Evaluation of the Financial Market Infrastructure Act (FMIA)

Final Report on the Analysis of the Market Conduct in Derivatives Trading Rules

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ABBREVIATIONS

AIFM	Alternative Investment Fund Manager
AUD	Australian Dollar
Bio.	Billion
CAD	Canadian Dollar
CEA	Commodity Exchange Act
CCP	Central Counterparty
CDS	Credit Default Swap
CFD	Contract for Difference
CFTC	Commodities Futures Trading Commission
CHF	Swiss Franc
Chiff.	Chiffre
DCM	Designed Contract Market
DLT	Distributed Ledger Technology
EC	European Commission
ECP	Eligible Counterparties
EMIR	European Market Infrastructure Regulation
EONIA	European Overnight Index Average
ESMA	European Securities Market Authority
ETD	Exchange Traded Derivative
EUR	Euro
EURIBOR	Europe Interbank Offer Rate
FCA	UK Financial Conduct Authority
FINIA	Financial Institutions Act (SR 954.1)
FINMA	Swiss Financial Market Supervisory Authority FINMA
FINSO	Financial Services Ordinance (SR 954.11)
FMIA	Financial Market Infrastructure Act (SR 958.1)
FMIO	Financial Market Infrastructure Ordinance (SR 958.11)
GBP	British Pound
HKD	Hong Kong Dollar
HKMA	Hong Kong Monetary Authority
IRS	Interest Rate Swap
ISDA	International Swaps and Derivative Association
JPY	Japanese Yen
LEI	Legal Entity Identifier
LIBOR	London Interbank Offered Rate
MAS	Monetary Authority of Singapore
MiFID	Markets in Financial Instruments Directive
MSD	Major Security-based Swap Dealers

MSP	Major Swap Participants
MTF	Multilateral Trading Facility
No	Number
NOK	Norwegian Kronor
OJ	Official Journal
OTC	Over-the-Counter
OTF	Organized Trading Facility
Para.	Paragraph
PLZ	Polish Zsloty
REMIT	Regulation on wholesale Energy Market Integrity and Transparency
SD	Swap Dealer
SEC	Securities Exchange Commission
SEF	Swap Exchange Facility
SEK	Swedish Kronor
SFA	Securities and Finance Act
SGD	Singaporean Dollar
SIF	State Secretariat for International Finance SIF
STIBOR	Stockholm Interbank Offered Rate
SWD	Security Based Swap Dealer
T	Transaction
UCITS	Undertakings for Collective Investments in Transferable Securities
USA	United States of America
USD	United States Dollar
WIBOR	Warsaw Interbank Offered Rate

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MAS, Guidelines on margin requirements for non-centrally cleared OTC derivatives contracts.

MAS, Securities and Futures Act (Cap. 289), Notice on listing, de-listing, or trading of relevant products on an organized market of an approved exchange or a recognized market.

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I. PART I: INTRODUCTION

A. SCOPE OF OUR MANDATE

The State Secretariat for International Finance SIF (“SIF”) mandated PricewaterhouseCoopers AG (“PwC”) to draft a report on the market conduct in derivatives trading rules set out in Articles 93 to 117 of the Swiss Financial Market Infrastructure Act (“FMIA”). In addition, this report covers the rules on position limits for commodity derivatives set out in Articles 118 and 119 FMIA and additional obligations of foreign jurisdictions where appropriate.

The purpose of this report is to support the SIF in its evaluation of the FMIA against the backdrop of the Federal Council’s mandate to assess the impact of the FMIA, the changing regulatory regimes abroad and technological innovations. To this end the report (i) compares the Swiss rules to the corresponding rules in the European Union, the United States and Singapore (collectively: “Rules”) taking into consideration recent legislative developments, (ii) summarizes feedback from participants in the derivatives market collected in a market survey, (iii) analyzes the applicability of the Swiss Rules on blockchain/distributed ledger technology (“DLT”) based derivatives.

Part II. “Market Conduct in Derivatives Trading Rules” of the report discusses the Swiss and foreign Rules and summarizes the feedback received from the survey-participants in a market study on the Swiss market conduct in derivatives trading Rules. The focus of this part lays on evaluating how efficiently and effective the Swiss Rules support the aims of the FMIA and to identify potential alternative regulatory approaches.

Part III. “Blockchain/DLT-based Derivatives” of the report discusses the applicability of the Swiss Rules on such derivatives and provides an overview on the regulatory approach in the European Union, the United States and Singapore as well as other jurisdictions. Moreover, it summarizes the comments of the survey-participants.

Additional documents and information can be found in the Annex.

B. EXECUTIVE SUMMARY

This report addresses key aspects of the Swiss derivative regulation under the Swiss Financial Infrastructure Act (FMIA).

The comparison of the Swiss derivative regulatory regime with the derivative regulatory regimes in the EU, the USA and Singapore leads to the conclusion that the Swiss derivative regulatory regime is in terms of restrictiveness in the middle of this group. Switzerland has in the FMIA introduced some important features, such as but not limited to, the unilateral trading obligation and an extensive substituted compliance principle, as well as the avoidance of implementing position limits. The other

benchmarked jurisdictions have however revised and modernized their respective derivatives regulatory regimes, such as but not limited to EMIR Refit and the introduction of the clearing obligation related to each derivatives category exceeding the clearing threshold as well as the reduction of the scope of extraterritoriality of Dodd-Frank. One of the key drawbacks of the Swiss derivative regulatory regime is the comprehensive and extensive audit requirement, which is in its extensiveness to our knowledge unique on a global level. The extraterritorial application – at least as applied in practice – is quite extensive in Switzerland compared to other jurisdictions. Especially Singapore has a much less extensive extraterritorial reach than the FMIA and it's derivative regime generally only applicable to financial counterparties. Regulation does not only mean higher costs, but has also benefits, such as financial stability, investor protection and equal treatment of financial market participants. It is however very hard to quantify these benefits. The key is to strike the right balance between regulation and other financial market principles, such as stability, transparency, and functionality of the financial markets. This balance is in our view not met in case of Singapore where only derivatives booked or traded in Singapore are in scope and only if done so by certain licensed entities that are financial service providers. There are in other words in this small jurisdiction with many cross-border transactions only a small part of the derivatives transactions in scope of the derivative regulatory regime. This does not bode well for market stability purposes. The resilience and stability, yet attractiveness of the Swiss financial market for market participants, indicates however impressively that Switzerland was able to strike a better balance.

We have also conducted an extensive and thorough market study with the key players in the Swiss market about the current impact of the Swiss derivative regulatory regime, the associated costs and room for improvement, as set forth in section II. B. The results of the market study are in line with our findings and underline to a large degree our findings of the analysis of the literature, materials and study reports.

We conclude that the Swiss derivative regulatory regime is efficient and effective, but could even be more competitive and as put by a participant in the survey "better understandable" for third parties when compared on a global scale with similar jurisdictions. The Swiss derivative regulatory regime is however compared to EMIR and Dodd-Frank not less understandable. Quite the opposite is actually the case. The FMIA is an "easier read". The survey participant has however insofar an argument, that there are not many supporting materials published that explain in layman terms or in FAQs this rather complex area of the law. The Swiss marketplace has however many experienced consultants and associations that help interpreting and implementing the law.

The Swiss derivative regulatory framework is adequate and apt to cover also derivatives related to or traded on the Blockchain or the DLT.

Based on the comparison of the different derivative regulatory regimes in Singapore, the USA, the EU, and Switzerland, the market study, and our research we make the following observations / we identified the following areas, where recent amendments to the EU regulation contain revised

principles and concepts that could be beneficial also for the Swiss regulatory framework related to derivatives and might be considered by competent Swiss authorities:

1. Implementation of the beneficial clauses of EMIR Refit, meaning the following aspects:

    a. Every 12 months, a financial counterparty taking positions in OTC derivative contracts may calculate its aggregate month-end average position for the previous 12 months to decide about the status of the counterparty. This simpler calculation of the threshold smooths out the positions that a counterparty holds and produces more credible figures to determine whether a counterparty is large or small.[1]

    b. Impact of being an NFC which exceeds a clearing threshold (NFC+): the clearing obligation generally applies only to the asset class(es) in which the NFC has exceeded the relevant clearing threshold. For example, if the NFC exceeds the threshold for OTC interest rate derivatives, it only needs to clear this class of OTC derivative; whereas if an FC exceeds the threshold for any one of the asset classes, the clearing obligation applies in respect of all of its OTC derivative contracts which are caught by the clearing obligation. This is a change; previously an NFC+ would have had to clear all asset classes. However, in respect of an NFC which has been classified as an NFC+, because it did not undertake the AANA calculation, it will be subject to the clearing obligation in relation to all asset classes.

    c. Exempt intra-group transactions from the reporting obligation as set forth under EMIR Refit if the following requirements are met:

        - Both counterparties are part of the full consolidation,
        - Both counterparties are subject to adequate centralised risk evaluation, measurement and control activities, and
        - The transaction is not used to circumvent the reporting obligation.

2. Reduce the audit requirement. FMIA contains compared to the other derivative regulatory regimes that have been investigated in this report a very extensive audit requirement. This audit requirement is a drag on both the counterparties to derivatives and the auditors themselves. In case of FCs, FINMA deploys a risk based regulatory review in a time frame of 1 to 6 years. FINMA has thus some leeway to adjust the review period/time frame. We do thus see less an urgency to adjust the audit requirement with regards to FCs. The law requires however according to Art. 116 para. 1 CO an audit in the context of the yearly audit requirement. Especially in case of NFC+, which have large portfolios of OTC derivatives, an

[1] Art. 4a Regulation (EU) 2019/834.

audit can be very time-consuming and costly. A possible concept could thus be to reduce the audit requirement in terms of (i) the entities affected, meaning e.g. a reduction to just regulated entities, (ii) the scope of the audited obligations, e.g. an audit just based on a sample check, (iii) the periodicity of the audit, e.g. an audit only every other year or every three years. A mix of these alleviations will still allow that the parties will comply with the obligations under the FMIA. The audit requirement for NFC- could e.g. be completely abolished, the risk arising therefrom is rather low, because most NFC- deal with a FC as counterparty and the obligations NFC- are subject to are few in number (e.g. reporting obligation, portfolio reconciliation, etc.). In any case should the audit requirement only apply in case of an ordinary audit (ordentliche Revision), but not in case of a limited audit (eingeschränkte Revision). The audit requirement for NFC+ could e.g. be reduced to an audit requirement every 3 to 6 years, similar to the audit of FC (there is no reason why NFC+ should be treated less beneficial than FCs in this regard). This will still have a controlling effect on the activities of NFC+ that will implement the obligations under the FMIA to be compliant. The audit requirement for FC- could also be reduced in the context of the “Small Banks Regime” to an audit requirement every other year or an audit requirement if a certain threshold of OTC derivative turnover is exceeded. The abolishment of the general audit requirement will help to make Switzerland more attractive for entities trading in derivatives.

3. Reduce the extra-territorial effect: Limit the extraterritorial effect of the Swiss derivative regulatory regime. The Swiss regulatory regime has as applied in practice the most extensive reach of all the derivatives regimes that have been reviewed. The practice applies the FMIA to all OTC and ETD transactions between a Swiss based counterparty and a foreign counterparty. The principle of “substituted compliance” can only to a limited extent reduce this downside.[2] The derivatives regulatory regime of Singapore, an even smaller jurisdiction with more cross-border transactions, focuses its derivatives regulatory obligations almost solely on regulated entities domiciled in Singapore. An extensive extraterritorial effect reduces the attractiveness of a jurisdiction to enter into transactions with entities domiciled in this jurisdiction. A

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[2] Why is this? Although Art. 93 para. 1 FMIA is stating that the chapter on derivatives regulation only applies to financial and non-financial counterparties having their domicile in Switzerland, there are multiple articles stating that there is also an extraterritorial reach. These articles are listed below:
Clearing Obligation; Art. 102 FMIA with regards to the clearing obligation sets forth that the obligation to clear through a CCP is also applicable if the foreign counterparty would be subject to clearing if it was domiciled in Switzerland.
Reporting Obligation; Art. 104 para. 1 lit. c FMIA sets forth that the Swiss counterparty will have to report if the foreign counterparty does not report. This sets in other words forth that there is a foreign counterparty to the transaction.
Risk mitigation obligations: Most of the risk mitigation obligations (except the valuation obligation) are mutual, meaning that both parties have to apply them, otherwise they are not effective. This means in other words that if the risk mitigation obligations would only apply to counterparties being in Switzerland, derivatives transactions with foreign counterparties would be preferred, because no risk mitigation would apply in such a case. That is detrimental to purely Swiss based counterparties. That is why in practice, the risk mitigation obligations apply to all counterparties, independent of where they are domiciled.
Platform trading obligation: Art. 112 FMIA requires that also foreign counterparties are subject to the platform trading obligations if they would be subject to this obligation if they were domiciled in Switzerland.

possible new concept addressing this situation could be that with the exception to the clearing and trading obligation (if applicable), the non-Swiss based counterparties do not have to fulfil the obligations under the FMIA. Such a regulation would be in line with the regulations set forth under EMIR in the EU. An even more daring regulation could set forth that the risk mitigation, clearing, and trading obligations would only apply if both counterparties would be domiciled in Switzerland. Such a regulation would be in compliance with the international principles set forth under the IOSCO rules.[3] Disadvantages of such a concept would be that due to the limited size of the Swiss market only part of the market transactions, and probably the major part of the market transactions, will not be subject to the derivative regulatory regime. This means that the stability or the functionality of the financial markets could be in jeopardy"

4. Reduction of the application of the risk mitigation obligations in case there is a custodian relationship in addition to the OTC derivative transaction. The Dodd-Frank derivative regulatory regime and the Singaporean derivative regulatory regime allow for the bilateral agreement of how risk mitigation measures should be executed in such a situation. This makes in particular in a custodian situation sense, meaning if the counterparty to an OTC derivative is at the same time the custodian of the OTC derivative (e.g. a client relationship with a bank), meaning the counterparty to the client, and the client has outsourced the fulfilment of the risk mitigation obligations to the custodian. In such a situation, the same counterparty is factually fulfilling the risk mitigation obligations for both counterparties (e.g. the portfolio reconciliation is made for both parties by the same entity based on the same calculations and basis). This does not make sense. It might does make sense to allow for a bilateral agreement on how the risk mitigation measures should be executed in such a situation. The legally set forth obligations will thus only apply in the other situations.

3 See Risk Mitigation Standards for Non-centrally Cleared OTC Derivatives page 5 (https://www.iosco.org/library/pubdocs/pdf/IOSCOPD469.pdf).

II. PART II: MARKET CONDUCT IN DERIVATIVES TRADING RULES

A. INTERNATIONAL BENCHMARKING

Please find attached in Annex 1 an extensive comparison between the derivative regulatory regimes of Switzerland, Singapore, the EU, and the USA.

1. SUMMARY OF THE COMPARISON BETWEEN THE DERIVATIVE REGUALTORY REGIMES OF SWITZERLAND, SINGAPORE, EU, AND THE USA

a) Overview

(1) Switzerland

The FMIA applies in Switzerland to both financial and non-financial counterparties. The FMIA has implemented risk mitigation measures. IRS and CDS are subject to the clearing requirement. The trading obligation of derivatives subject to clearing has at this point in time not yet been implemented. Only financial entities require a registration or license. There is a mandatory audit requirement that applies to financial and non-financial companies. Switzerland applies quite an extensive substituted compliance principle, which means that equivalent foreign laws and regulations, such as EMIR and Dodd-Frank, are deemed to be equivalent to the Swiss laws and regulations and that the obligations under the FMIA can be fulfilled by means of EMIR and Dodd-Frank. The Swiss regulation sets forth the possibility to set position limits but has so far not done so.

(2) Singapore

The derivatives regulatory obligations under the Singaporean derivatives regulatory regime apply mainly to financial counterparties, meaning to counterparties that are duly licensed. There is only one noteworthy exception which are the margin requirements that apply also to non-financial counterparties. Risk mitigation obligations apply in line with the IOSCO standards. OTC and ETD derivatives are subject to the reporting obligation, but only if they are traded or booked in Singapore. IRS are only subject to the trading obligation. Financial counterparties must apply for a license and registration and as a result, some of them will be subject to the Singaporean derivatives regulatory regime. There is no audit requirement and there are to our knowledge also no plans to introduce an audit requirement any time soon. The substituted compliance principle applies also in Singapore. Margin requirements apply only to derivatives that are not centrally cleared. There are also position limits in force.

(3) European Union

The European derivatives regulatory regime EMIR applies to financial and non-financial counterparties. There are also risk mitigation obligations applicable as set forth by the IOSCO

standards. IRS and CDS are subject to the clearing obligation and OTC and ETD derivatives must be reported. IRS and CDS are also subject to the trading obligation. A registration with ESMA is required for non-financial counterparties exceeding the clearing threshold and financial counterparties. Belgium and Germany have also imposed an audit requirement based on national legislation. These thresholds are either EUR 100 mio. turnover or 100 derivatives. These thresholds are reasonable and introduce a de minimis-threshold. EMIR knows the substituted compliance principle in the form of the acknowledgement of equivalent jurisdiction by the European Commission. The extraterritoriality requirement applies to the clearing and trading obligation. Position limits are in force in the European Union.

(4) United States of America

Securities Dealers, Securities Swap Dealers, Major Swap Participants, and Major Securities Dealers are subject to the rules and obligations of the derivatives regulatory regime in the USA. There are also risk mitigation obligations applicable and the derivatives are subject to the clearing obligation. OTC and ETD must be reported and some IRS and CDS are subject to the trading obligation on either Designated Contract Markets or Swap Execution Facilities. There is a limited audit requirement and the principle of substituted compliance applies. The SEC or CFTC can recognize foreign laws and regulations as equivalent. There is currently also an extensive application of the principle of extraterritoriality. Also the USA know extensive position limits for many contracts.

b) Key differences between the FMIA and Dodd-Frank

(1) Pros of Dodd-Frank

The following aspects of the Dodd-Frank derivative regulatory-regime are the main differences to the derivative regulatory-regime in Switzerland under the FMIA:

- De minimis threshold: Under the CFTC regulations, no obligations apply to entities whose aggregate gross notional amounts of Swaps over the last 12 months are below USD 3 bio. or the SEC's de minimis threshold of USD 3 bio. for credit default swaps, USD 150 mio. for security-based swaps other than credit default swaps, and USD 25 mio. for all security-based swaps in which the counterparty is a special entity.
- Categorization of dealers: All eligible counterparties are only dealer for one or more types, classes or categories of swaps or security-based swaps.
- Scope of regulation: Major Swap Participants and Major Securities Swap Dealers are only subject to the derivatives regulatory regime if they have a "substantial position", "substantial counterparty exposure", or are a "financial entity" that is "highly leveraged".
- Trading: Natural persons can only trade in OTC derivatives in scope if they are traded on a DCM.
- Intra-group exemptions: Swaps between majority-owned affiliates are excluded from the obligations under Dodd-Frank.

- Dispute resolution: SEC must be notified if there is a valuation dispute in excess of $ 20 mio. and the dispute is not resolved within 3 days.
- Valuation obligation: The counterparties must agree on the procedures including a written documentation and methods regarding the valuation of the derivatives.
- Clearing obligation: There is a clearing obligation for derivatives that are subject to multilateral compression.
- Intra-group reporting: The reporting does not apply to inter-affiliate swaps between entities that are 100% owned by the same parent entity.
- Extraterritorial effect of the derivatives regulatory-regime: The rather extensive extraterritorial effect of the Dodd-Frank derivative regulatory regime will be reduced and reconsidered. Although the exact timeline is not yet clear, this topic is high on the agenda of the CFTC and SEC. A first step in terms of reduction of regulations has already been the recognition of the European derivative regulatory regime EMIR as equivalent to Dodd-Frank.

(2) Cons of Dodd-Frank

The Dodd-Frank regulation has compared to the FMIA derivatives regulatory regime also some major drawbacks. These are the following:

- Dual supervisory and regulatory structure consisting of the SEC and CFTC that lead to conflicts of allocation of competences and misalignments of regulations. The dual set of powers and regulations make it for market participants much harder to be compliant.
- MSP and MSD must register with either the CFTC or the SEC. This registration requirement can generally also apply to foreign entities.
- The registration requirement means that the registered entities will have to comply with an extensive framework of regulatory requirements under Title VII Dodd-Frank, including internal and external business conduct rules and other obligations and restrictions independent of whether they are located in the USA or not.
- Non-eligible counterparties, meaning counterparties that are not MSP, MSD, SD, or SWD, cannot enter into a swap, except that they are traded on a designated contract market (DCM).

c) Key differences between FMIA and the Singaporean derivatives regulatory-regime

The Singaporean derivatives regulatory regime is a lightly regulated regime. This is insofar surprising considering that Singapore is a small country with only limited derivatives transactions within Singapore.

(1) Pros of Singapore

The following aspects of the Singaporean derivative regulatory-regime are the main differences to the derivative regulatory-regime in Switzerland under the FMIA:

- Affected parties: The affected parties that are in scope of the derivative regulatory-regime are mainly licensed entities or subsidiaries of such entities. This makes it much easier for non-licensed entities to comply with the regulations and requirements.
- Portfolio compression obligation: It is left to the counterparties to a derivatives transaction to decide whether they will conduct a portfolio compression exercise with their counterparties.
- Dispute resolution mechanism: The counterparties have to agree in a document the mechanisms and the process for the determination when discrepancies in material terms and validations should be considered disputes and how such disputes should be addressed.
- Affected counterparties of the margin requirements: Margin requirements apply solely to banks that are domiciled in Singapore or any person outside of Singapore that would have been a licensed bank if operating in Singapore.
- Affected derivatives of the margin requirements: Multiple derivatives are exempted from the application of the margin requirements (such as commodity derivatives entered into for commercial purpose, uncleared derivatives without a legally enforceable netting agreement or collateral agreement, and a securities-based contract).
- Scope of application of the clearing obligation: A derivative is only subject to the clearing obligation if both parties to the derivatives contract are domiciled in Singapore.
- De minimis rule for application of the clearing obligation: Only banks with an aggregate outstanding notional amount exceeding SGD 20 mio. are subject to the clearing obligation and a bank must have been operational for at least one year.
- Reporting obligation: The reporting obligation applies only to counterparties that are domiciled in Singapore.

(2) Cons of Singapore

A light regulatory regime that applies only to the local counterparties, such as the one imposed in Singapore, is highly appreciated by market participants, because fewer derivatives transactions are affected. It comes however also at a disadvantage. Disadvantages are that only part of the market transactions, and probably the major part of the market transactions, will not be subject to the derivative regime. This means that the market stability or the functionality of the financial markets could be in jeopardy.

d) Key differences between FMIA and EMIR

The FMIA has been modelled in many aspects in line with EMIR. EMIR Refit has recently introduced some new attractive provisions. In terms of staying aligned with the key requirements of EMIR, the FMIA could also be adjusted accordingly.

(1) Cons of EMIR (Refit)

- New rules introduced by EMIR Refit: Clearing obligation: The clearing obligation only applies to the asset class(es) in which the NFC has exceeded the relevant clearing thresholds. For example, if the NFC exceeds the threshold for OTC interest rate derivatives, it only needs to clear this class of OTC derivative. This makes in a situation sense in which a non-financial counterparty has large trading volumes in just one category, but only limited trading volumes

in other categories, such as commodities trading firms. Commodities trading firms can exceed the thresholds in commodities, but might trade only limited volume in other categories, such as interest rates. The application of the clearing obligation only on a category basis results in a situation where commodities trading firms do not have to clear any derivatives, because commodities derivatives are not subject to clearing. Under the old regime, commodities trading firms exceeding the clearing threshold of commodities had to clear interest rate derivatives as well although their activities in the interest rate derivative space did not trigger systematic concerns.

- New rules introduced by EMIR Refit: Reporting obligation: The reporting obligation does not apply to derivative contracts within the same group where at least one of the counterparties is an NFC or TCE NFC, provided that:
  - both counterparties are included in the same consolidation on a full basis;
  - both counterparties are subject to appropriate centralised risk evaluation, measurement and control procedures;
  - the parent undertaking is not an FC; and
  - both counterparties notify their competent authorities of their intention to apply this exemption
- New rules introduced by EMIR Refit: Recalculation of the clearing threshold is smoothed out over multiple months: If the average of an FC's aggregate month-end average gross notional value of OTC derivative transactions (AANA) for each of the previous 12 months:
  - is below all of the clearing thresholds set out below (the clearing thresholds), it will be an FC-; or
  - exceeds any one of the clearing thresholds, it will be an FC+.
- Audit requirement: EMIR Refit does not know an audit requirement. Only few jurisdictions (Belgium and Germany) have introduced an audit requirement regarding the compliance with the rules and obligation set forth under EMIR. This requirement is based on national law. The enforcement of the provisions under EMIR is in the competences of the NCA (National Competent Authorities) of the member states.[4]
- Extraterritorial effect: The extraterritorial effect of EMIR – at least as applied in practice - is more limited than the one of the FMIA. The clearing and trading obligations apply also to non-EU based counterparties. All the other obligations will be fulfilled by the EU based counterparties.

2. KEY TAKEAWAYS

Based from the learnings and comparisons of the derivative regulatory regimes of the EU, USA, and Singapore, we suggest considering the following points:

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[4] https://www.esma.europa.eu/sites/default/files/library/esma70-151-1400_report_on_supervisory_measures_and_penalties_emir.pdf

1. Implementation of the beneficial clauses of EMIR Refit, meaning the following aspects:

   a. Every 12 months, a financial counterparty taking positions in OTC derivative contracts may calculate its aggregate month-end average position for the previous 12 months to decide about the status of counterparty. This simpler calculation of the threshold smooths out the positions that a counterparty holds and produces more credible figures to determine whether a counterparty is large or small.[5]

   b. Impact of being an NFC which exceeds a clearing threshold (NFC+): the clearing obligation only applies to the asset class(es) in which the NFC has exceeded the relevant clearing threshold. For example, if the NFC exceeds the threshold for OTC interest rate derivatives, it only needs to clear this class of OTC derivative; whereas if an FC exceeds the threshold for any of the asset classes, the clearing obligation applies in respect of all of its OTC derivative contracts which are caught by the clearing obligation. This is a change; previously an NFC+ would have had to clear all asset classes.

   c. Exempt intra-group transactions from the reporting obligation as set forth under EMIR Refit if the following requirements are met:

      - Both counterparties are part of the full consolidation
      - Both counterparties are subject to adequate centralised risk evaluation, measurement and control activities, and
      - The transaction is not used to circumvent the reporting obligation

2. Reduce the audit requirement. FMIA contains compared to the other derivative regulatory regimes that have been investigated in this report a very extensive audit requirement. This audit requirement is a drag on both the counterparties to derivatives and the auditors themselves. Especially in case of NFC+, which have large portfolios of OTC derivatives, an audit can be very time-consuming and costly. The scope of the audit requirement should thus be reduced in terms of (i) the entities affected, meaning e.g. a reduction to just entities having an ordinary audit (ordentliche Revision), (ii) introduce thresholds for the audit requirement in line with international standards (e.g. CHF 100 mio. turnover or 100 derivatives) for NFC, (iii) the periodicity of the audit, e.g. an audit only every other year or every three years. Although generally as financial counterparty subject to the FMIA, pension funds are currently not audited. The supervisory organisation on pension funds has so far not introduced and audit requirement. In practice have only few pension funds derivatives. It might thus be worthwile considering the abolishment of the audit

[5] Art. 4a REGULATION (EU) 2019/834.

requirement or the introduction of thresholds in line with the ones of the NFC (e.g. CHF 100 mio. turnover or 100 derivatives). The abolishment of the general audit requirement will help to make Switzerland more attractive for entities trading in derivatives without affecting the stability and functionality of the financial markets. This approach is also in line with international benchmarks.

