A Perspective on Operational Risk Complexity in Financial Services

About Brexit, Regulation, Sustainability and Tech

Beate Born – MiFID II & Brexit WM Global Program Lead UBS Switzerland AG

Feb 2019

Introduction – Focus of this Presentation

Operational Risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Operational risk factors

- Internal: System, People, Process, Culture failures
- External: External influences

External Influences

- Integration vs. protectionism (e.g. Brexit)
- Regulations, their development complexity and speed (ongoing phenomenon?)
- Technological Advancement (e.g. Robotics and AI for financial services))
- Geopolitical Developments (e.g. Sustainability goals the responsibility of the financial market?)

External environments are changing very quickly with overwhelming complexity.

Banks are being held responsible for their own actions, their client's actions and the macro-effects on the global community more than ever before.

Table of Contents

Section 1

Trends in Financial Services and Operational Risk
- Complexity as a main Challenge

Main Points of Section 1

Trends in Financial Services and Operational Risk - Complexity as a main Challenge

Operational Risk…

- …has changed over the years
- … has had to put a focus external influences
- … is a cost center struggling to efficiently reduce ever increasing complexity of an ever changing environment

Operational Risk in Financial Services - Setting the Scene

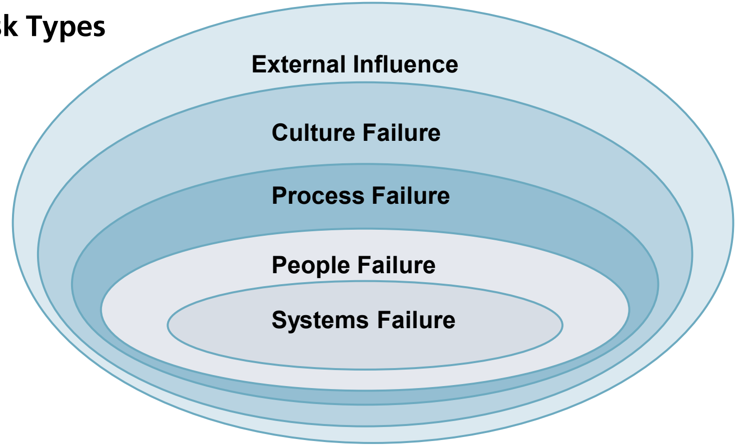
Operational Risk…

> **…is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.**
>
> **-** Basel Committee on Banking Supervision 2006

In other words…

… operational risk is anything that happens between the creation and the sale of the product that takes away from revenue and is not directly related to production costs. For example:

Operational Risk Types



Operational Risk in Financial Services - Current Trends and Challenges

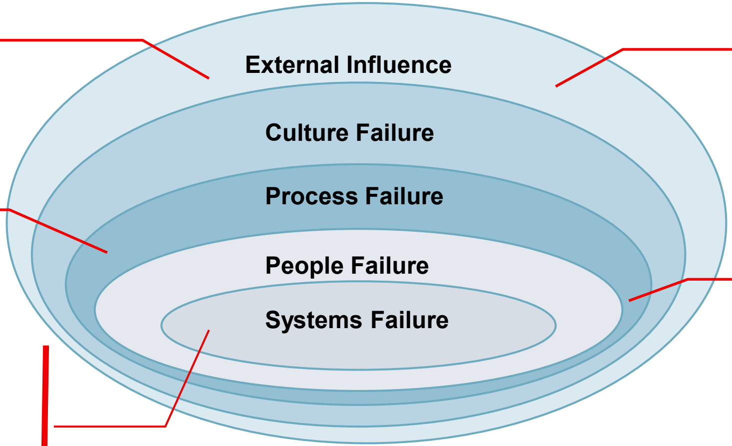
Operational Risk…

…is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

- Basel Committee on Banking Supervision 2006

Culture Failure
- Faulty incentives leading to misconduct
- Acceptance of Risk Mgmt practice in the Business

People Failure
- Human Error
- Fraud
- Misconduct



External Influences
- Geopolitical Risks (Brexit, Trump etc.)
- Volatile Regulatory Environment
- Sanctions, fines
- Global trends of globalization and segregation
- Cyber attacks

Process Failure
- Organizational Change
- Outsourcing Issues
- Risk Control failure

System Failure
- Outages (internal or of providers)
- Capacity limitations
- Disruptions from new solutions
- New Trends (cloud computing, big data etc.)

… and the ever present challenge: COSTS

Section 2

External Factors of Complexity: Integration, the EU, Single Market Access, Equivalence and Brexit

Main Points of Section 2

External Factors of Complexity: Integration, the EU, Single Market Access, Equivalence and Brexit

Globalization, Integration, Protectionism

- **Financial Services benefited greatly from globalization trends**, but is now struggling with the complexity of the reverse effects.
- **Separation vs Integration** – the fear of loosing control in fast moving technological environments and economic decline

The EU

- The **European landscape** is made up of several groups: EEA, EU, Eurozone, EFTA
- **Switzerland** and the **UK** are (will be) part of the Geography, but not part of the groups
- Some EU members are also part of **the G20**

Single Market, Passporting, Equivalence

- **Single Market Access** and Passporting – the importance of subsidiaries for 3rd country firms
- Financial regulation has become **politicized**
- **Equivalence** can only solve a limited amount of problems

Brexit

- We know what we don't know
- **Brexit and UBS** – yet another story of complexity
- Why financial services need a **transition period**

Section 2a

Integration, globalization and protectionism

Globalization, Integration, Protectionism

Globalization, Integration, Protectionism

Past Developments - Globalization

- **Pros**: Globalization has opened up the global market, fostered integration, created the internet and information sharing
- **Cons**: Globalization has also facilitated the Global financial Crisis, terrorism, fraud, propaganda etc.

Current Developments

- **Reverse activities** are becoming prominent: Protectionism rather than integration
  - Brexit, Trump etc.
- **Impacts for Financial Services** and Operational risk
  - Influx of regulations / sanctions
  - Restrictions of global activities
  - Complex global market to navigate

Financial Services benefited greatly from globalization trends, but is now struggling to keep up with the complexity of the reverse effects.

A brave new world?

Dealing with the new environment

Understand, accept, anticipate

- Understand the new environment and the challenges / complexities within it
- Understand how quickly it changes
- Understand the rules
- Understand our business and our organization
- Prepare for quick change and be agile

How?

- Tech, people, strategy
- Manage risks – they can never be 100% avoided

Focus

- Engage ops risk in active market strategy – decide where / what your core client groups and activities should be
- Sell B2B (services)

The set up of the international community, the law making process around financial services, the implementation of the ever changing rules, geopolitical developments such as Brexit and new responsibilities put on financial services as a whole (e.g. sustainability) are all factors to take into consideration.

The EU, EEA, EFTA and the G20 as Players in the International Law making Process

International Financial Market Regulation: Good Concept – Difficult Realization

Financial Crisis in the 1990s and in 2017 → **Sense of urgency in the international community** → **More stringent regulations for Financial Service Providers**

G20 agreement to improve the stability of the financial markets

Highly complex regulatory environment is to be navigated

- There are **various parties** that belong to different groups (EU, EEA, EAFTA, G20)
- **Implementation differs** immensely in timeline, depth, enforcement power
- Discussions are as **economical as they are political**
- **Global, regional and local endeavors** to improve regulation and supervision are to be aligned

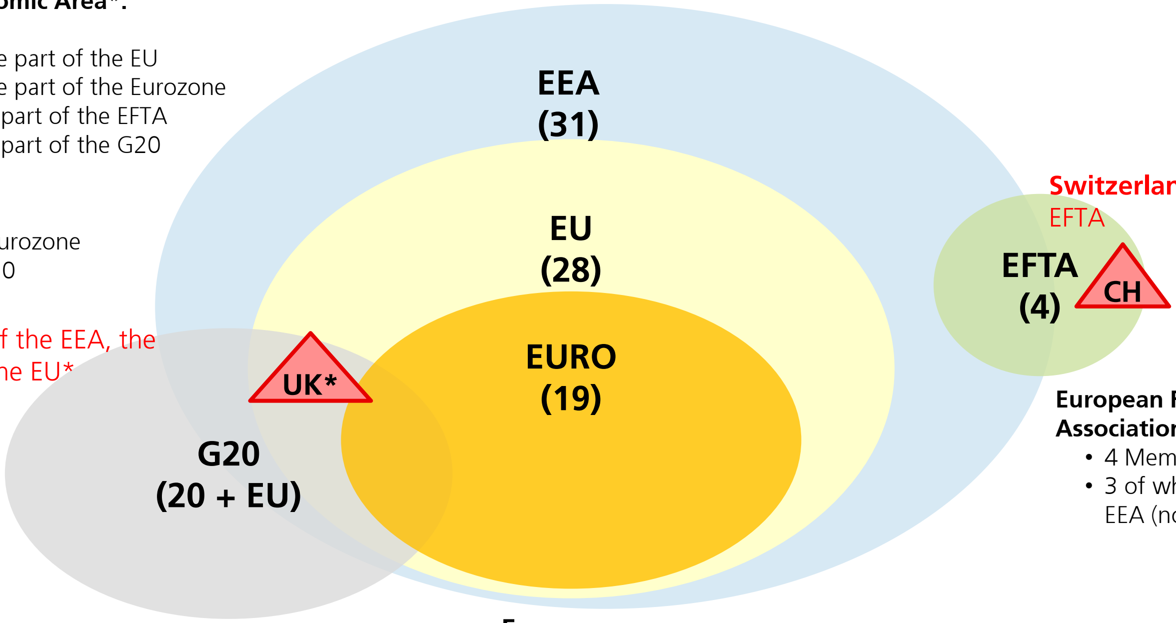
Financial Market Integration: While the "harmonization" or "integration" process is a favorable development for those parties that are member to group, it also increases the need for cooperation with those outside of those groups: third countries

UK and Switzerland in the European Union and G20 Community

- **European Economic Area*:**
  - 31 Members,
  - 27 of which are part of the EU
  - 19 of which are part of the Eurozone
  - 3 of which are part of the EFTA
  - 4 of which are part of the G20

The European Union:
- 28 Members
- 19 of which are part of the Eurozone
- 4 of which are part of the G20

UK: part of the EEA, the G20 and the EU*



Switzerland: part of the EFTA

European Free Trade Association :
- 4 Members,
- 3 of which are part of the EEA (not the EU)

The G20:
- 20 Members
- 4 of which are part of the EEA and the EU
- 3 of which are part of the Eurozone

Eurozone:
- 19 Members,
- all of which are part of the EU and the EEA
- 3 of which are part of the G20

* Pre-Brexit

The coordination of 40+ players in the international financial markets, makes financial regulatory reform increasingly difficult.

Additional Info

Complexities of aligning parties within the EEA, EFTA, G20 and the EU

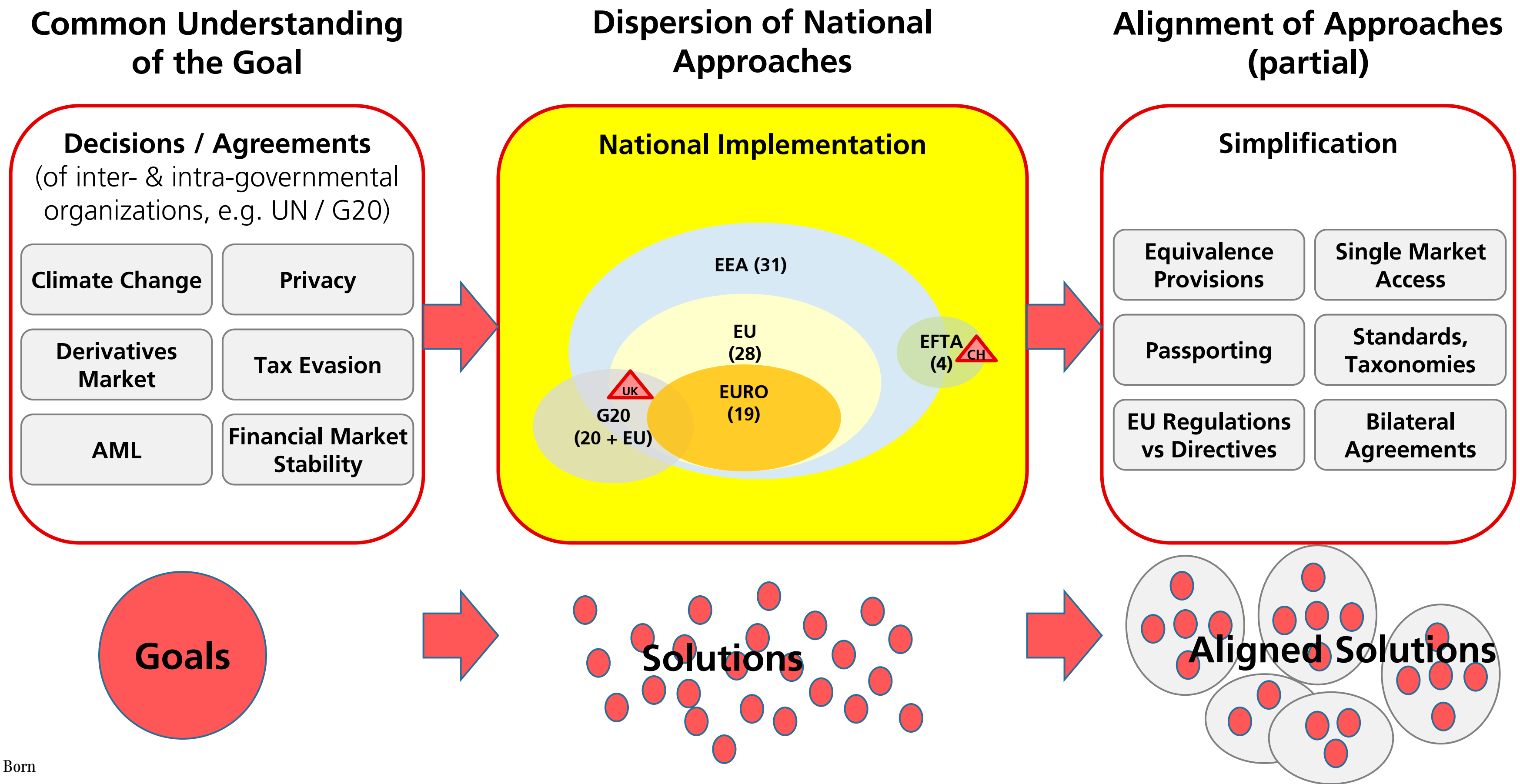
Complexity of the International Community:

- **International financial markets:** coordination of 40+ parties
- **Europe**: coordination of 32 parties (EEA , the EU, the Euro Zone and the EFTA)
- **Unevenness in the pace and scope of implementation** results in
  - **duplicated requirements**
  - opportunities for **regulatory arbitrage**
- **European Law:** All Member States of the EU and the EEA get to vote on European Law with local discretion when it comes to implementation of Directives through transposition into local law

Market Integration and 3rd Countries:

- While the **integration process** is a **favorable** development for those parties that are member to the group, it also **increases** the need for **cooperation** with those outside of the group: third countries.
- There is currently no possibility to be **part of the EU without being part of the EEA**
- A country can be part of the EEA without being part of the EU (Iceland, Norway, Lichtenstein)

Segregation in Unification – the Challenge of Complexity



Beate Born

Regulatory Content in Financial Services Aiming to Reduce Complexity?

