The Financial Markets Academy

Extra Materials for the 2023 Exam

1. Interest Rate Benchmarks
2. The impact of Basel (IV) on derivatives
3. Required Action in case of doubt about the integrity of the client
4. The impact of climate risk on derivatives
5. Chinese Walls
6. Practice Questions

1. Interest Rate Benchmarks

Traditional Benchmarks

Benchmarks are used as a reference for fixing the interest rate for financial instruments with a floating interest rate condition. Furthermore, they are used as historical material to show the development of money market interest rates over time. Benchmark rates are not tradable rates, i.e. banks are not obliged to use them when concluding transactions. Each bank has its own money market rates. Unlike the benchmark rates, these rates fluctuate constantly during the course of a trading day.

Until January 1, 2020 these were the benchmarks that were used in the money market:

- EURIBOR was the benchmark for interbank lending in euro for credit institutions in the EU the unsecured money market for terms from 1 week to 1 year. EURIBOR was fixed by the European Money Market Institute
- LIBOR is a benchmark for interbank lending with a term from two weeks to one year in the London market. The LIBOR rates were fixed by ICE in London
- Eonia and other o.n benchmarks SONIA were benchmarks for overnight inter-bank investments. Eonia was the overnight benchmark in the euro area, SONIA stands for Sterling Overnight Index Average, TONAR stands for Tokyo Overnight average rate.

EURIBOR and LIBOR were quote-based benchmarks which means that a panel of banks communicated the quotes they made in the market to the organization that was responsible for the fixing (for instance EMMI for EURIBOR and ICE for LIBOR). However, since 2008, banks hardly ever lent money on an unsecured bases to one-another which means that the quotes did not reflect real transactions. And this, in turn, meant that the validity of the quotes was more and more put into doubt. This was especially the case after the publication of the LIBOR-fraud scandal in 2012 which revealed the fraud of a number of panel-members.

EONIA has always been a transaction-based benchmark. It was fixed after each trading day based on the inter-bank transactions for overnight deposits. The weakness of EONIA, however, was that the number of transactions was very small which meant that it was not considered to be a reliable benchmark either.

Benchmark Regulation

To overcome the problems with the traditional benchmarks, new regulation came into force in the EU: the EU Benchmark Regulation

The EU Benchmark Regulation has the following objectives:

- Improving governance and controls over the benchmark process, in particular to ensure that administrators avoid conflicts of interest, or at least manage them adequately;
- Improving the quality of input data and methodologies used by benchmark administrators;
- Ensuring that contributors to benchmarks and the data they provide are subject to adequate controls, in particular to avoid conflicts of interest;
- Protecting consumers and investors through greater transparency and adequate rights of redress.

The organizations that are subject to the Benchmark Reform Regulation are:

1. Administrators of benchmarks
2. Contributors of benchmarks
3. Supervised users of benchmarks

The traditional benchmarks (EURIBOR, EONIA and LIBOR) did not meet the requirements of the Benchmark Regulation and have therefore been abolished in their original form. EURIBOR and EONIA have been restarted in a modified form, but LIBOR has been de facto completely abolished.

Because benchmarks thus can be substantially changed or may no longer be provided at all (a 'benchmark event'), the Benchmark Reform describes measures that organizations should take in case of a benchmark event. The Benchmark Regulation states that when supervised entities in the European Union use benchmarks, they must prepare and maintain a solid written plan that sets out the measures they take in case of a benchmark event. One key element of these measures is to identify one or more alternative benchmarks that could be used to replace the benchmarks that are no longer provided or are obviously unreliable.

New benchmarks

As a result of the Benchmark Regulation, EMMI changed the fixing methods for EURIBOR and replaced EONIA by a new benchmark: €STER.

New EURIBOR:

Since Jan 1, 2020 EURIBOR is not based on the inter-bank quotes of the panel banks but instead on real transactions in which wholesale funds in euro are attracted by banks in the EU and EFTA countries in the unsecured money market. Wholesale funding means funding that is attracted from professional market parties, such as other banks, but also, for instance, from asset managers, hedge funds and large corporates.

The method to determine the new EURIBOR is a hybrid method that contains three levels:

Level 1

Submission based solely on wholesale transactions from the prior TARGET date.

Level 2

Submission based on transactions across the money market maturity spectrum and from *recent* TARGETdays. (transactions with more types of counter parties and also transactions from previous trading days)

Level 3

Submission based on transactions and/or other data from a range of markets closely related to the unsecured euro money market, using a combination of modeling techniques and/or the Panel Bank's judgement (in which case EURIBOR is again, to some extent, a subjective rate).