3. Reduce the extra-territorial effect: Limit the extraterritorial effect of the Swiss derivative regulatory regime. The Swiss regulatory regime – at least as applied in practice - has the most extensive reach of all the derivative regimes that have been reviewed. The principle of “substituted compliance” can only to a limited extent reduce this downside. The derivatives regulatory regime of Singapore, an even smaller jurisdiction with more cross-border transactions, focuses its derivatives regulatory obligations almost solely on regulated entities domiciled in Singapore and transactions executed in Singapore. An extensive extraterritorial effect reduces the attractiveness of a jurisdiction to enter into transactions with entities domiciled in this jurisdiction. A possible new concept addressing this situation could be that with the exception to the clearing and trading obligation (if applicable), the non-Swiss based counterparties do not have to fulfil the obligations under the FMIA. Such a regulation would be in line with the regulations set forth under EMIR in the EU. Subject to the reservations made above, an even more daring regulation would set forth that the risk mitigation, clearing, and trading obligations would only apply if both counterparties would be domiciled in Switzerland.

4. Reduction of the application of the risk mitigation obligations in case there is a custodian relationship in addition to the OTC derivative transaction (e.g. in a client-bank relationship). The Dodd-Frank derivative regime and the Singaporean derivative regulatory regime allow for the bilateral agreement of how risk mitigation measures should be executed in such a situation. This makes in particular in a custodian situation sense, meaning if the counterparty to an OTC derivative is at the same time the custodian of the OTC derivative and the client has outsourced the fulfilment of the risk mitigation obligations to the custodian (this is e.g. the case with client of a bank having OTC derivative in an account). In such a situation, the same counterparty is factually fulfilling the risk mitigation obligations for both counterparties (e.g. the portfolio reconciliation is made for both parties by the same entity based on the same calculations and basis). This does from a client protection and stability of the financial system perspective not make sense. A bilateral agreement on how the risk mitigation measures should be executed in such a situation might instead might be a better solution. The legally set forth obligations will thus only apply in the other situations.

B. QUALITATIVE SITUATIONAL ANALYSIS AND EX-POST ANALYSIS BASED ON THE SURVEY

1. THE SURVEY

a) Approach and Response Rate

PwC conducted a survey to collect feedback from stakeholders on the strengths, weaknesses, chances and risks as well as the effectiveness and the efficiency of the Swiss Rules. To this end PwC sent out a questionnaire in English and in German (Appendices I to II) to 62 addressees of different sizes and in different industries. The list of addressees included participants in the derivates market (47), industry associations (13) and cross-industry associations (2).

In total 30 addressees participated in the survey ("Survey Participants"). Three industry associations that participated by consolidating the views of their members count as three Survey Participants.

PwC grouped the Survey Participants according to their industry in the categories "Financial Service Providers", "Commodity Traders" and "Others" and further into the categories "Small", "Medium", and "Large". The latter categorization is based on the following metrics applying a waterfall logic: (i) FINMA's risk categorization, if available, otherwise (ii) the financials published in the annual report, if available, and otherwise (iii) professional judgement.

Two of three industry associations that participated by consolidating the view of their members have been classified as "Large" and one has been classified as "Medium" due to the size of their members. The two industry associations classifying as "Large" are Commodity Traders associations. Their views consolidate feedback from 11 respectively 8 members. The industry association classifying as "Medium" is a Financial Service Providers association and consolidates feedback from 6 members.

Participants	Small	Medium	Large
Financial Service Providers	7	11*	3
Commodity Traders	1	0	2*
Others	0	2	4

* Two commodity trading and one financial service industry association participated in the survey by consolidating the view of their members.

Not all Survey Participants provided answers to all questions in the questionnaire. Furthermore, some Survey Participants did participate by summarizing their point of view and not by filling in the questionnaire. The sections below consolidate and summarize the statements of the Survey Participants made by providing a completed questionnaire or in any other format.

b) The Survey Participants

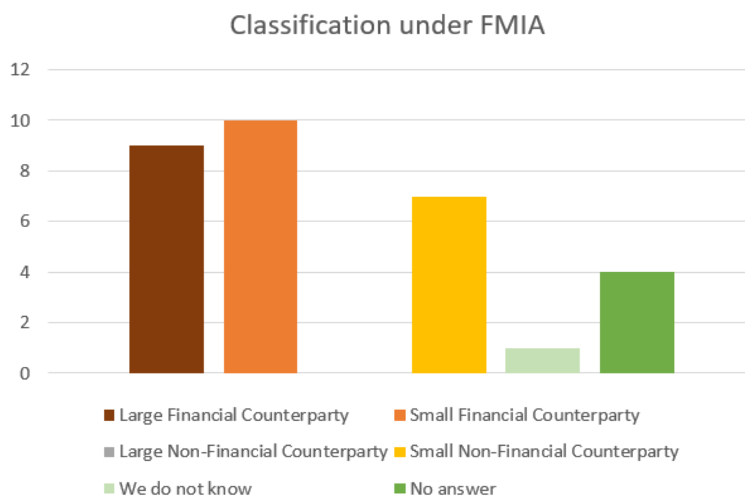
The Survey Participants are pursuing a broad range of different business activities. The Survey Participants from the financial industry pursue activities like retail banking, wealth management, corporate banking, corporate finance, trade finance, issuance of financial instruments, asset

management, trading, provision of pension solutions, mortgage solutions, financial market infrastructure services, payment-, utility-, and asset token trading.

The Survey Participants in the commodity trading sector trade in hard and soft commodities, including metals, oil and oil products, coal, gas, agricultural products and others.

Moreover, entities from the pharmaceuticals, diagnostics, machine- and plant production sectors participated in the survey.

The following chart provides an overview on the FMIA classification of the Survey Participants.



63 % of the Survey Participants trade in derivatives for hedging purposes only. 20% trade in derivatives for hedging and proprietary trading purposes. The remaining 17% did not answer this question. Survey Participants in the financial industry mainly trade in derivatives to hedge other positions, managing interest rate risks and act as counterparties to clients trading in derivatives. The Survey Participants from other industry mainly trade in derivatives for hedging purposes.

2. QUALITATIVE SITUATIONAL ANALYSIS OF THE SWISS RULES

a) Relevance of the Swiss and non-Swiss Rules

Survey Participants have been asked to indicate, whether the provisions on the regulations of derivatives and particularly the market conduct rules regarding derivatives are “Important”, of “Some Importance” or of “No Importance” for the competition of financial centers. 27% of the Survey Participants considered these regulations to be “Important”. 23% stated that the rules are of “Some Importance” and 20% are of the opinion that the Rules are of “No Importance”. The other Survey Participants provided no answer to this question.

The Survey Participants rating the Rules as “Important” (Categories: 6 Financial Service Providers of small and medium size, 1 small Commodity Trader, and 1 medium Other) stressed that having Swiss Rules in place that are similar to those in foreign jurisdictions facilitates accessing those markets and thereby enable Swiss institutions to stay relevant in the international competition. However, none of the Survey Participants believed the Swiss Rules provide significant advantages or disadvantages to Swiss market participants, since most jurisdictions impose similar requirements. One medium sized Financial Service Provider acknowledged that there is only a small leeway to introduce a regulation that is beneficial for Swiss market participants, since the Swiss regulation needs to be aligned with international standards. The same Survey Participant pointed out that harmonization of the national regulations may lead to a level playing field and healthy competition between the financial centers.

Most Survey Participants did not opine on the relevance of the Swiss Rules for the decision to potentially relocate operations into a different jurisdiction. Those who did, stated that the decision process involves an analysis of the regulatory environment in general, but this is only one of many different factors taken into consideration. Whilst the regulatory environment in a jurisdiction, including the derivatives regulation, is of importance for the decision to relocate business, other factors like taxation and the quality of staff is of higher importance according to the Survey Participants. The derivatives regulation on a stand-alone basis is of minor importance in the decision on the relocation of operations. One medium sized Financial Service Provider noted that the Rules are considered when deciding where to set-up a trading hub and therefore the Swiss Rules should be aligned with the most important Foreign Rules. As an example for the importance of the Rules, the same Survey Participant noted that the US ETD clearing business has been relocated to a jurisdiction which is accepted by the US regulators. One other medium sized Financial Service Provider noted that not only the jurisdiction in which the institution is incorporated is of relevance, but the jurisdiction in which the clients of the institution are incorporated as well, since most clients expect Financial Service Providers to fulfill the duties imposed by the Rules on their behalf.

Survey Participants either trading with clients in derivatives with non-Swiss counterparties or having non-Swiss clients, in particular domiciled in the EU, stressed the severe impact of non-Swiss Rules as they cannot operate without being impacted by non-Swiss Rules. Non-Swiss clients typically ask Swiss Financial Service Providers to confirm that the derivatives trading on their behalf is compliant with the Foreign Rules. This requires inter alia Swiss institutions to set-up reporting capabilities under non-Swiss Rules and to report to trade repositories registered with the European Securities and Markets Authority (“ESMA”) to meet client needs. Moreover, non-Swiss counterparties need to comply with the Rules in their jurisdiction and this requires Swiss institutions to adapt to the requirements imposed by such Rules with respect to the transactions concluded with the non-Swiss counterparty.

b) Strenghts and weaknesses of the Swiss Rules

Survey Participants were asked to rate the Swiss Rules as “Strong”, “Medium”, or “Weak” in comparison to Foreign Rules. For this evaluation Survey Participants rated the Swiss Rules holistically. 50% of the Survey Participants rated the Swiss Rules as “Medium” compared to the Rules in other jurisdictions. 30% rated the Rules as “Strong” and none of the Survey Participants considered the

Swiss Rules to be "Weak". The vast majority of the Survey Participants compared the Swiss Rules to the EU Rules, followed by a diversified group (Financial Service Providers of all sizes, small and medium Others, and one small Commodity Trader) that compared the Swiss Rules to the EU and US Rules and two medium sized Financial Service Providers measured the Swiss Rules against the Rules in Hong Kong and Singapore. A few small and medium sized Financial Service Providers rated the Swiss Rules on a stand-alone basis, since they do not conduct any cross-border activities.

(1) Strenghts

The main strength of the Swiss Rules is that they adopt the G-20 commitments on regulating derivatives trading and meet the international standards. Survey Participants acknowledge that this is a necessity. In general, the Survey Participants appreciated the concise language of the Swiss Rules. They are perceived as flexible, comprehensible and as a pragmatic approach of implementing the G-20 commitments on regulating derivatives trading. Furthermore, the Survey Participants generally perceive the Swiss Rules as tailored to the Swiss market. Survey Participants trading in the Swiss market only see this as a major advantage.

Most Survey Participants pointed out that they welcome (i) the single sided reporting duty of Art. 104 FMIA, compared to the double-sided reporting requirement in other jurisdictions, (ii) the exclusion of payment vs. payment FX Forwards and FX Swaps from the risk mitigation duties according to Art. 107 Para. 2 let. b FMIA, (iii) the sensible approach to impose less duties for transactions with small financial counterparties according to Art. 99 FMIA, and (iv) the exclusion for transactions with small non-financial counterparties according to Art. 98 FMIA from most duties.

Two medium sized Financial Service Providers stressed that the Swiss Rules adopted the international standards in a more sensible way than the EU Rules did (before EMIR REFIT).

(2) Weaknesses

The main pain point for most Survey Participants is the missing equivalency of the Swiss Rules with the European Rules. Survey Participants recognize the challenge of striking the right balance between meeting international standards and achieving on the one hand and tailoring the Swiss Rules in a way that suits the particularities of the Swiss market and benefits Swiss market participants on the other hand. Many Survey Participants would appreciate foreign Rules being recognized as equivalent to the Swiss Rules according to Art. 95 let a. FMIA or the recognition of foreign financial market infrastructures, such as trade repositories or central counterparties, according to Art. 95 let. b. FMIA. One medium sized Financial Service Provider stressed the importance of recognizing non-Swiss trade repositories and central counterparties to ensure a certain level of competition between financial market infrastructures. One large Financial Service Provider stated in this context that the recognition requirements for foreign trading venues and central counterparties according to Art. 41 and Art. 60 FMIA should be abolished. One medium sized Financial Service Provider stated that the lack of an equivalency decision by the EU, in particular for reporting under FMIA, led to a loss of clients and difficulties in the acquisition of new clients.

A few Survey Participants noted that the Swiss Rules are insufficiently regulating the market conduct in derivatives trading, meaning that they need to consult the EU Rules to understand some critical provisions of the Swiss Rules.

Whilst Survey Participants trading in the Swiss market only see the rather pragmatic Swiss Rules as a major advantage, others pointed out that the Swiss Rules are not aligned sufficiently with foreign Rules, in particular with the EU Rules. Alignment would be of importance for different reasons, either the Survey Participants are contractually required to comply with the Foreign Rules when trading with counterparties domiciled abroad or non-Swiss clients expect the Survey Participants to comply with the EU Rules on their behalf. Such Survey Participants mentioned that complying with the particularities of the Swiss Rules causes significant additional burden. The main challenges imposed by differing requirements are the handling of different data-sets when reporting to trade repositories, the influence of the FX-rates on the calculation of the clearing-thresholds, foreign counterparties requiring Swiss counterparties to execute trading documentation under foreign Rules, and Swiss counterparties not accepting trading documentation executed under the foreign Rules. In contradiction to this point of view, Survey Participants not trading with counterparties outside of Switzerland and whose client portfolio mainly consists of Swiss clients do not have any exposure to the EU Rules. For those an alignment of the Swiss rules to the EU Rules would entail more effort and additional costs for ensuring compliance.

Two small Financial Service Providers noted that smaller institutions that are barely active on the derivates market have to comply with duties that entail significant costs for ongoing compliance, which are not justifiable by the low risk such institutions pose to the proper functioning of the derivatives market and the financial stability. In the same context one medium sized Financial Service Provider pointed out that in particular the reporting requirement is difficult and costly to comply with. Compared to the benefit for financial stability and supervisory bodies the costs for reporting seem too high. They thus suggest that only central counterparties and the largest banks should be subject to the reporting requirement.

Even though not concerning the Swiss Rules directly, some Financial Service Providers mentioned that they would appreciate a more proactive approach in providing guidance for market participants. A similar approach as the one applied by the CFTC, the HKMA and the MAS should be followed. The FAQ issued by ESMA were also mentioned as a good example.

One medium sized Financial Service Provider stated, that Swiss authorities should opine on emerging changes triggered by the BCBS/IOSCO. Preferably Swiss authorities should state whether they intend to transpose the suggestions of BCBS/IOSCO into Swiss law or alternatively, that they are taking such suggestions into considerations and by when a decision on transposition can be expected.

One medium sized Financial Service Provider noted that becoming a clearing member is not a viable option for some large financial counterparties not significantly above the threshold set out in Art. 99 FMIA. The costs for implementing and maintaining the required infrastructure are too high. Indirect

clearing via a clearing broker is neither an option for the same reasons. Therefore, this Survey Participant will exclude large financial counterparties and large non-financial counterparties from trading in derivatives subject to the clearing duty.

c) Chances and Risks of the Swiss Rules

Most Survey Participants did not elaborate upon chances of the Swiss Rules, but on the strengths set-out above. Those who did elaborate, see only limited chances for the Swiss Rules, since these need to be in line with international standards and ideally should lead to an equivalency declaration by the EU Commission.

The main risk Survey Participants identified are changes to the Swiss Rules that would lead to deviations from international standards and greater discrepancies to the EU- and other non-Swiss Rules. Survey Participants' concerns are that as a result they would have limited access to counterparties or central counterparties abroad. Moreover, Survey Participants pointed out risks of decreasing competition due to the Swiss Rules, which are summarized in this section.

(1) Chances

One medium sized and one small sized Financial Service Provider however noted that it is a chance for the Swiss Rules to adapt to the Foreign Rules with a delay. This entails greater stability of the Rules and overall predictability of changes to the Swiss Rules.

One large Financial Service Provider stated that most non-Swiss counterparties are familiar with the EU and the US Rules, but not with the Swiss Rules. This creates a competitive disadvantage for Swiss counterparties. Mitigating this issue by greater deference to non-Swiss Rules could be a chance for the Swiss Rules. For example, not requiring Swiss entities to collect counterparty classifications under the FMIA, if they fulfill the FMIA requirements by complying with non-Swiss Rules recognized as equivalent, could mitigate the situation.

(2) Risks

Two medium sized Financial Service Providers emphasized that it is important that all institutions continue to have access to the European derivatives market. Loosing access to the European derivatives market is seen as a risk. Only a few Swiss banks are capable to quote prices for specific types of derivatives and the other Swiss banks would be dependent on those if the risk materializes. In the same context one small Commodity Trader highlighted that being factually bound to the small Swiss derivatives market by Swiss Rules that are not aligned with Foreign Rules could cause a competitive disadvantage for Switzerland. In contrast, according to one medium sized Financial Service Provider, another risk is that the pragmatic approach of the Swiss Rules is lost over time by further aligning with non-Swiss Rules. These Survey Participants stated that the Swiss Rules are a

sensible approach for the compliance with the international standards, but that this approach does not fit the Swiss market, that consists of mainly small and medium sized institutions that do not pose risks to the financial system, but are nevertheless addressed by the international standards.

One medium sized Financial Service Provider noted that some counterparties prefer to trade against large financial counterparties instead of small financial counterparties to avoid the reporting obligation on their side due to the waterfall logic of Art. 104 para. 2 let. b FMIA. This may lead to a situation that large financial counterparties have an economic benefit and more market power, less variety in derivative types and higher hedging costs.

One medium sized Financial Service Provider however noted that due to the Rules fewer market participants offer CHF-denominated derivatives and thus counterparties on the buy-side have less options to choose a counterparty for transactions in CHF-denominated derivatives, in particular interest rate swaps. This entails the risk of higher spreads due to decreasing competition.

3. EX-POST EVALUATION OF THE SWISS RULES BASED ON THE SURVEY

a) Effectiveness of the Swiss Rules

Most Survey Participants emphasized that the Swiss Rules, such as those of other jurisdictions, are in general important for the stability of the financial system and for creating a level playing field.

Survey Participants believe that the goals of the Swiss Rules are partially achieved by leading to improved credit risk management, more standardized risk management processes in general, standardized margin requirements leading to better comparison in pricing, a more transparent and solid clearing market for OTC derivatives, overall increased stability of the financial market, and adherence to the international standards creating an international level playing field and enabling Swiss market participants to continue trading with foreign market participants. Other benefits mentioned include the improved reputation for the Swiss financial market, and increased confidence in the financial system.

One medium sized Financial Service Provider questioned, whether the reporting requirement leads to increased transparency. It is unclear what the reported data is used for. According to the same Survey Participant, the reporting obligation is too excessive with regards to the number of derivative types to be reported and the number of reporting fields. This leads to poor data quality and high volumes of reported data. The poor data quality and the high volume of data is likely to complicate the identification of relevant risks.

One medium sized Financial Service Provider highlighted the fact that the clearing requirement could lead to a concentration of risks with a few clearing brokers. It is for large financial counterparties that are not significantly above the threshold set out in Art. 99 FMIA not a viable option to become a clearing member and indirect clearing via a clearing broker concentrates the risk with the clearing

broker. The feasibility of the portability of the positions and assets of the indirect clearing member to another clearing member is seen as questionable. The requirement to exchange variation margin should thus be considered sufficient to ensure financial stability.

Four small and one medium sized Financial Service Provider mentioned that there are no benefits for their entities, but significant costs of compliance. The Swiss Rules led at best to increased trust from larger institutional clients. One large sized Survey Participant from the category "Others" emphasized that the benefits of the Swiss Rules are not measurable for its entity. One large Financial Service Provider stated that the Swiss Rules did not lead to benefits for its business, but less clients may use derivatives due to higher costs. The same Survey Participant highlighted that the Swiss Rules may have a negative impact on the Swiss economy, because the requirements imposed on Swiss market participants, that need to rely on financial market infrastructures, such as central counterparties, are located abroad.

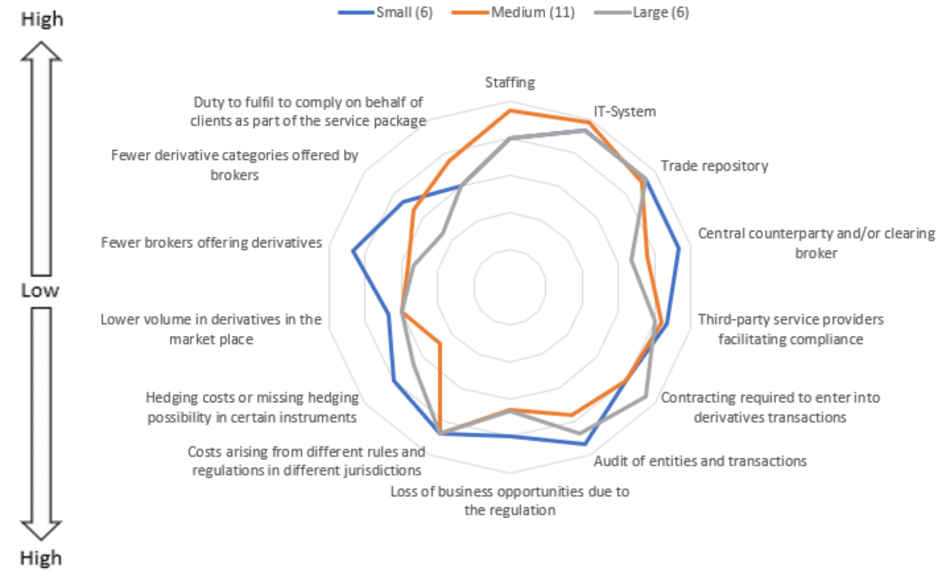
b) Efficiency of the Swiss Rules

53% of the Survey Participants are of the opinion that the goals of the Swiss Rules (ensuring the functionality and transparency of the derivatives market, the stability of the financial system, and the protection of the financial market participants, as well as equal treatment of investors) could be achieved in a way that is less onerous, costly or intrusive.

(1) Ongoing costs for complying with the Swiss Rules

The Survey Participants were asked to rate the costs of ongoing compliance with the Swiss Rules compared to the overall costs for derivatives trading per client as either "High", "Medium" or "Low". 47% of the Survey Participant rated the overall costs of compliance with the Swiss Rules as "Medium", 10% as "High" and 7% as "Low".

Survey Participants were asked to rate the ongoing costs caused by the Swiss Rules compared to the overall costs for derivatives trading as "High", "Medium", and "Low" for each of the cost allocation categories set-out in the chart below. 6 small-sized, 11 medium sized, and 6 large sized Survey Participants provided an answer to this question.



Only a few Survey Participants provided specific figures on the ongoing costs. One medium sized Financial Service Provider estimated the costs accrued to be CHF 1000.- per client and year, another estimated the costs to be between CHF 50.- and CHF 150.- per trade. Two small Financial Service Providers estimated the overall costs to be CHF 30'000.- per year (excluding staff costs) respectively CHF 500'000 per year. One medium sized Financial Service Provider estimated the cost to be CHF 700'000 to CHF 1'000'000 per year. Two large Survey Participants (one Financial Service Provider, one Other) mentioned that the costs are rather low, since they can achieve economics of scale by trading high volumes (i.e. transactions, not notional).

(2) Main challenges of the Swiss Rules

The main challenges imposed on Survey Participants by the Rules give an overview about the requirements that have a negative impact on the efficiency of the Swiss Rules and are therefore set out in below.

The abbreviations in the "F" means a Financial Service Provider, "C" a Commodity Trader, "O" Other, "S" small, "M" medium, and "L" Large (e.g. "FM" thus means a medium sized Financial Service Provider).

The main challenges identified by the Survey Participants are:

- The reporting duty in general and managing data and ensuring data consistency across different systems for clients in Switzerland and worldwide as well as ensuring timely reporting in particular (1xFL, 6x FM, 3xFS, 3xOL)
- Costs of ongoing compliance, including monitoring regulatory changes (2xFM, 2xFS, 1xCS, 1xOL)

- Audit and documentation requirements (2xFS, 3xOL, 1xOM)
- Discrepancies between the Swiss- and the EU Rules (1xFL, 2xFM, 1xCS 1xOM)
- Counterparty classification (1xFL, 1xFM, 1xOM)
- Bilateral exchange of initial margin with financial counterparties slightly above the threshold of Art. 99 FMIA (1xFL, 3xFM)
- Threshold monitoring (1x FM, 1xFS, 1xOL)
- Bilateral exchange of collateral (1xFM, 1xFS)
- Client and counterparty handling knowledge transfer, contracting, onboarding (1xFL, 1xFM)
- Ensuring that the trade flow enables reliance on intra-group exemptions (1xFM)
- Cost and complexity triggered by the clearing requirement (2xFM)
- Key-man risks at smaller institutions (1xFS)
- Cross-jurisdictional discrepancies in derivative types subject to the Rules (2xFM)
- Portfolio reconciliation, as there is no industry standard approach (1xFM)

(3) Suggestions to improve the Efficiency of the Swiss Rules

Survey Participants provided a variety of suggestions to improve the efficiency of the Swiss Rules. Most notably the following three topics have been raised repeatedly: First, Survey Participants pointed out that further alignment with the EU Rules could help reducing costs, since maintaining different capabilities to comply with the EU- and the Swiss Rules is burdensome. Minimizing the Swiss finish could moreover help achieving an equivalency declaration of the EU Commission, which is arguably the main concern of Survey Participants. Second, Survey Participants repeatedly stated that the reporting requirement is too complex. Namely, the number of derivative types and the number of data fields to be reported are perceived as too high. Moreover, to some Survey Participants it is questionable, whether the financial market stability is increased by reporting an enormous amount of data. Third, Survey Participants not yet in scope of the initial margin requirement emphasized that the cost of implementation and the ongoing cost for the compliance with this requirement will be high, whilst the benefits for financial market stability is questionable due to the lower derivatives trading activities of such smaller counterparties and the variation margin requirement being already in place. This view has been supported by one large Financial Service Provider, that is already in scope of the initial margin requirement.

The below suggestions reflect statements of single Survey Participants, therefore some are contradicting each other or are contradicting the points mentioned above. Statements aiming in the same direction are summarized and the number and type of Survey Participants supporting the statement is indicated. Suggestions to improve the Swiss Rules' efficiency that are clearly not feasible or too vague have not been included.