Regulations in financial services are increasingly aiming to cut down complexity:

- Regulations around **cross border provision of services** (regulatory arbitrage)
- Regulations around **investor protection** (too complex for the client) (Fidleg / MiFID I &II / FOFA etc.)
- Regulations around **derivatives trading** (too complex to control since in the dark) (MiFIDI & II / EMIR / Dodd Frank / FinFrag etc.)
- Regulations around **tax evasion** (too complex for governments) (Fatca / AIE etc.)
- Regulations around **data protection and privacy** (too complex for consumers) (GDPR /Banking Secrecy)

The Single European Market and the Concept of Passporting

Main Points of Section 2c

The Single European Market and the Concept of Passporting

Single Market…

- … eliminates borders for goods and services
- … accessed by members of the EEA only
- … still need a passport to access it

… Passports

- … only granted within the EEA by the home NCA
- … granted to firms, not countries
- … subsidiaries are a way for non-EEA firms to access the single European Market
- … via Brexit UK firms will loose 340k passports

Segregation in Unification – the Challenge of Complexity

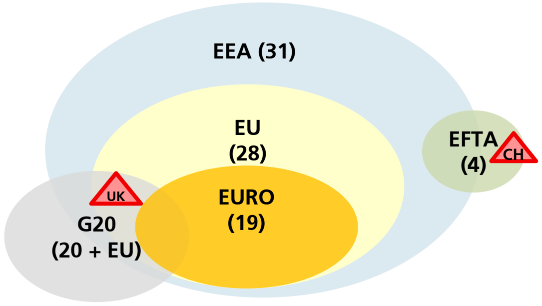
Common Understanding of the Goal

Decisions / Agreements
(of inter- & intra-governmental organizations, e.g. UN / G20)

- Climate Change
- Privacy
- Derivatives Market
- Tax Evasion
- AML
- Financial Market Stability

Dispersion of National Approaches

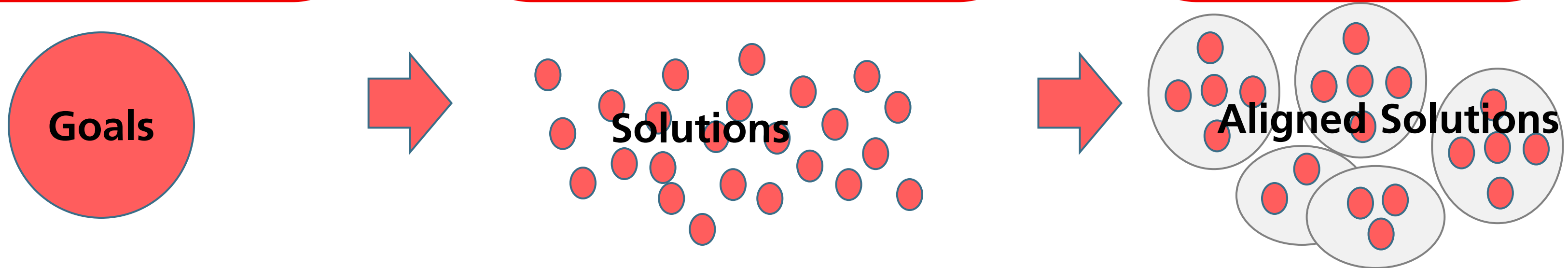
National Implementation



Alignment of Approaches (partial)

Simplification

- Equivalence Provisions
- Single Market Access
- Passporting
- Standards, Taxonomies
- EU Regulations vs Directives
- Bilateral Agreements



Beate Born

The Concept of the Single European Market

Single Market:

- Defines the **EU as one territory without any internal borders** and regulatory obstacles to the free movement of goods & services
- It is meant to stimulate competition and trade, improve efficiency, raise quality, and help cut prices.

Single Market for Financial Services:

- Is **set in a framework of EU directives and regulations** that control investment services, banking activities, insurance, financial infrastructure and investment products

Member Countries with access to the single European Financial Market

- Austria
- Belgium
- Cyprus
- Estonia
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Portugal
- Slovakia
- Slovenia
- Spain
- Sweden
- UK*
- Croatia
- Bulgaria
- Hungary
- Czech Republic
- Denmark
- Romania
- Poland
- Iceland
- Norway
- Liechtenstein

Cross Border Business

- Cross-Border Supply
- Consumption abroad
- Commercial presence or establishment
- Presence of a natural person

3rd Countries without access to the single European Financial Market

- Switzerland
- Argentina
- Australia
- Brazil
- Canada
- China
- India
- Indonesia
- Japan
- Mexico
- Russia
- Saudi Arabia
- South Africa
- South Korea
- Turkey
- United States

* Pre-Brexit

While the "integration" process is a favorable development for those parties that are member to the group, it also increases the need for cooperation with those outside of the group: third countries.

EU, EEA, EFTA and the Eurozone: Financial Market Integration

	EEA	EU	EURO	EFTA
Austria	EEA	EU	Euro	-
Belgium	EEA	EU	Euro	-
Cyprus	EEA	EU	Euro	-
Estonia	EEA	EU	Euro	-
Finland	EEA	EU	Euro	-
France	EEA	EU	Euro	-
Germany	EEA	EU	Euro	-
Greece	EEA	EU	Euro	-
Ireland	EEA	EU	Euro	-
Italy	EEA	EU	Euro	-
Latvia	EEA	EU	Euro	-
Lithuania	EEA	EU	Euro	-
Luxembourg	EEA	EU	Euro	-
Malta	EEA	EU	Euro	-
Netherlands	EEA	EU	Euro	-
Portugal	EEA	EU	Euro	-
Slovakia	EEA	EU	Euro	-
Slovenia	EEA	EU	Euro	-
Spain	EEA	EU	Euro	-
Sweden	EEA	EU	no	-
United Kingdom*	EEA	EU	no	-
Croatia	no	EU prov.	no	-
Bulgaria	EEA	EU	no	-
Hungary	EEA	EU	no	-
Czech Republic	EEA	EU	no	-
Denmark	EEA	EU	no	-
Romania	EEA	EU	no	-
Poland	EEA	EU	no	-
Iceland	EEA	no	no	EFTA
Norway	EEA	no	no	EFTA
Liechtenstein	EEA	no	no	EFTA
Switzerland	no	no	no	EFTA

Advances to Financial Market Integration:

1. the creation of a **single passport** for financial firms in the late 1980s ,
2. the establishment of a **single market** in 1993,
3. the implementation of a **single common currency** (the Euro) in 2002,
4. the formation of a **European Banking Union** (EBU) in 2013 wherein the mechanisms for banking supervision and resolution have been moved from the national to EU level and
5. the instalment of a **Single Supervisory Mechanism** Regulation (SSMR) empowering a European Supervisory Authority regulating all Member States that was introduced in November 2014
6. the establishment of a **Single Resolution Mechanism** (SRM) and a Single Resolution Fund (SRF) as part of the European Banking Union in 2014

Coordination Efforts:

- Between the EEA , the EU, the Euro Zone and the EFTA there are **32 parties to coordinate**
- All Member States of the EU and the EEA get to **vote on European Law** with local discretion when it comes to implementation of Directives through transposition into local law
- Being part of the EEA means to take advantage of the economic union without the political Union

* Pre-Brexit

EU, EEA, EFTA, the Eurozone and the G20 – Complex Alignments

	EEA	EU	EURO	G20
European Union	-	-	-	G20
France	EEA	EU	Euro	G20
Germany	EEA	EU	Euro	G20
Italy	EEA	EU	Euro	G20
United Kingdom	EEA	EU	no	G20
Argentina	no	no	no	G20
Australia	no	no	no	G20
Brazil	no	no	no	G20
Canada	no	no	no	G20
China	no	no	no	G20
India	no	no	no	G20
Indonesia	no	no	no	G20
Japan	no	no	no	G20
Mexico	no	no	no	G20
Russia	no	no	no	G20
Saudi Arabia	no	no	no	G20
South Africa	no	no	no	G20
South Korea	no	no	no	G20
Turkey	no	no	no	G20
United States	no	no	no	G20

Efforts of the G20:

- In 2009 the G20 agreed to **jointly improve the stability of the international financial markets** through a program of reforms
- The main building blocks of the **G20 program:**
  - Building **resilient** financial institutions
  - Ending **too-big-to fail**
  - Making **derivatives markets safer**
  - Transforming **shadow banking** into resilient market-based finance

Coordination issues:

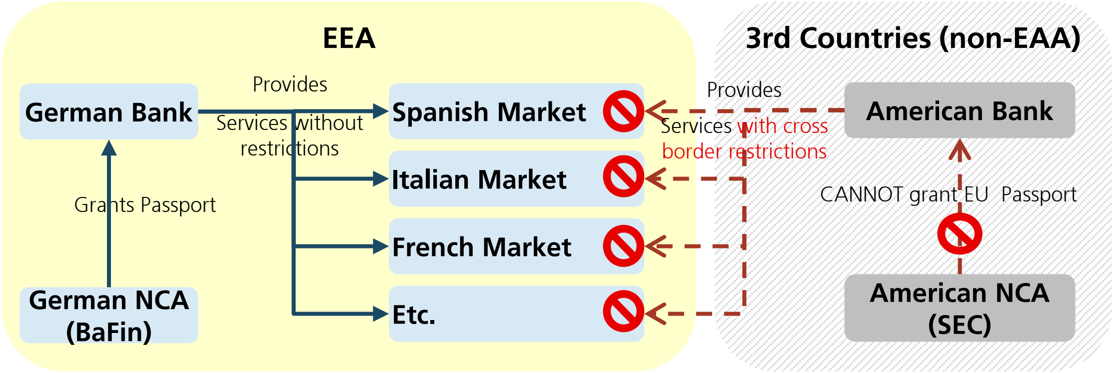
- In addition to coordinating with the European Members, **an additional 15 countries** need to be coordinated
- There are **no blueprint G20 regulations**
- Every country is responsible for its own creation and enforcement of **local regulations**.
- There is **no aligned timeline** as to when a specific regulation comes into effect in all 20 countries .
- There are other **"obstacles"** when it comes for example to data sharing
- Most of the G20 countries are third countries to the mostly integrated European group of Member States

"unevenness in the pace of implementation a well a inconsistencies or gaps in applying requirements to cross-border transactions can result in duplicative requirements, or lead to opportunities for regulatory arbitrage"

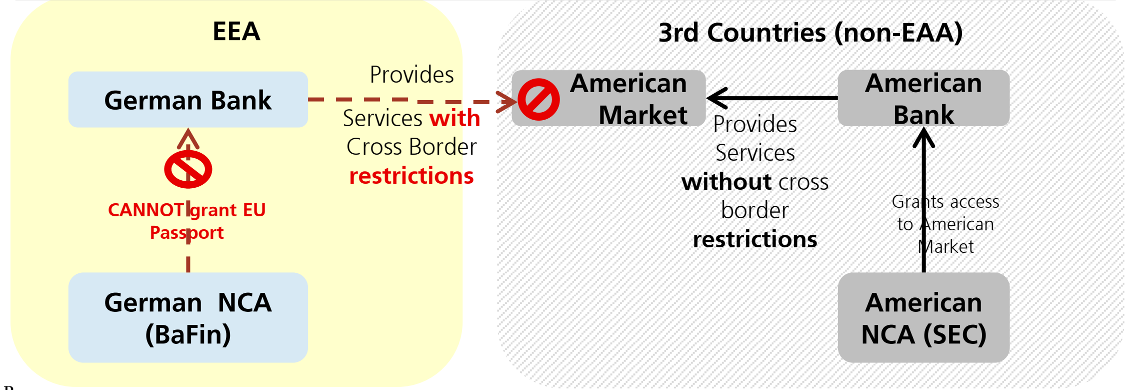
-The Financial Stability Board

The Concept of Passporting – only possible within the EEA (1)

Passports can be granted by an EEA NCA to an EEA Firm

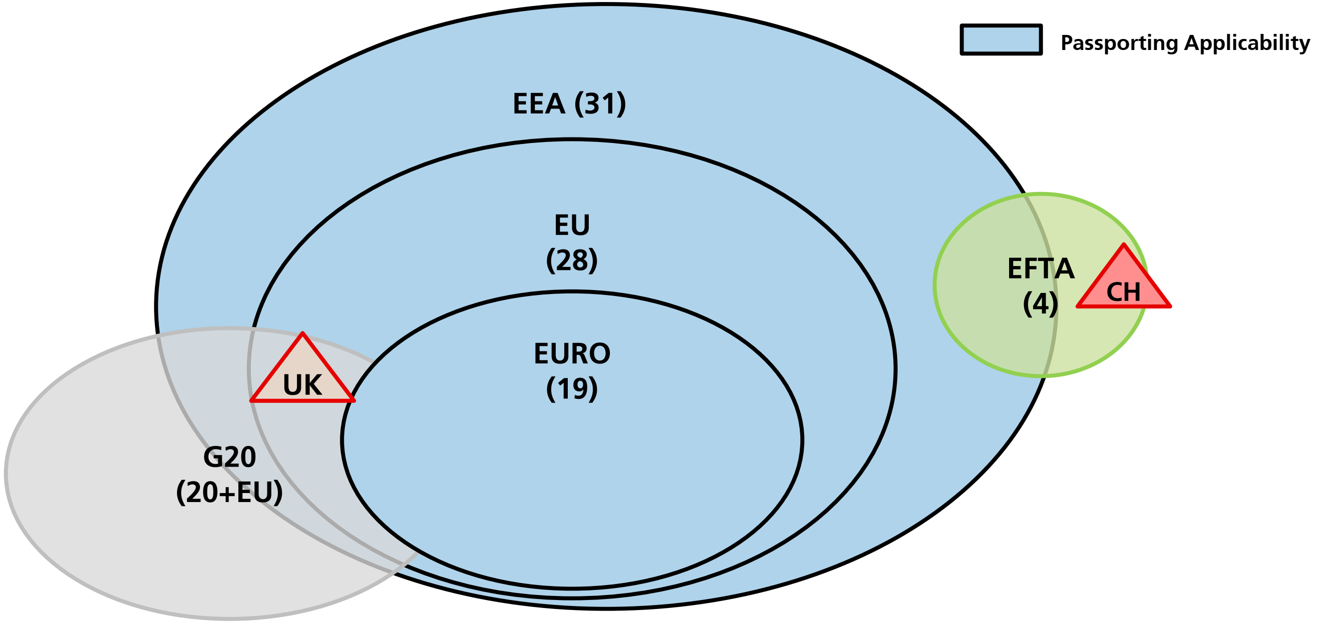


Passports cannot be granted by an EEA NCA to access a non-EEA market



- In Financial Services, the passport gives banks in the EU the **right to provide financial services throughout the EU.**
- **Passporting** rights are **mutual agreements** between all the Member States of a single market, based on
  - a set of prudential requirements harmonized under EU law; and mutual recognition of licenses
- **Passporting** is **only possible within the EEA**, which means an **EEA NCA can grant access only to EEA firms**
  - is only possible within the EEA, which means an **EEA NCA cannot grant a passport to access a 3rd country** single market
  - **does not apply to G20 and EFTA** only states
- A **passport license is granted by the home country NCA** and is under the home country supervision
- **Passporting rights cannot be granted to a firm that is domiciled in a 3rd country.**
- **Passports cannot be granted by an EEA NCA to access a non-EEA market**

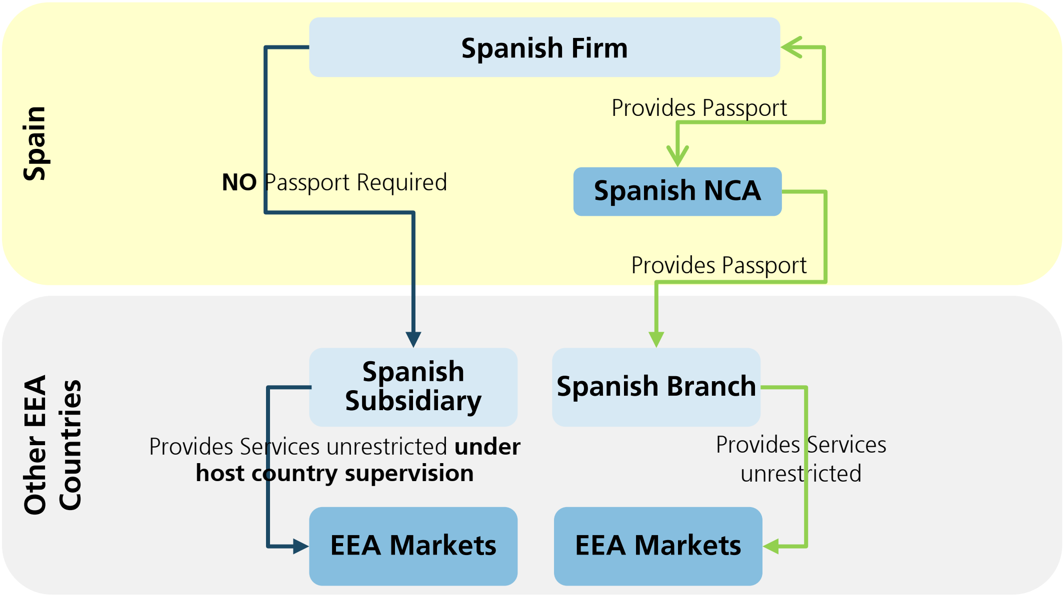
Applicability of EU Passporting - Overview



The concept of passporting is applicable to EEA and EU states. This does not apply to EFTA only and G20 only states.