Only if level 1 does not supply sufficient data, level 2 will be in force and if level 2 will also not give sufficient data, EURIBOR will be fixed according to method 3.

€STER

The euro short-term rate (€STER) is based on the interest rates of real o/n wholesale funding during the past business day. Since EONIA was based on inter-bank lending, and €STER is a wholesale funding rate, €STER is lower than EONIA. The difference was calculated over a historic period and appeared to be around 8 basis points.

USD Benchmark Reform

Regarding LIBOR, a committee was established to look for an alternative. This committee is the Alternative Reference Rate Committee (ARRC) which includes members from the Federal Reserve Board and the New York Federal Reserve. The ARRC decided that form 30 June 2023, USD LIBOR will not be fixed anymore. As an alternative the ARRC suggested SOFR, which stands for Secured Overnight Financing Rate. This is the rate for o/n repo transactions in the inter-bank market.

The problem is, however, that SOFR is an overnight rate and not a term rate or 'forward looking rate'. The term of SOFR is only 1 day, and LIBOR was set for periods from 1 week to 12 months.

2. The impact of Basel (IV) on Derivatives

Every time a bank enters into a contract with a customer, it runs the risk that customer does not fulfil his obligations; Credit Risk. Banks are not only faced with this risk banks when they provide a loan, but also, for example, in derivative contracts.

Banks charge the costs they incur due to the non-performance of their customers through in the price of their products. In the case of lending by means of a credit spread and in the case of derivatives by CVA (credit valuation adjustment).

Besides, as a result of Basel IV, banks are also obliged to hold capital if they run credit risk on a derivatives contract. The reason is that Basel wants banks also to be able to cover any losses that exceed the CVA that they charge. The required extra capital is called the CVA variability charge. Banks also pass on the costs they incur for this in their rates.

This means that the mark-up on top of the mid-price (fair value) will be higher and that derivatives will become more expensive for customers as a result of Basel IV .

3. Required actions in case of doubts about the integrity of the client

Banks have to comply with a great number of regulations in regard to the integrity of their clients. The most important rules are the Anti Money Laundering Regulationand the Anti Terrorism Financiën Regulation. Banks are required to check with every new customer whether he is eligible for services at a bank. Is the customer who he says he is? Are there any known risks with this customer and what are they? In banking terms: banks must go through the know your customer process, also called: Customer Due Diligence (CDD).

During the relationship, banks are also required to monitor the behavior of their clients. For instance, the payment traffic of clients is monitored by means of algorithms.

The employees of the bank who are responsible for keeping contact with a client, for instance an account manager or a treasury advisor, also have an important responsibility to make sure that the bank complies with the regulations. They have a duty to inform a qualified person if an activity of a client raises doubt about his integrity. A client may, for instance, ask a treasury advisor to use a product that is quite unusual for him. In that case, the treasury advisor has, at least, to contact the account manager of the client in order to ask if there is a genuine reason for this transaction. Another example is when a client asks a treasury advisor to transfer an amount of money that results from a transaction to an account which is not mentioned in the Standard Settlement Instructions (SSI). In that case, the treasury advisor should contact the compliance officer. This is, in fact, required in every case when a bank employee suspects a client of being involved in money laudering or any other form of financial crime.

4. Chinese Walls

In the dealing room of a bank, different types of front-office personell are each performing their own specic tasks. Sales persons talk with their clients and take on transaction with them. Traders do the offsetting trades in the market. And finally, the staff of debt capital markets and equity capital markets help organization with the issuance of fixed income securities such as bonds and shares.

The employees with direct client contact may receive information of their clients that can be regarded as insider information, for instance about a planned take-over by a company or about not already published financial figures. This information could be crucial for the prices of outstanding securities and a trader would be very much willing to have access to this information in order to take profit from it.

However, it is forbidden to share insider information, let alone to use it. And therefore banks are required do anything they can to prevent insider information to be shared, in other words: they have to buit Chinese Walls.

A Chinese wall is a virtual barrier erected to block the exchange of information between departments in a bank. The wall is not a physical one, but an ethical one intended to prevent the sharing of information that might lead to ethical or legal violations.

SUSTAINABILITY-LINKED DERIVATIVES

A range of sustainability-linked derivatives has been issued over the past several years, which add an ESG pricing component to conventional hedging instruments, such as IRS, cross-currency swaps or forwards[3]. These transactions are highly customizable and use various key performance indicators (KPIs) to determine sustainability goals.

Some of the transactions can reduce one counterparty's payment in the event it achieves some pre-agreed sustainability performance target. This mechanism provides market participants with a financial incentive for improved ESG performance. Other transactions facilitate the clients' ability to support sustainability outcomes through a derivatives transaction. If a company cannot meet its ESG target, it will have to compensate by supporting climate action sustainability projects.