(a) General

- Introduce a requirement for central counterparties and trade repositories to publish trading data that is accessible free of charge (1xFM)

- Further alignment with the EU Rules (2xFM, 2xOL), generally work towards achieving more equivalency decisions (3xFM), equivalency should be extended to major foreign jurisdictions on a legislative or ordinance level (1xFL), Art. 95 FMIA on substituted compliance should clarify that equivalency does also apply to the question whether or not an obligation is applicable. (1xFL)
- Easing the audit requirement. (2xCL, 1xOL, 1xOM)
- More clarity regarding the classification of precious metal derivatives as FX- or commodity derivatives. (e.g. XAU underlying). (1xFM)
- Extension of the intra-group exemption to cover all risk mitigation and reporting duties. (2xCL)
- Attempt to introduce standards for data formats to facilitate data collection and processing. (1xFM)

(b) Counterparty Classification

- More clarity regarding the classification of trusts and similar constructs under foreign law (Art. 77 FMIO). (1xFM)
- Pension funds should be classified as non-financial counterparties, especially when they are a dedicated scheme for entities within the same group. (2xOL)
- Less documentation requirements for hedging exemption (1xCL)

(c) Clearing Duty

- Abolishing Art. 60 FMIA on the recognition of foreign central counterparties. (1xFL)
- Consistency between FMIA and EMIR Refit with regards to the clearing threshold calculation for non-financial counterparties. In other words, if a non-financial counterparty breaches a threshold for an asset class, it should only become subject to the clearing and margining obligations for that asset class. (1xCL)

(d) Reporting Duty

- Only central counterparties and the largest banks should be required to report (1xFM) or banks under the small banking regime should not be subject to the reporting requirement. (2xFS)
- The reporting requirement for small non-financial counterparties should be abolished permanently. (1xCL, 1xOL, 1xOM)
- More standardization of the reported data (e.g legal foundation for an obligation to use LEIs only as counterparty identifier, mentioned by 2xFL, 2xFM). Further alignment with foreign Rules in particular with the EU Rules in order to avoid having to set-up reporting capabilities for different Rules. (1xOM, 2xCL, 1xCS)
- The access by foreign authorities to Swiss trade repositories according to Art. 78 FMIA should be less restrictive. The strict regime factually excludes access and thereby impedes substituted compliance determinations by foreign authorities. (1xFL)
- Abolishing the rule that Swiss counterparties must report because non-Swiss counterparties obliged to report do not fulfill their reporting duty (1xCL)

- More guidance on how the fields need to be populated and which fields are compulsory. (1xFM)
- Small counterparties entering into a transaction for hedging purposes should not be subject to the reporting requirement. (1xFS)
- The reporting requirement should be limited to instrument types that were a root cause for the financial crisis, such as CDS. Other derivative types, such as FX Forwards should either be excluded from the reporting requirement or a threshold as of which such instruments need to be reported should be introduced. (1xFM)
- ETDs should be excluded from the reporting requirement, since these instruments are already sufficiently transparent. (1xFM, 1xCL)

(e) Operational and Counterparty Risk Mitigation

- Repealing the portfolio reconciliation duty for small financial counterparties, since this entails a considerable effort (1xFM), Repealing the portfolio compression requirement, since traders are compressing portfolios due to economic incentives to a reasonable extent anyway (1xFL), lightening the portfolio compression requirement. (1xFM)
- Extend timeline for trade confirmation. (1xFM)

(f) Valuation of Outstanding Transactions

- Introducing a timing requirement at which the transactions need to be valuated to avoid discrepancies in the valuation due to FX rates or IR. (1xFM)

(g) Exchange of collateral (both initial- and variation margin)

- Non-financial counterparties should not be required to factor in hedging transactions when calculating the initial margin threshold. (1xOL)
- Payment vs. payment FX forwards and swaps should not be factored in in the threshold calculation. (1xFM)
- Small financial counterparties should be exempted from the initial margin requirement. (1xFL, 2xFM), Small financial counterparties should be exempted from both, the initial margin and the variation margin requirement, due to high operational risks and considerable effort compared to the risk mitigation achieved. (2xFM)
- Align the instruments in scope of the margin requirements with non-Swiss Rules. (1xFM)

C. EX POST EVALUATION OF THE SWISS DERIVATIVES REGULATORY REGIME

1. EFFICIENCY OF THE REGULATION

The efficiency of the Swiss derivatives market regulatory regime set forth in the FMIA is guided by the following key principles that are at the basis of the FMIA. These principles are according to Art. 1 para. 2 FMIA the following:

- proper functioning and transparency of securities and derivatives markets,
- the stability of the financial system,
- the protection of financial market participants, and
- equal treatment of investors.

These very principles are derived from the principles decided by the G-20 on the occasion of the Pittsburgh summit in 2009. On the Pittsburgh summit, the following principles have been decided:[6]

- All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest.
- OTC derivative contracts should be reported to trade repositories.
- Non-centrally cleared contracts should be subject to higher capital requirements.
- We ask the FSB and its relevant members to assess regularly implementation and whether it is sufficient to improve transparency in the derivatives markets, mitigate systemic risk, and protect against market abuse.

a) Proper functioning and transparency of securities and derivatives markets

One of the key factors contributing to systemic risk resulting from OTC derivative markets is a lack of transparency. The increased use of trade repositories has been proposed to reduce the opaque nature of these markets. The derivatives subject to reporting under the Swiss derivatives regulatory regime are currently OTC derivatives and ETD derivatives. This is in line with the EU EMIR regulation, but goes beyond what is required by the G-20 principles. Although ETD must according to the reporting priority be reported by CCP in first instance, it might very much be that CCP are not fulfilling their reporting obligation and the reporting obligation will then fall back to the Swiss based counterparty.

[6] See https://www.treasury.gov/resourcecenter/international/g7g20/Documents/pittsburgh_summit_leaders_statement_250909.pdf (last accessed on 16 April 2020).

Policymakers face the challenge of striking a balance between making markets safer on the one hand and not unduly hampering market efficiency and innovation on the other by demanding too much information from the market participants. Our market study and our experience with clients show that reporting is seen to be very complex and cumbersome by market participants. Reviews in the EU have shown that the data quality reported to trade repositories is poor, but is somewhat improving.[7] The burden has somewhat eased now that all the market participants have implemented the reporting obligation. Challenges remain however. The complex market reporting obligation does only make sense if the data reported is mined and analysed within a reasonable time period by regulators and other authorities. A reduction of the complexity of the data that is reported to trade repositories will be beneficial for both the improvement of the reported data quality and the reduction of the complexity of the reporting obligation.

b) The stability of the financial system

The financial crisis has demonstrated that turmoil in OTC derivative markets can exacerbate financial distress. One of the challenges policymakers currently face, is the mitigation of the risks these markets pose to the financial system. Inducing a shift towards more central clearing is an important step in the right direction as it tempers counterparty risk and increases transparency. However, this will only be part of the solution as risk management systems of Central Counterparties (CCPs) are not necessarily equipped to clear all types of derivative contracts. In addition, central clearing concentrates risk and may actually increase systemic risk. By implication, it is crucial that CCPs have robust risk management systems in place. Furthermore, enhancing the safety and transparency of bilateral clearing also merits attention as a certain share of OTC derivative trades will remain bilaterally cleared respectively managed. Given the international character of OTC derivative markets, coordination between national supervisors and regulators is crucial for any initiative to succeed.

c) The protection of financial market participants

The FMIA applies only to enterprises that are entered in the commercial register. Natural persons trading in derivatives are thus only “indirectly” regulated through custodians or third parties or in some cases not at all regulated. This is in line with the regulations in other jurisdictions. In the USA, e.g. natural persons can only trade in swaps if they are traded on a DCM. The Swiss rules do unlike recommended by the G-20 principles not require the mandatory trading of derivatives. It is however very unlikely that natural persons will enter into OTC derivatives with each other. The market participants are otherwise sufficiently protected by means of the derivative regulatory provisions. The clearing and risk mitigation obligations are covering the counterparties against a default of the other counterparty. The reporting obligation creates sufficient transparency for market participants although this comes at a high price.

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[7] See Final Report Peer review into supervisory actions aiming at enhancing the quality of data reported under EMIR, page 4, see https://www.esma.europa.eu/sites/default/files/library/esma42-111-4895_emir_data_quality_peer_review.pdf (last accessed 17 April 2020).

d) Equal treatment of investors

The market behavioral rules of the Swiss derivatives regulatory regime apply also to investors that invest by means of derivatives. Investors are generally treated equally under the rules, although a differentiation is made based on the regulatory status of the counterparty (regulated or not) and the size of the derivative books (whether they exceed certain thresholds). This differentiation creates different categories of market participants trading in derivatives based on multiple thresholds that are in line with thresholds set forth under EMIR or in the corresponding documents of IOSCO that will be subject to different rules and obligations. The differentiation applies independent of the fact whether the counterparties are investors or commercial counterparties. Not all derivative regulatory obligations will apply to these categories of counterparties. The Swiss derivative regulatory regime does like the EU derivative regulatory regime under EMIR not know a “de minimis threshold” for financial counterparties like known in other jurisdictions, such as Singapore or the USA. The Swiss derivative regulatory regime exempts however smaller counterparties from the application of certain obligations. This is in our opinion a good method to introduce alleviations for small counterparties. Important is however that the additional obligations each counterparty must fulfill will not impose too much of a burden on counterparties. Our market study shows that certain market participants favor a further exemption of obligations for smaller counterparties.

e) Result of the Regulation

(1) Competitiveness

The Swiss derivative regulatory regime is compared to the derivative regulatory regimes of other jurisdictions competitive and is a good Swiss trade-off. It has already from the beginning included some important alleviations, such as the unilateral trading obligation and the category “small financial counterparty”. The Swiss derivative regulatory regime orients itself however nevertheless close to EMIR and can certainly be seen as equivalent to EMIR. The market study shows clearly that regulations are of importance in the competition between jurisdictions and financial centers. The competitive approach of Singapore is clearly also reflected in its derivatives regulatory regime which concentrates mainly on Singapore related transactions of regulated entities. The regulatory burden for non-financial counterparties, such as commodities trading firms, and international companies are thus (almost) non-existence. The relatively less onerous regulatory regime in Singapore is one of the reasons (but not the only one) why commodities trading firms are moving east. The Swiss derivative regulatory regime is thus compared to Singapore rather restrictive. This view has been confirmed by the market study by 65% of the market participants. Especially large commodities trading firms, that have achieved the status as an NFC+ will be subject to extensive obligations. We thus think it might be worthwile considering orienting and comparing the Swiss derivatives regulatory regime not just with EMIR, but also with the competitors on a global scale, which is in many respects Singapore. A comparison of the Singaporean and Swiss derivatives regulatory regimes leads to the conclusion of key difference in two main areas, which are extraterritoriality and counterparties and transactions in scope of the derivatives regulation. The Singaporean regulation is much more territorial and applies mainly to regulated entities.

(2) Market access

The current Swiss derivative regulation is somewhat restrictive to new market participants. The extensive reach of the Swiss derivative regulations that apply generally also to non-Swiss domiciled counterparties have also in the market study been mentioned. We see in the market place since the introduction of the Swiss derivative regulatory regime that factually many non-Swiss domiciled market players are not implementing and complying with the Swiss derivative regulatory regime. The extraterritoriality of the Swiss derivative regulatory regime is thus factually already restricted. These market players are however obviously non-compliant. It is on the back of the general international trend to reduce the extraterritorial application of derivative regulatory regimes not so apparent why Switzerland as a comparatively small, but internationally well-connected jurisdiction, should be more pro-active and apply all derivative regulatory obligations to all non-Swiss domiciled counterparties of Swiss based counterparties.

2. EFFECTIVENESS OF THE REGULATION

a) Initial costs

There are according to the official statistics of the Swiss Commercial Register Office 653'454 entities entered in the commercial register as of 1 January 2020.[8] The Swiss Financial Market Supervisory Authority FINMA has according to the latest annual report the supervision about 9'902 regulated entities.[9] All of them are at least theoretically subject to the Swiss derivative regulatory regime. This means that all of them will have at least to make an initial analysis whether the enterprise is in scope of the FMIA and whether to take measures to either address the obligations and to prepare and implemented steps to take such measures in case such an enterprise will engage in derivative transactions. These initial costs are mainly staff costs. These will thus differ widely depending upon the nature of the entity (regulated or not), size of the entity, and whether it is trading in derivatives or not. We estimate a resulting cost range of CHF 500 to multiple millions of Swiss Francs. The implementation phase of becoming compliant with the FMIA will contain staff costs, but also investment costs, depending upon whether the implementation of IT-systems will be required for the execution of the post-transactional risk mitigation and reporting obligations. These costs can also be very different and amount to a few thousand Swiss francs in case of smaller counterparties or to multiple millions Swiss francs in case of larger counterparties.

b) Ongoing costs

The ongoing costs for the compliance with the Swiss derivatives regulatory obligations are multifold and will raise costs incurred by affected entities in several ways. These include the costs of complying

[8] See https://ehra.fenceit.ch/wp-content/uploads/sites/54/statistiken/2020-01-01-eingetr-Rechtseinheiten-Rechtsform.pdf (last accessed 17 April 2020).

[9] See https://finma.ch/de/dokumentation/finma-publikationen/kennzahlen-und-statistiken/statistiken/aufsicht/ (last accessed 17 April 2020).

with new capital and collateral requirements, increases in operational expenses inherent in central clearing, but also operational efforts in the execution of post-transactional activities, such as risk mitigation obligations.[10]

Additional margins required for OTC derivatives, whether because of new requirements for non-centrally cleared trades or reallocation of exposures to CCPs, is a second source of additional expense for financial institutions and other affected counterparties. These costs are similar to the difference between the cost of funding the purchase of collateral-eligible assets and the interest received when they are posted as collateral, multiplied by the volume of extra collateral that will be needed under the reforms.

The direct cost of central clearing infrastructure is a third source of additional expense for financial institutions. This includes clearing and collateral management fees paid to CCPs.

Another source of ongoing costs are the reporting costs of OTC and ETD transactions. These costs imposed by trade repositories are fixed and variable in nature depending upon the size of the transactions.[11]

Our market study has shown that the fixed and variable costs are high. One small financial company estimates that the yearly costs per client amount to approx. CHF 1'000. Another one estimates the variable costs to be CHF 50 to 150 per trade (including all costs). Two small banks estimate the operational costs (excluding staff) to be CHF 30'000 and including staff CHF 500'000 per year. One medium bank estimated the cost to be CHF 700'000 to CHF 1'000'000 per year.

Our findings thus show that also the ongoing compliance costs of affected entities are considerable and any alleviation, in particular for smaller entities, that have comparatively high variable costs due to less daily transactions are highly welcomed by market participants.

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[10] Macroeconomic impact assessment of OTC derivatives regulatory reforms, page 9 https://www.bis.org/publ/othp20.pdf (last accessed 17 April 2020).
[11] See e.g. SIX Trade Repository https://www.six-group.com/securities-services/dam/downloads/site/trade-repository/six-tr- price-list-de.pdf (last accessed 17 April 2020).

III. BLOCKCHAIN/DLT-BASED DERIVATIVES

A. APPLICABILITY OF THE SWISS RULES TO BLOCKCHAIN/DLT-BASED DERIVATIVES

1. BLOCKCHAIN BASED DERIVATIVES UNDER SWISS LAW

A derivative under Swiss law is a financial contract whose value depends upon one or more underlyings and is not a cash transaction.[12] Crypto-assets in the form of asset tokens[13] can thus qualify as derivatives if their value is derived from an underlying. Derivatives in the form of cryptocurrencies are thus generally also subject to the rules and obligations under the Swiss derivative regulatory regime.

2. THE (PERCEIVED) ISSUE WITH REGARDS TO THE APPLICATION OF THE DERIVATIVES REGULATORY REGIME ON THE BLOCKCHAIN

One of the key features of the Distributed Ledger Technology (DLT) is its decentralized nature.[14] This means that the blockchain is a shared transactional data base. In a prototypical form, everyone can read entries in the database by participating in the network (nodes). Changes in the database require a transaction which must be accepted by a required majority of nodes or is not done all. While a transaction is added to the database, no other transaction can alter it.[15] This decentralized nature could be perceived as being in conflict with the primarily bilateral nature of the regulatory obligations of derivatives imposed by the FMIA. Many of these obligations, in particular the risk mitigation obligations, must be fulfilled on a bilateral basis. The clearing obligation by means of a central counterparty is however an obligation that can by definition only be executed on a bilateral basis. A central counterparty is according to Art. 48 FMIA a facility that acts based on unified rules and procedures between counterparties to a securities transaction or a financial instrument and acts thus as buyer of the seller and the seller to the buyer. This implies a bilateral relationship between the CCP and the clearing member.

3. PRINCIPLE OF TECHNOLOGICAL NEUTRALITY IN THE SWISS FINANCIAL MARKET REGULATORY REGIME

The Distributed Ledger Technology (DLT) is in many ways fundamentally new and has the potential to disrupt many aspects of current capital markets activities, in particular with regards to derivatives transactions. The decentralized nature of the DLT has the potential to fulfill many of the functions “trusted intermediaries”, such as CCPs or CSD are currently fulfilling. It is however a technology that is

[12] Art. 2 para. 1 chiff. c FMIA.

[13] Meaning tokens that represent assets such as participations in real physical underlyings, companies, or earnings streams, or an entitlement to dividends or interest payments. In terms of their economic function, the tokens are analogous to equities, bonds or derivatives (see https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/).

[14] The terms DLT and blockchain are used here interchangeably, because blockchain is the most important use case of DLT.

[15] See ISDA Linklaters Whitepaper Smart Contracts and Distributed Ledger – A Legal Perspective (2017), page 7.

an enabler of certain activities, not a financial market activity itself. One of the key principles of Swiss financial market regulation is the principle of technological neutrality.[16] This means that financial market regulations apply to an activity or situation, but typically not to a technology, such as documentation on paper or the deployment of general data processing IT systems (Microsoft Office, etc.), cloud computing, or DLT. The rationale for this is convincing, the regulator and lawmaker should not interfere in technological developments and favor one technology over another. Also the Swiss Financial Market Supervisory Authority FINMA generally applies this principle.[17] Market forces shall decide which technology will supersede others. This approach is also compliant with the view of the international derivatives community. DLT is seen as a technology to automate derivative contracts by means of smart contracts and as the "golden version" of a smart contract that binds both parties.[18] There has already extensive work been done respectively is under way to standardize, digitize and implement smart contracts that will help to automate derivatives transactions.[19]

The principle of "technological neutrality" will however, subject to acceptance by the Parliament, soon be defined in more detail. The Swiss lawmaker plans to soon introduce DLT-trading systems as a new category of financial market infrastructure in the Swiss Financial Market Infrastructure Act. This new category of financial market infrastructure is a multilateral facility for trading in DLT-securities.[20] The key unique new feature of the DLT-trading system will be that one license covers not only the trading activities, but also post-trading activities, such as settlement and custody. Clearing activities are however – at least in the current version – not included in the license.[21]

4. APPLICABILITY OF THE INDIVIDUAL OBLIGATIONS UNDER THE SWISS DERIVATIVES REGULATORY REGIME IN PARTICULAR

The purpose of this section is to check whether the obligations and requirements set forth under the Swiss derivatives regulatory regime can be applied to DLT-based derivatives. The European and Swiss regulatory frameworks do generally not contain major impediments that would prevent the emergence of DLT in the derivatives markets, although some of the concepts and principles may require clarification. DLT can result in more efficient post-trade processes, enhanced reporting and oversight,

[16] See Randy Priem, Distributed ledger technology for securities clearing and settlement: benefits, risks, and regulatory implications, Financial Innovation, Springer Open Access, page 16.

[17] See e.g. the Swiss version of the regulatory sandbox which is unlike most other international versions of regulatory sandboxed technologically neutral.

[18] See ISDA Linklaters Whitepaper Smart Contracts and Distributed Ledger – A Legal Perspective (2017), page 8.

[19] See e.g. ISDA Linklaters Whitepaper Smart Contracts and Distributed Ledger – A Legal Perspective (2017); ISDA Legal Guidelines for Smart Derivatives Contracts: The ISDA Master Agreement (2019); ISDA Legal Guidelines for Smart Derivatives Contracts: Collateral (2019); ISDA Legal Guidelines for Smart Derivatives Contracts: Equity Derivatives (2020); ISDA Legal Guidelines for Smart Derivatives Contracts: Interest Rate Derivatives (2020).

[20] See Art. 73a rev-Swiss Financial Market Infrastructure Act (FMIA) see https://www.sif.admin.ch/sif/de/home/dokumentation/medienmitteilungen/medienmitteilungen.msg-id-74420.html (last accessed on 5 March 2020).

[21] See Botschaft zum Bundesgesetz zur Anpassung des Bundesrechts an Entwicklungen der Technik verteilter elektronischer Register, https://www.newsd.admin.ch/newsd/message/attachments/59301.pdf.

greater resilience and availability, and reduced costs.[22] The derivatives industry, in particular ISDA, has issued a series of white papers that should guide developers of DLT and smart contract solutions[23] in the development of technologies for the automatic execution of post-trading requirements, such as risk mitigation obligations.[24] Great potential for automation by means of smart contracts is primarily seen for operational clauses, which generally embed some form of conditional logic, e.g. that upon the occurrence of a specified event, or at a specified time, a deterministic action is required. Many of the post-trading derivatives regulatory obligations are operational clauses which are apt for operationalization by means of a smart contract, because they are heavily dependent on conditional logic.[25]

a) Risk mitigation obligations

It is a widely shared view amongst regulators that for non-centrally cleared OTC derivative transactions the bilateral exchange of margin and other risk mitigation measures could possibly be deployed by means of the DLT.[26] We share this view.

(1) Trade confirmation

Assuming that the specific DLT covers all elements of a trade confirmation, the DLT does allow for one "golden source" of data, meaning that the same data set will be stored at different nodes. This will ensure that the need for trade confirmation, which intends to ensure that the contracting parties have the same understanding of the terms and conditions of the transaction, will not be needed anymore, respectively will not take much efforts. It requires however that both parties to a derivative transaction are members of the same DLT-network. Both parties to a derivative contract that should be executed post-transaction by means of DLT, should thus be members to the same DLT-network. This is however comparable to choosing a contractual standard when entering into a derivatives contract, e.g. an ISDA-agreement over the Swiss Bankers's Association Agreement. The link up to the DLT-network will however require certain investments.

(2) Portfolio reconciliation

Assuming that both parties to a derivative transaction are executing the derivate on a post-transaction basis on a blockchain, the "single source" of information will allow for an automatic reconciliation of the portfolio. A smart contract could be programmed in a way that it will automatically allow for the netting of the net derivative positions. The portfolio reconciliation obligation qualifies also as an operational clause and a part of a derivative contract or the regulation of derivatives that can be automated.[27]

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[22] See e.g. ESMA, Report, The Distributed Ledger Technology Applied to Securities Markets, 7 February 2017, page 7.

[23] A smart contract is an automatable and enforceable agreement. Automatable by computer although some parts may require human input and control (ISDA Whitepaper (2017), page 5); ISDA Whitepaper: Smart Derivatives Contracts: From Concept to Construction (2018).

[24] See ISDA Whitepaper: Smart Contracts and Distributed Ledger – A Legal Perspective, 2017?, page 4.

[25] See ISDA Whitepaper: Smart Contracts and Distributed Ledger – A Legal Perspective, 2017?, page 4.

[26] See e.g. ESMA, Report, The Distributed Ledger Technology Applied to Securities Markets, 7 February 2017, page 14.

[27] See ISDA Whitepaper: Smart Derivatives Contracts: From Concept to Construction (2018), page. 11.

(3) Margin requirements

Margin requirements like other collateral requirements are conditional in nature and lend themselves for automation. Margins must be exchanged in case the value of a derivative position of one side loses value. The valuation of both the current exposure and margin requirements and the collateral transferred, the assessment of the eligibility of the types of collateral to be transferred, the exchange and return of collateral, and the management of the collateral transferred can all be automated.[28] The collateral can either be located on the DLT or in separate accounts.

(4) Valuation obligation

The valuation obligation can also benefit from one "golden data source" in so far that a reliable data source will allow for a corrective and unbiased appraisal of the value of derivatives. This will in other words allow for the harmonization of the valuation of prices of derivatives. The decentralized set-up of the blockchain will also allow for a non-manipulative valuation process. With this single "golden data source" comes however also a risk. The risk is that the dependency of one single "golden data source" might result in risks of their own.

(5) Dispute resolution

Dispute resolution mechanisms can generally also be managed and administrated on the DLT. It is however unlikely that all possible outcomes of disputes can be set forth in a smart contract or on the blockchain.[29] It should however be possible that at least some disputes about certain clauses of an agreement can be set forth in a smart contract or on the DLT.

b) Clearing

Clearing addresses principal risk or counterparty risk, meaning the risk that one counterparty will lose the full value of the transaction. Principal and counterparty risks are key concerns in settling securities. One possibility to address these concerns is to link the delivery leg with the payment leg, which is also known as delivery-vs-payment (DvP).[30]

The decentralized nature of the DLT is in contradiction with the bilateral function of a central counterparty, which acts as the buyer of the seller and the seller of the buyer. The automatic execution of the transaction between two counterparties by means of the DLT will ensure that the seller receives the money and the buyer receives the security. The automatic exchange of the money and the security will be recorded and is immutable on the blockchain. For spot transactions, there is thus no counterparty risk if the DLT works correctly. Where there is no counterparty risk, no central counterparty is needed. The DLT replaces in other words in all instances the function of the central counterparty.

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[28] ISDA Legal Guidelines for Smart Derivatives Contracts: Collateral, page 10.
[29] ISDA Legal Guidelines for Smart Derivatives Contracts: The ISDA Master Agreement (2019), p. 33.
[30] See Morten Bech/Jenny Hancock/Tara Rice/Ambers Wadsworth, On the future of securities settlement, in: BIS Quarterly Review, International banking and financial market developments, March 2020, p. 71.

There are basically two main ways of how cryptoassets can be settled on the blockchain depending upon whether the token-versus-token transfers take place on one ledger or across two ledgers. If security tokens and cash tokens exist on the same ledger, then a so-called “atomic settlement smart contract” will be used to co-ordinate clearing and settlement. Atomic settlement consists of the following two key steps:[31]

1. The seller of the securities tokens and the buyer each submit their tokens as input to the single smart contract along with the transaction instructions.
2. The smart contract is submitted for validation on the distributed ledger:
   a. The transaction is validated. The cash and security tokens are instantly and simultaneously delivered to their respective recipients and DvP is achieved.
   b. Or, the transaction is not validated and the tokens remain with or are returned to the original owners.

In case the security tokens and the cash token exist on separate ledgers, a hash timelock contract (HTLC) could be used. A HTLC combines a “hashlock” function and a “timelock” function to facilitate transfers across unconnected ledgers. A HTLC could achieve a DvP as follows:

1. The seller generates a secret (X) and a corresponding hash (Y=f(X)). The seller uses the hash to lock the security tokens on its ledger with a specified time limit (e.g. two hours). The seller creates an instruction to either send the securities to the buyer using the has (Y) or, if the time limit expires, return them to the seller.
2. The buyer locks the cash token on its ledger with a shorter time limit (e.g. one hour). The buyer creates a conditional instruction to either send the cash token to the seller using the has (Y) or return it to the buyer after one hour.
3. The seller reveals the secret (X) to unlock and retrieve the cash token.
4. The buyer can then use the secret (X) to unlock and retrieve the security tokens.

These two mechanisms show that it is already today possible to have a clearing and security settlement mechanism on a blockchain in place that eliminates principal risk for spot transactions. It is also possible to implement in a smart contract a margin requirement. It is possible that two parties that enter into a smart contract with respect to acquiring a future delivery of an underlying and a cash settlement specify collateral as well as prescribed obligations in terms of delivery.[32] The DLT-technology has therefore at least the potential to fulfil all the functions central counterparties are fulfilling today. The potential is also seen by the CFTC which qualifies the blockchain as decentralized

[31] See Morten Bech/Jenny Hancock/Tara Rice/Ambers Wadsworth, On the future of securities settlement, in: BIS Quarterly Review, International banking and financial market developments, March 2020, p. 76.

[32] See Emilios Avguouleas/Aggelos Kiayias, The Promise of Blockchain Technology for Global Securities and Derivatives Markets: The New Financial Ecosystem and the “Holy Grail” of Systemic Risk Containment, in: European Business Organization Law Review, volume 20, pages 81 et seq.

clearing network (DCN). This could be done by means of distributed autonomous organizations ("DAO") that are governed by smart contracts. Once the criteria for admission are met, the blockchain manages the functions usually conducted by the CCP, such as valuing contracts, calculating initial and variation margins, facilitating custody of collateral, handling novation and netting, and managing closeouts.[33] The almost instantaneous settlement could reduce counterparty risk.[34] For derivatives transactions with a maturity, however, the outstanding rights and obligations remain throughout the entire life of the contract until the contracts' maturity. Central clearing will thus likely still have a role.[35] The legal and regulatory framework should thus leave room for innovative clearing and securities settlement systems run on the blockchain.

c) Reporting

The DLT is well suited for the recording and reporting of OTC derivatives and ETD transactions.[36] The marginal costs for setting up a link to the DLT network should not to be high considering that certain blockchains allow for the set-up of "nodes" by downloading a software from a webpage (e.g. Theta network). The introduction of blockchain and smart contracts will likely result in increased benefits to the reporting process, such as the creation of "one single golden data source" or record. This could help to address the fragmented data records and constant need for communication between the parties and reduces fatal errors.[37] The regulator could also remove jurisdictional firewalls and allow for real-time access for regulators. We do on the other hand not see an immediate need to create a new category of licensed entities for reporting activities related to DLT-securities. It should be possible to report data stored on the DLT-technology related to derivatives transactions subject to reporting to a licensed trade repository according to Art. 74 et seq. FMIA. Any blockchain based trade reporting will however have to be interoperable with the existing reporting structure. A purely DLT-based trade repository would need a change of the law. The current definition of a trade repository still assumes that data will be collected, administrated, and stored centrally, and not on a decentral basis.

d) Trading

Although not yet introduced in Switzerland, also the trading obligation can be implemented on multilateral trading venues that operate on the DLT. There are currently multiple projects under way (e.g. the SDX of the SIX Group in Switzerland) that will allow for the multilateral trading in digital assets.