The Concept of Passporting – Branches vs Subsidiaries within the EEA (1)

Branches and Subsidiaries in the EEA



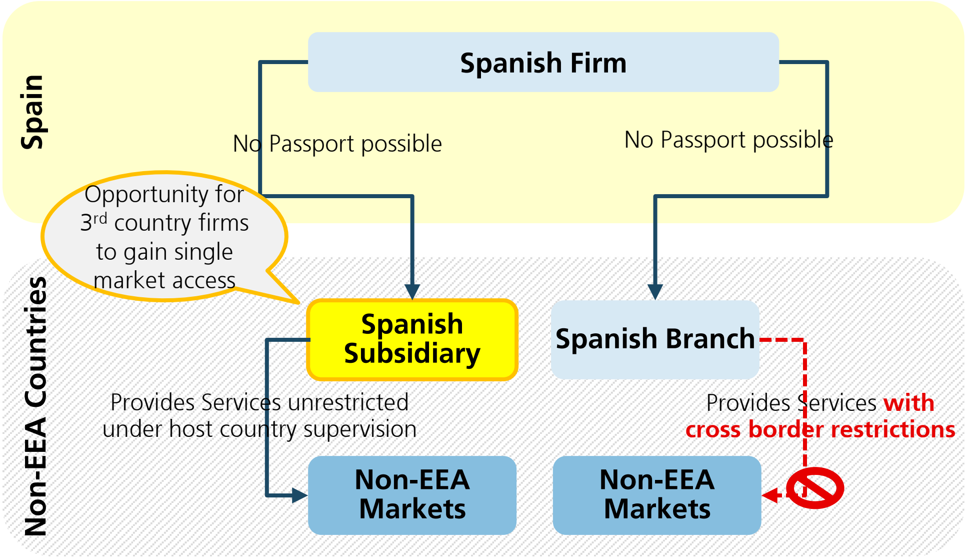
- **Subsidiaries** are seen as **independent legal entities**, even within the EU. They are supervised by the host country authorities
- **Subsidiaries** operate under the **supervision of the "host" country** directly and do not need to be granted a passport

- **Branches** are (generally) seen as an extension or the mother entity and operate under **mother NCA rules**.
- **Branches** operate under **the passport of the mother entity**

Subsidiaries are seen as independent legal entities, even within the EU. They are supervised by the host country authorities. Branches are (generally) seen as an extension or the mother entity and operate under mother NCA rules.

The Concept of Passporting – Branches vs Subsidiaries in 3rd counties (2)

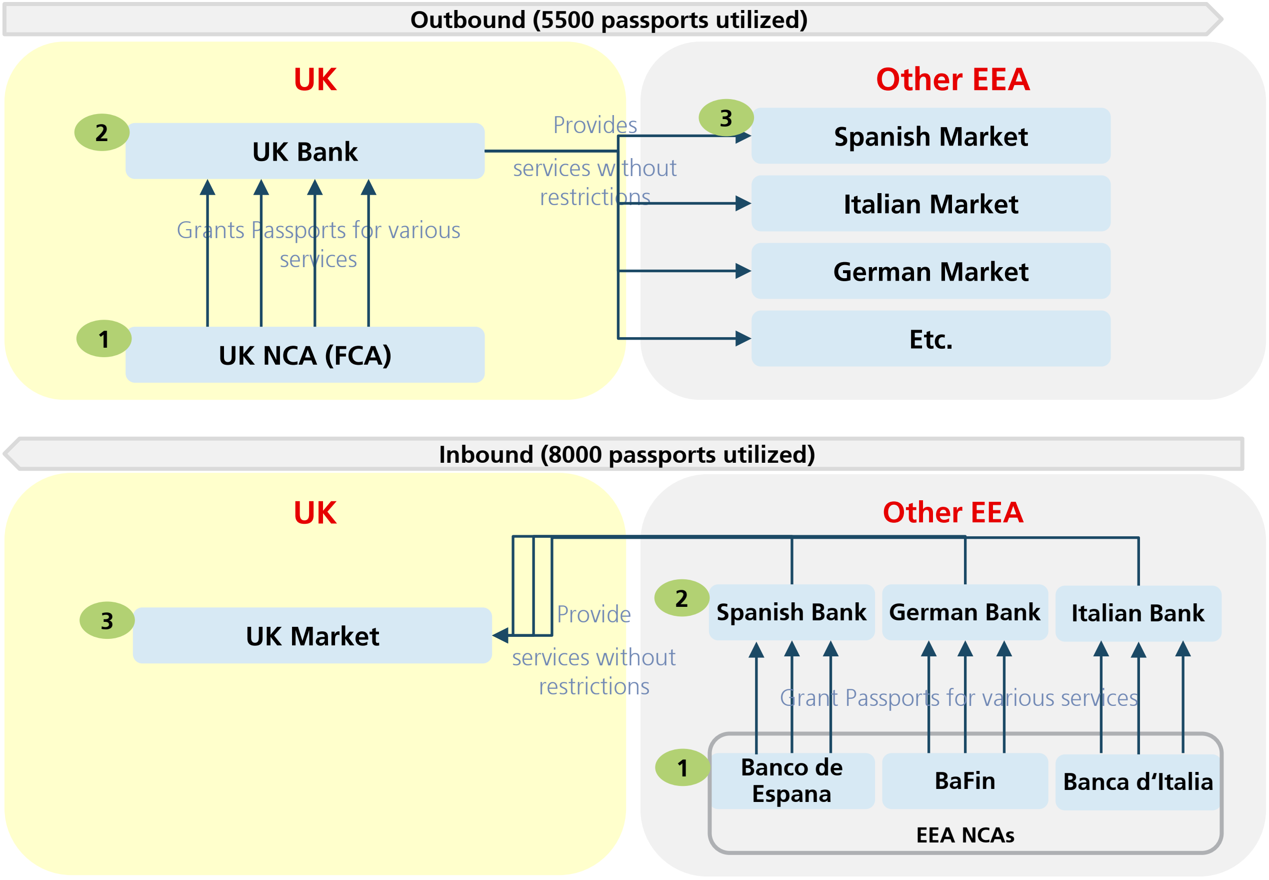
Branches and Subsidiaries in 3rd countries



- **Branches** operate under the **restricted market access** imposed by the 3rd country
- **Subsidiaries** operate under the supervision of the "host" country
- **Subsidiaries** are seen as **independent legal entities,** even within the EU.
- **Subsidiaries** always adhere to the laws of and are under the **supervision of the host country.**

Many non-EEA firms have gained EEA single market access via their subsidiaries in an EU country that then received passports into the EEA.

Passporting into and out of the UK - Putting Brexit into Perspective



- **The FCA has granted** passports to **about 5.5k** UK banks to access other European markets
- **EEA NCAs have granted** passports to **about 8k** non-UK EEA firms to the UK market
- Passports are granted for a variety of different services, such as investment banking, corporate lending, insurance, payments, asset mgmt etc.
- The **total number of passports held by UK firms** amounts to about **340k**
- **After Brexit, these passports will no longer be valid**

Equivalence – an Attempt to Reduce Complexity

Main Points of Section 2d

Equivalence – an Attempt to Reduce Complexity

Equivalence..

- … only applicable to non-EEA countries
- … does not grant single market access
- … never applies to full regulations
- … granted by the EU commission to a country
- … can be revoked
- … not a blanket solution for the UK after Brexit

Segregation in Unification – the Challenge of Complexity

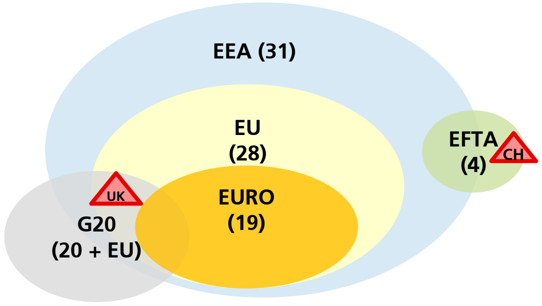
Common Understanding of the Goal

Decisions / Agreements
(of inter- & intra-governmental organizations, e.g. UN / G20)

Climate Change	Privacy
Derivatives Market	Tax Evasion
AML	Financial Market Stability

Dispersion of National Approaches

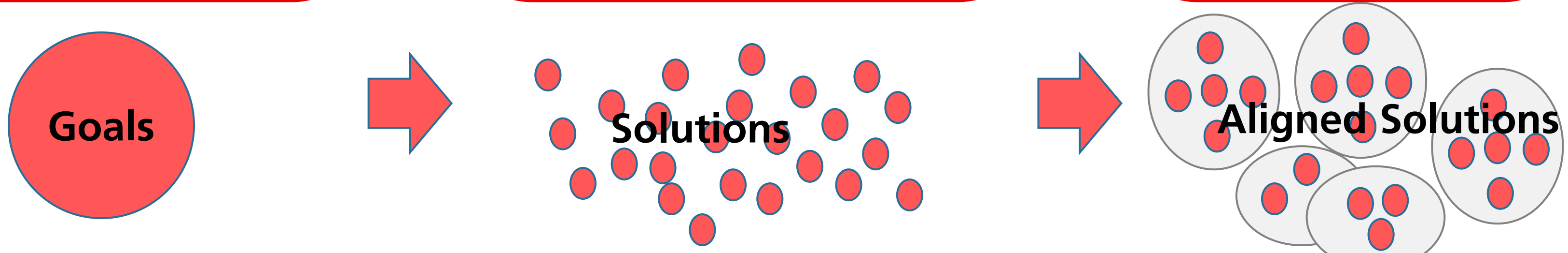
National Implementation



Alignment of Approaches (partial)

Simplification

Equivalence Provisions	Single Market Access
Passporting	Standards, Taxonomies
EU Regulations vs Directives	Bilateral Agreements



The Concept of Equivalence – Advantages and Disadvantages

Basics

Equivalence – the basics

- Equivalence is an **attempt to facilitate cross border operations into the EU** for third country firms.
- Equivalence **applies to third countries** (non-EEA countries) only.
- Equivalence means that a **third country regime is equivalent** in outcome to the EU regime.
  - The regulation does not have to be identical word by word, but must achieves the same objectives
- Equivalence is **far more restricted** than the single market approach under passporting.
- Equivalence applies to **specific article in specific regulations**

Pros / Cons

Cons

Equivalence – the challenges

- **Ambiguous criteria**: political topics, market stability, EU Impacts etc.
- **Lengthy process**: process is complex in content and with many different stakeholders
- **Case by case** assessment: by the Committee
- Lack of **Consistency:** different from country to country
- **Roles and Responsibilities unclear** amongst assessment makers
- **Specific Treatment of each Legal Act** as laid out in the regulation

Pros

Equivalence – the advantages

- **Reliance of authorities in the EU** on non-EEA supervised entities' compliance with EU rules
- **Reduction of overlaps** in compliance requirements for both EU and foreign market players
- **Acceptance of services**, products or activities of non-EU companies in the EU
- **Strengthens economic ties** and trade
- Avoids **market interruptions**
- Allows for **continuous alignment** amongst the G20

Equivalence is an attempt to align the European Financial Markets with 3rd country regimes to facilitate economic exchange.

Equivalence - Overview

Equivalence

- is an attempt to **align the European Financial Markets** with 3rd country regimes to facilitate economic exchange
- Is only applicable to states **outside of the EEA** or EU
- is **specific to an article within a regulation** (or a client category, a type of market participant or service provided)
- does not **provide single market access** by default and if it does, it is not always full access

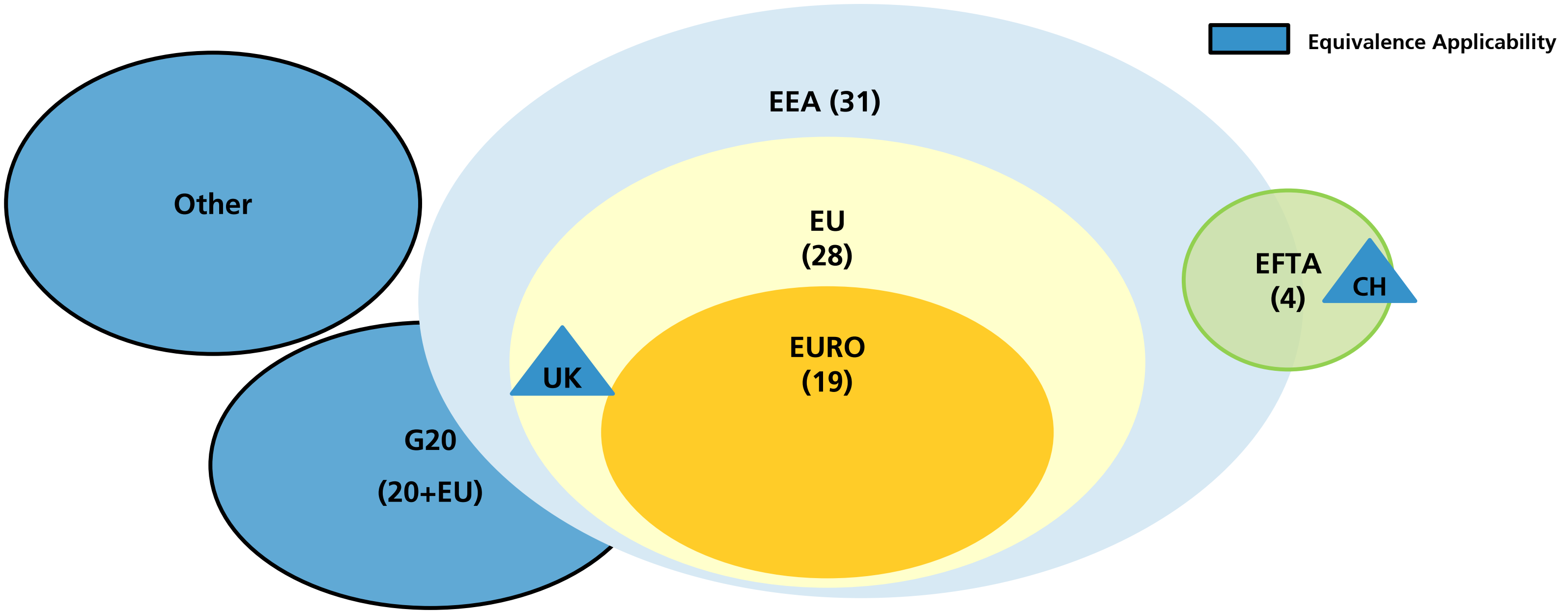
The reasons for granting equivalence:

- Reduction in market and client **risk**,
- Reduction in the threat of **market disruptions** as well as
- Increase in **simplicity and comparability** of regimes

Passporting vs. Equivalence

- While Passporting is applicable for full **regulations**, Equivalence only applies to **articles** within a specific regulation.
- Equivalence applies only to **non-EEA states** while passporting applies to only **EEA member** states
- Equivalence can be **withdrawn**, passports **cannot be withdrawn** from a country.
- Equivalence grants limited to **no single market access**, while Passporting always grants access to the single market
- Equivalence is mainly granted to a **country** while a Passport is granted to a **firm**.
- While Equivalence is granted by the **EU Commission**, a passport is granted by the **local NCA**.

