towards the offer and that it doesn't cover the TMM risk the bank can face and estimate, which made us play our joker. A slightly higher interest rate that will make the bank reconsider.

We were told that they would think about the 'LEASING SWAP PROPOSED' on excel sheet by exercising the goal seek excel method which contained the preferred offer of the leasing decrease in net losses which is by **16.878%** and review it by sending us an email afterwards to give us the final offer.



3 days after we got this beauty we felt that all the hard work and consistency finally paid off, as shown The rates and equities manager sent an approving mail of the offer that we were working on for approximately 3 months . The formula is very easy, Work hard and you'll get results.

As mentioned in the mail, the bank supposed that the notional amount is one amount of credit and that dividing the credits one by one would be more efficient which is impossible in our case because it was written on the project guidelines that one exchange interest rate



should be made, as well as total credits were added to the excel sheet as when going to the bank, we only extracted it from CMF.tn.

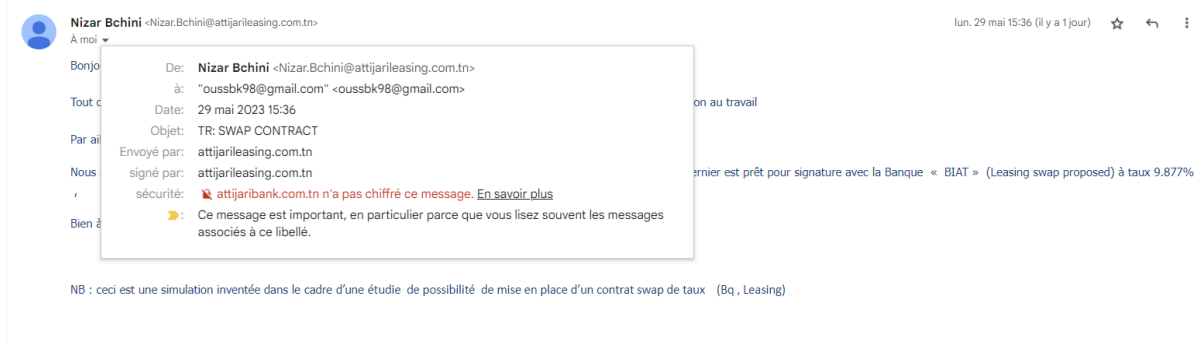
The mail was sent to Mr Mourad MZALI, the chief of the trading room and approved as shown above.

## Step 9: Going back to the Leasing company with the bank proposal

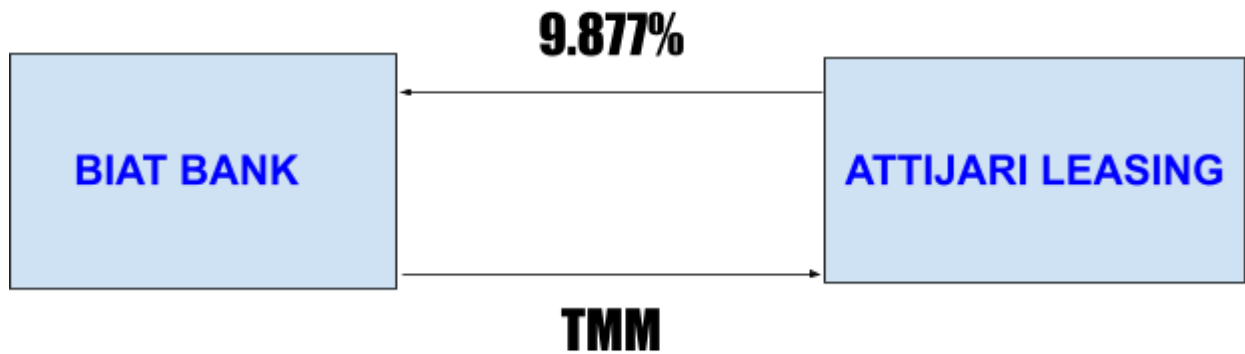
This step was like **the cherry on the cake**. As mentioned the move we made saved us a lot of time and hikes we were sure that the leasing company would accept the offer:



We received this email after returning to the leasing company as shown and was signed by ATTIJARI LEASING.



which makes the final offer agreed on is :



We think those last two steps were more emotional-oriented which made us talk less in those steps, Were truly grateful for such a fruitful experience that was quite a journey mixed with ups and downs but we learnt how to never give up in hard times, cause work spirit beats every other thing down.

### **Conclusion:**

To sum up, despite the ups and downs and the challenges we have faced during the project, we are proud of the knowledge we gained while exploring the complex domain of the interest rate swap. This opportunity has provided us with learning and growth, reinforcing our commitment to continuously refine our approach and improve our recommendation.