Table 1 provides examples of recently issued sustainability-linked derivatives, which focus on individual client approaches to sustainability. As this is a niche, nascent market, the transaction volume has been very low, and uptake is expected to be gradual.

Table 1: Sustainability-linked IRS and Foreign Exchange (FX) Derivatives[4]

Issuer	Deal Information	Sustainability-linked Characteristics
	Interest Rate Derivatives	
SBM Offshore, a global supplier of floating production solutions to the offshore energy industry	In August 2019, ING executed the world's first sustainability improvement derivative (SID), designed to hedge the interest rate risk of SBM's $1 billion five-year floating rate revolving credit facility. SBM pays a fixed rate on the swap and receives a floating rate[5].	The SID adds a positive or negative spread to the fixed rate set at the inception of the swap based on SBM's environmental, social and governance (ESG) performance, which is scored by Sustainalytics. At the beginning of every year during the life of the swap, ING sets a target ESG score for SBM. If this score has been met, a discount of 5-10 basis points (bp) is applied to the fixed rate paid by SBM. If SBM hasn't met its targeted ESG score, it has to pay a 5-10bp penalty.
Italo - Nuovo Trasporto Viaggiatori, a private rail operator	In January 2020, Natixis structured a €1.1 billion sustainability-linked syndicated loan. The loan comprised a €200 million revolving credit facility to provide general corporate funding and a €900 million green loan to finance and refinance the company's low-carbon rolling stock[6].	As part of the loan transaction, the company also executed a sustainability-linked interest rate swap (IRS) that included an incentive mechanism aligned with the sustainable performance indicators outlined in the financing agreement.
Siemens Gamesa, a supplier of wind power solutions	In March 2020, HSBC executed an IRS that converted a €250 million tranche of a floating-rate syndicated loan, which was arranged in December 2019, into fixed-rate funding[7].	The fixed rate of the swap will not vary if Siemens Gamesa's ESG rating changes, but any change during the life of the swap will prompt charitable giving. If Siemens Gamesa's ESG rating improves, HSBC will donate annually to projects of non-profit organizations. If the rating declines, Siemens Gamesa will donate. This incentive structure differs from some other ESG-linked derivatives hedges where the ESG target impacts the cost of the hedge.

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[3] Scaling Finance for the Sustainable Development Goals https://globalcompact.no/wp-content/uploads/2020/01/Scaling-SDG-Finance.pdf

[4] This list of derivatives transactions is not comprehensive. The examples of over-the-counter (OTC) derivatives transactions are based on publicly available information

[5] Introducing the world's first sustainability improvement derivative https://www.ing.com/Newsroom/News/Introducing-the-worlds-first-sustainability-improvement-derivative.htm

[6] Natixis Structures an Innovative Financing Solution for Italo - Nuovo Trasporto Viaggiatori, Aligned with the Company's Sustainable Development Targets https://pressroom-en.natixis.com/news/natixis-structures-an-innovative-financing-solution-for-italo-nuovo-trasporto-viaggiatori-aligned-with-the-companys-sustainable-development-targets-780b-8e037.html

[7] Siemens Gamesa in ESG-linked interest rate swap https://energy.economictimes.indiatimes.com/news/renewable/siemens-gamesa-in-esg-linked-interest-rate-swap/74587038#:~:text=The%20interest%20rate%20swap%20is,to%20remove%20interest%20rate%20risk