Aligned Goals don't mean aligned Rules – Challenge of Complexity



The concept of Equivalence can only be applicable to states outside of the EEA or EU.

Brexit Impacts on Financial Services and Brexit Implications at UBS

Main Points of Section 2c

Brexit Impacts on Financial Services and Brexit Implications at UBS

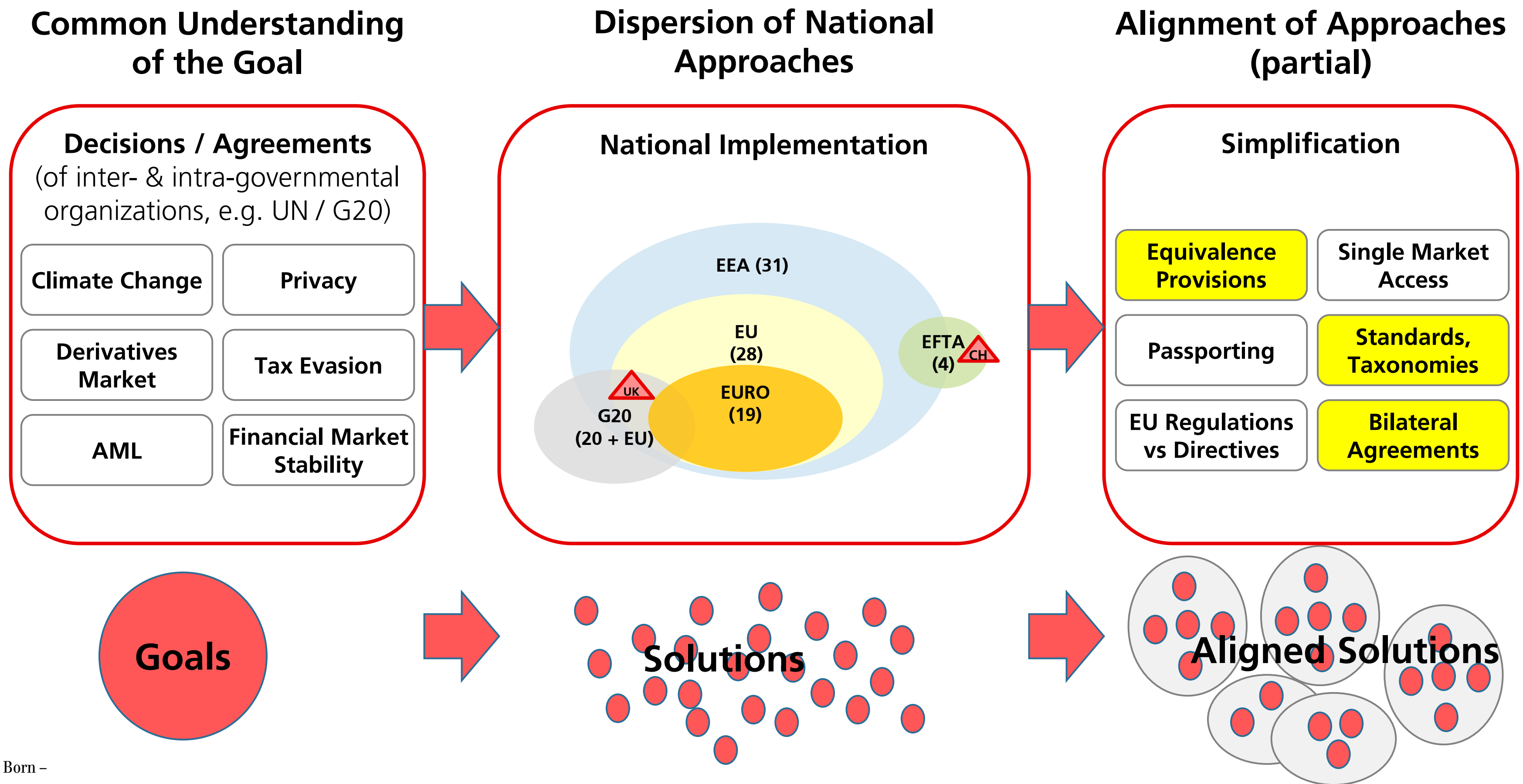
Brexit...

- … lacking clarity
- … banks are preparing for the worst case
- … Equivalence will only partially help

Brexit and UBS…

- … UBS Ltd will be dissolved in the course of a cross border merger into a Germany entity
- … we are preparing for the worst case – no deal
- … surprising complexity or business as usual?

Segregation in Unification – the Challenge of Complexity



Brexit and Financial Services – What do we actually know?

Pre-Brexit

- The UK is **part of the EU**
- The UK has **access to the single** European financial **market**
- UK firms **have access to passports**
- The UK has a **well established domestic financial market**
  - **Many non-EEA firms set up subsidiaries in the UK to access the European market**

After Brexit

- The UK is **not part** of the EU
- The UK **is not able to access the single** European Financial **Market**
- Non-UK firms cannot **service UK clients** and vice versa
- Non-EEA firms cannot utilize their UK **entities as a hub** for access into the single European market
- **The FCA** will continue to apply current EEA rules (e.g. MiFIDII / EMIR etc.)
- **ESMA, ECB** is not the UK's authority any longer
  - The FCA sets rules for UK financial firms
  - FCA approved service providers will not be EEA approved anymore
  - **UK venue** trades will be considered "off venue" from a EU perspective
  - Regulatory reporting is changing

In the case of a no-deal Brexit many aspects will still be unclear. The regulators have communicated that there will be no leeway concerning regulatory requirements.

Brexit and Financial Services – What don't we know?

In case of a no-deal Brexit, firms will have little to no time to react, which makes it increasingly difficult to take any action at all, especially where the way forward is ambiguous**.**

Timing

- Will there be a **transition period?**
- What happens if there is in fact a hard Brexit?

Deal

- What exactly is part of the **proposed Deal**?
- What will be **negotiated?**

Regulations

- What happens to the current **regulatory requirements**? For example:
  - Will there be **equivalence** of UK exchanges? What does that mean for the Trading Obligation requirement under MifIDII?
  - When and how is **Transaction Reporting** (EMIR delegated reporting / MiFIDII transaction reporting) to be amended?
  - Can we still rely on UK firms to publish under the **Pre-& Post trade transparency** requirements under MiIFDII?
  - Can UK **FCA approved APAs** and **ARMs** still be used after Brexit?
  - When will we have to use the **FIRDs FCA** data base by?
  - Will the **NCIs of UK citizens** change?

Due to the ambiguity, many firms have already moved operations out of the UK, or are in the process of doing so.

Brexit and financial services – will Equivalence help?

After Brexit – will equivalence help?

- The UK should easily be able to receive equivalence status for **all 40 equivalence provision**
  - **However**:
    - Any change in UK or EU law will trigger a **re-evaluatio**n (assessment is static)
    - Equivalence will only cover a small portion of all EU law in financial regulation
    - Equivalence does not always grant passport like access (individual country access needed)

After Brexit, the UK will have the status of a well aligned 3rd country. While Equivalence will be easily accessible, it is only available for a few pieces of regulation and it is always a static assessment subject to change with regulatory change.

Options for the UK after Brexit

Options after Brexit

- Work through **subsidiaries**
- Enter into **International Agreements**: Bilateral or multilateral Mutual commitments of 2 or more jurisdictions
- Apply for **Exemptions**:
  - Japan or CH focus on selected aspects of cross-border activity of foreign firms to grant specific exemptions, e.g. the Memorandum of understanding between Bafin and Finma for UBS clients only
- Apply for **equivalence** where possible
- Set up **sectoral agreements** for financial services with the EU Commission (Switzerland is also attempting this)

UBS and Brexit: a Merger and Regulatory Implementation

In preparation of Brexit: Cross Border Merger (CBM)

What?

- UBS Limited (UBSL) will transfer mainly EEA (non-UK) business to **UBS's German incorporated subsidiary UBS Europe SE (UBS ESE)**
- **UBS Limited will be resolved**, but UBS AG London Branch will continue to serve the UK market
- UBS ESE has so far served as UBS's primary regional hub for our EEA wealth management business as well as housing certain investment bank and asset management business activities.
- Following the Merger, **UBS ESE will also become UBS's regional hub for EEA investment bank** business and will continue its existing wealth management and asset management activities
- UBS ESE is currently supervised by the German Federal Financial Supervisory Authority (BaFin) but is expected to be regulated by the European Central Bank (the ECB) after the merger.

Why?

To ensure that UBS can **continue to service existing investment bank customers**, and continue to provide services, in certain EU jurisdictions after Brexit.

When?

One **month before Brexit**, which is currently planned for 29th of March 2019.

How?

The transfer will be carried out by means of a **combined banking business transfer under Part VII of the UK Financial Services and Markets Act** and a cross-border merger under the European Cross Border Mergers Directive.

UBS and Brexit: What does it mean for Operational Risk?

Timeline

- UBSL operational **carve out** will take place in **Oct. 2018** (UBSL **functions and clients will be split** between AGLB and UBS ESE)*
- UBSL will be **dissolved** in **March 1, 2019***
- Brexit will come into effect in **April 2019**

Target Solution

- All trades originating in WM entities currently **executed /routed through UBSL** will in either be routed to AGL or UBS ESE
- UBSL clients are divided between AGL and UBS ESE
- UBS ESE will in the future have **WM and IB** divisions under one roof

Regulatory Triggers

- Additional **Exchange Memberships** within UBS ESE (formerly Borsa Italiana only)
- **Intra-entity** trade flow within UBS ESE and AGL (formerly
- UBS ESE is **SI for all asset classes** (formerly FX only)
- **ETD positions** are migrated to UBS ESE or AGL (formerly UBSL only)

Regulatory Impacts

- Joint **requirements between IB and WM** divisions resulting in **exchange of CID** (TXR) and publication of joint reports (BEX)
- **Re-structuring of the clearing set up** for all locations
- **Data Provision** to trading venues (including CID) for various locations
- **Principal and Agent Capacity** trading changes
- **Best Execution** flow is to be revisited

BREXIT GWM Trading Stream Project Setup

BREXIT Group SC / GWM EC

Group BREXIT Program | **Brexit GWM Trading SC**

BREXIT GWM TRADING STREAM
Beate Born

		ETD	Securitized Products	Treasury Products	Structured Products Primary
	PMO	✓	✓	✓	✓
IPS	Trade Flows	✓	✓	✓	✓
IPS	Principal vs Agent	✓	✓	✓	✓
COO	Regulatory EMIR (incl ETD clearing)	✓	✓	✓	✓
COO	Regulatory TXR	✓	✓	✓	✓
COO	Regulatory BEX	✓	✓	✓	✓
COO	Trading-related Cost & Charges	✓	✓	✓	✓
COO	Regulatory various MiFID II + Non-MiFID II	✓	✓	✓	✓
COO	Business Design	✓	✓	✓	✓
COO	Operational Readiness / Contracts & Agreements	✓	✓	✓	✓

Locations

- BCCH
- GER
- ESP
- ITA
- LUX
- FRA
- MCO
- GBR
- JEY
- APAC

BREXIT GWM Trading: Stream Impact

Level of impact across the various streams and locations

BREXIT WM Trading Stream Impact	BCCH	GER	HKSG	UK	JEY	FRA	MCO	LUX	ITA	ESP
Trading ETD	H	H	H	No	No	No	H	H	H	No
Trading Securitized Prod.	H	H	H	H	L-M	H	No	M	L	H
Principal vs Agent	TBD	L-M	L-M	H	L-M	No	No	L-M	M	M
Regulatory EMIR	M	M	No	No	No	L	M	M	M	No
Regulatory TXR	L	H	No	M	TBD	No	No	H	H	H
Regulatory BEX	L-M	M	No	M	No	No	No	M	M	M
Regulatory various MiFID II	No	M	No	M	No	L	No	M	M	M
Regulatory Non-MiFID II	L	No	L	L	L	No	No	L	No	No
Contracts and Agreements	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

1WMP

H High impact
M Medium impact
L Low impact
No No impact

Beate Born

UBS and Brexit: A surprising level of complexity ? (1)

The Surprise effect

- The Brexit project started out as an **Investment Banking Project** (lift and shift)
- It was later **segregated** in Investment Banking, Wealth Management and Assent Management responsibilities
- **Challenges** around budgeting, resourcing and governance surfaced
- Brexit / the merger **impacts run through the entire organization**, assigning the somewhat ambiguous responsibilities ins an ongoing task

The Silo Effect

- All other **projects** operating on **"status quo"**
- All **functions** operating on **"status quo"**
- Consequently, impacts were identified at a late stage – through "voluntary analysis"

UBS and Brexit: A surprising level of complexity? (2)

The Ripple effect – example trading landscape

- With UBS Ltd. ceasing to exist, a considerable level **of execution capabilities are shifted** to either UBS AG London Branch or UBS ESE,
- Consequently, **trade flows** changed
- Consequently **regulatory requirements** changed
  - Principal vs Agent
  - EMIR
  - MiFIDII
  - Etc.
- Consequently, **decisions on operating models**, trading capacities, booking models, product offering and implementation work had to be taken

UBS and Brexit: A surprising level of complexity? (3)

Entities

CH Entities		AG entities UK/ JE		AG entities in APAC WM				Europe SE Branches				Non-Europe SE entities		
UBS AG	UBS Switzerland	UK	JER	SG	HK	TW	CN	GE	LUX	IT	ES	FR	MON	OTHERS

Products

Equity (EQ)			Fixed Income (FI)			Structured Products (SP)			Non Securitized Derivatives				Funds	
EQ IPO	EQ Listed	EQ not listed-OTC	FI New Issues IPO	FI Listed	FI Not listed-OTC	Primary-OTC	SP Listed	SP not listed	Equity	FI (IRD/CDS(Others)	FX/PM	ETD	ETFs	PE/Hedge Funds/ Mutual Funds

Impacted Flow

Flows

Swiss Hub Flow

1	UBS AG	UBS CH AG	UBS AG	UBS ESE	3rd Party
2	UBS ESE	UBS CH AG	UBS AG	UBS ESE	3rd Party
3	Rest	UBS CH AG	UBS AG	UBS ESE	3rd Party

Direct Flow to Ltd

4	UBS AG	UBS AG	UBS ESE	3rd Party
5	UBS ESE	UBS AG	UBS ESE	3rd Party

Legend: Not in scope of the GWM Brexit Trading Project

Not allowed

Allowed

Allowed with restrictions

Beate Born

Section 3

Sustainability – the next Level of Complexity (in Regulation)

Main Points of Section 3

Sustainability – the next Level of Complexity (in Regulation)

2030 UN Sustainability Agenda ...

- … 17 Sustainability Development Goals by 2030
- … no common reporting
- … no agreed taxonomy

Financial Services and Sustainability…

- … Financial Market as a gatekeeper for sustainable investments
- … implementation through regulation
- … complexity and ambigiuity