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[33] See Commodities Futures Trading Commission, Press Release No. 7324-16, Technology Advisory Committee Meeting 208 (2016), http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/tac_022316_transcript.pdf (last accessed 15 April 2020).

[34] Randy Priem, Distributed ledger technology for securities clearing and settlement: benefits, risks, and regulatory implications, Financial Innovation, Springer Open Access, page 14.

[35] ESMA, Distributed ledger technology applied to securities markets, see https://www.esma.Europe.eu/system/files_force/library/dlt_report_-_esma50-1121423017-285.pdf (last accessed 11 March 2020).

[36] See e.g. ESMA, Report, The Distributed Ledger Technology Applied to Securities Markets, 7 Februrary 2017, page 17.

[37] Olatunji Jayeola, Inefficiencies in trade reporting for over-the-counter derivatives: Is blockchain the solution?, in: Capital Markets Law Journal, 2020, Vol. 15, No. 1, page 61.

e) Conclusion

The principle of technological neutrality applies to the FMIA as financial market regulation. All the obligations imposed by the FMIA can also be applied to the trading in derivatives. All obligations imposed by the FMIA can thus be implemented in the DLT technology.

B. REGULATORY APPROACH ON BLOCKCHAIN/DLT-BASED DERIVATIVES IN FOREIGN JURISDICTIONS

1. EUROPEAN UNION

There are to our knowledge no regulated financial market infrastructures under EMIR that provide services for DLT-based derivatives. The term 'derivative' or 'derivative contract' is according Art. 2 para. 1 chiff. 5 EMIR defined in MiFID II. Within the MiFID II framework, the notion of "derivative" is not defined but a list of derivatives (such as options, futures, swaps and forwards) followed by a list of eligible underlying assets, is set out. The derivative regulatory requirements under EMIR are thus only triggered if the underlying asset is eligible. There is currently no common approach to the classification of cryptoassets amongst EU member states.[38]

In an approach more akin to the provisions of MiFID II, the UK Financial Conduct Authority (FCA) has issued a statement explaining that, although cryptoassets are not themselves regulated in the UK, derivatives that reference cryptoassets (such as cryptocurrency futures, cryptocurrency contracts for differences, and cryptocurrency options) are capable of being 'financial instruments' under the MiFID II and therefore fall within the scope of regulation. The FCA takes it a step further as clarifies that it does not consider cryptoassets to be currencies or commodities under MiFID II.[39]

One type of 'financial instrument' listed in the MiFID II is the 'contract for difference' (CFD), which is a financial contract which allows retail clients to speculate on the short-term movements in the price of underlying assets which are typically mainstream products. ESMA has issued in a number of publications a restriction to limit the leverage limit of cryptocurrency CFDs to 2:1 at opening. This means that investors must have enough funds to cover at least half of a contract value upon opening. Initially, the leverage limit was fixed at a rate of 5:1, which allowed investors to enter the deal with only 20 percent of the CFD's value on hand.[40]

[38] See Keynote speech by Steven Majjoor, Crypto-Assets: time to deliver, 3rd Annual FinTech Conference – FinTech and Regulation,26 February 2019 – Brussels.
[39] See https://www.fca.org.uk/news/statements/cryptocurrency-derivatives (last accessed 4 March 2020).
[40] European Securities and Markets Authority, 'Frequently Asked Questions: ESMA's product intervention measures in relation to CFDs and binary options offered to retail investors' (27 March 2018) ESMA 71-98-125.

2. UNITED STATES

There are to our knowledge no regulated financial market infrastructures that provide services for DLT-based derivatives. The supervision of cryptoassets is due to the dual supervision structure by the SEC and CFTC subject to complex regulations. Each agency claims supervision over cryptocurrencies that are either securities, which are under the supervision of the SEC, or commodities, which are under the supervision of the CFTC.

The SEC's approach to decide whether a cryptocurrency is under its supervision is set forth in the so called "Howey-test".[41] The Howey-test determines based on a four-prong test, whether a cryptocurrency is an investment contract. Such an investment contract involves:

- An investment of money,
- In a common enterprise,
- In which the investor is led to expect profits,
- Derived from the entrepreneurial or managerial efforts of one or more third parties.

The SEC has made it clear in prior cases that cryptocurrencies can qualify as securities.[42] Bitcoin and Ether are however not securities, because the success is not dependent on the "efforts of others". It seems that the SEC focuses in its emerging regulatory framework for cryptocurrencies on the last prong, meaning is the token-based network sufficiently decentralized/independent of the entrepreneurial efforts of the issuer.[43] Any derivatives with a security as underlying are also within the scope of competence of the SEC and are subject to the derivative regulatory requirements as set forth under the corresponding regulations of the SEC.

The CFTC qualifies cryptocurrencies as commodities and thus within its scope of competence.[44] Derivatives on commodities fall within the CEA's broad definition of a "swap". Swaps are subject to the regulatory obligations under the CEA.

3. SINGAPORE

A derivative is regulated under the Singaporean Securities and Financial Services Act (SFA) if its "underlying thing" is any of the following:

- A unit in a collective investment scheme;
- A commodity;

[41] SEC v. W.J. Howey Co., 328 U.S. 291 (1946).
[42] See SEC Release No. 34-81207, Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934.
[43] See also Noa v. Key Futures; SEC v. Belmont Reid & Co.
[44] Timothy Massad, Chairman, Commodity Futures Trading Comm'n, Testimony of Chairman Timothy Massad before the U.S. Senate Committee on Agriculture, Nutrition & Forestry (Dec. 10, 2014), www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-6 (last accessed 4 March 2020).

- A financial instrument, e.g. any currency, currency index, interest rate, interest rate instrument, interest rate index, securities, securities index, a group or groups of such financial instruments;
- The credit of any person; or
- An underlying thing prescribed by the MAS.

Cryptoassets are currently not categorically defined as "underlying things" under the SFA, unless they qualify also as an above-mentioned underlying thing. Payment token derivatives are thus currently not regulated. The MAS has however run a consultation in which it has proposed the following:[45]

- Only payment token derivatives that are offered by Approved Exchanges should be regulated.
- Payment token derivatives that are not offered by an Approved Exchange are unregulated products.
- MAS does not view payment token derivatives as suitable for most retail investors to trade. MAS will thus introduce a number of measures for retail investors who trade in payment token derivatives offered by financial institutions regulated by MAS. These measures will enter into force by 30 June 2020. These measures consist in collecting from retail investors 1.5 times the standard amount of margin required for contracts offered by Approved Exchanges. The margin requirement will be supplemented by other measures such as tailored risk warnings and restrictions on advertising.
- The measures introduced for retail investors will also apply to covered products like debentures that are based on payment tokens.

The consultation has run until 20 December 2019 and the outcome is not yet clear.

Regulated payment tokens will like any other derivatives be subject to the derivatives regulations and obligations under the SFA.

C. CONCLUSION

A key principle of the Swiss Financial Market Regulation is technological neutrality. Blockchain and DLT are innovative technologies that could help to decrease work and efforts required in the post-trading space. The single "golden source of data" of blockchain and DLT can be used to fulfil the derivatives regulatory obligations, such as the risk mitigation obligations (trade confirmation, portfolio reconciliation, margin requirements, valuation obligation, dispute resolution), the clearing obligation, the reporting, and clearing obligation.

[45] See consultation paper P=15-2019 November 2019 Proposed Regulatory Approach for Derivatives

Switzerland is further refining the principle of technology neutrality by introducing a new type of financial market infrastructure, the DLT-trading system. The DLT-trading system license will cover the trading (meaning the multilateral trading) and post-trading (meaning settlement and custody) aspects of a multilateral trading system. The current version of the category DLT-trading system does however not intend to regulate and contain clearing activities. This is in our view a blind spot and there are methods available based on which the Blockchain and DLT could be used to clear derivatives. One could argue that for clearing purposes of DLT-based derivatives a traditional CCP could be set-up. This is however in our view an inappropriate solution to this new technology. DLT-has a different risk profile than traditional securities and derivatives. The rules and regulations of a CCP do not match the requirements of DLT-based derivatives. The DLT-related risk profile should thus also be addressed differently. Clearing means in its core that a system/organization ensures that a transaction between two parties will be fulfilled. The clearing function could does also be fulfilled by a decentralized system, like DLT. Having DLT-based derivatives cleared by means of the existing "off-chain" CCP that have been introduced prior to DLT creates a technological friction in the post-trading value chain and will prohibit the growth of the DLT-based derivatives market. A critical link in the new post-trading value chain is thus missing. Although one of the most complex areas of financial market regulation – decentralized clearing should not be carved out from the new DLT-(trading) system regulation. One concept to address this issue could be that not the lawmaker will judge whether a certain Blockchain- and DLT-based system is capable of clearing derivatives. This task could be left to the regulator to be checked in the application process of a new DLT-trading system, eventually accompanied by studies and reports of experts confirming the capability of the proposed project to fulfill these obligations.

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IV. APPPENDICES

A. INTERNATIONAL BENCHMARKING

1. SWITZERLAND

a) Derivatives in scope of the Swiss Rules

Derivatives in the sense of the Swiss Financial Marker Infrastructure Act (FMIA) are in Art. 2 para. 1 lit. c FMIA defined as «financial contracts, whose value is dependent from one or more underlyings which are not a cash transaction". Underlyings can be a multitude of assets, such as shares, bonds, commodities and precious metals, as well as currencies, interest rates and indices.[46]

No derivatives are:[47]
a. cash transactions, meaning transactions that are immediately or after the delayed settlement period settled within two business days or transactions that are settled within the settlement period that is common in the marketplace for the currency pair. Sales and purchases of securities independent of their currency that are paid within the settlement period common in the market place and required from a regulatory point of view, or transactions that are continuously rolled without a legal obligation to do so or a prolongation is usual amongst parties.[48]
b. derivatives transactions related to power and gas that:
  1.are traded on an organized trading system,
  2.must be delivered physically, and
  3.cannot be settled in cash upon the unilateral request of a party;
c. derivatives transactions related to climate variables, freight rates, inflation figures, or other official economic statistics, that can only be settled in cash in case of a default or another termination event.
No derivatives in the sense of the third title market conduct of the FMIA are the following financial instruments:[49]

a. Structured products, such as capital protected products, products with a maximal profit, and certificates;
b. Securities lending and borrowing;
c. Derivatives related to commodities, that:
   1.must be delivered physically,
   2.cannot be settled in cash upon the unilateral request of a party, and

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[46] Art. 2 Para.2 FINSO.
[47] Art. 2 Para.3 FINSO.
[48] Art. 2 Para.4 FINSO.
[49] Art. 94 Para.3 FMIA.

3. cannot be traded on a trading venue or an organised trading venue;

d. derivatives that have been issued in the form of a security or uncertificate security, or

e. derivatives that have been accepted in the form of a deposit.[50]

Foreign exchange swaps and foreign exchange term transactions are not subject to the clearing obligation (Art. 97 FMIA), the risk mitigation obligations (Art. 107–111 FMIA) as well as the trading obligation (Art. 112 FMIA). Such transactions are independent of the settlement method all transactions for the exchange of currencies which allow for physical settlement.[51]

b) Counterparties in scope of the Swiss Rules

The 3. Title of the market conduct rules under the FMIA apply to all financial and non-financial counterparties domiciled in Switzerland. Swiss branches of foreign enterprises are not subject to the derivatives provisions under FMIA. Foreign branches of Swiss enterprises are however subject to the derivatives provisions under FMIA.[52] Natural persons are not subject to the derivatives regulation.

Financial counterparties are:

a. Banks in the sense of the Swiss Banking Act;
b. Investment firms in the sense of the Financial Institutions Act (FINIA);
c. Insurance and reinsurance enterprises in the sense of the Swiss Insurance Supervisory Act;
d. Group companies of a financial services and insurance group or a financial or insurance conglomerate;
e. An asset manager of collective investment schemes and a fund management company in the sense of FINIA;
f. Collective investment schemes in the sense of the Swiss Collective Investment Schemes Act;
g. Pension funds and investment foundations according to Art. 48–53k of the Pension Act.

A financial counterparty is deemed small if the calculated average gross position over 30 business days of all outstanding OTC-derivative transactions is below the threshold. In case the average gross position of an existing small financial counterparty exceeds the threshold, it will not be deemed small anymore four months after the threshold has been exceeded. The average gross position of all outstanding OTC-derivative transactions for financial counterparties amounted to CHF 8 bio. on the level of the financial and insurance group.[53]

Non-financial counterparties are enterprises that are not financial counterparties. They are enterprises in the sense of the FMIA who are entered in the commercial register. Enterprises are also foreign

[50] Art. 80 FINSO.
[51] Art. 84 FINSO.
[52] Vgl. Art. 93 Para.5 FMIA.
[53] Art. 88 Para.2 FINSO.

enterprises that are economically active and that are legal persons according to the law applicable to them, as well as trusts or similar constructions. A non-financial counterparty is deemed small if all average gross positions that have been calculated over 30 business days are below the thresholds. In case one of the average gross positions of an existing small non-financial counterparty exceeds the corresponding threshold, the counterparty is not deemed to be small after four months since the thresholds have been exceeded. For the calculation of the average gross positions are derivatives transactions for the reduction of risks not considered if they are immediately related to the business activity of the management of liquidity or assets of the counterparty of the group. The thresholds for outstanding OTC-derivative transactions of non-financial counterparties are the following: a. credit derivatives: CHF 1,1 bio.; b. equity derivatives: CHF 1,1 bio.; c. interest derivatives: CHF 3,3 bio.; d. foreign exchange derivatives: CHF 3,3 bio.; e. commodity derivatives and other derivatives: CHF 3,3 bio.[54] The guidelines for the calculation of the gross positions are set forth in Art. Art. 89 FINSO.

The Swiss Confederation, Cantons, Communes, and the Swiss National Bank as well as the Bank for International Settlements[55] as well as similar foreign institutions are exempted.[56] Multilateral development banks, organisations including social insurances that are in the possession of the Swiss Confederation, Cantons, or Communities or for the liability of the Swiss Confederation, the Cantons or the Communes and to the extent no financial counterparty is involved, are according to Art. 93 para. 3 FMIA only subject to the reporting obligation.

c) Risk Mitigation Duties

There are multiple risk mitigation obligations applicable under the FMIA which should address the risks that are typical for derivatives. These obligations are:[57]

(1) Confirmation obligation

The terms and conditions of the derivative transactions must be confirmed on a timely basis, meaning not later than T+1 and if executed after 4 p.m. no later than T+2. These deadlines will be extended in case of complex transactions and small counterparties by one day.[58]

(2) Portfolio reconciliation

Counterparties have to have a process in place to reconcile portfolios and to control the related risks, unless a counterparty is a small non-financial counterparty. This obligation encompasses the material provisions for the valuation of the portfolio. The portfolio reconciliation must be made: Each business day if the counterparties have more than 500 OTC-derivative transactions outstanding, once a week, in

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[54] Vgl. Art. 88 FINSO.
[55] Art. 94 FMIA.
[56] Vgl. Art. 79 FINSO.
[57] Art. 108 FMIA.
[58] Art. 95 Para.1 bis 3 FINSO.

case at one time during the week counterparties have between 51 to 499 OTC-derivative transactions outstanding, once per quarter, if the counterparties have at one time during the quarter 50 or less OTC-derivative transactions outstanding.[59]

(3) Dispute Resolution Mechanism

All counterparties must have a procedure in place to address disputes between the parties early, this means that a procedure for the detection, recording and supervision of disputes in the context of the recognition and valuation of the transaction and the exchange of collateral between the counterparties must be established. The recording must encompass at least the period of the dispute, the counterparty and the amount that has been disputed. There must also be a process to finalize disputes that cannot be settled within five business days.[60]

(4) Portfolio compression

Counterparties have to regularly engage in a portfolio compression exercise, but at least twice a year if this is required to limit the counterparty risk and to the extent there are 500 or more non-centrally cleared OTC-derivative transactions outstanding. No portfolio compression must be made if there will not be a material reduction of the counterparty risk and the counterparty documents this at least every six months or the efforts related thereto would be inappropriate compared to the profit that can be achieved.[61]

(5) Valuation obligation

The parties have to value the transactions with the counterparties on the basis of current quotes on a daily basis, except in case of transactions between small counterparties.[62] A valuation must be made according to valuation models in case the market conditions do not allow for a valuation at market prices. The valuation models must be adequate and recognized.

(6) Exchange of collateral

Counterparties have to exchange adequate collateral, except in case of small non-financial counterparties or if the clearing obligation is fulfilled by means of a CCP.[63] Exchange of collateral is done by means of initial margins that are adequate to protect the transacting party from potential risks that there will be changes in market prices during the termination and replacement of the position in case of a default of the counterparty and a variation margin payment that is adequate to protect the parties to a transaction from the risk of a market price change after the execution of the transaction.[64] Initial margins must only be paid by counterparties that exceed on a financial services or insurance group level the aggregated month-end-average-gross-position of OTC-derivatives that are not cleared

[59] Art. 96 Para.4 FINSO.
[60] Art. 97 Para.2 FINSO.
[61] Art. 98 Para.1 und 3 FINSO.
[62] Art. 109 Para.1 FMIA.
[63] Art. 110 FMIA.
[64] Art. 100 Para.1 FINSO.

by a CCP of CHF 8 bio. for the months March, April, and May of each year. Group internal transactions are not calculated multiple times from the perspective of each group company. This obligation was prior to COVID-19 scheduled to start on 1 September 2021. It has been postponed by one year to 1 September 2022.[65] There are however transition periods applicable to the aggregated month-end-average-gross-position of OTC-derivatives for the months March, April, and May that exceed CHF 50 bio. The initial margin obligation will start in this case on 1 September 2020. The implementation period will however due to COVID-19 according to the communication of IOSCO be postponed by one year.[66] The obligation to exchange collateral for non-centrally cleared OTC-derivative transactions related to Options on shares, index options or similar equity derivatives such as derivatives on share baskets will start on 4 January 2020.[67]

d) Clearing Duty

OTC-derivatives that are subject to the clearing obligation have to be cleared by a CCP. The following OTC-derivatives must be cleared by a CCP:

(1) OTC Interest Rate Derivatives

Type	Reference interest rate	Settlement currency	Tenure	Type of settlement currency	Option	Nominal value
1. Base-Swap	EURIBOR	EUR	28T–50J	Same currency	no	constant or variable
2. Base-Swap	LIBOR	GBP	28T–50J	Same currency	no	constant or variable
3. Base-Swap	LIBOR	JPY	28T–30J	Same currency	no	constant or variable
4. Base-Swap	LIBOR	USD	28T–50J	Same currency	no	constant or variable
5. Fixed-to-Float	EURIBOR	EUR	28T–50J	Same currency	no	constant or variable
6. Fixed-to-	LIBOR	GBP	28T–50J	Same currency	no	constant or variable

[65] See https://www.bis.org/press/p200403a.htm (last accessed on 8 April 2020).
[66] See https://www.bis.org/press/p200403a.htm (last accessed on 8 April 2020).
[67] Art. 131 para. 5 and para. 5bis FMIO.

Float						
7. Fixed-to-Float	LIBOR	JPY	28T–30J	Same currency	no	constant or variable
8. Fixed-to-Float	LIBOR	USD	28T–50J	Same currency	no	constant or variable
9. Forward Rate Agreement	EURIBOR	EUR	3T–3J	Same currency	no	constant or variable
10. Forward Rate Agreement	LIBOR	GBP	3T–3J	Same currency	no	constant or variable
11. Forward Rate Agreement	LIBOR	USD	3T–3J	Same currency	no	constant or variable
12. Overnight Index Swap	EONIA	EUR	7T–3J	Same currency	no	constant or variable
13. Overnight Index Swap	FedFunds	USD	7T–3J	Same currency	no	constant or variable
14. Overnight Index Swap	SONIA	GBP	7T–3J	Same currency	no	constant or variable

(2) OTC Credit Derivatives

Type	Sub-Type	Region	Reference index	Settlement currency	Series	Period
1. Index-CDs	Index, not tranches	Europe	iTraxx Europe Main	EUR	From 17	5 Y

2. Index-CDs	Index, not tranches	Europe	iTraxx Europe Crossover	EUR	From 17	5 y

Which derivatives must be centrally cleared is decided by FINMA according to the corresponding criteria of FINSA-FINMA, FINSO and the FMIA.[68]

e) Duty to Report to a Trade Repository

Derivative transactions must be reported to a FINMA licensed or recognized trade repository. Subject to the reporting obligation are the following transactions:[69]

a. In case of a transaction between financial and non-financial counterparties: the financial counterparty;
b. In case of transactions between two financial counterparties:
  1. two financial counterparties which are not small,
  2. the selling counterparty in case of a transaction between two small or two non-small financial counterparties;
c. the counterparty with domicile in Switzerland if the foreign counterparty does not report.

In case of a transaction between non-financial counterparties does the reporting obligation apply analogously. A transaction between small non-financial counterparties must not be reported.

In case a transaction will be cleared centrally, the CCP will report. In case a recognized foreign CCP does not report, the counterparty must be report.

The content of the data to reported is set forth in Annex 2 to FINSO and comprises up to 79 reporting fields.[70]

There are currently three trade repositories licensed (SIX Trade Repository Ltd.) or recognized (DTCC and Regis TR) by FINMA and to which market participants can fulfil the reporting obligations.[71]

f) Duty to Trade on Trading Venues and OTFs

Art. 112 f. FMIA set forth the possibility for the introduction of a trading obligation for derivatives. Switzerland has so far not introduced a trading obligation for derivatives.

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[68] Art. 6 f. FINSO-FINMA.
[69] Art. 105 FMIA.
[70] Vgl. Anhang 2 FINSO.
[71] Vgl. https://finma.ch/de/finma-public/bewilligte-institute-personen-und-produkte/ (last accessed on 7. Februar 2020).

g) Organizational Requirements (People, Organization, Policies)

The Swiss regulatory-regime for the regulation of derivatives contains multiple obligations. Part of these obligations is the obligation to keep records about the derivative transactions according to Art. 958f Swiss Code of Obligations. There is also an obligation to document and an obligation to have a FMIA-compliance policy in place. Financial and non-financial counterparties must have written rules or in another form that can be proven by means of text for the implementation of the following obligations:[72]

a. for the clearing through a CCP (Art. 97 FMIA;
b. for the calculation of thresholds (Art. 100 FMIA);
c. for the reporting to a trade repository (Art. 104 FMIA);
d. for the risk mitigation (Art. 107 FMIA);
e. for the trading on a trading venue or organized trading systems (Art. 112 FMIA).

Non-financial counterparties that do not want to trade in derivatives can document this decision in writing or in another form that can be proven by means of text. They are then released from the obligation to document.[73]

h) License Requirements

The Swiss FMIA does not contain a specific license obligation for trading activities related to derivatives. Financial counterparties need a license from FINMA. The determination whether a party is small or large is made based on a self-declaration. The declaration of a counterparty about the classification of the party applies to all obligations under this section. Counterparties that usually enter into derivatives transactions have to inform about changes on time.[74]

i) Audit Requirements

The FMIA requires that the audit firms of financial or non-financial counterparties will check upon the compliance of the obligations under the FMIA. The audit firms will according to Art. 727 and 727a Swiss Code of Obligations check whether the counterparty complies with the provision under the derivatives regulatory regime. They check also whether the counterparties are compliant with the financial market regulations.[75]

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[72] Art. 113 FINSO.
[73] Art. 116 para. 2 FMIO.
[74] Art. 97 Para.3 FMIA i.V.m. Art. 83 FINSO.
[75] Art. 116 FMIA.

j) Substituted Compliance Principle

The FMIA requires according to the "substituted compliance"-principle that obligations about market behavior will also then be deemed fulfilled if:[76]

a. They are fulfilled under foreign law that has been recognized as equivalent by FINMA; and
b. The fulfilment of the transaction is made by means of a foreign financial market infrastructure that has been recognized by FINMA.

The recognition of the equivalence of foreign provisions is made by FINMA based on the principles set forth in Art. 81 FINSO. FINMA has recognized the rules about the clearing of OTC-derivative transactions through a CCP (Art. 97 para. 1 FMIA; Art. 4 EMIR), the reporting of derivative transactions to a trade repository (Art. 104 para. 1 FMIA; Art. 9 EMIR) and the risk mitigation measures related to OTC-derivative transactions (Art. 107 para. 1 FMIA; Art. 11 EMIR) according to the European regulation EMIR as equivalent.[77] FINMA has also recognized the derivatives regulatory-regime of the United Kingdom also pre- and post-BREXIT as equivalent.[78]

k) Extraterritoriality

The Swiss derivatives regulatory regime has generally a broad extraterritorial effect, meaning that at least in practice it applies to all derivatives transactions concluded between a Swiss based counterparty and a foreign counterparty. The obligations under the FMIA are in practice generally applied to all counterparties, independent of where they are domiciled respectively located.

l) Position Limits

The Swiss derivatives regulatory regime allows for the possibility to introduce position limits for commodities derivatives.[79]

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[76] Art. 95 FMIA.
[77] Vgl. FINMA Aufsichtsmitteilung 1/2016.
[78] Vgl. FINMA Aufsichtsmitteilung 1/2019.
[79] Art. 118 FMIA.

2. EUROPEAN UNION

a) Derivatives in Scope of the EU Rules

The EU rules about the regulation of the derivatives regime are mainly set forth in EMIR and in REMIT[80]. EMIR lays down clearing and bilateral risk-management requirements for over-the-counter ('OTC') derivative contracts as well as the reporting requirements for derivatives contracts and the uniform requirements for the operation of Central Counterparties (CCP) and trade repositories.[81] A derivative' or 'derivative contract' means a financial instrument as set out in points (4) to (10) of Section C of Annex I to MiFID II.[82] These are according to Annex I section C MiFID II the following derivatives:

(4) Options, futures, swaps, forward rate agreements and any other derivative contracts relating to securities, currencies, interest rates or yields, emission allowances or other derivatives instruments, financial indices or financial measures which may be settled physically or in cash;

(5) Options, futures, swaps, forwards and any other derivative contracts relating to commodities that must be settled in cash or may be settled in cash at the option of one of the parties other than by reason of default or other termination event;

(6) Options, futures, swaps, and any other derivative contract relating to commodities that can be physically settled provided that they are traded on a regulated market, a MTF, or an OTF, except for wholesale energy products traded on an OTF that must be physically settled;

(7) Options, futures, swaps, forwards and any other derivative contracts relating to commodities, that can be physically settled not otherwise mentioned in point 6 of this Section and not being for commercial purposes, which have the characteristics of other derivative financial instruments;

(8) Derivative instruments for the transfer of credit risk;

(9) Financial contracts for differences;

(10) Options, futures, swaps, forward rate agreements and any other derivative contracts relating to climatic variables, freight rates or inflation rates or other official economic statistics that must be settled in cash or may be settled in cash at the option of one of the parties other than by reason of

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[80] Regulation (EU) No 1227/2011 of the European Parliament and the Council of 25 October 2011 on wholesale energy market integrity and transparency (EMIR).

[81] Art. 1 DIRECTIVE 2014/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (MiFID II).

[82] Art. 2 para. 1 chiff. 5 EMIR.

default or other termination event, as well as any other derivative contracts relating to assets, rights, obligations, indices and measures not otherwise mentioned in this Section, which have the characteristics of other derivative financial instruments, having regard to whether, inter alia, they are traded on a regulated market, OTF, or an MTF;

(11) Emission allowances consisting of any units recognised for compliance with the requirements of Directive 2003/87/EC (Emissions Trading Scheme).