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Issuer	Deal Information	Sustainability-linked Characteristics
	Interest Rate Derivatives	
Goodman Interlink Limited, a global logistics property group	In November 2020, Credit Agricole CIB executed a green IRS, totaling HK$590 million[8].	A preferential fixed rate paid by the borrower was linked to the underlying facility's green classification. The company's fixed rate steps up to non-preferential if the green condition fails. The green condition is satisfied if the company maintains two requirements: (1) silver certification from the US Leadership in Energy and Environmental Design, the most widely used green building rating system in the world; and (2) gold certification of the building environmental assessment method (BEAM) from the BEAM Society Limited, an organization specializing in green certification for Hong Kong buildings.
New World Development, a real-estate owner and developer	In November 2020, DBS Hong Kong completed an IRS linked to the United Nations Sustainable Development Goals (UNSDGs). This derivative transaction is designed to provide a hedge against the interest rate risk related to the New World Development (NWD) five-year HK$1 billion sustainability-linked loan from DBS, which closed in November 2019[9].	If the company successfully generates at least eight business-to-business integration opportunities that contribute to the UNSDGs adopted by the New World Sustainability Vision 2030, it is eligible to receive sponsorship from DBS to support social innovation projects. NWD's social innovation initiatives include Impact Kommons, a UNSDG-focused start-up accelerator and business-integration program, of which DBS is a social impact partner.
	FX Derivatives	
Enel, an Italian power and gas company	In September 2019, Société Générale executed a sustainable-development-goal-linked cross-currency swap tied to a €1.5 billion bond. The swap enables Enel to hedge its exposure against the euro/dollar exchange rate and interest rate risk created by the different denomination of the bond repayments (US dollars) and the source of repayments (euros)[10].	As part of the transaction, Enel received a discounted rate based on its commitment to sustainability performance. Société Générale provided the discount as part of its commitment to the positive impact finance and based on Enel's positive contribution to one of the pillars of sustainable development (economic, environmental and social) and mitigation of any potential negative impacts to any of the pillars. Enel's bond is linked to the company's ability to increase its installed renewable electricity generation capacity from 45.9% to 55% by December 2021. Should Enel not be able to achieve this objective, the interest on the bond will rise by 25bp to 2.9%. This will be carried over to the accompanying cross-currency swap, which will be rebooked if the bond coupon changes.

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[8] Credit Agricole CIB innovates, bringing the first green interest rate swaps to the Asia-Pacific capital markets https://www.ca-cib.com/pressroom/news/credit-agricole-cib-innovates-bringing-first-green-interest-rate-swaps-asia-pacific

[9] New World Development Joins Forces with DBS Hong Kong to Pioneer Hong Kong's First Interest Rate Swap Linked to the United Nations Sustainable Development Goals https://www.nwd.com.hk/content/new-world-development-joins-forces-dbs-hong-kong-pioneer-hong-kong%E2%80%99s-first-interest-rate

[10] Enel Electrifies Sustainability Market with Inaugural Green-linked Bond and Swap https://wholesale.banking.societegenerale.com/en/insights/clients-successes/clients-successes-details/news/enel-electrifies-sustainability-market-with-inaugural-green-linked-bond-and-swap/

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Issuer	Deal Information	Sustainability-linked Characteristics
	FX Derivatives	
Siemens Gamesa, a supplier of wind power solutions	In October 2019, BNP Paribas executed a €174 million FX hedging contract. The transaction aims to hedge Siemens Gamesa's FX exposure from selling offshore wind turbines in Taiwan and to contribute to the UNSDG targets related to climate action and affordable and clean energy[11].	Depending on whether Siemens Gamesa reaches its sustainability targets, BNP Paribas will reinvest any premium into reforestation projects. If Siemens Gamesa misses its annual minimum ESG score, it must pay a sustainability premium, which BNP Paribas will reinvest in reforestation projects. The premium is calculated using a metric assigned by third-party sustainable finance specialists RobecoSAM.
Olam International, a major food and agri-business company	In June 2020, Deutsche Bank executed an FX derivative linked to ESG key performance indicators (KPIs). A one-year US dollar/Thai baht FX forward enables Olam to hedge its FX risk arising from exporting agriculture products from farms in Thailand to the rest of world[12].	The transaction allows Olam International to lock in a discount when it meets pre-defined ESG targets, which support the UNSDGs. The transaction KPIs will contribute to 10 of the 17 UNSDGs, including alleviating poverty (UNSDG 1); alleviating hunger (UNSDG 2); improving gender quality (UNSDG 5); improving clean water and sanitation (UNSDG 6); reducing inequalities (UNSGD 10); increasing responsible consumption and production (UNSDG 12); contributing to climate action (UNSDG 13); protecting life below water (UNSGD 14); protecting life on land (UNSGD 15); and increasing partnerships for the goals (UNSDG 17).
Primetals Technologies, an engineering and plant construction company	In October 2020, Deutsche Bank entered into an FX transaction that links currency options to sustainability goals. This agreement enables Primetals Technologies to hedge its currency risk with FX options over a four-year period[13].	If Primetals Technologies fails to meet the agreed sustainability targets, it must pay a predefined sum to a contractually defined non-governmental organization. The currency hedge is linked to several sustainability targets, including the proportion of total sales of projects that aim to reduce greenhouse gas emissions for customers, and revenues relative to research and development expenditure that result in improved resource efficiency. Another metric is the promotion of a safe and healthy work environment for all staff at Primetals Technologies. Independent consultants will monitor and certify whether the targets are adhered to for the entire life of the option.