Segregation in Unification – the Challenge of Complexity

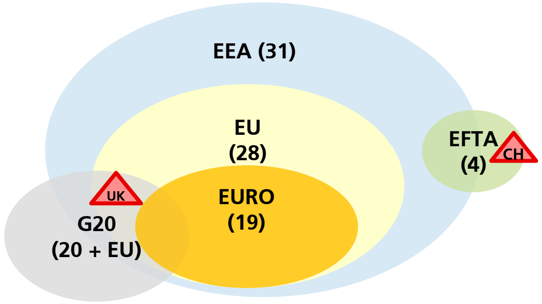
Common Understanding of the Goal

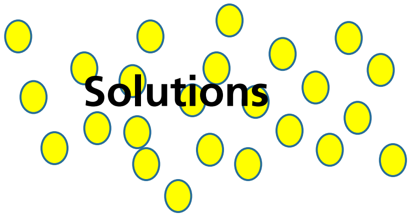
Decisions / Agreements
(of inter- & intra-governmental organizations, e.g. UN / G20)

- Climate Change
- Privacy
- Derivatives Market
- Tax Evasion
- AML
- Financial Market Stability

Dispersion of National Approaches

National Implementation

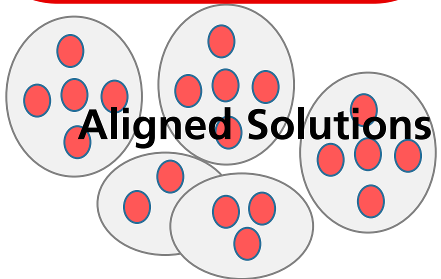




Alignment of Approaches (partial)

Simplification

- Equivalence Provisions
- Single Market Access
- Passporting
- Standards, Taxonomies
- EU Regulations vs Directives
- Bilateral Agreements



Beate Born

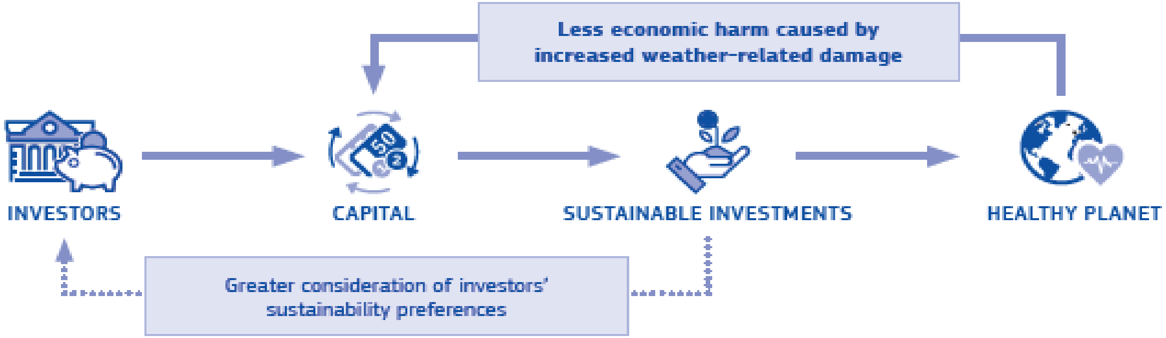
Sustainability - recent developments

Sustainability – where are we at?

- **2015**: In the course of the **2030 UN Sustainability Agenda** 193 UN Member States endorsed 17 Sustainability Development Goals (SDGs),
- **2015**: in the course of the **UN Framework Convention on Climate Change**, 195 Nations signed the Paris Agreement
- **2018**: Action Plan for Financing Sustainable Growth published by the EU Commission
  - For example: The **EU** (Commission) has committed to specific transport, water & waste and energy goals requiring a 270bn Euro Investment by 2013

The EU Commission is looking to the Financial Services Sector to facilitate Sustainable Development:

- "The financial sector has **huge potential for green investments**. The financial sector **must be part of the solution** and can play a **critical role in achieving** the EU's sustainability goals. […] engaging private finance in a systematic way requires **systemic changes to the EU financial eco-system**.



Sustainability and Financial Services

Sustainability Financial Regulations

- The financial services industry is **expected to channel funds towards sustainable investments** through the evaluation of investments and companies
- The **EU Commission has established** a **High Level Expert Group,** and **a Technical Expert Group** to figure out how to
  - Steer flow of public and **private capital towards sustainable** investments
  - Develop a unified **classification system** for sustainable economic activities

May 2018: Three proposals for Regulations (of the European Parliament and the Council)

- Benchmarking, MiFIDII are to be amended
- A taxonomy framework is to be implemented

Sustainability and Financial Services - Challenges

The EU and global communities are still struggling with the following:

- A globally and across industries accepted **definition of sustainability** and its conceptual goals in line with the 17 SDGs
- A globally or at least EEA-wide **accepted and comprehensive taxonomy for evaluating sustainability of investment** products and their underlying businesses
- An **infrastructure to capture investment product sustainability data** and make it available to the financial services industry (preferably globally but within Europe as a minimum)
- A globally or at least EEA-wide **accepted standard to sustainability reporting** in the private and public sector (voluntary and involuntary) that the financial categorization can be based on
- A commonly **accepted set of prioritization guidelines between investor protection, market risk and sustainability factors** (globally or at least Europe-wide)

Furthermore:

- Sustainability is often only **focused around SDGs 13-15**, which are the ones relating purely to environmental topics.
- European Commission itself states that
  - **the taxonomy laid out in the "Proposal for Regulation** […] on the establishment of a framework to facilitate sustainable investment [..] **is not yet in a stable and mature state**" ,
  - the necessity for standardization around this topic runs deeper into **the reporting chain where many stakeholders struggle with misinterpretation and information gaps**.

17 Sustainability Goals – only 3 are purely Environmental

The 17 sustainable development goals (SDGs) to transform our world:

GOAL 1: No Poverty
GOAL 2: Zero Hunger
GOAL 3: Good Health and Well-being
GOAL 4: Quality Education
GOAL 5: Gender Equality
GOAL 6: Clean Water and Sanitation
GOAL 7: Affordable and Clean Energy
GOAL 8: Decent Work and Economic Growth
GOAL 9: Industry, Innovation and Infrastructure
GOAL 10: Reduced Inequality
GOAL 11: Sustainable Cities and Communities
GOAL 12: Responsible Consumption and Production
GOAL 13: Climate Action
GOAL 14: Life Below Water
GOAL 15: Life on Land
GOAL 16: Peace and Justice Strong Institutions
GOAL 17: Partnerships to achieve the Goal

Section 4

Complexities of Regulatory Implementation in the Firm

Main Points of Section 4

Complexities of Regulatory Implementation in the Firm

Complexity in Regulatory Implementation…

- Internal vs.
- External

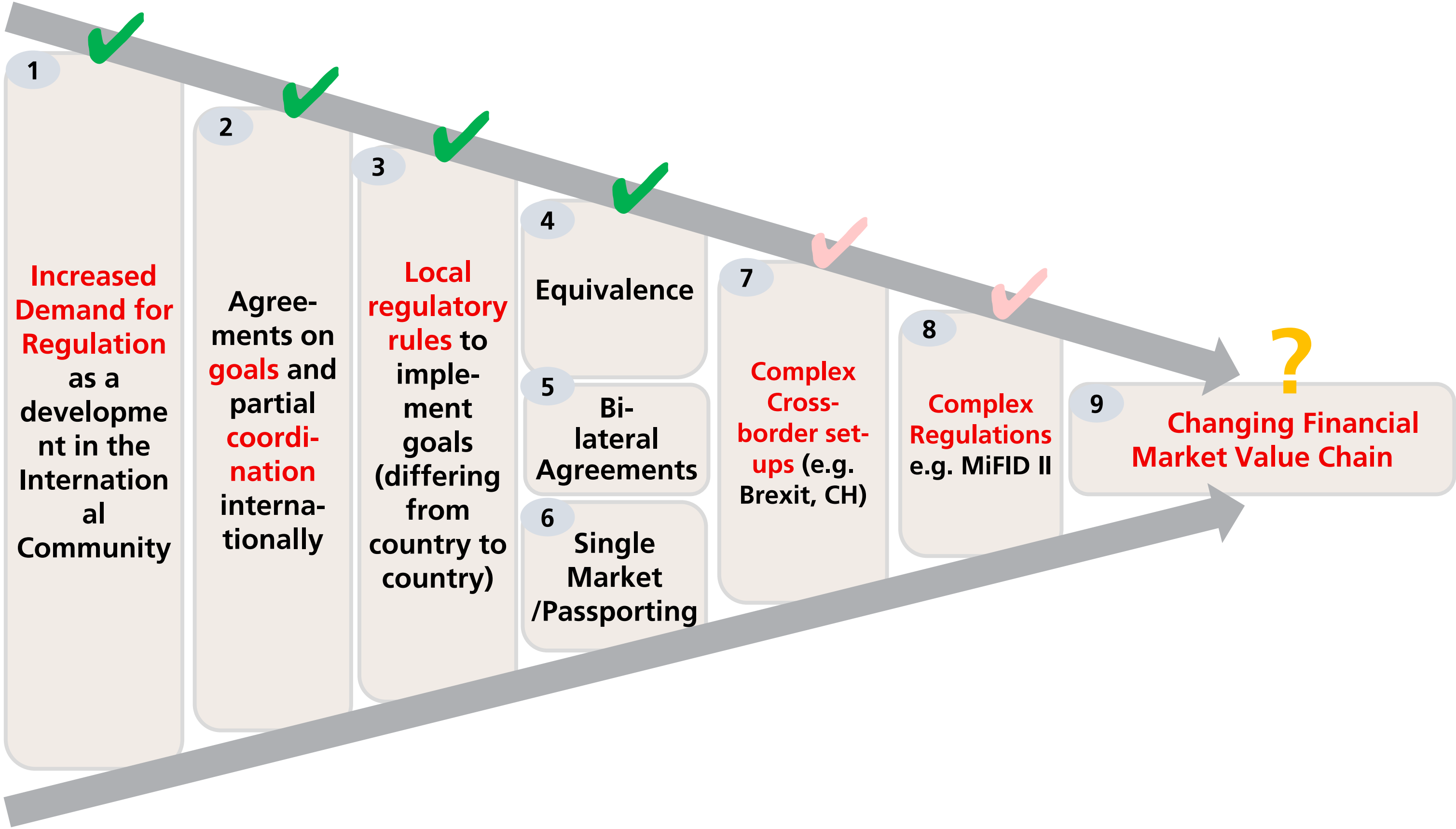
Opposite Forces in Regulations…

- Privacy vs.
- Transparency

Execution and regulatory complexity…

- …Example: complexity of MifIDII Data Flow

Financial Market Regulation in Europe:
From the Big to the Small picture - Impacts on the Financial Services Industry



Segregation in Unification – the Challenge of Complexity

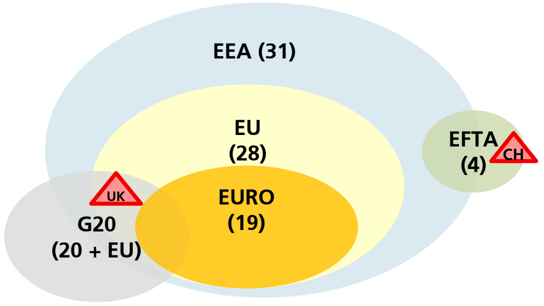
Common Understanding of the Goal

Decisions / Agreements
(of inter- & intra-governmental organizations, e.g. UN / G20)

- Climate Change
- Privacy
- Derivatives Market
- Tax Evasion
- AML
- Financial Market Stability

Dispersion of National Approaches

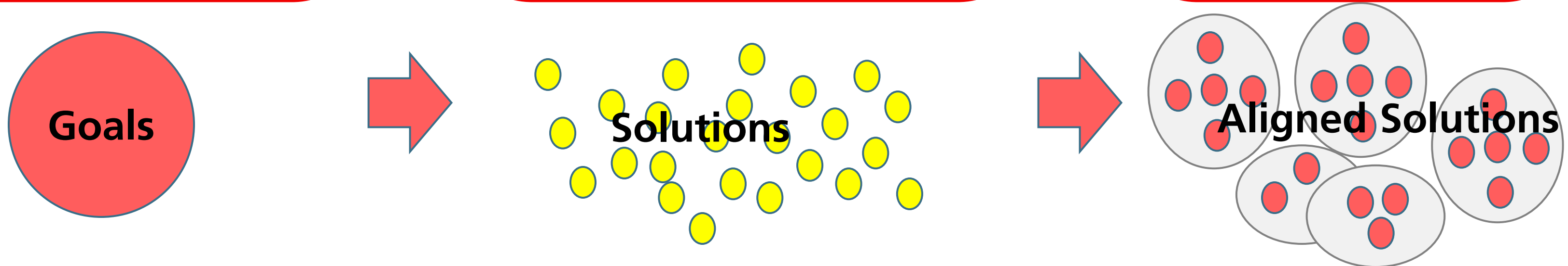
National Implementation



Alignment of Approaches (partial)

Simplification

- Equivalence Provisions
- Single Market Access
- Passporting
- Standards, Taxonomies
- EU Regulations vs Directives
- Bilateral Agreements



Complexity in Regulatory Implementation in Financial Services

Regulatory Complexity

Amount of Information
- Increasing number of regulations on a global scale

Interpretation
- Individual interpretation of how to achieve a regulatory goal in every jurisdiction
- Conflicts between rules and definitions in different jurisdiction

Global Community
- Equivalence provisions are hard to manage and to anticipate
- Cross Border provisions depending on the access to the single market place
- Changes to old regulations and creation of new regulations are accelerating

Market Infrastructure
- Market infrastructure cannot keep up with the pace that new regulations are implemented at

Ever Rising Regulatory Implementation Costs

Internal Complexity

Systems
- Multiple IT platforms
- Multiple legacy systems
- Multiple booking centers and advisory offices

Trade Flows & Products
- Multiple CCPs, Exchange Memberships, Broker Relationships
- International trading set up
- International client base with cross border business
- Extensive, individualized product shelf

Processes
- Slow knowledge transfer, cumbersome process mgmt.
- Lacking standardization for regulatory implementation

Organization
- Hard hierarchies & paralyzing politics
- Cost pressures preventing quick / agile approaches
- Complex legal entity structures

Opposing Forces within different Regulations: Privacy vs Transparency

Privacy

- With the increasing **digital connectedness** and extension of the digital footprint, privacy has become a major **concern** for consumers.
- **Companies are now held responsible** to protect their clients' data and make it transparent what they are using it for.
- **Client data must be anonymized** and/or destroyed if not needed any longer (for the purpose it was collected for).
- Banks continue to be **discrete** about their clients' information.
- GDPR / Client Payments Directive II

Data

- **Data is a commodity**
- Companies that have client data (Google / Amazon / Alibaba) also have power
- Data can be used to **manipulate and pressure, but also to protect** the client
- Structuring Big Data is a major business model together with Robotics, AI etc.