REMIT applies to wholesale energy products, which are in particular derivatives relating to electricity and natural gas produced, traded or delivered in the EU or derivatives relating to the transportation of electricity or natural gas in the EU.[83]

b) Counterparties in Scope of the EU Rules

The EMIR derivatives regulatory regime knows financial and non-financial counter-parties. 'Financial counterparty' means:

- an investment firm authorised in accordance with Directive 2004/39/EC,
- a credit institution authorised in accordance with Directive 2006/48/EC,
- an insurance undertaking authorised in accordance with Directive 73/239/EEC,
- an assurance undertaking authorised in accordance with Directive 2002/83/EC,
- a reinsurance undertaking authorised in accordance with Directive 2005/68/EC,
- a UCITS and,
- where relevant, its management company, authorised in accordance with Directive 2009/65/EC,
- an institution for occupational retirement provision within the meaning of Article 6(a) of Directive 2003/41/EC, or
- an alternative investment fund managed by AIFMs authorised or registered in accordance with Directive 2011/61/EU.

A non-financial counterparty is any counter-party which is not a financial counter-party and not a CCP. A small non-financial counterparty is a counterparty that does not exceed the clearing threshold. The clearing thresholds are:[84]

[83] Art. 2 para. 1 chiff. 4 EMIR.

[84] Art. 11 Commission Delegated Regulation (EU) No 149/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on indirect clearing arrangements, the clearing obligation, the public register, access to a trading venue, non-financial counterparties, and risk mitigation techniques for OTC derivatives contracts not cleared by CCP (OJ L 52, 23.3.2013, p. 11-24).

- EUR 1 billion gross notional value for OTC credit derivative contracts;
- EUR 1 billion gross notional value for equity derivative contracts;
- EUR 3 billion in gross notional value for OTC interest rate derivative contracts;
- EUR 3 billion in gross notional value for OTC foreign exchange derivative contracts; and
- EUR 3 billion in gross notional value for commodity derivative contracts

EMIR Refit has introduced the concept of a small financial counterparty. A financial counterparty has to calculate its aggregate month-end average position for the previous 12 months every 12 months.[85]

c) Risk Mitigation Obligations

Financial and non-financial counterparties that enter into an OTC derivative contract not cleared by a CCP have to address the operational risks that arise from the entering into OTC derivative contracts by means of risk mitigation obligations. The law assumes that the counterparties are exercising due diligence, putting in place appropriate procedures and arrangements, and are monitoring as well as mitigating operational risk by including at least:[86]

- Timely confirmation, where available by electronic means;
- Formalized, robust, resilient, and auditable processes to reconcile portfolios;
- The obligation to ensure portfolio compression;
- Management and identification of disputes;
- Mark-to-market on a daily basis the value of outstanding contracts in case of financial and non-financial counterparties exceeding the clearing threshold;
- Timely, accurate, and appropriately segregated exchange of collateral in case of financial counterparties or non-financial counterparties exceeding the clearing threshold.

A special exemption applies to C6 derivative contracts. Until 3 January 2021, the risk mitigation techniques will not apply to C6 energy derivative contracts entered into by non-financial counterparties exceeding the clearing threshold or by non-financial counterparties that shall be authorized for the first time as investment firms as from 3 January 2018.[87] It is likely that this exemption will be extended.[88]

[85] Art. 1 para. 3 Regulation (EU) 2019/834 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 648/2012 as regards to the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories.

[86] Art. 11 para. 1 (EU) No 648/2012.

[87] Art. 95 para. 2 DIRECTIVE 2014/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (MiFID II).

[88] See ESMA, Report, MiFID II: C6 energy derivative contracts and the EMIR requirements, 29 January 2020, page 14.

(1) Confirmation obligation

The obligation to confirm the terms and conditions of an OTC derivative transaction means the documentation of the agreement of the counterparties to all the terms of an OTC derivative contract.[89] The confirmation obligation allows for early identification of discrepancies in the terms of a non-centrally cleared OTC derivative transaction, thereby assisting in more prompt resolution of such discrepancies. The confirmation can be made by means of an electronically executed contract of a document signed by both parties.[90] OTC derivative contracts must be confirmed within T+1 in case of financial counterparties and non-financial counterparties exceeding the clearing threshold.[91] OTC derivative contracts concluded with a non-financial counterparty not exceeding the clearing threshold must be confirmed within T+2 following the date of the execution of the derivative contract.[92] These deadlines are extended by no more than one business day if the OTC derivative transactions are concluded after 4 p.m. local time or in another time zone which does not allow confirmation by the set deadline. Financial counterparties must report on a monthly basis OTC derivative transactions outstanding for more than five business days.[93] The confirmation should be made by electronic means where available, meaning where an electronic confirmation is available to the market (e.g. confirmation platform).[94] Confirmation can either be made by means of positive affirmation or even a negative affirmation where combined with an appropriate legal framework. The confirmation obligation applies only to EU domiciled counterparties and not to counterparties domiciled in a third country.[95] In such a case, the EU domiciled counterparty has to ensure that the requirements are met. In case the counterparty domiciled in a third country is established in a jurisdiction for which the European Commission has adopted an implementing act in accordance with Art. 13 EMIR, the counterparty could comply with equivalent rules in the third country.

(2) Portfolio compression

Portfolio compression is a risk reduction service in which two or more counterparties wholly or partially terminate some or all of the derivatives submitted by those counterparties for inclusion in the portfolio compression and replace the terminated derivatives with another derivative whose combined notional value is less than the combined notional value of the terminated derivatives. The economic rationale of the portfolio compression can be found in that it reduces notional outstanding by eliminating matched trades or trades that do not contribute risk to a dealer's portfolio. The operation of compression services can create new replacement contracts, e.g. where a contract is replaced by a

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[89] Art. 1 (c) Commission Delegated Regulation (EU) No 149/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and the of the Council with regard to regulatory technical standards on indirect clearing arrangements, the clearing obligation, the public register, access to a trading venue, non-financial counterparties, and risk mitigation techniques for OTC derivatives contracts not cleared by a CCP (OJ L 52/11).

[90] Art. 12 (EU) No 149/2013.

[91] Art. 12 para. 1 (EU) No 149/2013.

[92] Art. 12 para. 2 (EU) No 149/2013.

[93] Art. 12 para. 4 (EU) No 149/2013.

[94] Question 5 ESMA's Questions and Answers on EMIR as updated 15 July 2019.

[95] Art. 12 (EU) No 149/2012.

new, smaller contract to allow the removal or an offsetting exposure. A notional reduction forms a necessary element of the portfolio compression.[96] Portfolio compression can be made bilaterally, meaning involving the two counterparties, or multilaterally, meaning by involving multiple counterparties. Multilateral compression is usually done by a service provider within a legal and regulatory framework that applies to all the participants in the compression.[97]

Financial counterparties and non-financial counterparties with 500 or more OTC derivative contracts outstanding with a counterparty which are not centrally cleared shall have in place procedures to regularly, and at least twice a year, analyze the possibility to conduct a portfolio compression exercise in order to reduce their counterparty credit risk and engage in such a portfolio compression exercise.[98] Financial counterparties and non-financial counterparties must ensure that they are able to provide a reasonable and valid explanation to the relevant competent authority for concluding that a portfolio compression exercise is not appropriate. The portfolio compression obligation applies only to EU domiciled counterparties and not to counterparties domiciled in a third country. In such a case the EU domiciled counterparty has to ensure that the requirements are met. In case the counterparty domiciled in a third country is established in a jurisdiction for which the European Commission has adopted an implementing act in accordance with Art. 13 EMIR, the counterparty could comply with equivalent rules in the third country.

(3) Portfolio reconciliation

Financial and non-financial counterparties to an OTC derivative transaction must agree in writing or other equivalent electronic means with each of the counterparties on the arrangements under which portfolios will be reconciled.[99] The main purpose of the portfolio reconciliation is to identify at an early stage any material discrepancies of an OTC derivative contract. That is why the portfolio reconciliation must cover the key trade terms that identify each particular OTC derivative contract and must at least include the valuation derived from a mark-to-market valuation approach.[100]

The frequency of the portfolio reconciliation depends on the status of the counterparty and the number of outstanding contracts between the counterparties. Non-financial counterparties below the clearing threshold must perform the portfolio reconciliation obligation once a quarter if there are more than 100 OTC derivative contracts outstanding at any time during the quarter and once a year when the counterparties have less than 100 OTC derivative contracts outstanding. Financial counterparties must reconcile each business day in case they have more than 500 OTC derivative contracts outstanding, once per week when the counterparties have between 51 and 499 OTC derivative contracts

[96] Art. 2 para. 1 chiff. (47) Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 (OJ L 173/84).
[97] See ESMA's Technical Advice to the Commission on MiFID II and MiFIR of 19 December 2014, ESMA/2014/1569, p. 441.
[98] Art. 14 (EU) No 149/2012.
[99] See (EU) No 149/2013.
[100] See Art. 13 (EU) No 149/2013.

outstanding, and once per quarter when there are 50 or less OTC derivative contracts outstanding at any time during the quarter.[101] The performance of the reconciliation obligation can be outsourced to third parties.

(4) Dispute resolution

EMIR requires that the counterparties to an OTC derivative contract agree on a dispute resolution mechanism, meaning the identification, recording, and monitoring of disputes relating to the recognition or valuation of the contract and to the exchange of collateral between counterparties. Those procedures must at least record the length of time for which the dispute remains outstanding, the counterparty and the amount which is disputed. The procedures must also determine the resolution of disputes in a timely manner with a specific process for those disputes that are not resolved within five business days.[102] The amount or value of outstanding disputes must be calculated on a trade-by-trade-basis if possible. A portfolio view can be deployed if the disputed margin is calculated at the portfolio level. There is no legal "de minimis-rule" applicable. Counterparties can however agree in advance that minor discrepancies would not count as disputes.[103] The dispute resolution obligations apply generally only to EU domiciled counterparties. An EU domiciled counterparty entering into an OTC derivative contract with a counterparty domiciled in a third country does thus have to ensure that the relevant obligations are fulfilled. In case the counterparty is established in a jurisdiction regarding which the European Commission has adopted and implementing act, said counterparty could comply with the equivalent rules in said third country.

(5) Collateral

EMIR requires financial counterparties to have risk management procedures in place that require the timely, accurate and appropriately segregated exchange of collateral with respect to OTC derivative contracts. Non-financial counterparties must have similar procedures in place, if they are above the clearing threshold.[104] The obligation to exchange collateral (initial and variation margin) is the only risk mitigation obligation that applies directly also to counterparties that are domiciled in third countries.[105]

The obligation to exchange collateral means the obligation to exchange variation margin and eventually also initial margins. Variation margin means the collateral collected by a counterparty to

[101] Art. 13 para. 1 and 2 (EU) No 149/2013.
[102] Art. 15 (EU) No 149/2012.
[103] OTC Question 15 ESMA's Questions and Answers Implementation of the Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR) updated 15 July 2019.
[104] Art. 11 para. 3 EMIR.
[105] Recital 7 Commission Delegated Regulation (EU) 2016/2251 of 4 October supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty (OJ L 340/9).

reflect the results of the daily marking-to-market or marking-to-model of outstanding contracts.[106] It is the daily exchange of profit and loss incurred on an OTC derivative contract entered into between two counterparties. Variation margins prevent the build-up of uncollateralized exposures within the system. The initial margin is the collateral collected by the counterparty to cover its current and potential future exposure in the interval between the last collection of margin and the liquidation of positions or hedging of market risk following a default of the other counterparty.[107] Counterparties might provide in their risk management procedures that initial margins are not collected for all new OTC derivative contracts entered into within a calendar year where one of the two counterparties has an aggregate month-end average notional amount of non-centrally cleared OTC derivatives for the months March, April, and May of the preceding year of below EUR 8 billion.[108] Initial margins cannot be netted and reflect the changes in both the risk positions and market conditions. They are subject to concentration limits.[109] Initial margins must be re-calculated at least every 10 days. The obligation to exchange collateral requires a detailed collateral management and operational procedures[110] as well as an exchange of collateral agreement.[111] The counterparties to an OTC derivative contract can agree that initial margins must only be exchanged if they exceed a minimal threshold of CHF 50 mio.[112] and in case of the variation margin if they exceed the minimal threshold of CHF 500'000 (Minimum Transfer Amount).[113] The eligible collateral is for both the variation and initial margin the same.[114] The collecting counterparty is however not entitled to re-hypotheticate, repledge or otherwise reuse the collateral collected as initial margin, except to cash held by a third party holder if used for reinvestment purposes.[115]

The obligation to exchange variation margin has entered into force on 1 March 2017 and the obligation to exchange initial margin will entry into force in between 4 February 2017 through 1 September 2020 during a phase-in period depending upon the group aggregate average notional amount of non-centrally cleared derivatives.

d) Clearing Obligation

OTC derivative contracts must be cleared if (i) they have been declared subject to the clearing obligation by ESMA, (ii) they have been entered into between two parties that are subject to the clearing requirement, (iii) they have been entered into on or after the date from which the clearing

[106] Art. 1 para. 1 (EU) 2016/2251.
[107] Art. 1 para. 1 (EU) 2016/2251.
[108] Art. 28 para. 3 2016/2251.
[109] Art. 8 (EU) 2016/2251.
[110] Recital 32 (EU) 2016/2251.
[111] Art. 3 (EU) 2016/2251.
[112] Art. 29 (EU) 2016/2251.
[113] Art. 25 para. 1 (EU) 2016/2251.
[114] See for the types of collateral Art. 4 (EU) 2016/2251.
[115] Art. 20 (EU) 2016/2251.

obligation takes effect, and (iv) no exemption is applicable.[116] The OTC derivatives contracts subject to clearing are registered by ESMA in a public register. The public register is available on the public website of ESMA.[117] There are currently no commodities derivatives subject to clearing under EMIR. The following OTC derivatives are currently subject to clearing:[118]

Type	Reference Index	Cur-rency	Maturity	Settlement Currency Type	Opt-ionality	Notional Type
I. OTC-interest rate derivatives						
1. Basis Swap	EURIBOR	EUR	28D-50Y	Single Currency	No	Constant/variable
2. Base-Swap	LIBOR	GBP	28D-50Y	Single Currency	No	Constant/variable
3. Base-Swap	LIBOR	JPY	28D-30Y	Single Currency	No	Constant/variable
4. Base-Swap	LIBOR	USD	28D-50Y	Single Currency	No	Constant/variable
5. Fixed-to-Float	EURIBOR	EUR	28D-50Y	Single Currency	No	Constant/variable
6. Fixed-to-Float	LIBOR	GBP	28D-50Y	Single Currency	No	Constant/variable
7. Fixed-to-Float	LIBOR	JPY	28D-30Y	Single Currency	No	Constant/variable
8. Fixed-to-Float	LIBOR	USD	28D-50Y	Single Currency	No	Constant/variable
9. Fixed-to-Float	NIBOR	NOK	28D-10Y	Single Currency	No	Constant/variable
10. Fixed-to-Float	WIBOR	PLN	28D-10Y	Single Currency	No	Constant/variable
11. Fixed-to-Float	STIBOR	SEK	28D-10Y	Single Currency	No	Constant/variable
12. Forward Rate Agreement	EURIBOR	EUR	3D-3Y	Single Currency	No	Constant/variable

[116] Art. 4 para. 1 Regulation (EU) No 648/2012.
[117] Art. 5 Regulation (EU) No 648/2012.
[118] Public Register for the Clearing Obligation under EMIR last update 19 January 2018.

13. Forward Rate Agreement	LIBOR	GBP	3D-3Y	Single Currency	No	Constant/variable
14. Forward Rate Agreement	LIBOR	USD	3D-3Y	Single Currency	No	Constant/variable
15. Forward Rate Agreement	NIBOR	NOK	28D-10Y	Single Currency	No	Constant/variable
16. Forward Rate Agreement	WIBOR	PLN	28D-10Y	Single Currency	No	Constant/variable
17. Forward Rate Agreement	STIBOR	SEK	28D-15Y	Single Currency	No	Constant/variable
18. Overnight Index Swap	EONIA	EUR	7D-3Y	Single Currency	No	Constant/variable
19. Overnight Index Swap	FedFunds	USD	7D-3Y	Single Currency	No	Constant/variable
20. Overnight Index Swap	SONIA	GBP	7D-3Y	Single Currency	No	Constant/variable
II. OTC-credit derivatives						
1. Index-CDS	Index, untranched	Europe	iTraxx Europe Main	EUR	17 onwards	5 Y
2. Index-CDS	Index, untranched	Europe	iTraxx Europe Main	EUR	17 onwards	5 Y

The counterparties that have entered into an OTC derivative transaction subject to clearing must either be:

- Two financial counterparties exceeding the clearing threshold, meaning a duly authorized investment firm, credit institution, insurance undertaking, assurance undertaking, reinsurance undertaking, UCITS or where relevant its management company, an institution for occupational retirement provisions, or an alternative investment fund managed by an authorized or registered Alternative Investment Fund Management Company.[119]
- A financial counterparty or a non-financial counterparty both exceeding the clearing threshold,[120] either meaning an undertaking established in the European Union not being a financial

[119] Art. 2 chiff. (8) (EU) No 648/2012.

[120] The clearing thresholds are: EUR 1 billion gross notional value for OTC credit derivative contracts; EUR 1 billion gross notional value for equity derivative contracts; EUR 3 billion in gross notional value for OTC interest rate derivative contracts; EUR 3 billion in gross notional value for OTC foreign exchange derivative contracts; EUR 3 billion in gross notional value for commodity derivative contracts

counterparty or an entity established in a third country that would be subject to the clearing obligation if it were established in the EU. The clearing obligation is thus one of the few obligations under EMIR that apply also to counterparties that are domiciled in third countries.
- Two non-financial counterparties exceeding the clearing threshold.
- Two entities established in one or more third countries that would be subject to the clearing obligation if they were established in the Union, provided that the OTC contract has a direct, substantial and foreseeable effect within the Union or where such an obligation is necessary to prevent an evasion.

One of the key changes introduced by EMIR-Refit is the fact that the clearing obligation is from 17 June 2019 applied on “a per category-basis”, meaning that the clearing obligation will only apply to the OTC-derivatives in the categories where the clearing threshold is exceeded.[121] One of the key exceptions applicable to the clearing obligation are intra-group transactions, which are OTC derivative contracts entered into with another counterparty which is part of the same group to the extent both counterparties are included in the same consolidation on a full basis, they are subject to an appropriate centralized risk evaluation, measurement and control procedures and that the counterparty is located in the EU or a third country recognized as having an equivalent legislation to EMIR by the European Commission.[122] Counterparties are deemed to be included in the same consolidation in case they are either included in a consolidation according to International Financial Reporting Standards (IFRS) or covered by the same consolidated supervision.[123] There is an exemption applicable to C6 energy derivative contracts. 'C6 energy derivatives contracts' under MiFID II mean options, futures, swaps, and any other derivative contracts mentioned in Section C.6 of Annex I relating to coal or oil that are traded on an OTF and must be physically settled.[124] Until 3 January 2021 the clearing obligation set out in Article 4 EMIR does not apply to C6 energy derivative contracts entered into by non-financial counterparties that exceed the clearing threshold or by non-financial counterparties that shall be authorized for the first time as investment firms as from 3 January 2018. Such C6 energy derivative contracts shall not be considered to be OTC derivative contracts for the purposes of the clearing threshold.[125]

EMIR-Refit, the revision of EMIR that has entered into force on 17 May 2019, has introduced the obligation applicable to financial and non-financial counterparties taking positions in OTC derivative contracts to calculate every 12 months its aggregate month-end average position for the previous 12

(Art. 11 Commission Delegated Regulation (EU) No 149/2013 of 19 December 2012 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on indirect clearing arrangements, the clearing obligation, the public register, access to a trading venue, non-financial counterparties, and risk mitigation techniques for OTC derivatives contracts not cleared by CCP (OJ L 52, 23.3.2013, p. 11-24)).

[121] Art. 4a para. 1 lit. c) and Art. 6a para. 1 lit. c Ordinance (EU) 2019/834.

[122] Art. 4 para. 2 in combination with Art. 3 (EU) No 648/2012.

[123] Art. 3 para. 3 (EU) No 648/2012.

[124] Article 4 para. (1) chiff. (16) Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (OJ L 173/349).

[125] Art. 95 para. II MiFID II.

months.[126] Where they do not calculate its positions, or where the result of that calculation exceeds any of the clearing thresholds, the financial counterparty shall: (a) immediately notify ESMA and the relevant competent authority thereof, and, where relevant, indicate the period used for the calculation, (b) establish clearing arrangements within four months after the notification referred to in point (a); and (c) become subject to the clearing obligation referred to in Article 4 for all OTC derivative contracts pertaining to any class of OTC derivatives which is subject to the clearing obligation entered into or novated more than four months following the notification referred to in point (a).[127]

CCPs play a key role in the new financial market infrastructure in particular related to the clearing of OTC derivatives. All OTC derivative contracts subject to the clearing obligation must be cleared in a CCP either authorized or in case of a third country domiciled CCP recognized by ESMA and listed in the register of authorized and recognized CCPs. Each counterparty must liaise with a CCP by either becoming a direct clearing member or a client of a clearing member and thus to indirectly clear the OTC derivative transactions in a CCP. There are typically only few direct clearing members to a CCP, because they are responsible for discharging the financial obligations arising from a direct participation in direct membership.[128] This operational issue was intended to be addressed at least in theory by the possibility to allow counterparties subject to the clearing obligation to clear their derivatives as clients of a direct clearing member. In practice however, it is not very attractive for direct clearing members to offer indirect clearing services, because it requires additional regulatory capital and does not bring much benefit.[129]

The clearing obligations enter into force depending upon the category to which the counterparties belong. There are four main categories depending upon the status of the counterparty. The clearing obligations have t different points in time entered into force for these categories of counterparties.[130]

- Category 1 consists of the most sophisticated market participants. They are the clearing members for at least one of the classes of OTC derivative contracts subject to clearing. The clearing obligations for these market participants has already entered into force: for IRS related to G4-currencies on 21 June 2016, for European Index CDS on 9 February 2017, and for IRS on NOK, PLN, and SEK on 9 February 2017.
- Category 2 comprises financial counterparties or alternative investment funds being non-financial counterparties that do not belong to category 1, but belong to a group whose

[126] See ESMA Public statement 28 March 2019 Implementation of the new EMIR Refit regime for the clearing obligation for financial and non-financial counterparties (https://www.esma.Europe.eu/sites/default/files/library/esma70-151-2181_public_statement_on_refit_implementation_of_co_regime_for_fcs_and_nfcs.pdf (last visited 24 July 2019).
[127] Art. 4a and 10 para. 1 and 2 Ordinance (EU) 2019/834.
[128] Art. 4 para. 3 in combination with Art. 2 chiff. (14) and (15) (EU) No 648/2012.
[129] See Art. 2 et seq. (EU) No 149/2013.
[130] Art. 1 Commission Delegated Regulation (EU) 2015/2205 of 6 August 2015 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on the clearing obligation (OJ L 314/13).

aggregate month-end average of outstanding gross notional amount of non-centrally cleared derivatives for January, February and March is above EUR 8 billion. The entry into force of the clearing obligation for IRS related to G4-currencies was on 21 December 2016, for European Index CDS on 9 August 2017, and for IRS on NOK, PLN, and SEK on 9 July 2017.

- Category 3 includes financial counterparties and alternative investment funds being non-financial counterparties which are below the group-wide aggregate month-end average of outstanding gross notional amount of non-centrally cleared derivatives of EUR 8 billion. The entry into force of the clearing obligation for IRS related to G4-currencies, European Index CDS, and for IRS on NOK, PLN, and SEK was on 21 June 2019.
- Category 4 comprises all non-financial counterparties not covered by the preceding categories. The clearing obligation for IRS related to G4-currencies has entered into force on 21 December 2018, for European Index CDS on 9 May 2019, and for IRS on NOK, PLN, and SEK on 9 July 2019.

ESMA is currently running a consultation about whether post-trade risk reductions services should be exempted from the clearing obligation (Art. 85 para 3a EMIR).[131]

e) Reporting Obligation

One of the key cornerstones under EMIR is the obligation to report any derivative contract counterparties have concluded and any modification or termination of such a contract to a trade repository. The reporting must be done no later than one working day (T + 1) following the conclusion, modification, or termination of the derivative contract.[132] This tight reporting deadline is in practice quite a challenge to meet, especially for concluding, modifying, or terminating hundreds of derivative contracts. Mark-to-market or mark-to-model valuations of contracts reported to a trade repository shall be done on a daily basis. Any other reporting elements shall be reported as they occur.[133]

Prior to EMIR-Refit, that has entered into force on 17 May 2019, the reporting obligation has affected both counterparties to a derivative transaction no matter whether financial, non-financial below or above the thresholds. The EU has thus pursued a system known as “double-sided reporting” (as opposed to the single sided reporting where only one party has to report as common in the USA or Switzerland). EMIR-Refit has also introduced the single sided reporting system in the EU. Financial

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[131] ESMA Consultation Paper, Report on post trade risk reduction services with regards to the clearing obligation (EMIR Article 85 para. 3a EMIR) 26 March 2020.

[132] Art. 9 (EU) No 648/2012.

[133] Art. 2 Commission Implementing Regulation (EU) No 1247/2012 of 19 December 2012 laying down implementing technical standards with regards to the format and frequency of trade repositories according to Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties, and trade repositories (OJ L 352/20).
See also Commission Implementing Regulation (EU) No 148/2013 of 19 December 2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories with regards to regulatory technical standards on the minimum details of the data to be reported to trade repositories (OJ L 52/1).

counterparties shall be solely responsible, and legally liable, for reporting on behalf of both counterparties, the details of OTC derivative contracts concluded with a non-financial counterparty, as well as for ensuring the correctness of the details reported. The non-financial counterparty has however to provide the details of the OTC derivative contracts concluded with the financial counterparty to ensure that the financial counterparty has all data. The non-financial counterparty shall be responsible for ensuring that those details are correct, unless the non-financial counterparty decides to report its side of the trade.[134]

It is important to note that not just OTC derivatives, but also exchange traded contracts (ETD) are subject to the reporting obligation. Entities that are trading large amounts of ETDs on a daily basis and the related reporting obligation imposes a considerable burden on them. That is why the single sided reporting regime implemented under EMIR-Refit is very much welcomed. Another key benefit under EMIR-Refit is the intra-group exemption of the reporting of the reporting obligation if at least one of the counterparties is a non-financial counterparty or would be qualified as a non-financial counterparty if it were established in the Union, provided that: (a) both counterparties are included in the same consolidation on a full basis; (b) subject to appropriate centralized risk evaluation, measurement and control procedures; and (c) the parent undertaking is not a financial counterparty.[135] The content of the reporting is rather extensive and encompasses up to 85 reporting fields.[136]

CCPs can also become subject to the reporting obligation in case an existing contract is subsequently cleared by a CCP. Such a contract should be reported as terminated and the new contract resulting from the clearing must be reported.[137] The reporting obligation can be delegated to third parties or the counterparty.[138] This is in practice often the case. Brokers and banks typically do report on behalf of their clients. The delegating party remains however responsible for the regulatory reporting obligation.