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11 Siemens Gamesa Pioneers the Green Foreign Exchange Hedging Market https://www.siemensgamesa.com/en-int/-/media/siemensgamesa/downloads/en/newsroom/2019/10/pressrelease-siemens-gamesa-green-fx-en.pdf

12 Deutsche Bank Executes Asia's First FX ESG Derivative https://www.marketsmedia.com/deutsche-bank-executes-asias-first-fx-esg-derivative/

13 Deutsche Bank draws up the world's first ESG FX derivative framework agreement for Primetals Technologies https://www.db.com/newsroom_news/2020/deutsche-bank-draws-up-the-world-s-first-esg-fx-derivative-framework-agreement-for-primetals-technologies-en-11709.htm

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Issuer	Deal Information	Sustainability-linked Characteristics
	FX Derivatives	
Hysan Development, a Hong Kong property developer	In October 2020, BNP Paribas executed a $125 million approximately15-year sustainability-linked hedge[14].	Under the terms of the transaction, Hysan commits to remain as a constituent member of the Hang Seng Corporate Sustainability Benchmark Index, which ranks the top 20% of Hong Kong companies based on their sustainability performance on broad metrics, for the period between 2021-2024. The company also commits to reduce its energy consumption by 20% by December 31, 2024. If Hysan is not successful in reaching the two goals, it will contribute to an impact-driven charity approved by BNP Paribas.
Enel, an Italian power and gas company	In October 2020, Enel issued £500 million of sustainability-linked bonds. Along with this issuance, Enel also executed a sustainability-linked cross-currency swap with JP Morgan Chase to hedge against the sterling/euro exchange rate and interest rate risk[15].	The bonds are linked to the company's ability to reach at least 60% renewable generation within its total installed capacity by December 31, 2022. The achievement of the target will be certified by an auditor's specific assurance report[16]. The interest rate on the bonds will remain unchanged to maturity, unless Enel fails to achieve the sustainability performance target. If the target is not achieved, a step-up mechanism will be applied, increasing the rate by 25bp as of the first interest period after publication of the assurance report of the auditor. Enel and JPMorgan will pay interest to each other on the borrowed money every six months on the cross-currency swap. That interest cost can rise if either side does not keep up to its environmentally friendly targets[17]. JP Morgan has pledged to help arrange $200 billion of funding this year for climate-change action and the UNSDGs, which include activities such as underwriting green bonds.

[14] Hysan Unveils Innovative Green Hedging Solution https://www.theasset.com/article-esg/41987/hysan-unveils-innovative-green-hedging-solution

[15] Enel issues £500 million of sustainability-linked bond https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/enel-issues-163-500m-of-sustainability-linked-bond-60725267

[16] Enel issues £500 million of sustainability-linked bond https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/enel-issues-163-500m-of-sustainability-linked-bond-60725267

[17] JPMorgan Currency Deal Highlights Finance's Green Shift https://www.wsj.com/articles/jpmorgan-currency-deal-highlights-finances-green-shift-11603727838

5. Practice questions

1

What was the main reason that EURIBOR was susceptible to fraud before the Benchmark Reform?

a. Too few banks participated in the panel that passed on the rates
b. EURIBOR was an overnight rate and therefore not available for terms from 1 month to 1 year
c. The market for inter-bank deposits had dried up, which meant that the contributions of the panel banks could not be checked.

2.

Wat is meant by a benchmark event?

a. The fact that a benchmark is substantially changed or no longer published
b. Only the fact that a benchmark is substantially changed
c. Only the fact that a benchmark is no longer published

3.

Which statement about EURIBOR is correct?

a. It is an interbank interest rate for different terms from 1 week to 12 months
b. It is the interest rate for wholesale deposits for different terms from 1 week to 12 months
c. It is an overnight rate for interbank deposits

4.

What is the credit value adjustment variability charge?

a. The credit surcharge that banks use when taking out derivatives
b. A capital requirement from Basel IV for the chance that during the term the CVA used by the bank turns out to be too low
c. A capital requirement of Basel IV that is equal to the credit surcharge that banks apply when taking out derivatives

5.

To whom should a treasury advisor report a suspicion that a client may be involved in a financial offense?

a. The account manager
b. The compliance officer
c. The criminal justice authorities

6.

What is an example of violating a Chinese Wall?

a) A salesman passes on the details of a transaction to a trader so that he can close the position in the market.
b) A salesman passes on information about a major financial setback at his customer to a trader.
c) A salesman passes on information about a major financial setback at his customer to the account manager.

7.

What can be the consequences of not reaching an ESG goal that is stated in a derivatives contract?

a. Only an adjustment of the price
b. Only an obligation to make a donation to a charity
c. Both, an adjustment of the price or a donation to a charity[1]

[1] Answers: 1c, 2a, 3b, 4b, 5b, 6b, 7c