→ From **Know Your Customer to Know Your Data**

Transparency

- **Regulators collect client & Market information** to prevent Market Abuse, Money Laundry, Tax Evasion and Market Instability
- All **trading activity is to be on record** (limited OTC trading) in order to understand market trends, activities and prevent potential crashes.
- **Trading information available** to the financial market **participants** is to make the market place fair.
- Prices, costs & **commissions** are to be made **transparent** by the bank.
- Banks can only sell products to **clients** according to their level of **sophistication**

Illustration - Example

Trade Life Cycle – Step 1 – Internal Order & Execution Flow

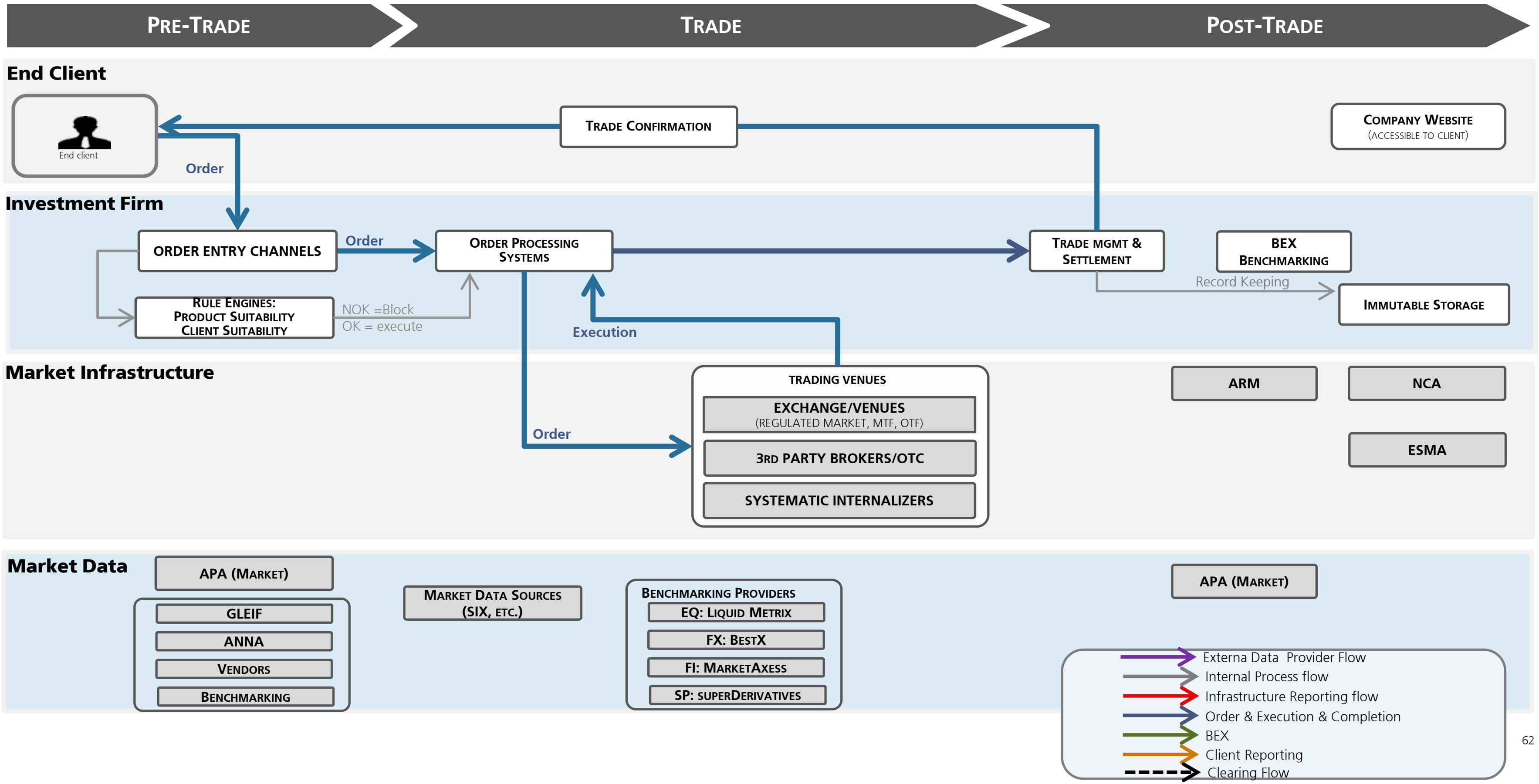


Illustration - Example

Trade Life Cycle – Step 2 – Market Infrastructure Flow

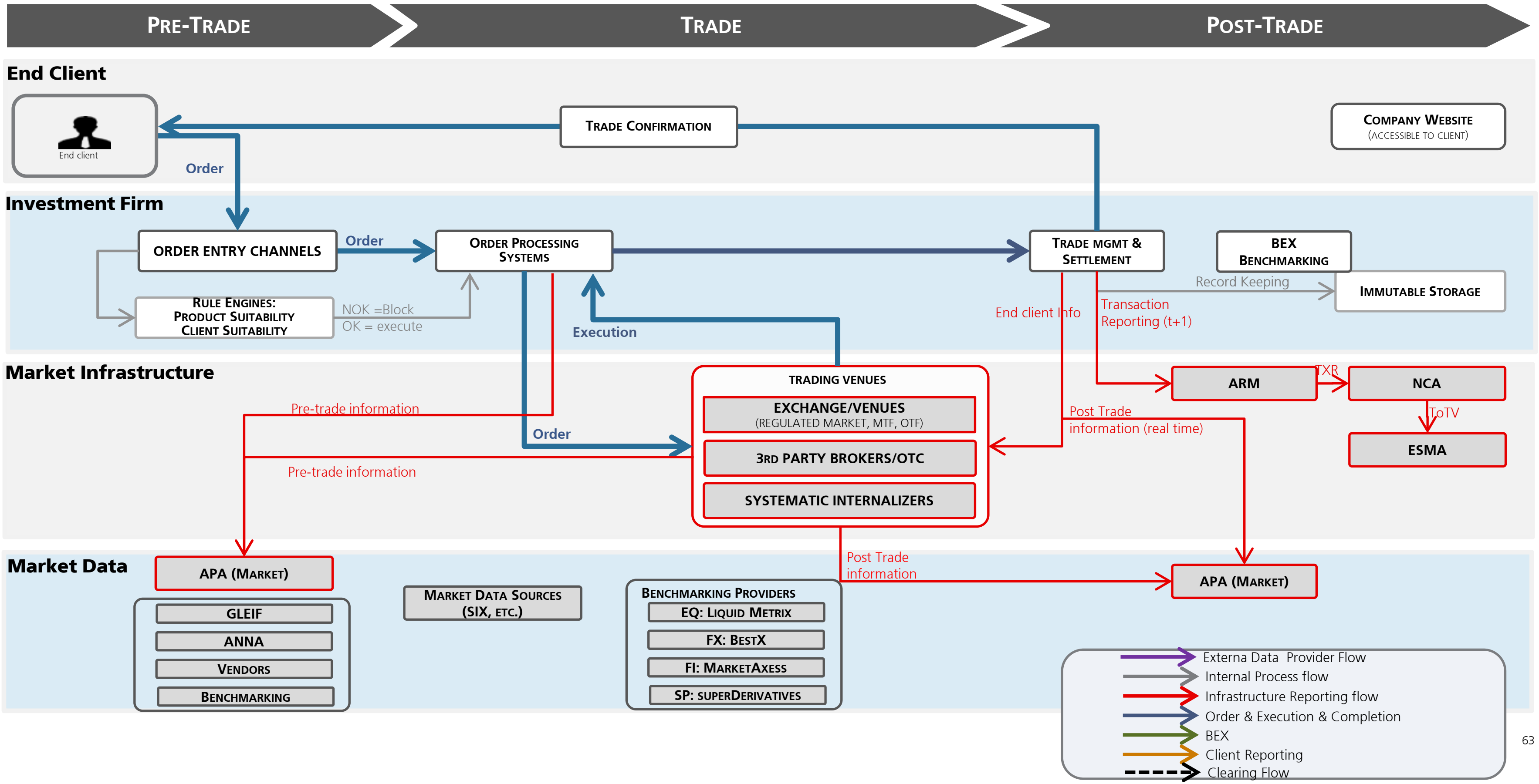


Illustration - Example

Trade Life Cycle – Step 3 – External Data Provider Flow

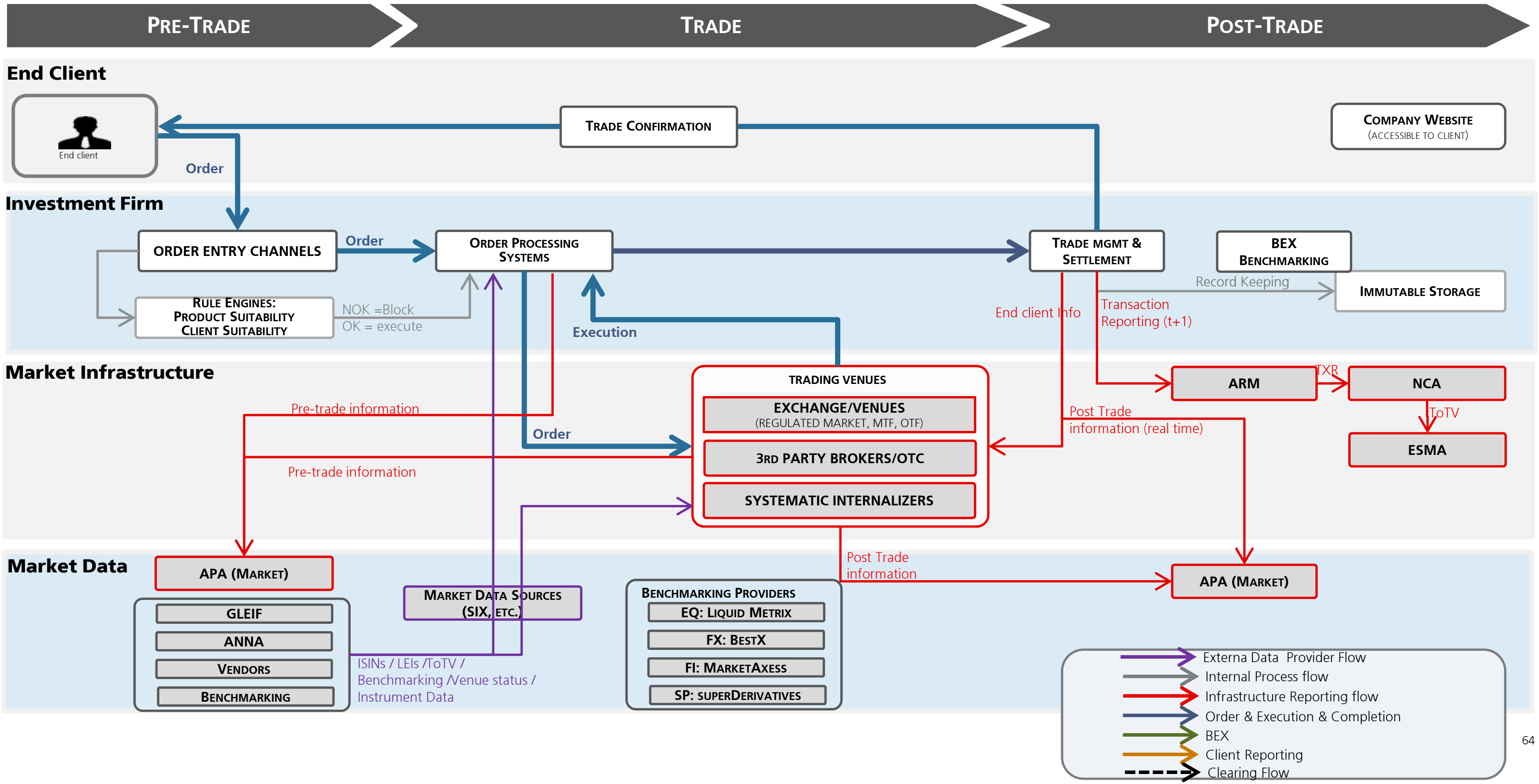


Illustration - Example

Trade Life Cycle – Step 4 – BEX Flow

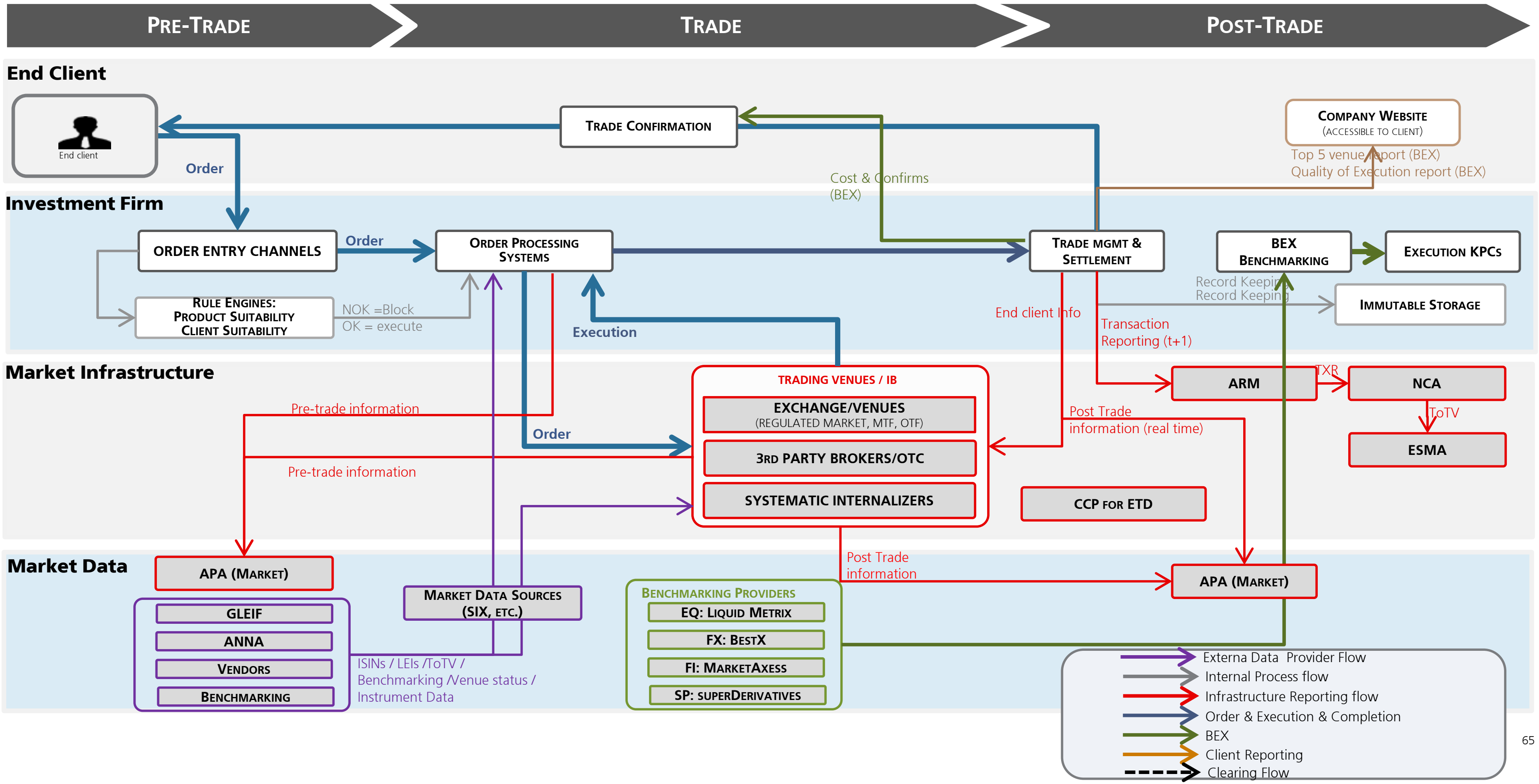
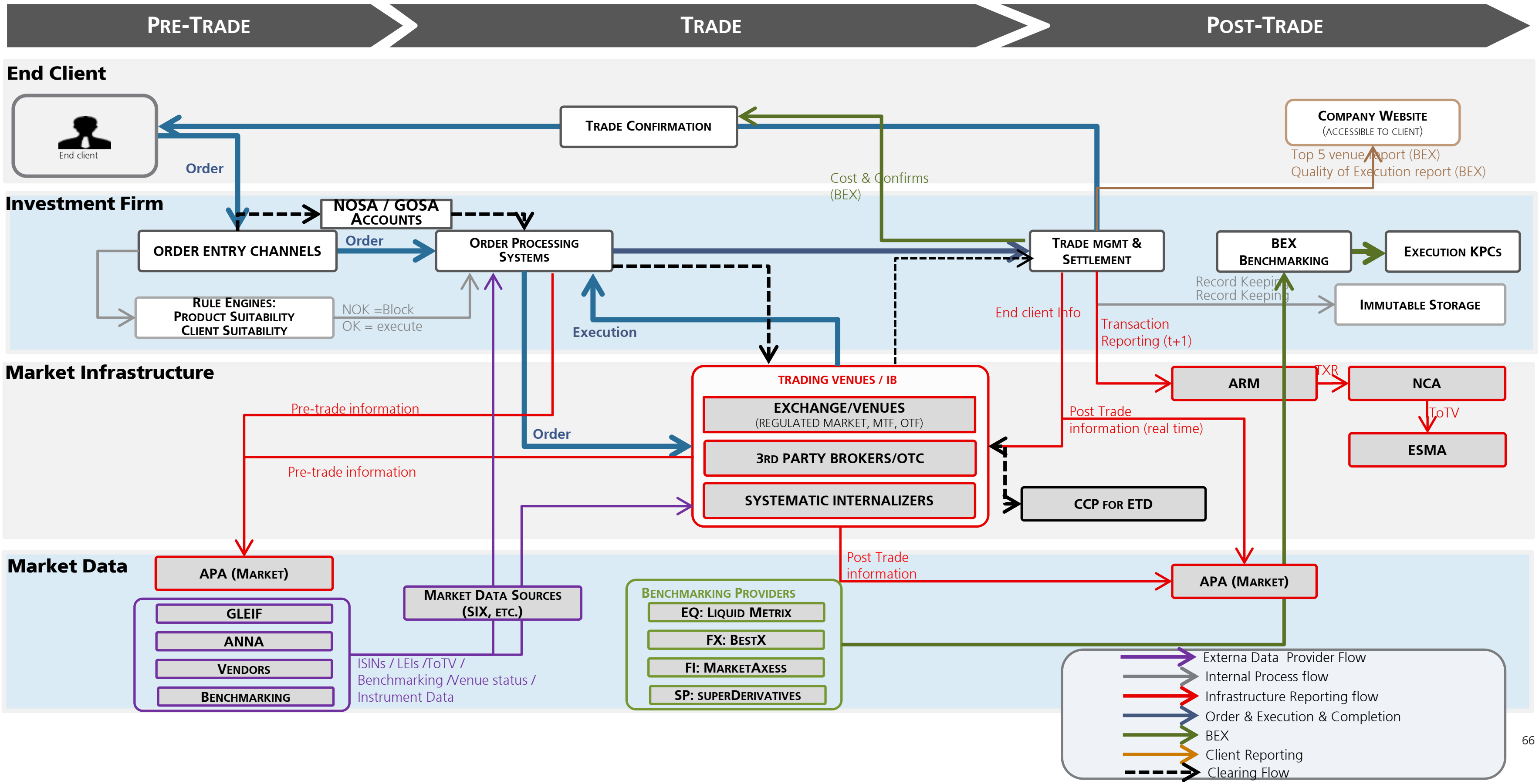
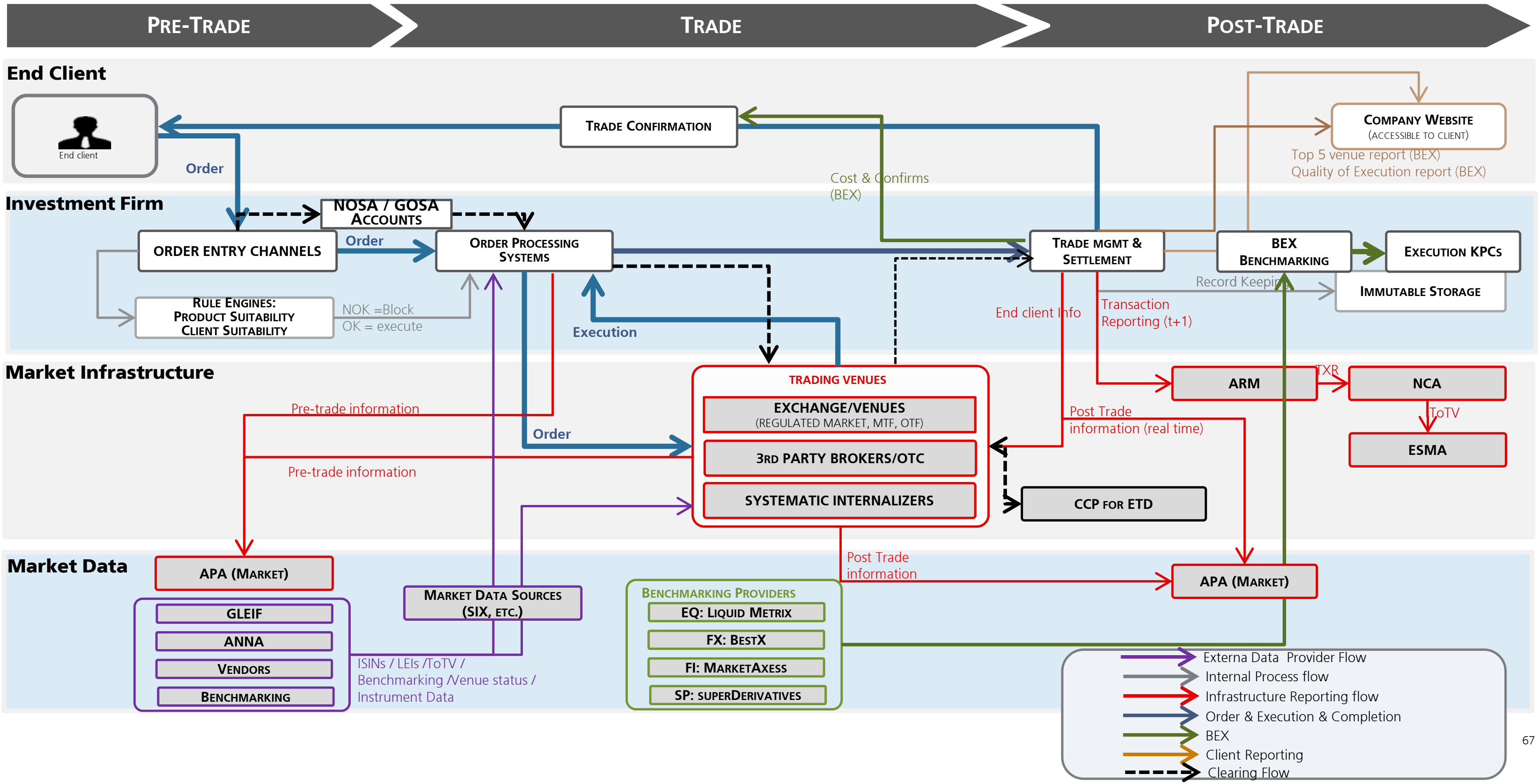


Illustration - Example

Trade Life Cycle – Step 6 – Clearing Flow

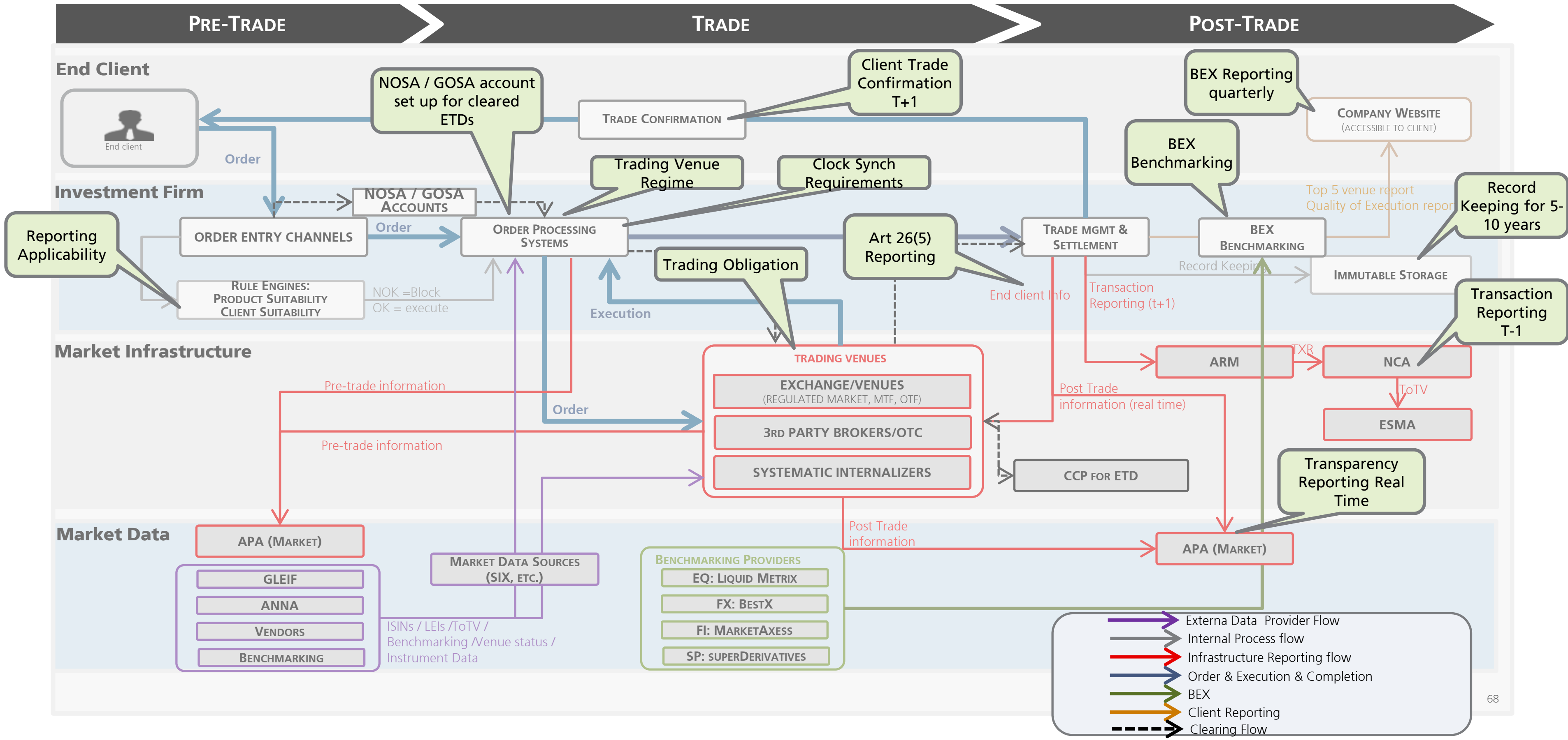


Trade Life Cycle - Overview



MiFID II / MiFIR Requirements in the Trade Life Cycle