The derivatives must be reported to a trade repository registered with ESMA or recognized by ESMA. A trade repository domiciled in the EU must apply for registration and must fulfil on an ongoing basis the conditions for registration.[139] The application for registration must be filed with ESMA. Trade repositories domiciled in third countries can also be used for the fulfilment of the reporting obligation under EMIR if they are either recognized by ESMA or the European Commission has adopted an implementing act determining that the legal and supervisory arrangements of a third country ensure that the trade repositories in that third country comply with legally binding requirements that are equivalent to the ones under EMIR, there is an effective supervision and enforcement of trade

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[134] Art. 9 Regulation (EU) 2019/834.
[135] Art. 9 para. 1 Regulation (EU) 2019/834.
[136] Annex I (EU) No 1247/2012.
[137] Recital 2 (EU) No 148/2013.
[138] Art. 9 para. 1 (EU) No 648/2012.
[139] Art. 55 (EU) No 648/2012.

repositories, and guarantees of professional secrecy exist regarding shared business secrets.[140] The recognition of a trade repository domiciled in a third country requires also the submission of an application for recognition together with all the required information to ESMA.[141]

Any data related to the details of a derivative contract must be kept as records by the counterparties and the CCP for at least five years.[142] The legally prescribed reporting obligation ensures that the reporting of any details related to the derivatives transaction is not considered a breach of any restriction on disclosure or information imposed by a contract, or by any legislative, regulatory or administrative provision.[143] The reporting obligation serves in other words as legal justification for the disclosure of data, but only to the extent such disclosure is required under the circumstances.

f) Trading obligation

Financial counterparties and non-financial counterparties exceeding the clearing threshold shall conclude transactions, which are not intragroup transactions, with other such financial counterparties or other such non-financial counterparties in derivatives pertaining to a class of derivatives that has been declared subject to the trading obligation and listed in the register, only on regulated markets, multilateral trading facilities, organized trading facilities or third-country trading venues that have been deemed to be equivalent to the EU-regime.[144] Derivatives declared subject to the trading obligation must be eligible to be admitted to trading on a regulated market or to trade on any trading venue on a non-exclusive and non-discriminatory basis.[145]

The EU has introduced the trading obligation for certain classes of derivatives.[146] The following derivatives are becoming subject to the trading obligation:

- Fixed-to-float interest rate swaps denominated in EUR

Fixed-to-float single currency interest rate swaps - EUR EURIBOR 3 and 6 Months

Settlement currency	EUR	EUR
Trade start type	Spot (T + 2)	Spot (T + 2)
Optionality	No	No
Tenor	2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 30Y	2, 3, 4, 5, 6, 7, 10, 15, 20, 30Y

[140] Art. 75 (EU) No 648/2012.
[141] Art. 77 (EU) No 648/2012.
[142] Art. 9 para. 2 (EU) No 648/2012.
[143] Art. 9 para. 4 (EU) No 648/2012.
[144] The EU trading venues relevant for the trading obligation and the third countries deemed equivalent for the purpose of the trading obligation can be found in the public register for the trading obligation for derivatives under MiFIR (updated 23 July 2019).
[145] Art. 28 (EU) No 600/2012.
[146] See ESMA's Final Report of 28 September 2017, Draft RTS on the trading obligation for derivatives under MiFIR (ESMA70-156-227)).

Notional Type	Constant notional	Constant notional

Fixed leg

Payment frequency	Annual or semi-annual	Annual or semi-annual
Day count convention	30/360 or Actual/360	30/360 or Actual/360

Floating leg

Reference index	EURIBOR 6M	EURIBOR 3M
Reset frequency	Semi-annual or quarterly	Quarterly
Day count convention	Actual/360	Actual/360

- Fixed-to-float interest rate swaps denominated in USD

Fixed-to-float single currency interest rate swaps - USD LIBOR 3 Months

Settlement currency	USD	USD
Trade start type	Spot (T + 2)	USD
Optionality	No	IMM (next two IMM dates)
Tenor	2, 3, 4, 5, 6, 7, 10, 12, 15, 20, 30Y	2, 3, 4, 5, 6, 7, 10, 15, 20, 30Y
Notional Type	Constant notional	Constant notional

Fixed leg

Payment frequency	Annual or semi-annual	Annual or semi-annual
Day count convention	30/360 or Actual/360	30/360 or Actual/360

Floating leg

Reference index	USD LIBOR 3M	USD LIBOR 3M
Reset frequency	Quarterly	Quarterly
Day count convention	Actual/360	Actual/360

- Fixed-to-float single currency interest rate swaps - USD LIBOR 6 Months

Settlement currency	USD	USD
Trade start type	Spot (T + 2)	IMM (next two IMM dates)
Optionality	No	No
Tenor	2, 3, 4, 5, 6, 7, 10, 12, 15, 20, 30Y	2, 3, 4, 5, 6, 7, 10, 15, 20, 30Y
Notional Type	Constant notional	Constant notional

Fixed leg

Payment frequency	Annual or semi-annual	Annual or semi-annual
Day count convention	30/360 or Actual/360	30/360 or Actual/360

Floating leg

Reference index	USD LIBOR 6M	USD LIBOR 6M
Reset frequency	Quarterly or semi-annual	Quarterly or semi-annual

Day count convention	Actual/360	Actual/360

- Fixed-to-float interest rate swaps denominated in GBP

Fixed-to-float currency interest rate swaps - GBP LIBOR 3 and 6 Months

Settlement currency	GBP	GBP
Trade start type	Spot (T + 0)	Spot (T + 0)
Optionality	No	No
Tenor	2, 3, 4, 5, 6, 7, 10, 15, 20, 30Y	2, 3, 4, 5, 6, 7, 10, 15, 20, 30Y
Notional Type	Constant notional	Constant notional

Fixed leg

Payment frequency	Quarterly or semi-annual	Quarterly or semi-annual
Day count convention	Actual/365F	Actual/365F

Floating leg

Reference index	GBP LIBOR 6M	USD LIBOR 3M
Reset frequency	Semi-annual or auarterly	Quarterly
Day count convention	Actual/365F	Actual/365F

- Index CDS

Type	Sub-type	Geographical Zone	Reference Index	Settlement Currency	Series	Tenor
Index CDS	Untranched Index	Europe	iTraxx Europe Main	EUR	On the run and first off-the-run	5Y
Index CDS	Untranched Index	Europe	iTraxx Europe Main	EUR	On the run and first off-the-run	5Y

The trading obligation for derivatives does currently not apply to non-par swaps, including swaps traded at market-agreed-coupon (MAC), are currently not subject to the trading obligation for derivatives.[147]

The trading obligation for said derivatives has begun on the following dates:

OTC derivatives class	CP Cat. 1	CP Cat. 2	CP Cat. 3	CP Cat. 4
IRS (EUR, GBP, JPY, USD)	3 January 2018	3 January 2018	21 June 2019	21 December 2018
IRS (NOK, PLN,	3 January 2018	3 January 2018	21 June 2019	21 December

[147] Question 12 Non-equity transparency, Questions and Answers on MiFID II and MiFIR transparency topics, updated on 28 March 2018 (ESMA70-872942901-35).

SEK)				2018
Credit derivatives	3 January 2018	3 January 2018	21 June 2019	09 May 2019

g) Organisational requirements (Persons, Organization, Policies)

All entities falling within the scope of EMIR and REMIT have to have an adequate procedure, policy, and organization in place to comply with the requirements of EMIR and REMIT. Financial counterparties are duly licensed with the local regulator. It is part of their fit and proper requirement to have an organization, staff, and policies in place that allows for the compliance with the obligations imposed under EMIR and REMIT.

h) Extraterritorial application

EMIR explicitly states that it has an extraterritorial application in two main situations:

- The clearing obligation applies to contracts entered into by a financial counterparty or a non-financial counterparty in the EU and a third country entity provided that the third country entity would be subject to the clearing obligation if it were established in the EU.[148] Only non-EU entities that would be categorised as financial counterparties or qualifying non-financial counterparties were they established in the EU would be subject to the clearing obligation in these circum-stances.
- Both the clearing obligation and the risk mitigation requirements apply to con-tracts between third country entities that would be subject to the clearing obligation if they were established in the EU, provided that the contract has a "direct, substantial and foreseeable effect within the EU" or where such an obligation is necessary or appropriate to prevent the evasion of any provisions of EMIR[149].

Again this provision only captures non-EU entities that would be categorised as financial counterparties or qualifying non-financial counterparties under EMIR. In addition, market develop-ments are creating an indirect extraterritorial effect. EU counterparties already bound to comply with the reporting obligation and the EMIR risk mitigation requirements that apply to uncleared trades are encouraging their non-EU counterparties to comply also with these requirements. This helps to facilitate their own compliance.

i) Required Registrations

There are no specific registration or licensing requirements. Financial counterparties will however have to be duly licensed by the competent regulator. There is thus no specific registration requirement under EMIR. Financial and non-financial counterparties are however required to inform the regulator when they will have exceeded the clearing thresholds.

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[148] Art. Article 4 para. 1 lit. a chiff. (iv) EMIR.
[149] See Articles 4 para. 1 lit. a chiff. (v) and Art. 11 para. 12 EMIR.

j) Audit Requirements

The compliance of counterparties with the requirements set-forth under EMIR are in certain jurisdictions subject to an audit requirement. These jurisdictions are for example Germany and Belgium. These requirements are not imposed by EMIR, but by national legislation.

k) Substituted compliance principle

The European Commission has recognized multiple jurisdictions as having regimes equivalent to the EMIR regime.[150] These jurisdictions are e.g. Hong Kong, Japan, Dubai and Mexico. The Swiss derivatives regulatory regime has so far not yet been recognized as equivalent by the European Commission. This is another term for the “substituted compliance principle”.

l) Extraterritorial effect

EMIR has a limited extraterritorial effect. The extraterritorial effect relates mainly to the clearing and trading obligation.[151]

In case one counterparty to a derivative transaction is domiciled in the EU and the other counterparty to a derivative transaction in a third country, the EU domiciled counterparty is solely obliged to report. This is however not the case if the counterparty domiciled in a third country reports to a trade repository of a jurisdiction that has been designated as equivalent to the EU and the trade repository is obliged to give ESMA direct access to the data.[152] The EU domiciled counterparty must however identify the non-EU domiciled counterparty in the report.

The trading obligation applies also to counterparties which enter into derivatives transactions pertaining to a class of derivatives that has been declared subject to the trading obligation with third-country financial institutions or other third-country entities that would be subject to the clearing obligation if they were established in the Union. The trading obligation shall also apply to third-country entities that would be subject to the clearing obligation if they were established in the Union, which enter into derivatives transactions pertaining to a class of derivatives that has been declared subject to the trading obligation, provided that the contract has a direct, substantial and foreseeable effect within the Union or where such obligation is necessary or appropriate to prevent the evasion of any provision of this Regulation.

m) Position Limits

The European derivatives regulatory regime has introduced position limits for commodities derivatives contracts. MiFID II establishes a position limit regime for all commodity derivative

[150] See https://ec.Europe.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/emir-equivalence-decisions_en.pdf (last visited 14 February 2020).
[151] Art. 4 para. 1 EMIR.
[152] Art. 9 para. 1a) Regulation (EU) 2019/834.

contracts traded on trading venues and economically equivalent OTC contracts. The methodology to be followed by national competent authorities when setting position limits are further specified in Commission Delegated Regulation (EU) 2017/591 (RTS 21). There are currently position limits on 72 commodities derivatives contracts in force.[153] ESMA recommends however in a recent report to restrict the scope of position limits to critical and significant contracts.[154]

[153] See https://www.esma.Europe.eu/files/positionlimitspublicationxlsx-0 (last accessed 25 February 2020).
[154] ESMA, MiFID II Review report on position limits and position management, page 40.

3. UNITED STATES

a) Derivatives in scope

The Commodity Futures and Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) share the supervision and regulation of the activities in derivatives in the USA. The CFTC has the supervision about "swaps", that generally include (i) options on anything, (ii) contracts that provide for a purchase, sale or payment that is contingent on a financial, economic or commercial event, (iii) executory payment contracts based on the value or level of an underlier that transfers financial risk, but not a property interest in the underlier, and (iv) other contracts commonly known as swaps.[155]

It excludes security-based swaps, other than mixed swaps, which are subject to the joint supervision of the CFTC and the SEC. Exempted are (i) foreign exchange spots, (ii) listed futures, (iii) certain physically-settled commodity forwards, (iv) certain physically-settled foreign exchange forwards and swaps (unless contingent on a third-party credit event), (iv) debt securities subject to U.S. securities laws, (v) transactions with U.S. government or a U.S. agency backed by full faith and credit of the United States, (vi) certain regulated insurance products, (vii) other specified consumer and commercial contracts.

"Security-based swaps", that are under the supervision of the SEC, include generally swaps based on (i) a single security or loan, (ii) a "narrow-based security index" (generally, 9 or less), (iii) events relating to an issuer of securities or issuers of securities in a "narrow-based security index".[156] Exempted are transactions that are excluded from being "swaps", and derivatives on U.S. government or agency securities.

b) Counterparties in scope

(1) Swap Dealer and Security-based Swap Dealer

There is a requirement to register with the CFTC as a "swap dealer" (SD) or a "security-based swap dealer" (SWD). This requires the fulfilment of the following obligations:

(i) holding itself out as a swap dealer / security-based swap dealer,
(ii) making a market in swaps,
(iii) regularly entering into swaps as an ordinary course of business, and
(iv) engaging in activities causing the person to be known as a swap dealer / security-based swap dealer.

[155] § 1a(47) CEA.
[156] § 3(a)(68) Exchange Act.

There are certain exemptions applicable to SD. A person that satisfies all of the following requirements is not subject to the CFTC regulations: (i) the aggregate gross notional amounts of Swaps that the person entered into over the prior 12 months in connection with its dealing activity did not exceed USD 3 bio., and (ii) the aggregate effective notional amount (the notional amount taking into account any leverage) of swaps with respect to which a person's counterparty is a "special entity", meaning federal agencies, states, state agencies, and political subdivisions, endowments, and "employee benefit plans" and "governmental plans",[157] did not exceed USD 25 mio. over the prior 12 months.

The exemptions applicable by the SEC are applicable according to Rule 3a71-2 Exchange Act. A person will not be a SWD if the security-based swap positions connected with the dealing activity in which the person engages over the course of the immediately preceding 12 months have:

(i) an aggregate gross notional amount of no more than USD 3 bio. with regard to credit default swaps that constitute security-based swaps,
(ii) an aggregate gross notional amount of no more than USD 150 mio. with regard to security-based swaps other than credit default swaps; and
(iii) an aggregate gross notional amount of no more than USD 25 mio. with regard to all security-based swaps in which the counterparty is a special entity.

The Dodd-Frank Act provides also an exclusion for an insured depository institution "to the extent it offers to enter into a swap with a customer in connection with originating a loan with that customer". Also certain usages of swaps to hedge or mitigate risk of a physical position is not swap dealing. Swaps between majority owned affiliates are excluded.[158]

Entities fulfilling these requirements have either to register with the CFTC as SD or with the SEC as SWD and have to comply with certain recordkeeping, reporting, margin and business conduct requirements. Under the Dodd-Frank Act, a person may be designated as a dealer for one or more types, classes or categories of swaps or security-based swaps without being considered a SD or SWD for other types, classes or categories of swaps or security-based swaps.[159]

(2) Major Swap Participants and Major Security-based Swap Dealers

Major Swap Participants (MSP)[160] and Major Security-based Swap Dealers (MSD)[161] are also in scope of Dodd-Frank. Designation under Title VII of the Dodd-Frank Act for any entity whose non-security-based swap activity satisfies one of three tests, including the "substantial position" test and the

[157] See section 4s(h)(2)(c) CEA and section 15F(h)(2)(C) Exchange Act.
[158] See CFTC Final Rules Regarding Further Defining "Swap Dealer", "Major Swap Participant", and "Eligible Participant", page 2.
[159] Exchange Act Release 66868, at 191, 565.
[160] See 78 FR 64173.
[161] See 77 FR 2613.

"substantial counterparty exposure" test, in certain categories of swap activity, but which is less than the de minimis notional amount of swap activity required for designation as a swap dealer under Title VII. MSP and MSD definition differs from the definition of Dealer, which focuses on the entity's activities and accounts for the size of those activities only in the context of the de minimis exception. According to the Release, the Commissions expect that only a relatively small number of entities will be required to register as MSPs. An MSP is defined as any person that is not a Dealer and meets any of the criteria set forth in the three-part test below:

(i) it maintains a "substantial position" in any of the major Swap categories, excluding positions held for "hedging or mitigating commercial risk" and positions maintained by certain employee benefit plans for hedging or mitigating risks in the operation of the plan (the "Substantial Position Test"),
(ii) its outstanding Swaps create "substantial counterparty exposure" that could have serious adverse effects on the financial stability of the United States banking system or financial markets (the "Substantial Exposure Test"), or
(iii) it is a "financial entity" that is "highly leveraged" relative to the amount of capital such entity holds and that is not subject to capital requirements established by an appropriate federal banking agency and that maintains a substantial position in any of the major Swap categories (the "Financial Entity Test").

MSPs must register with the CFTC and are subject to an extensive framework of regulatory requirements under Title VII rulemaking, including internal and external business conduct rules and other obligations and restrictions (see US Derivatives Regulation: Requirements for Swap Dealers and MSPs Checklist) regardless of whether or not they are located in the US (see Practice Note, US Derivatives Regulation: Cross-Border Application of Swaps Rules). Though the notional threshold is lower for MSPs than for SDs, there are many more registered SDs than registered MSPs.

(3) Eligible Counterparties

MSP, MSD, SD, and SWD are eligible counterparties (ECP). A person who is not an ECP cannot enter into a swap except on or subject to the rules of a designated contract market.[162] Designated contract markets (DCMs) are boards of trade (or exchanges) that operate under the regulatory oversight of the CFTC, pursuant to Section 5 of the Commodity Exchange Act (CEA), 7 USC 7. DCMs are similar to traditional futures exchanges, which may allow access to their facilities by all types of traders, including retail customers.[163] DCMs may list for trading futures or option contracts based on any underlying commodity, index or instrument.

[162] Section 723(a)(2) Dodd-Frank Act.
[163] See https://www.cftc.gov/IndustryOversight/TradingOrganizations/DCMs/index.htm (last accessed 25 February 2020).

c) Risk Mitigation Obligations

The risk mitigation obligations under Dodd-Frank are very much aligned with the ones imposed by the G-20 principles for the Regulation and Supervision of Commodity Derivatives Markets.

(1) Trade confirmations

Legally binding written confirmations must be completed within specified time frames.

(2) Portfolio reconciliation

The Exchange Act introduces the obligation "portfolio reconciliation". It will be defined to mean the process by which the two parties to one or more security-based swaps:[164]

- Exchange the terms of all security-based swaps in the security-based swap portfolio between the counterparties;
- Exchange each counterparty's valuation of all outstanding security-based swaps entered into between the counterparties as of the close of business on the immediately preceding business day; and
- Resolve any discrepancy in valuations or material terms.
- For purposes of the above definition, the term "material terms" includes each term of a security-based swap that is required to be reported to a registered swap data repository ("SDR") or the Commission pursuant to Regulation SBSR, other than a term that is not relevant to the ongoing rights and obligations of the parties and the valuation of the security-based swap.

Rule 15Fi-3(a) applies to security-based swap portfolios between two security-based swap participant ("SBS Entities") as that they will have to engage in portfolio reconciliation no less frequently than:

- Each business day for each portfolio that includes 500 or more security-based swaps;
- Weekly for each portfolio that includes more than 50 but fewer than 500 security-based swaps on the business day during any week; and
- Quarterly for each portfolio that includes no more than 50 security-based swaps at any time during the calendar quarter.

Any discrepancy in a material term (other than with respect to valuation) must be resolved immediately. Valuation discrepancies of ten percent or greater of the higher valuation must be resolved as soon as possible, but in any event within five business days of identifying the discrepancy.

Rule 15Fi-3(b) applies to security-based swap portfolios between an SBS Entity and a counterparty who is not an SBS Entity as follows:

[164] Rule 15Fi-3 Exchange Act.

- The SBS Entity will be required to establish, maintain, and follow written policies and procedures reasonably designed to ensure that it engages in portfolio reconciliation no less frequently than:
  - Quarterly for each portfolio that includes more than 100 security-based swaps at any time during the calendar quarter; and
  - Annually for each portfolio that includes no more than 100 security-based swaps at any time during the calendar year.

The policies and procedures also must provide that any discrepancy in the valuation or in a material term must be resolved in a "timely fashion."

(3) Portfolio compression

Each SWD and SBS Entity shall establish, maintain, and follow written policies and procedures for terminating each fully offsetting security-based swap between a security-based swap dealer or major security-based swap participant and another security-based swap dealer or major security-based swap participant in a timely fashion, when appropriate.[165]

Each SWD and SBS entity shall establish, maintain, and follow written policies and procedures for periodically engaging in bilateral portfolio compression exercises, when appropriate, with each counterparty that is also a SWD or SBS entity. Such policies and procedures shall address, among other things, the evaluation of bilateral portfolio compression exercises that are initiated, offered, or sponsored by any third party.

Each SWD and SBS entity shall establish, maintain, and follow written policies and procedures for periodically engaging in multilateral portfolio compression exercises, when appropriate, with each counterparty that is also a SWD or SBS entity. Such policies and procedures shall address, among other things, the evaluation of multilateral portfolio compression exercises that are initiated, offered, or sponsored by any third party.

Portfolio compression with counterparties other than a SWD and a SBS Entity. Each SWD and SBS Entity shall establish, maintain, and follow written policies and procedures for periodically terminating fully offsetting security-based swaps and for engaging in bilateral or multilateral portfolio compression exercises with respect to security-based swaps in which its counterparty is an entity other than a security-based swap dealer or major security-based swap participant, when appropriate and to the extent requested by any such counterparty.

[165] Section § 240.15Fi-4 Exchange Act.

(4) Dispute resolution mechanism

Section § 240.15Fi-5(b)(1) Exchange Act requires that the security-based swap trading relationship documentation that SBS Entities execute with the counterparties include terms addressing dispute resolution.

Rule 15Fi-3(c) requires each SBS Entity to promptly notify the SEC of any security-based swap valuation dispute in excess of $20,000,000 (or its equivalent in any other currency), at either the transaction or portfolio level, if not resolved within: (1) three business days, if the dispute is with a counterparty that is an SBS Entity; or (2) five business days, if the dispute is with a counterparty that is not an SBS Entity.

(5) Valuation obligation

Rule 15Fi-5(b)(4) requires that the applicable policies and procedures provide that the relevant swap trading relationship documentation between certain types of counterparties include written documentation in which the parties agree on the process, which may include any agreed upon methods, procedures, rules, and inputs, for determining the value of each security-based swap at any time from execution to the termination, maturity, or expiration of such security-based swap for the purposes of complying with the margin requirement.

(6) Margin requirements

Both Dodd-Frank and the Exchange Act mandate the imposition of regulatory margin requirements for SD, MSP, SWD, and MSWD to segregate initial margin on request of the counterparty. The US rules generally follow the international framework for margin requirements for covered swaps, foreign exchange forward and foreign exchange swaps finalized in September 2013 by the Basel Committee on Banking Supervision and the Board of the International Organisation for Securities Commissions (IOSCO).

Covered swap entities generally must collect and post initial margin only for swaps with counterparties that are other swap entities, or financial end users with “material swaps” exposure (defined generally as an average daily aggregate notional amount of covered swaps during June, July, and August of the previous year that exceeds $8 billion), with a maximum initial margin threshold amount of $50 million, below which it does not need to collect or post initial margin. The amount of initial margin that must be collected and posted can be calculated according to a “look-up-table” or an approved internal margin model that meets certain criteria. There is certain collateral eligible for initial margin. There are also segregation requirements applicable to all initial margin posted. The custodial agreements entered into between the parties must ensure that the custodian will not re-hypothecate, repledge, reuse, or otherwise transfer any funds or property held by it. The revised phase-in of the requirements to post and collect initial margin for covered entities belonging to a group whose aggregate month-end average notional amount (AANA) of non-centrally cleared derivatives exceeds €8 billion is from 1 September 2021 (instead of 1 September 2020). A new phase-in date from 1

September, 2020 to 31 August 2021 is also being introduced for covered entities belonging to a group whose AANA of uncleared derivatives exceeds €50 billion.

Covered swap entities must collect and post variation margin for swaps with other swap entities and all financial end users (including financial end users without "material swaps" exposure). The variation margin must be posted at least once every business day in an amount that is at least equal to the change in the value to the Covered Swap Entity or such swaps since the previous exchange of variation margin. The parties can agree on the threshold amount below which it need not collect or post variation margin on swaps with a swap entity or financial end user counterparty. The variation margin requirements are subject to the minimum transfer amount value of USD 500'000, combining amounts of initial and variation margins. The two sets of rules regarding variation margins are largely consistent, but the CFTC's rules are more detailed as to how the amount of variation margin is to be calculated. The CFTC's rules prescribe that Covered Swap Entities rely "to the maximum extent practicable" on recently-executed transactions, valuations by independent parties, or other objective criteria in calculating variation margin. The US federal banking and housing agencies (referred to as the "Prudential Regulators") rules do not contain these requirements.

d) Clearing obligation

Both the SEC and CFTC have issued mandatory clearing determinations for swaps, security-based swaps, and mixed swaps. According to the CFTC are the following financial instruments subject to the clearing requirement: (i) "plain vanilla" fixed-to-floating interest rate swaps, forward rate agreements, and basis swaps in USD, EUR, GBP, and JPY, overnight index swaps in USD, EUR, GBP, CDX, and iTraxx index credit default swaps.[166] Additional financial instruments subject to the clearing requirement are: fixed-to-floating interest rate swaps denominated in AUD, CAD, HKD, MXD, NOK, PLZ, SGD, SEK, and CHF, (ii) basis swaps denominated in AUD, (iii) forward rate agreements denominated in NOK, PLZ, SEK, and (iv) overnight index swaps denominated in AUD, CAD, USD, EUR, or GPB up to certain termination dates.[167] All trades that do not fully comply with these requirements of the determination are not subject to mandatory clearing. The mandatory clearing requirement is generally aligned with the introduction of the clearing obligation in other key jurisdictions. There will be a two-year phase-in for these provisions.[168]

End user benefit however from an exemption from the clearing requirement if they:

- Are not a financial entity;
- The swap is used to hedge or mitigate commercial risk; and
- The end user satisfies certain reporting obligations for non-cleared swaps.[169]

[166] CFTC Rule 50.4, Clearing requirement determination according to Section 2(h) CEA, 77 Fed. Reg. 74284.
[167] Section 2 (h) CEA, 77 Fed. Reg. 74284.
[168] See 17 C.F.R. 50.25.
[169] Section 2(h)(7) CEA; 17 C.F.R. 50.50.

A no-action letter sets forth that portfolio compression services are exempted from the clearing obligation. The Division of Clearing and Risk at the CFTC does not recommend taking an enforcement action against a person for failure to comply with the requirement to clear an amended swap or a replacement swap.[170]

e) Trading obligation

The Dodd-Frank Act requires that certain swaps that must be cleared are required to be executed on or through the facilities of a Designated Contract Market (DCM) or Swap Execution Facility (SEF) that is registered with the CFTC.[171] This group is only a sub-group of the interest rates and credit default swaps that are subject to the mandatory clearing requirement. There are exemptions for block transactions, certain "package transactions" that constitute a combination of a swap subject to the mandatory trading requirement and certain other types of swaps, derivatives, or securities transactions.[172] The end user exception applies also to the trading obligation.

f) Reporting obligation

Dodd-Frank imposes significant reporting requirements on the counterparties, which must depending on the counterparty be done sometimes real time. Swaps must be reported to swap trade repositories or the CFTC.[173] Security-based swaps must be reported to the SEC or to security-based trade repositories.[174]

Swap data must be reported from each of two important stages in the existence of a swap; the creation of a swap and the continuation of the swap over the existence until its final termination and expiration. Registered entities and swap counterparties must report required swap creation data electronically to a swap data repository. Required swap creation data means all primary economic terms data and all confirmation data for a swap. It contains all the terms of a derivative including the minimum terms listed by the CFTC for each asset class in the latest appendix to Part 45.[175] This includes counterparty information, domicile, a description of the instrument, contract type, block trade indicator, time of execution, start, maturity, and termination/end date, the notional value of the derivative, price, the clearing information, and collateralization.[176] The reporting must be done as soon as technologically possible after the execution of the swaps.