Illustration - Example



Financial Market Regulation and the Value Chain

Focus on Transparency → **Increased Data Flow** → **Change of business models**

Dimensions of the Financial Services Industry:

- Client
- Investment Firm
- Market Infrastructure
- Market Data Vendors

→

New focus – Fintech / RegTech:

- Automation
- Robotics
- AI & Machine Learning

With new reqiurements in the financial services industry we will see a change of business models.

Technology: How Fintech & RegTech change our processes, platforms and data management

Main Points of Section 5

Technology: How Fintech & RegTech change our Processes, Platforms and Data Management

Technological advancement – don't miss the boat

- Banks will not be able to keep all development in house – let the experts to the job
- Technologies should be utilized - Robotics, AI, Big Data, Cloud Computing
- We need lean and flexible machines to implement regulatory requirements for us (Rule engines for products, for clients, for flows, for legal entities)

Expect Regulations around technology

- There are a lot of concerns about machine learning and AI – regulations are to come

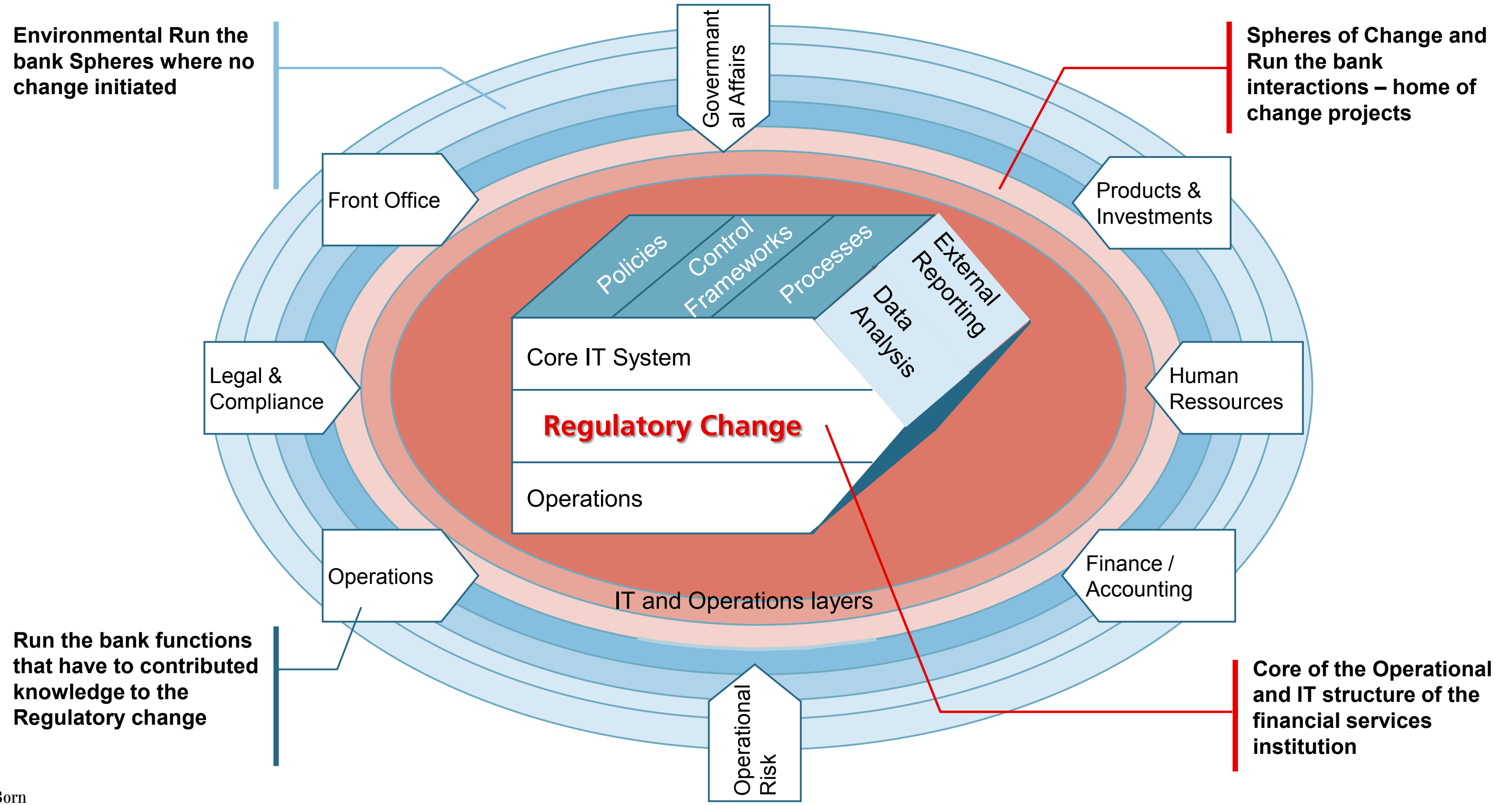
Focus on your main markets, products and clients

- Reducing complexity might also mean reducing the offering, the client scope and geographical coverage
- Simplification of the business means saving IT costs