The following data must be reported:

[170] CFTC Letter No. 13-01 No-Action March 18, 2013 Division of Clearing and Risk, Re: No-Action Relief from Required Clearing for Swaps Resulting from Multilateral Portfolio Compression Exercises https://www.cftc.gov/node/212491 (last accessed on 7. April 2020).
[171] See Section 2(h)(8); 17 C.F.R. 37.9-10.
[172] See 17 C.F.R. 37.9.
[173] Section 723(a)(3) Dodd Frank Act.
[174] Sections 3103 and 3203 of H.R.
[175] 17 C.F.R. 45.1.
[176] See 17 C.F.R. Appendix 1 to Part 45.

(1) Reporting of swap creation data[177]

Reporting counterparty	Executed on a platform and cleared	Executed on a platform and not cleared	Not executed on a platform and cleared	Not executed on a platform and not cleared
Swap Dealers (SD) and Major Swap Participants (MSP)	SEF/DCM (primary economic terms) DCO (confirmation)	SEF (primary economic terms) SD/MSP (confirmation)	SD/MSP (primary economic terms) DCO (confirmation)	SD/MSP (primary economic terms) SD/MSP (confirmation)
Non-SD/MSP Counterparties	SEF/DCM (primary economic terms) DCO (confirmation)	SEF (primary economic terms) Non-SD/MSP (confirmation)	Non-SD/MSP (primary economic terms) DCO (confirmation)	Non-SD/MSP (primary economic terms) Non-SD/MSP (confirmation)

(2) Reporting of swap continuation data

Reporting counterparty	Credit and Equity Asset Classes		Interest Rate, Currency, and other Commodity Asset Classes	
	Cleared	Not Cleared	Cleared	Not Cleared
Swap Dealers (SD) and Major Swap Participants (MSP)	DCO (life-cycle data) DCO and SD/MSP (valuation data) SD/MSP (intrinsic value)	SD/MSP (life-cycle data) SD/MSP (valuation) SD/MSP (intrinsic value)	SD/MSP (daily snapshot of primary economic terms data) DCO and SD/MSP (valuation)	SD/MSP (daily snapshot of primary economic terms data) SD/MSP (valuation)
Non-SD/MSP Counterparties	DCO (life-cycle data) DCO (valuation data) Non-SD/MSP (intrinsic data)	Non-SD/MSP (life-cycle) Non-SD/MSP (valuation data) Non-SD/MSP (intrinsic data)	Non-SD/MSP (daily snapshot of primary economic terms) DCO (valuation data)	Non-SD/MSP (daily snapshot of primary economic terms) Non-SD/MSP (valuation data)

[177] 17 C.F.R. 43.3.

The reporting obligation does not apply to inter-affiliate swaps between entities that are 100% owned by the same parent entity. The time limit for the reporting ranges from 15 minutes to 24 hours depending on the party tasked with the reporting.

g) Organisational requirements (Persons, Organization, Policies)

Each security-based swap dealer and major security-based swap participant shall establish, maintain, and follow written policies and procedures reasonably designed to ensure that the security-based swap dealer or major security-based swap participant executes written security-based swap trading relationship documentation with its counterparty that complies with the requirements of this section. The policies and procedures shall be approved in writing by a senior officer of the security-based swap dealer or major security-based swap participant, and a record of the approval shall be retained.[178] Dodd-Frank requires that swaps that are subject to the clearing requirement, and swaps that are not subject to the clearing requirement, but are nonetheless cleared at registered derivatives clearing organizations, must have real time reporting for such transactions.[179]

Swap trading relationship documentation with swap dealers, MSPs, financial entities and other requesting parties must include agreed processes for daily valuation or swaps for purposes of regulatory margin and risk management that must include back-up inputs or a dispute resolution mechanism.

The documentation entered between the Covered Swap Entity and its counterparty must include the contractual right to collect or post initial margin and variation margin in such amounts, in such form, and under such circumstances as are required.

Records must be kept throughout the existence of swap and for five years following final termination or expiration of the swap. The records must be readily accessible throughout the life of a swap and for two years following its final termination.[180]

h) Required registrations

Supervisors of the derivatives regime in the USA are the CFTC, the SEC and the US federal banking and housing agencies (referred to as the “Prudential Regulators”) for swaps of covered swap entities subject to the jurisdiction of one of those agencies. All

[178] Section § 240.15Fi-5 Exchange Act.
[179] Section 725 Dodd-Frank Act.
[180] CFTC Q&A – Swap Data Recordkeeping and Reporting Requirements.

i) Audit requirements

The SEC regulations require each SBS Entity to have an independent auditor conduct periodic audits sufficient to identify any material weakness in its documentation policies and procedures required by the rule. The proposal also would require that a record of the results of each audit be retained for a period of three years after the conclusion of the audit.[181]

j) Substituted compliance principle

The Prudential Regulators' rules allow for the substituted compliance with the margin rules of foreign jurisdictions by foreign entities if the Prudential Regulators have made a substituted compliance determination with respect to that jurisdiction. Every registered SD or MSP will have to comply with all applicable CFTC swap requirements. However, under certain circumstances the CFTC will allow for substituted compliance with foreign regulators. Substituted compliance is the method by which the CFTC will make certain determinations that a specific foreign law or regulation is comparable and comprehensive to its corresponding U.S. law or regulation. Once the CFTC makes such a determination, an entity or transaction that complies with that foreign law or regulation will be deemed to be in compliance with the corresponding U.S. law or regulation. Even under substituted compliance, the CFTC retains both examination and enforcement authority.

k) Extraterritorial application

The CFTC has taken a sweeping approach to its jurisdiction outside the US by effectively requiring firms all over the globe to register with the agency and comply with most CFTC requirements, regardless of whether these firms have a US nexus.[182] According to Dodd-Frank shall the provisions relating to swaps "not apply to activities outside the United States unless those activities (1) have a direct and significant connection with activities in, or effect on, commerce of the United States or (2) contravene such rules or regulations". The approach to the cross-border policy is published in interpretative guidelines.[183] This approach is however fundamentally challenged by the CFTC and might change in the future.[184]

l) Position limits

Position limits are placed on 28 core physical delivery contracts (exchange-traded and OTC). [185] There is an exemption for bona fide hedging transactions.

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[181] Section § 240 Rule 15Fi-5(c) Exchange Act.

[182] See Commodity Exchange Act § 2(i), 7 U.S.C. § 2(i).

[183] See Interpretative Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations, 78 Fed. Reg. 45292.

[184] See CFTC CROSS-BORDER SWAPS REGULATION VERSION 2.0 - A Risk-Based Approach with Deference to Comparable Non-U.S. Regulation - White Paper – October 1, 2018.

[185] See https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/plreproposal_factsheet120516.pdf (last accessed 25 February 2020).

4. SINGAPORE

a) Derivatives in Scope

According to SFA, Singapore's relevant regulation with regards to derivative trading, "Derivatives Contract" means:[186]

(a) any contract or arrangement under which:
- (i) a party to the contract or arrangement is required to, or may be required to, discharge all or any of its obligations under the contract or arrangement at some future time; and
- (ii) the value of the contract or arrangement is determined (whether directly or indirectly, or whether wholly or in part) by reference to, is derived from, or varies by reference to, either of the following:
  - (A) the value or amount of one or more underlying things;
  - (B) fluctuations in the values or amounts of one or more underlying things; or

(b) any contract or arrangement that is, or that belongs to a class of contracts or arrangements that is, prescribed to be a derivative contract, but does not include:
- (i) securities;
- (ii) any unit in a collective investment scheme;
- (iii) a spot contract;
- (iv) a deposit as defined in section 4B of the Banking Act (Cap. 19), where the deposit is accepted by a bank licensed under that Act or a merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186);
- (v) a deposit as defined in section 2 of the Finance Companies Act (Cap. 108), where the deposit is accepted by a finance company as defined in that section of that Act;
- (vi) any contract of insurance in relation to any class of insurance business specified in section 2(1) of the Insurance Act (Cap. 142); or
- (vii) any contract or arrangement that is, or that belongs to a class of contracts or arrangements that is, prescribed not to be a derivative contract;

Not a derivative contract according to section 2(i) SFA, is a contract or arrangement for the sale and purchase of one or more commodities if:[187]

a) The contract or arrangement is for the purpose of fulfilling the needs of the day-to-day operations of the business of one or more of the parties to the contract or arrangement; or
b) Subject to any settlement option, meaning any option under which the parties to the contract or arrangement may settle part or all of the amounts owing by one party to the other party by

[186] Art. 2 SFA.
[187] Securities and Futures (prescribed excluded derivatives contracts regulations 2018).

payment of cash instead of delivery of the commodity or commodities, as the case may be, that may be agreed amongst the parties to the contract or arrangement:

i. The seller of the underlying commodities is required to deliver the underlying commodities, and
ii. The buyer of the underlying commodities is required to take delivery of the underlying commodities.

b) Parties in Scope

There are different parties in scope of the derivatives regulations in Singapore depending upon the affected obligation. A key common denominator is that the obligations under the Singaporean derivatives regime will only apply to licensed entities. The clearing, reporting and trading obligations under the Singaporean derivatives regulatory regime apply generally to licensed entities. These are:[188]

- Any bank that is licensed under the Singaporean Banking Act;
- Any subsidiary of a bank incorporated in Singapore;
- Any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act;
- Any finance company licensed under the Finance Companies Act;
- Any insurer licensed under the Insurance Act;
- Any holder of a capital markets service license; or
- Any other person who is, or who belongs to a class of persons which is, prescribed by the Authority by regulations under section 129 Securities and Futures Act (power to make regulations).

The risk mitigation requirements for non-centrally cleared over-the-counter-derivatives apply to the following[189] OTC intermediaries exempted under Art. 99 (1)(a), (b) and (c) SFA which is:

- any bank licensed under the Banking Act (Cap. 19) in respect of any regulated activity;

- any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186) in respect of any regulated activity which it is approved to carry out under that Act; or

- any finance company licensed under the Finance Companies Act (Cap. 108) in respect of any regulated activity that is not prohibited by that Act or for which an exemption from section 25(2) of that Act has been granted.

[188] Art. 124 SFA.
[189] Chiff. 1 Guidelines on risk mitigation requirements for non-centrally cleared over-the-counter derivatives contracts.

The Guidelines on margin requirements for non-centrally cleared derivatives contracts apply to the following entities:[190]

- any bank licensed under the Banking Act (Cap. 19) in respect of any regulated activity;
- any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186) in respect of any regulated activity which it is approved to carry out under that Act; or
- a person operating outside of Singapore, who if operating in Singapore, would have been a person within the meaning of a MAS Covered Entity.[191]

c) Risk Mitigation Obligations

The risk mitigation obligations apply to entities that are according to Section 99(1)(a), (b), and (c) SFA exempted from the dealing in capital markets products that are over-the-counter derivatives contracts which are not centrally cleared by a clearing house. Such entities are the following:[192]

a) any bank licensed under the Banking Act (Cap. 19) in respect of any regulated activity;
b) any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186) in respect of any regulated activity which it is approved to carry out under that Act;
c) any finance company licensed under the Finance Companies Act (Cap. 108) in respect of any regulated activity that is not prohibited by that Act or for which an exemption from section 25(2) of that Act has been granted.

(1) Trading relationship documentation

These parties have to create trading relationship documentation that should:

a) provide legal certainty for non-centrally cleared over-the-counter derivatives contracts;
b) include all material rights and obligations of counterparties concerning their trading relationship with regard to non-centrally cleared over-the-counter derivatives contracts. Such rights and obligations of the counterparties may be incorporated by reference to other documents in which they are specified and refer to:
    - payment obligation;
    - netting of payments;
    - events of default or other termination events;
    - calculation and any netting of obligations upon termination;

[190] Chiff. 2 Guidelines on margin requirements for non-centrally cleared OTC derivatives contracts.
[191] "MAS Covered Entity" means a person who is exempt from holding a capital markets services licence under section 99(1)(a) or (b)3 of the SFA.
[192] Chiff. 3 Guidelines on risk mitigation requirements for non-centrally cleared over-the-counter derivatives contracts.

- transfer of rights and obligations;
- governing law;
- processes for valuation, portfolio reconciliation and dispute resolution; and
- matters related to credit support arrangements (e.g. initial and variation margin requirements, types of assets that may be used for satisfying such margin requirements and any asset valuation haircuts, investment and rehypothecation terms for assets posted to satisfy such margin requirements, guarantees and custodial arrangements for margin assets such as whether margin assets are to be segregated with a third-party custodian); and

c) be executed in writing or through other equivalent non-rewritable, non-erasable electronic means (without prejudice to subparagraph (b) above).

(2) Trade confirmation

Affected entities must confirm the material terms of non-centrally cleared OTC derivatives transactions as soon as possible after the execution of the transaction, including any new transaction resulting from novation, and have adequate policies in place. The confirmation should be a two-way-confirmation within T+1, unless a one-way execution by T+1 with a customer is possible.

(3) Valuation

Affected entities have to agree with counterparties a process for determining the value of non-centrally cleared OTC derivatives transactions in predictable and objective manner for the purposes of exchanging margins.[193]

(4) Portfolio reconciliation

The portfolio reconciliation process must be agreed between the two parties subject to this obligation. The process must be designed to keep an accurate record of the material terms and valuations of the non-centrally cleared OTC derivative contracts and identify the discrepancies in material terms and valuations in a timely manner. Also the scope and frequency of the portfolio reconciliation must be determined with a counterparty, taking into account the risk exposure profile, size, volatility, and number of cleared OTC derivatives transactions.[194]

[193] Chiff. 5 Guidelines on risk mitigation requirements for non-centrally cleared OTC-derivative contracts.
[194] Chiff. 6 Guidelines on risk mitigation requirements for non-centrally cleared OTC-derivative contracts.

No. of outstanding transactions with a counterparty	Frequency of reconciliation
(i) For reconciliation with financial counterparties	
>500	Daily
51 – 499	Weekly
≤50	Quarterly
(ii) For reconciliation with other counterparties	
>100	Quarterly
≤100	Annually

(5) Portfolio compression

It is left to the counterparties whether they will conduct a portfolio compression with their counterparties. Portfolio compression might be conducted on a bilateral and multilateral basis.[195]

(6) Dispute resolution

Counterparties have to agree and document with their counterparties the mechanism or process for determining when discrepancies in material terms or valuations should be considered disputes and how such disputes should be resolved.[196]

(7) Margin requirements

The margin requirements for non-cleared OTC derivatives apply to:

a) any bank licensed under the Banking Act (Cap. 19) in respect of any regulated activity;
b) any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186) in respect of any regulated activity which it is approved to carry out under that Act; and
c) any person operating outside of Singapore who, if operating in Singapore, would have been a bank licensed under the Banking Act or a merchant bank approved as financial institution.

Not covered are certain public institutions or if the uncleared derivatives contract is entered into with a counterparty who is a public institution or an entity belonging to the same consolidated group as the affected counterparty.

The exchange of margins applies to uncleared derivatives contracts booked in Singapore. It does however not apply to the following uncleared derivatives contracts:

a) a physically-settled foreign exchange (FX) forward or swap;

[195] Chiff. 7 Guidelines on risk mitigation requirements for non-centrally cleared OTC-derivative contracts.
[196] Chiff. 8 Guidelines on risk mitigation requirements for non-centrally cleared OTC-derivative contracts.

b) a fixed physically settled FX transaction associated with the exchange of the principal and cross-currency swap;
c) a commodity derivatives contract entered into for commercial purpose;
d) an uncleared derivatives contract without a legally enforceable netting agreement;
e) an uncleared derivatives contract without a legally enforceable collateral agreement; and
f) a securities-based derivatives contract.[197]

There will be an exchange of initial and variation margins.

The phased-in schedule for the exchange of initial margins with be the following

Threshold	Phase-in Date
USD 4.8 trillion	1 March 2017
USD 3.6 Trillion	1 September 2017
USD 2.4 Trillion	1 September 2018
USD 1.2 Trillion	1 September 2019
USD 80 bio.	1 September 2020
USD 13 bio.	From 1 September 2021 for each subsequent 12-month period

d) Clearing obligation

The clearing obligation applies to all of the following Specified Derivatives Contracts that meet the following criteria:[198]

a) The derivative is not an exchange-traded derivatives contract;
b) The parties to the derivative contract are not related corporations;
c) The derivative contract is booked in Singapore[199] by both parties to the derivatives contract;
d) The parties to the derivative contract are Specified Persons who are not, under Regulation 5, exempt from Section 129C SFA;
e) The derivative contract is a fixed-to-floating interest swap contract that has all of the features specified for an item set forth below:

[197] Chiff. 4 Guidelines on margining requirements for non-centrally cleared OTC derivatives contracts.
[198] See Securities and Futures (Clearing of Derivatives Contracts) Regulations 2018.
[199] Meaning in relation to the derivatives contract, the entry of the derivatives contract on the balance-sheet or the profit and loss accounts of a person where- (a) the person is a party to the derivatives contract, (b) the person's place of business (meaning head or main office, branch, representative office or any other office) is in Singapore, and (c) the balance-sheet or the profit and loss accounts related to the person's business in Singapore.

Item	Settlement currency	Underlying thin	Tenor	Optionality	Constant notional amount	Date on which derivatives contract is entered into
1	Singapore Dollar	SGD Swap Offer Rate	28 days to 10 years	No	Yes	On or after 1 October 2018
2	United States Dollar	USD London Interbank Offered Rate	28 days to 10 years	No	Yes	On or after 1 October 2018
3	Euro	Euro Interbank Offered Rate	28 days to 10 years	No	Yes	On or after 1 October 2018
4	Pound Sterling	Pound Sterling LIBOR	28 days to 10 years	No	Yes	On or after 1 October 2018

Not Specified Contracts are however derivatives contracts that:

- Are entered into or amended as a result of a multilateral portfolio compression cycle and with a participant in the multilateral portfolio compression cycle that was a party to one or more compressed derivatives contracts under the cycle, and
- None of the compressed derivatives contracts under the multilateral portfolio compression cycle met all the requirements in the preceding points (a) to (e).

The Clearing obligation does not apply to the following Specified Persons that are exempt from Section 129C of the SFA:

a) Any that bank that is licensed under the Banking act whose aggregate outstanding notional amount does not exceed SGD 20 mio. for the last day of the most recently completed quarter and for the last day of each of the 3 consecutive quarters immediately preceding that quarter;
b) Any bank that is licensed under the Banking Act that has been carrying on business for less than one year;
c) Any finance company licensed under the Finance Companies Act;
d) Any insurer licensed under the Insurance Act;
e) Any holder of a capital markets services license.

e) Reporting obligation

Specified Persons who are a party to a Specified Derivative Contract or Specified Persons wo execute or cause to be executed a Specified Derivative Contract as agent of a party to a Specified Derivative Contract in case the party to the Specified Derivative Contract is not a Specified Person or a specified

person exempted under section 129A, must report to a licensed trade repository or licensed foreign trade repository such information on the Specified Derivative Contract prescribed by MAS and any amendment, modification, variation, or change to such information.[200]

Also significant derivatives holder can become subject to the reporting obligation. A significant derivatives holder is a person that satisfies all of the following requirements on the last day of any quarter:[201]

a) The person is not a Specified Person;
b) The person is resident in Singapore;
c) Either or both of the following apply to the person:
    a. The aggregate gross notional amount of the Specified Derivative Contracts to which the person is a party and which are booked in Singapore, for the year ending on the last day of the first-mentioned quarter, exceeds the reporting threshold;
    b. The aggregate gross notional amount of the Specified Derivative Contract to which the person is a party and which are traded in Singapore, for the year ending on the last day of the first-mentioned quarter, exceeds the reporting threshold amount.

Such a person becomes as significant derivatives holder on the first day of the second quarter immediately following the quarter in which it meets all requirements.

The following Specified Derivative Contracts are subject to the reporting obligation:[202]

a) Any interest rate derivatives contract which is traded in Singapore[203] or booked in Singapore;
b) Any credit derivatives contract which is traded in Singapore or booked in Singapore;
c) Any foreign exchange derivatives contract which is traded in Singapore or booked in Singapore;
d) Any commodity derivatives contract which is traded in Singapore or booked in Singapore;
e) Any equity derivatives contract which is traded in Singapore or booked in Singapore.

The information to be reported is set forth in the first schedule to the Securities and Futures (Reporting of Derivatives Contracts) Regulations 2013.

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[200] Art. 125 para. 1 and 2 SFA.
[201] Art. 6 para. 2 Securities and Futures (Reporting of Derivatives Contracts) Regulations 2013.
[202] Art. 5 Securities and Futures (Reporting of Derivatives Contracts) Regulations 2013.
[203] «Traded» in Singapore means in relation to a derivatives contract, the execution of the derivatives contract by a trader whose place of employment is located in Singapore and who conducts, on behalf of a specified person, activities related to the execution of derivatives contracts in Singapore; or who for a period of not less than 30 days immediately before the date of the execution of the derivatives contract, conducts or is authorized to conduct, on behalf of a specified person, activities relating to the execution of derivatives contracts in Singapore; and is physically in Singapore at the time of the execution of the derivatives contract.

f) Trading obligation

Singapore has introduced a trading obligation for specified derivatives. Every Specified Person[204] who executes a Specified Derivative Contract must do so on an organized market operated by an approved exchange or recognized market operator, or on or through any other facility prescribed by regulations made under section 129N and in the form and manner prescribed by regulations made under that section.[205]

In scope are Specified Persons, but not the following persons:

a) Any bank that is licensed under the Banking Act whose outstanding notional amount does not exceed SGD 20 mio. for the last day of the most recently completed quarter and for the last day of each of the 3 consecutive quarters immediately preceding that quarter;
b) Any bank that is licensed under the Banking Act that has been carrying on business for less than one year;
c) Any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act;
d) Any finance company licensed under the Finance Companies Act;
e) Any insurer licensed under the Insurance Act;
f) Any holder of a capital markets services license.

Subject to the trading obligation is a derivatives contract executed on or after 1 April 2020 if it meets all of the following criteria:

a) The derivatives contract is not an exchange-traded derivatives contract;
b) The parties to the derivatives contract are not related corporations;
c) Each party to the derivatives contract acts through that party's office located in Singapore (whether a head office or branch office);
d) The parties to the derivatives contract are specified persons who are not, under regulation 4, exempt from the trading obligation;
e) The derivatives contract is fixed-to-floating interest rate swap contract that has all of the features specified for an item as follows:

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[204] "Specified Person" according to Art. 124 SFA means —
(a) any bank that is licensed under the Banking Act (Cap. 19);
(b) any subsidiary of a bank incorporated in Singapore;
(c) any merchant bank approved as a financial institution under the Monetary Authority of Singapore Act (Cap. 186);
(d) any finance company licensed under the Finance Companies Act (Cap. 108);
(e) any insurer licensed under the Insurance Act (Cap. 142);
(f) any holder of a capital markets services license; or
(g) any other person who is, or who belongs to a class of persons which is, prescribed by the Authority by regulations made under section 129 for the purposes of this definition.

[205] Art. 129J SFA.

No.	Settle-ment Curre-ncy	Under-lying	Tenor	Optio-nality	Con-stant no-tional amount	Trade start type	Fixed rate	Fixed leg payment	Fixed leg day count convention	Floating leg reset frequen-cy	Floating leg day count convention
1	USD	3 month USD LI-BOR	2,3,5,7 or 10 years	No	Yes	Spot starting (T+2) or IMM starting (next 2 IMM dates)	Par	Semi-annual or annual	30/360 or Actual/360	Quarter-ly	Actual/360
2	USD	6 month USD LI-BOR	2,3,5,7 or 10 years	No	Yes	Spot starting (T+2) or IMM starting (next 2 IMM dates)	Par	Semi-annual or annual	30/360 or Actual/360	Semi-annual	Actual/360
3	EUR	3 month EUR Inter-bank Offe-red Rate	2,3,5,7 or 10 years	No	Yes	Spot starting (T+2)	Par	Semi-annual or annual	30/360 or Actual/360	Quarter-ly	Actual/360
4	EUR	6 month EUR Inter-bank Offe-red Rate	2,3,5,7 , or 10 years	No	Yes	Spot starting (T+2)	Par	Semi-annual or annual	30/360 or Actual/360	Semi-annual	Actual/360
5	GBP	3 month GBP	2,3,5,7 or 10 years	No	Yes	Spot starting (T+0)	Par	Quarter-ly or semi-	30/360 or Actual/3	Quarter-ly or semi-	Actual/365 Fixed

		LI-BOR						annual	60	annual	
6	GBP	6 month GBP LI-BOR	2,3,5,7 or 10 years	No	Yes	Spot starting (T+0)	Par	Quarter-ly or semi-annual	30/360 or Actual/360	Quarter-ly or semi-annual	Actual/365 Fixed

A derivatives contract is not a specified derivatives contract if:[206]

- The derivative contract is a capital markets product that is purchased or sold as part of a package transaction;
- This package transaction does not consist solely of derivatives contracts that meet all of these criteria;
- This package transaction does not consist solely of derivatives contracts that meet all of these criteria and are denominated in the same currency as each other and bonds that are issued by any central government of any country and are denominated in the same currency as each other and the derivatives contracts mentioned above.

g) Organisational requirements (persons, organisation, policy)

The affected entities should put in place appropriate policies and procedures to:

- ensure a two- or one-way confirmation is executed with the customer of a financial party.[207]
- The valuation process;
- Portfolio reconciliation;

h) Required registrations

There are no specific registrations required under the Singaporean derivative regime. Financial service providers must get duly licensed by the responsible regulator. This means in other words that the licensing as a financial service provider will result in the application of the Singaporean derivatives regulatory regime.

i) Audit requirement

There is no audit requirement for the compliance with the Singaporean derivatives regulatory regime and no plans to introduce such a regime.

j) Substituted compliance principle

The substituted compliance principle applies quite broadly with regards to the reporting obligation. A specified person who is a party to a specified derivatives contract is treated to have complied with the

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[206] Chiff. 2 Schedule Securities and Futures (Trading of derivatives contracts) regulations 2019.

[207] Chiff. 4 Guidelines on risk mitigation requirements for non-centrally cleared over-the-counter derivatives contracts.

reporting obligation if any other party to the specified derivatives contract is incorporated, formed or established under the laws of, or has place of business in, a relevant reporting jurisdiction. The specified person, or any other party to the specified derivatives contract, is in addition required to comply with, and has complied with, in relation to the specified derivatives contract, the requirements relating to the reporting of specified derivatives contracts under the laws and practices of the relevant reporting jurisdiction.[208]

The substituted compliance principle applies also to entities that execute or cause to be executed a specified derivatives contract as an agent of a party to the specified derivatives contract if the principle party is incorporated under the laws of the relevant reporting jurisdiction and the principle party has complied with the requirements relating to the reporting of specified contracts under the laws and practices of the relevant reporting jurisdiction.[209]

k) Extraterritoriality

The Singaporean derivatives regulatory regime does not have an extraterritorial effect. Only licensed entities are generally in scope and they must either be incorporated, booked, or traded in Singapore. One notable exception are the margin requirements for non-centrally cleared derivatives contracts that apply also to person operating outside of Singapore, who if operating in Singapore would be a MAS Covered Entity.

l) Position limits

Position limits do generally apply in Singapore. A futures exchange must in respect to a futures contract or class of futures contracts:[210]

(a) put in place position limits or position accountability thresholds that are effective in mitigating the risks of market manipulation:
   (i) in the organised market on which the futures contract or class of futures contracts (as the case may be) are listed or permitted for trading; and
   (ii) in the market on which the underlying thing or underlying things (as the case may be) of the futures contract or class of futures contracts (as the case may be) is traded;

(b) ensure that the position limits are not exceeded by any party to the futures contract or any futures contract that belongs to the class of futures contracts (as the case may be) through the acquisition of additional positions; and

(c) require the following information to be reported as part of the reporting obligation when a position accountability threshold is exceeded.

[208] Art. 128 para. 1 SFA.
[209] Art. 128 para. 2 SFA.
[210] Chiff. 3 Monetary Authority of Singapore, Securities and Futures Act (Cap. 289), Notice on listing, de-listing, or trading of relevant products on an organized market of an approved exchange or a recognized market.

Both ICE Singpore[211] and the Singapore Stock Exchange (SGX)[212] know position limits.

[211] See https://www.theice.com/publicdocs/futures/Singapore_position_expiry_limits.pdf (last accessed 25 February 2020)
[212] See http://rulebook.sgx.com/en/display/display_viewall.html?rbid=3271&element_id=1638&print=1 (last accessed 25 February 2020)

B. APPENDIX 2: SURVEY

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Finance FDF
State Secretariat for International Financial Matters SIF
The State Secretary

January 2020

Your participation in the PwC survey on the Swiss Financial Market Infrastructure Act

Dear Madam or Sir

The Swiss Financial Market Infrastructure Act (FMIA) entered into force on 1 January 2016. The FMIA governs the organisation and operation of financial market infrastructures, and the conduct of financial market participants in securities and derivatives trading.

As communicated by the Federal Council on 14 September 2018, a review of the FMIA is planned. In particular, the emergence of international developments (e.g. in the European Union) and technological developments (e.g. in the fintech area) could give rise to a future revision of the FMIA. The Federal Department of Finance (FDF), based on a mandate by the Federal Council, has therefore initiated a review to examine the effects and consequences of the FMIA.

The FDF has mandated PwC Switzerland to analyse certain FMIA-related aspects in an external study. In this context, PwC is carrying out a survey of various stakeholders on the consequences of the FMIA.

Your participation in this survey is highly welcome, while, of course, on a voluntary basis. Your answers to this questionnaire will be provided directly to PwC and are thereafter anonymized and aggregated by PwC. Individual responses in the survey will neither be available to Swiss authorities nor made public.

We thank you for your collaboration. We remain at disposal for questions regarding the FMIA review. In case of questions regarding the survey, please do not hesitate to contact PwC Switzerland.

Kind regards

D. Stoffel

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State Secretary

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Survey on the Swiss Financial Market Infrastructure Act

- sent by e-mail -

Dear Madam or Sir,

We have been mandated by the State Secretariat for International Finance in the Federal Department of Finance (FDF) to conduct a survey on the Swiss Financial Market Infrastructure Act (FMIA) and its impact on participants in the derivatives market. This survey is part of a review of the FMIA by the FDF to examine whether and how the act needs to be revised.

Your participation in the survey is highly appreciated and helps the FDF to understand the strengths and weaknesses of the FMIA from your point of view. Your answers will be anonymized and aggregated with the answers provided by other survey participants before including them in our report to the FDF. Survey participants will receive an overview of the survey results.

Should any questions arise when filling in this questionnaire, please do not hesitate to contact us.

Yours sincerely,

PricewaterhouseCoopers Ltd.

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Survey on the Swiss Financial Market Infrastructure Act (FMIA)

I. Entity Information

1. What is the entity's and/or the group's business activity?

Please describe Click or tap here to enter text.

2. What is the entity's classification under FMIA?

- ☐ Large Financial Counterparty
- ☐ Small Financial Counterparty
- ☐ Large Non-Financial Counterparty
- ☐ Small Non-Financial Counterparty
- ☐ We do not know

3. How many positions in derivatives does your entity/group open per year?

On own account (number) Click or tap here to enter text.

For third parties (number) Click or tap here to enter text.

Please describe in more detail Click or tap here to enter text.

4. How many positions in derivatives opened by your entity/group are currently outstanding?

On own account (number) Click or tap here to enter text.

For third parties (number) Click or tap here to enter text.

Please describe in more detail Click or tap here to enter text.

5. Does your entity/group trade in derivatives for hedging purposes only (i.e. to reduce risks associated with the business activity, liquidity management or asset management) or does it engage in proprietary trading as well?

☐ Hedging only

☐ Hedging and proprietary trading

II. Situational analysis of the Swiss derivatives regulatory framework

1. How would you rate the Swiss derivatives regulation compared to other jurisdictions?

   a. I rate the Swiss derivatives regulation as:

   ☐ Strong ☐ Medium ☐ Weak

   b. I compared the Swiss derivatives regulation to the regulations of the following jurisdictions:

   Please describe
   Click or tap here to enter text.

2. Strengths of the Swiss regulation (compared to other jurisdictions and on a stand-alone basis)

   Please describe
   Click or tap here to enter text.

3. Weaknesses of the Swiss regulation (compared to other jurisdictions and on a stand-alone basis)

   Please describe
   Click or tap here to enter text.

4. Chances of the Swiss regulations (compared to other jurisdictions and on a stand-alone basis)

   ☐ High ☐ Medium ☐ Low

   Please describe in more detail
   Click or tap here to enter text.

5. Risks of the Swiss regulations (compared to other jurisdictions and on a stand-alone basis)

   ☐ High ☐ Medium ☐ Low

   Please describe in more detail
   Click or tap here to enter text.

6. How important are the provisions about the regulations of derivatives and particularly the market conduct rules regarding derivatives in the international competition of financial centres?

☐ Important ☐ Some importance ☐ No importance

Please describe in more detail
Click or tap here to enter text.

a. Does your entity or group compare the different derivatives regulatory regimes when thinking about relocating operations to another jurisdiction?

☐ Yes ☐ No

Please describe in more detail
Click or tap here to enter text.

b. How important are regulatory regimes and particularly the derivatives regulatory regime compared to the other following criteria (please indicate importance in descending order from 1 to 8, 1 being of highest importance):

Taxation	Choose an item.
Quality of living	Choose an item.
Time zone	Choose an item.
Quality of staff	Choose an item.
Approachability of authorities	Choose an item.
Ease of doing business	Choose an item.
Regulatory regime	Choose an item.
Derivatives regulation	Choose an item.

Please describe in more detail
Click or tap here to enter text.

7. How severe is the impact of non-Swiss regulations on market conduct rules regarding derivatives trading on your entity/group and other Swiss market participants?

☐ Severe ☐ Not severe

Please describe in more detail
Click or tap here to enter text.

8. How high do you estimate the costs caused by ongoing compliance (excluding implementation costs) with the Swiss derivatives regulations in the following areas compared to the overall costs for derivatives trading?

Staffing	Choose an item.
IT-system	Choose an item.
Trade repository	Choose an item.
Central counterparty and/or clearing broker	Choose an item.
Third-party service providers facilitating compliance (e.g. for portfolio reconciliation or exchange of counterparty classifications)	Choose an item.
Contracting required to enter into derivatives transactions	Choose an item.
Audit of entities and transactions	Choose an item.
Loss of business opportunities due to the regulation of derivatives transactions	Choose an item.
Costs arising from different rules and regulations in different jurisdictions	Choose an item.
Hedging costs or missing hedging possibility in certain financial instruments	Choose an item.
Lower volume in derivatives in the market place	Choose an item.
Fewer brokers offering derivatives	Choose an item.
Fewer derivative categories offered by brokers	Choose an item.
Obligation to fulfil the derivatives compliance obligation for clients as part of the service package	Choose an item.

9. How high do you estimate the overall costs caused by the Swiss derivatives regulation *per client* (excluding implementation costs) compared to the overall costs for derivatives trading?

☐ High ☐ Medium ☐ Low

Please describe in more detail and provide a cost estimation in CHF
Click or tap here to enter text.

10. How high do you estimate your entity's/group's overall costs caused by the Swiss derivatives regulation *per derivative traded* (excluding implementation costs) compared to the overall costs for derivatives trading?

☐ High ☐ Medium ☐ Low

Please describe in more detail and provide a cost estimation in CHF
Click or tap here to enter text.

11. Do benefits result from the Swiss derivatives regulation, because of

a. Increased business activity (e.g. more business due to concentration on derivatives activity on fewer brokers or fewer derivatives contracts)?

☐ Yes ☐ No

Please describe in more detail
Click or tap here to enter text.

b. Fewer competitors offering derivatives?

☐ Yes ☐ No

Please describe in more detail
Click or tap here to enter text.

c. More transparent pricing of derivatives?

☐ Yes ☐ No

Please describe in more detail
Click or tap here to enter text.

d. Other aspects?

Please describe in more detail
Click or tap here to enter text.

12. What are the benefits of the Swiss derivative regulatory regime for:

a. Your entity/group?

Please describe in more detail
Click or tap here to enter text.

b. Your industry?

Please describe in more detail
Click or tap here to enter text.

c. The Swiss economy?

Please describe in more detail
Click or tap here to enter text.

d. The financial system?

Please describe in more detail
Click or tap here to enter text.

13. The Swiss regulatory regime regarding derivatives aims at fulfilling the key purposes of the Swiss derivatives regulation efficiently. These key purposes are: Ensuring the functionality and transparency of the securities and derivatives markets, the stability of the financial system, the protection of the financial market participants, and the equal treatment of the investors.

    Do you think that these goals could be achieved in any other way that is less onerous, costly, or intrusive?

    ☐ Yes ☐ No

Please describe in more detail Click or tap here to enter text.

14. What are the three Swiss derivatives regulation obligations posing the highest challenges to your entity/group?

Please describe challenge 1 in more detail Click or tap here to enter text.

Please describe challenge 2 in more detail Click or tap here to enter text.

Please describe challenge 3 in more detail Click or tap here to enter text.

15. What would be your suggestions to change in the current regulatory framework regarding derivatives?

Please describe in more detail Click or tap here to enter text.

16. Any specific comments on the different Swiss market conduct rules regarding derivatives trading?

    a. Counterparty classification

Please describe in more detail Click or tap here to enter text.

    b. Clearing duty

Please describe in more detail Click or tap here to enter text.

    c. Reporting duty

Please describe in more detail Click or tap here to enter text.

d. Operational and counterparty risk mitigation (including trade confirmation, portfolio reconciliation, dispute resolution, and portfolio compression)

Please describe in more detail Click or tap here to enter text.

e. Valuation of outstanding transactions

Please describe in more detail Click or tap here to enter text.

f. Exchange of collateral (both variation- and initial margin)

Please describe in more detail Click or tap here to enter text.

III. The application of the market conduct rules regarding derivatives trading on blockchain/DLT-based derivatives

1. The behavioural rules regarding derivatives trading apply typically to the bilateral relationship between two counterparties. How should they apply in a decentralized situation, such as blockchain/DLT?

Please describe in more detail Click or tap here to enter text.

IV. Miscellaneous comments or remarks on the Swiss market conduct rules regarding derivatives trading

Any other comments or remarks Click or tap here to enter text.

C. APPENDIX 2

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Finance FDF

State Secretariat for International Financial Matters SIF
The State Secretary

January 2020

Your participation in the PwC survey on the Swiss Financial Market Infrastructure Act

Dear Madam or Sir

The Swiss Financial Market Infrastructure Act (FMIA) entered into force on 1 January 2016. The FMIA governs the organisation and operation of financial market infrastructures, and the conduct of financial market participants in securities and derivatives trading.

As communicated by the Federal Council on 14 September 2018, a review of the FMIA is planned. In particular, the emergence of international developments (e.g. in the European Union) and technological developments (e.g. in the fintech area) could give rise to a future revision of the FMIA. The Federal Department of Finance (FDF), based on a mandate by the Federal Council, has therefore initiated a review to examine the effects and consequences of the FMIA.

The FDF has mandated PwC Switzerland to analyse certain FMIA-related aspects in an external study. In this context, PwC is carrying out a survey of various stakeholders on the consequences of the FMIA.

Your participation in this survey is highly welcome, while, of course, on a voluntary basis. Your answers to this questionnaire will be provided directly to PwC and are thereafter anonymized and aggregated by PwC. Individual responses in the survey will neither be available to Swiss authorities nor made public.

We thank you for your collaboration. We remain at disposal for questions regarding the FMIA review. In case of questions regarding the survey, please do not hesitate to contact PwC Switzerland.

Kind regards

D. Stoffel

Daniela Stoffel
State Secretary

State Secretariat for International Financial Matters SIF
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Umfrage zum Schweizer Finanzmarktinfrastrukturgesetz

- per E-Mail -

Sehr geehrte Damen und Herren

Das Staatssekretariat für internationale Finanzfragen (SIF) des Eidgenössischen Finanzdepartements (EFD) beauftragte uns, eine Umfrage zum Schweizer Finanzmarktinfrastrukturgesetz (FinfraG) und dessen Auswirkungen auf die Teilnehmer am Derivatemarkt durchzuführen. Diese Umfrage ist Teil einer Überprüfung des FinfraG durch das EFD, mit welcher analysiert wird, ob und inwiefern das FinfraG revidiert werden soll.

Wir würden ihre Teilnahme and der Umfrage sehr begrüssen. Sie ermöglichen damit dem EFD, die Stärken und Schwächen des FinfraG besser aus ihrer Sicht zu verstehen. Ihre Antworten werden anonymisiert und mit denjenigen von anderen Teilnehmern zusammengeführt, bevor sie in unseren Bericht an das EFD aufgenommen werden. Teilnehmer werden eine Zusammenfassung der Umfrageresultate erhalten.

Für Fragen stehen wir gerne zur Verfügung.

Freundliche Grüsse

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Umfrage zum Finanzmarktinfrastrukturgesetz (FinfraG)

I. Informationen zur Gesellschaft

1. Welcher Geschäftstätigkeit geht ihre Gesellschaft/Gruppe nach?

Beschreibung
Click or tap here to enter text.

2. Wie ist ihre Gesellschaft unter FinfraG klassifiziert?

- ☐ Grosse Finanzielle Gegenpartei
- ☐ Kleine Finanzielle Gegenpartei
- ☐ Grosse Nichtfinanzielle Gegenpartei
- ☐ Kleine Nichtfinanzielle Gegenpartei
- ☐ Wir wissen es nicht

3. Wie viele Positionen in Derivaten öffnet ihre Gesellschaft/Gruppe pro Jahr?

Für eigene Rechnung (Anzahl)
Click or tap here to enter text.

Für Rechnung von Kunden (Anzahl)
Click or tap here to enter text.

Anmerkungen
Click or tap here to enter text.

4. Wie viele Positionen in Derivaten, die von ihrer Gesellschaft/Gruppe eröffnet wurden, sind momentan ausstehend?

Für eigene Rechnung (Anzahl)
Click or tap here to enter text.

Für Rechnung von Kunden (Anzahl)
Click or tap here to enter text.

Anmerkungen

Click or tap here to enter text.

5. Handelt ihre Gesellschaft/Gruppe ausschliesslich zu Absicherungszwecken (Hedging) in Derivaten oder handelt sie auch, um aus Transaktionen in Derivaten Gewinne zu erzielen (Proprietary Trading)?

☐ Nur Hedging

☐ Hedging und Proprietary Trading

II. Situationsanalyse zur Schweizer Derivateregulierung

1. Wie bewerten sie die Schweizer Derivateregulierung im Vergleich zu denjenigen anderer Jurisdiktionen?

   a. Ich bewerte die Schweizer Derivateregulierung als:

   ☐ Stark ☐ Mittel ☐ Schwach

   b. Ich verglich die Schweizer Derivatregulierung mit den Derivatregulierungen folgender Jurisdiktionen:

   Jurisdiktionen
   Click or tap here to enter text.

2. Stärken der Schweizer Derivateregulierung (im Vergleich zu anderen Jurisdiktionen und für sich genommen)

   Beschreibung
   Click or tap here to enter text.

3. Schwächen der Schweizer Derivateregulierung (im Vergleich zu anderen Jurisdiktionen und für sich genommen)

   Beschreibung
   Click or tap here to enter text.

4. Chancen der Schweizer Derivateregulierung (im Vergleich zu anderen Jurisdiktionen und für sich genommen)

   ☐ Hoch ☐ Mittel ☐ Gering

   Anmerkungen
   Click or tap here to enter text.

5. Risiken der Schweizer Derivateregulierung (im Vergleich zu anderen Jurisdiktionen und für sich genommen)

☐ Hoch ☐ Mittel ☐ Gering

Anmerkungen
Click or tap here to enter text.

6. Wie wichtig sind die Bestimmungen zur Derivateregulierung im Allgemeinen und die Marktverhaltenspflichten im Derivatehandel im Besonderen im internationalen Wettbewerb der Finanzplätze?

☐ Wichtig ☐ Teilweise wichtig ☐ Nicht wichtig

Anmerkungen
Click or tap here to enter text.

a. Vergleicht ihre Gesellschaft/Gruppe die verschiedenen Derivateregulierungen, wenn sie die Verlegung der Geschäftstätigkeit in eine andere Jurisdiktion prüft?

☐ Ja ☐ Nein

Anmerkungen
Click or tap here to enter text.

b. Wie wichtig ist Finanzmarktregulierung im Allgemeinen und die Derivateregulierung im Besonderen im Vergleich zu den folgenden Faktoren (bitte bewerten sie den wichtigsten Faktor mit 1 und den am wenigsten wichtigen mit 8):

Steuern	Choose an item.
Lebensqualität	Choose an item.
Zeitzone	Choose an item.
Kompetenz der Angestellten	Choose an item.
Umgang mit Behörden	Choose an item.
Unternehmensgründung	Choose an item.
Finanzmarktregulierung	Choose an item.
Derivateregulierung	Choose an item.

Anmerkungen
Click or tap here to enter text.

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Umfrage zum Finanzmarktinfrastrukturgesetz (FinfraG)

7. Wie stark betreffen nicht-Schweizer Vorschriften zu den Marktverhaltenspflichten im Derivathandel ihre Gesellschaft/Gruppe oder andere Schweizer Marktteilnehmer?

☐ Stark ☐ Nicht stark

Beschreibung Click or tap here to enter text.

8. Wie hoch schätzen sie die Kosten für die laufende Einhaltung (ohne Implementierungskosten) der Schweizer Derivateregulierung in den folgenden Bereichen im Vergleich zu den Gesamtkosten für den Derivatehandel?

Personal	Choose an item.
IT	Choose an item.
Transaktionsregister	Choose an item.
Zentrale Gegenpartei und/oder Kosten für indirekte Abrechnung (Clearing) über einen Clearing Broker	Choose an item.
Dienstleistungen Dritter zur Vereinfachung der Einhaltung von Pflichten (z.B. bei der Portfolioabstimmung oder beim Austausch von Informationen zur Gegenparteiklassifzierung)	Choose an item.
Verträge um Transaktionen in Derivaten abzuschliessen	Choose an item.
Prüfung (Audit) von Gesellschaften und Transaktionen	Choose an item.
Verlust von Geschäftsmöglichkeiten aufgrund der Derivateregulierung	Choose an item.
Kosten aufgrund unterschiedlicher Derivateregulierungen in verschiedenen Jurisdiktionen	Choose an item.
Kosten von Absicherungsgeschäften (Hedging) oder fehlende Möglichkeiten, Absicherungsgeschäfte einzugehen	Choose an item.
Geringeres Handelsvolumen auf dem Derivatemarkt	Choose an item.
Weniger Wertpapierhäuser (Effektenhändler) bieten Derivate an	Choose an item.
Die Wertpapierhäuser (Effektenhändler) bieten weniger Kategorien von Derivaten an	Choose an item.
Erwartung der Kunden, dass im Rahmen eines Dienstleistungspakets die Derivateregulierung für sie eingehalten wird	Choose an item.

9. Wie hoch schätzen sie die Kosten, die durch die Schweizer Derivateregulierung verursacht werden (ohne Implementierungskosten), im Vergleich zu den Gesamtkosten für den Derivatehandel *pro Kunde*?

☐ Hoch ☐ Mittel ☐ Tief

Beschreibung und Schätzung in CHF Click or tap here to enter text.

10. Wie hoch schätzen sie die für ihre Gesellschaft/Gruppe anfallenden Kosten, die durch die Schweizer Derivateregulierung verursacht werden (ohne Implementierungskosten), im Vergleich zu den Gesamtkosten für den Derivatehandel *pro gehandeltem Derivat*?

☐ Hoch ☐ Mittel ☐ Tief

Beschreibung und Schätzung in CHF Click or tap here to enter text.

11. Bringt die Schweizer Derivateregulierung Vorteile mit sich aufgrund von:

a. Erhöhte Geschäftsaktivität (z.B. durch Konzentration des Derivatehandels auf weniger Wertpapierhäuser oder auf weniger Arten von Derivaten)?

☐ Ja ☐ Nein

Beschreibung Click or tap here to enter text.

b. Weniger Konkurrenten bieten Derivate an?

☐ Ja ☐ Nein

Beschreibung Click or tap here to enter text.

c. Transparentere Preisgestaltung bei Derivaten?

☐ Ja ☐ Nein

Beschreibung Click or tap here to enter text.

d. Andere Aspekten?

Beschreibung Click or tap here to enter text.

12. Welche Vorteile bringt die Schweizer Derivateregulierung mit sich für:

a. Ihre Gesellschaft/Gruppe?

Beschreibung Click or tap here to enter text.

b. Ihre Branche?

Beschreibung Click or tap here to enter text.

Umfrage zum Finanzmarktinfrastrukturgesetz (FinfraG)

c. Die Schweizer Wirtschaft?

Beschreibung
Click or tap here to enter text.

d. Das Finanzsystem?

Beschreibung
Click or tap here to enter text.

13. Die Schweizer Derivategulierung strebt an, die folgenden Ziele zu erfüllen: Funktionsfähigkeit und Transparenz des Derivatehandels, Stabilisierung des Finanzsystems, Anlegerschutz, Gleichbehandlung der Anleger

Könnten diese Ziele auch auf weniger aufwändige oder einschneidende Weise erreicht werden?

☐ Ja ☐ Nein

Beschreibung
Click or tap here to enter text.

14. Welche drei Verpflichtungen der Schweizer Derivateregulierung stellen die grössten Herausforderungen für ihre Gesellschaft/Gruppe dar?

Beschreibung zur Herausforderung 1
Click or tap here to enter text.

Beschreibung zur Herausforderung 2
Click or tap here to enter text.

Beschreibung zur Herausforderung 3
Click or tap here to enter text.

15. Was würden sie an der geltenden Schweizer Derivateregulierung ändern?

Beschreibung
Click or tap here to enter text.

16. Haben sie spezifische Anmerkungen zu den einzelnen Marktverhaltenspflichten im Derivatehandel?

a. Klassifizierung von Gegenparteien

Beschreibung
Click or tap here to enter text.

b. Abrechnung (Clearing)

Beschreibung
Click or tap here to enter text.

c. Meldung an ein Transaktionsregister

Beschreibung
Click or tap here to enter text.

d. Minderung des operationellen Risikos und des Gegenparteirisikos (inkl. Bestätigung von Vertragsbedingungen, Portfolioabstimmung, Verfahren zur Bereinigung von Meinungsverschiedenheiten, Portfoliokompression)

Beschreibung
Click or tap here to enter text.

e. Bewertung ausstehender Geschäfte

Beschreibung
Click or tap here to enter text.

f. Austausch von Sicherheiten (Ersteinschuss- und Nachschusszahlungen)

Beschreibung
Click or tap here to enter text.

III. Anwendbarkeit der Marktverhaltenspflichten im Derivatehandel auf Blockchain/DLT-basierte Derivate

1. Typischerweise finden die Marktverhaltenspflichten im Derivatehandel auf eine bilaterale Beziehung zwischen zwei Gegenparteien Anwendung. Wie sollen sie in einer dezentralisierten Situation, wie beim Handel über eine Blockchain/DLT, angewendet werden?

Beschreibung
Click or tap here to enter text.

IV. Sonstige Anmerkungen zu den Schweizer Marktverhaltenspflichten im Derivatehandel

Anmerkungen
Click or tap here to enter text.

D. APPENDIX 3: ANSWERS TO SURVEY

Questions	Financial services	Anonymised	Commodity	Others	Total answers
I.1.	15	4	0	1	20
I.2.	13	7	0	1	21
I.3(i)	13	3	0	1	17
I.3(ii)	9	2	0	0	11
I.3(iii)	10	3	0	0	13
I.4(i)	12	3	0	1	16
I.4(ii)	12	2	0	0	14
I.4(iii)	11	3	0	0	14
I.5.	12	7	0	1	20
II.1a.	13	6	0	1	20
II.1b.	12	7	0	1	20
II.2.	13	6	0	1	20
II.3.	12	7	0	1	20
II.4(i)	11	7	0	0	18
II.4(ii)	10	5	0	0	15
II.5(i)	11	7	0	0	18
II.5(ii)	9	6	0	0	15
II.6(i)	11	6	0	1	18
II.6(ii)	12	3	0	0	15
II.6a(i)	12	7	0	1	20
II.6a(ii)	10	1	0	0	11
II.6b(i)	11	5	0	1	17
II.6b(ii)	7	0	0	0	7
II.7(i)	12	7	0	1	20
II.7(ii)	11	4	0	0	15
II.8.	15	7	0	1	23
II.9(i)	11	4	0	1	16
II.9(ii)	7	2	0	1	10
II.10(i)	12	5	0	1	18
II.10(ii)	7	2	0	1	10
II.11a(i)	13	7	0	1	21
II.11a(ii)	6	0	0	0	6
II.11b(i)	12	4	0	1	17
II.11b(ii)	8	0	0	0	8

Questions	Financial services	Anonymised	Commodity	Other	Total answers
II.11c(i)	13	6	0	1	20
II.11c(ii)	6	0	0	0	6
II.11d.	3	3	0	0	6
II.12a.	13	7	0	1	21
II.12b.	11	4	0	0	15
II.12c.	12	7	0	0	19
II.12d.	13	7	0	1	21
II.13(i)	15	7	0	1	23
II.13(ii)	11	6	0	0	17
II.14(i)	13	6	0	1	20
II.14(ii)	12	6	0	1	19
II.14(iii)	9	6	0	1	16
II.15.	10	7	0	1	18
II.16a.	5	6	0	1	12
II.16b.	3	4	0	0	7
II.16c.	9	6	0	1	16
II.16d.	4	6	0	1	11
II.16e.	3	5	0	1	9
II.16f.	7	5	0	1	13
III.1.	6	3	0	0	9
IV.	2	1	1	1	5

Questions	Small	Medium	Large	Total answers
I.1.	6	11	3	20
I.2.	6	9	6	21
I.3(i)	5	9	3	17
I.3(ii)	4	7	0	11
I.3(iii)	4	8	1	13
I.4(i)	5	9	2	16
I.4(ii)	5	8	1	14
I.4(iii)	4	8	2	14
I.5.	6	9	5	20
II.1a.	5	10	5	20
II.1b.	4	10	6	20
II.2.	4	11	5	20
II.3.	3	11	6	20
II.4(i)	3	10	5	18
II.4(ii)	3	8	4	15
II.5(i)	3	10	5	18
II.5(ii)	2	9	4	15
II.6(i)	4	9	5	18
II.6(ii)	3	8	3	15
II.6a(i)	4	10	6	20
II.6a(ii)	4	7	0	11
II.6b(i)	4	8	5	17
II.6b(ii)	2	5	0	7
II.7(i)	5	9	6	20
II.7(ii)	3	9	3	15
II.8.	6	11	6	23
II.9(i)	5	8	3	16
II.9(ii)	3	5	2	10
II.10(i)	5	9	4	18
II.10(ii)	2	4	4	10
II.11a(i)	5	11	5	21
II.11a(ii)	2	3	1	6
II.11b(i)	5	8	4	17
II.11b(ii)	3	4	1	8
II.11c(i)	6	9	5	20
II.11c(ii)	2	3	1	6
II.11d.	1	3	2	6

Questions	Small	Medium	Large	Total answers
II.12a.	6	9	6	21
II.12b.	5	7	3	15
II.12c.	5	9	5	19
II.12d.	5	10	6	21
II.13(i)	6	11	6	23
II.13(ii)	4	9	4	17
II.14(i)	5	10	5	20
II.14(ii)	4	10	5	19
II.14(iii)	4	7	5	16
II.15.	4	9	5	18
II.16a.	0	7	5	12
II.16b.	0	6	1	7
II.16c.	1	2	5	16
II.16d.	0	7	4	11
II.16e.	1	5	3	9
II.16f.	1	8	4	13
III.1.	2	5	2	9
IV.	2	2	1	5