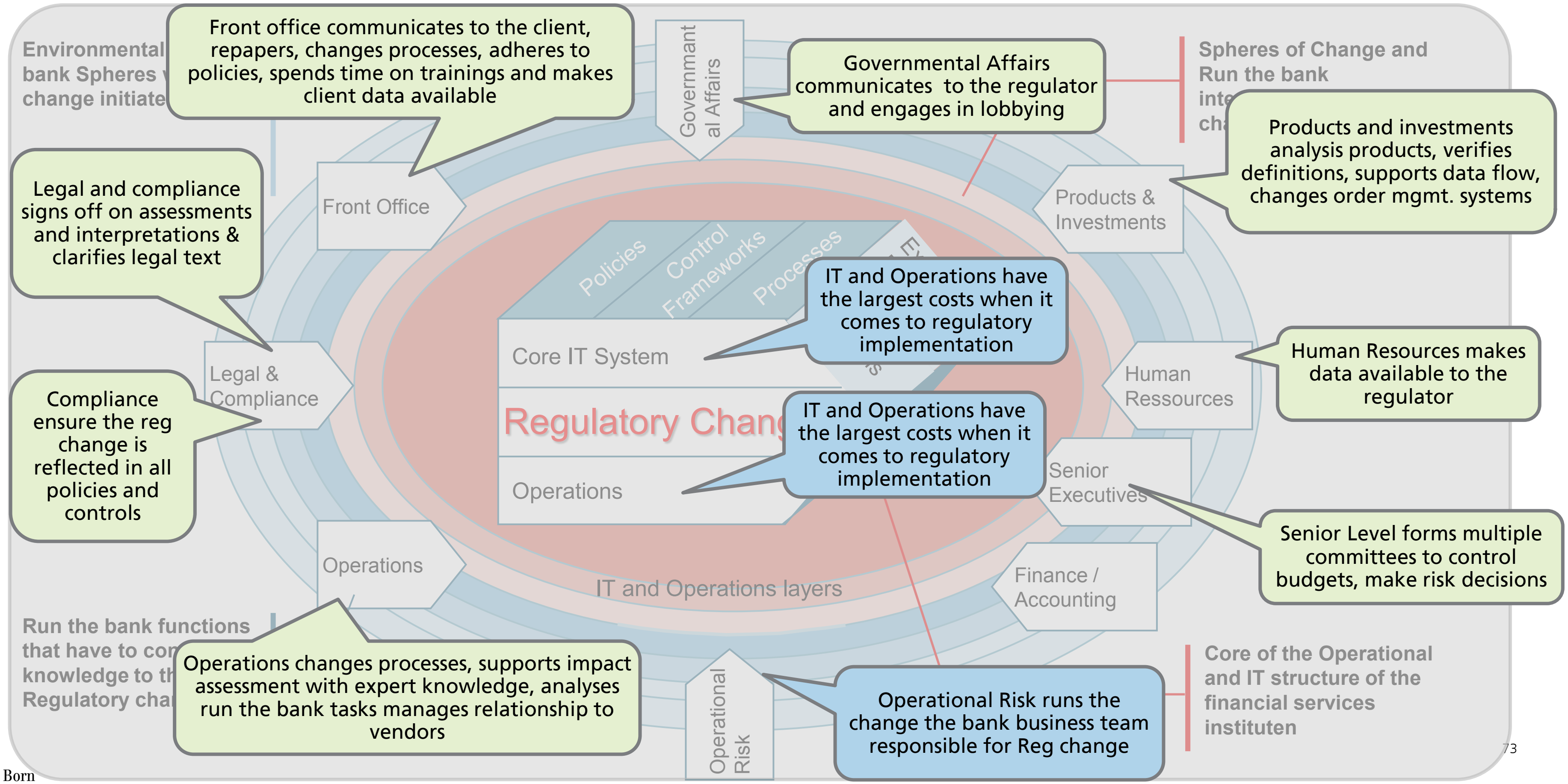
Sell what you do best

- Firms will want to sell tech solutions that they have built inhouse to their competitors

Regulatory Change permeates throughout the organization in impact & implementation



Regulatory Change creates the need for resources all throughout the organization



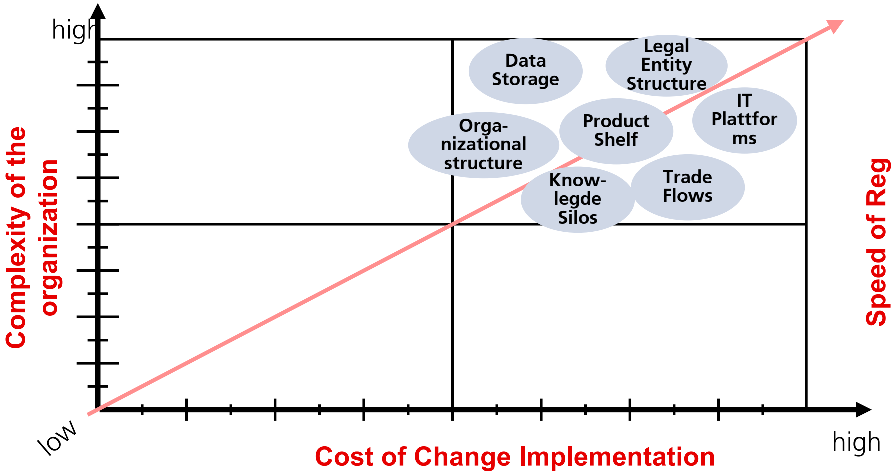
Complexity and Increased RegChange Speed and Sophistication

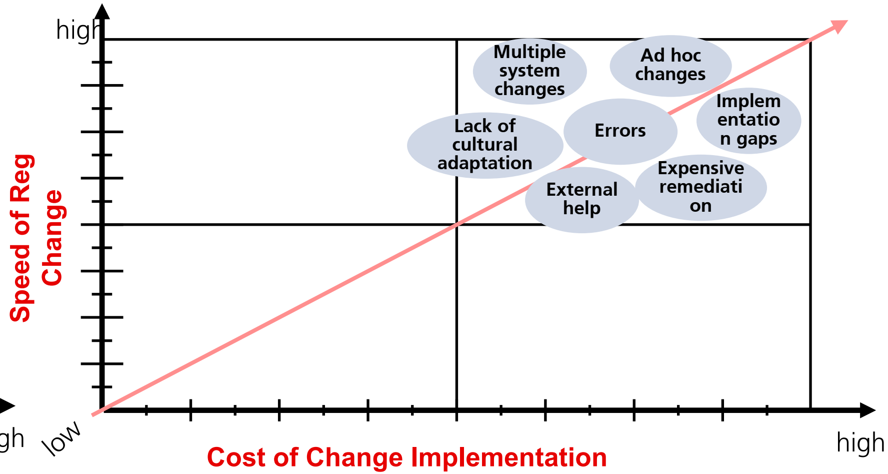
Main goals that RegTech should accomplish from a bank's perspective

- **Reduce complexity** and therefore decrease the cost of risk & compliance operations and regulatory implementation
- **Create opportunities for revenue creation** in operational risk & regulatory compliance

Increased pace of Change

- The change in regulations will happen with **increasing speed**
- Regulators will expect s**high data and technology standards** that are flexibly adaptable

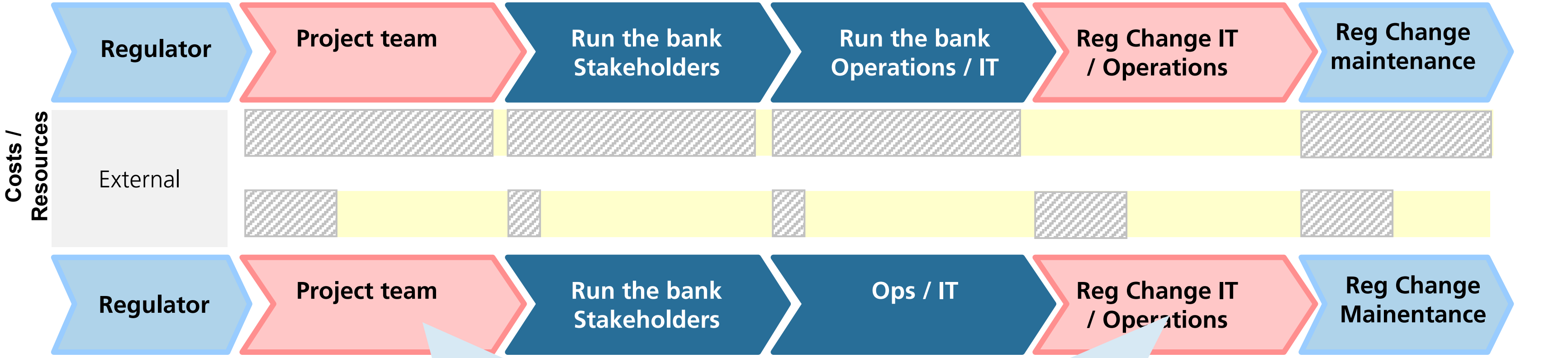




With every Regulatory Project, change is a necessity and the harder it is to define the status quo, the harder it will be to plan and implement the change.

Improvements for straightforward Regulatory Change – The "old" Concept of Industrialization

Old Process



New process

Analysis:
- The **project team** is internal, globally responsible and knowledgeable
- All **processes** are documented and readily available for use (Artificial Intelligence/Robotics?)
- A **modeling tool for regulatory change** is available (Digital Twin?)
- Analysis in finalized by the project team

Requirements:
- **Change impact** fed into existing structures (trainings etc.)
- Requirements are **standardized** and fed into RegChange

Platforms & Connectivity:
- All systems are on a **single platform**
- All systems & applications exchange information using the same language (Cloud, big data etc.)
- **Single change is replicated** throughout the entire organization

Modeling & Testing
- A **modeling tool** for regulatory change is available (Digital Twin?)
- Agile, **flexible** change is ongoing

Structured Data
- All definitions are aligned (products, entity types, clients etc.)
- All data captured in one database

Technological & Operational Consideration for Banks: Service Offering: Business Model and Industrialization Implications

In the attempt to reduce costs and complexity we can tackle from two angles

Operations:

Technological advancement is a must in order to survive in the future, for example:

Standardization is necessary (industrialization)

- to become more efficient in data sourcing
- create transparency & simplify to reduce analysis & implementation efforts
  - consolidate platforms and legal entity structures
  - Share same systems across divisions
  - Build flexible but standardized processes

Outsourcing of data mining capabilities is necessary

- Focus on core competencies for banks
  - data mining is expensive and is a service provided by many firms out there
- Build trust to vendors
  - new and growing link in the value chain
  - Become a vendor

Business Model:

Focus on core competencies & target market

Remark for MiFID II: there is no way to get out of the entire regulation, but

- you can de-scope on certain parts, e.g.
  - only trade with venues (avoid TPY),
  - don't trade ETDs (avoid Clearing),
  - don't trade on own account or match trades (avoid venue requirements)
  - don't have an exchange membership (avoid clock synch)

Other ways to simplify

- **Focus on geographies:**
  - ensure to be able to service all clients in Asia
  - ensure to be able to operate all entities in Asia
- **Focus on Products**
  - E.g. discontinue ETDs if not main market and Clearing too expensive to implement
- **Focus on client segments**
  - Professional Clients vs. retails or WM clients
  - Institutional clients (delegated reporting offering?)

Staying relevant in the global financial Markets

What does a bank need to stay relevant

- Meet **customer expectations**
  - **Mobile**, digital, easy access, fast execution
  - **Product offering** (large)
  - Price & value in execution (**BEX**)
  - Cross border business (anytime, anywhere)
  - State of the art **advice** (robo or human or both)
  - **Stability** (not in danger of bankruptcy)
  - **Price and value in service provision** (don't overcharge, individualized advice)

- **Generate sufficient revenue to sustain size, reputation and talent (**salaries)
  - Re-think **revenue generators** due to changing client attitudes and regulatory requirements

- **Stay compliant with regulations**
  - **Offset income loss** stemming from regulatory implementation, restrictions
  - **Avoid fines** (since 2008 regulatory fines have increased 45-fold)

- **Cover costs of non-revenue-generators**
  - Compliance, Risk management, Research, Program Management

Thanks for listening!!

Any Questions??

Contact information

UBS Switzerland AG

GWM COO - Business Risk Services

Europaallee 21, 8004 Zürich, Switzerland

+41 (0)79 910 8650

Beate.born@ubs.com

Appendix

MiFID II WM Trading: EEA and non-EEA Locations

All EEA locations have to implement the full MiFID II scope. Europe SE locations will also be Systematic Internalizers for FX Derivatives. All Non-EEA locations, including BC CH are only in scope for extraterritorial requirements and are only impacted by one of those (ETD indirect Clearing).

***Switzerland** impact: Clearing (direct), BEX, Trading Obligation, Record Keeping, Outreach, TXR (indirect)
Jersey impact: Clearing (direct), TXR, BEX, Record Keeping due to LMJB accounts (indirect) **/ APAC** impact: Clearing (direct) **Monaco** Impact: Clearing (direct)
Brazil and **Mexico** are out of scope as they do not trade in scope products and their organization structure differs as well
WMA are impacted, but not taken care of by this project.

Why are Equivalence Provisions made available?

Recent Equivalence decisions – potential reasoning

1. **Equivalence is granted in areas that require less control / supervision and allow for leeway.**
   - **Professional & Wholesale Client Focus: MiFID II, MiFIR and AIFMD**
     - Retail clients are less sophisticated and therefore need more protection than professional clients.
     - Restrictions around servicing professional clients are less stringent and it is easier to find comparable regimes
2. **Equivalence is granted in areas with high economic impact/potential market disruptions**
   - **Professional & Wholesale Client Focus: MiFID II, MiFIR and AIFMD**
     - Professional clients are often already set up with a global structure which makes it difficult to control where they are being serviced.
   - **EMIR CCPs**
     - Full single market access is granted to CCPs in equivalent countries to avoid market disruption if Clearing Houses are no longer able to service the global market. 15 countries have been granted equivalence.
   - **MiFIR: Trading Obligation – venue Equivalence**
     - If non-EEA trading venues cannot be traded on any longer, the international trade flow is disrupted and a liquidity problem arises

Conclusions

- **The reasons for granting equivalence are often based on market and client risk, the threat of market disruptions as well as simplicity and comparability of regimes**

Technological & Operational Consideration for Banks: Increased use of External Providers

Outsourcing & external vendor decisions

There are two types of external providers

The ones you have to use

- APAs (Approved Publication Arrangements)
- ARM (Authorized Reporting Mechanisms)

The ones you choose to use for efficiency

- SOR engines,
- Data miners & rule engine providers
- External data bases for products traded on venue, LEIs, product information such as CFI codes, ISINs and flags

Common concerns with vendors

- **Data storage** – possible client information stored cross border – problems with hostile regulators?
- **Responsibility** in case of default and fall back scenario (Trade Reporting, flagging, LEI accuracy etc.

Food for thought:

The fact that the regulator is making us use APAs and ARMs means that this is a wanted development and maybe a hint to give up some of the control in favor of focus on core competencies

Impacts in case of a no-deal Brexit (1/2)

	MiFID				
	Shares trading obligation (STO)	**Post-trade transparency**	**Transparency classification/ thresholds**	**Data reporting service providers**	**FCA FIRDS data base (ToTV, uToTV)**
Regulator Statement/ Assumption	If **UK Venue Equivalence** is not granted STO changes apply. **STO product scope** to be separated between UK and EU. **TVs** where Cash Equity trades should be routed to, will differ based on the location of primary listing and origination of orders. **STO** rules around members of the	**EU27 investment firms** executing transactions on UK venues, UK investment firms and UK SIs may be required to publish their trades, instead of relying on the publication by the venue / CP.	There may be changes to the **classification of instruments** as having a liquid market and the SSTI and LIS thresholds for instruments as a result of the exclusion of UK data from the calculations used for the periodic assessment of instruments under RTS 2. The exclusion of UK data seems likely to result in fewer classes of derivatives being regarded as having a liquid market	**UK APAs** (approved publication arrangements) and **ARMs** (approved reporting mechanisms) cease to be permitted means for EU27 investment firms to comply with Post-Trade Transparency and transparency reporting obligations.	All firms who want to **access FCA FIRDS** for data sourcing will need to connect (either directly or via a 3rd party) to FCA FIRDS publication tool. **UK TVs** will need to prepare to transaction report for transactions on their venues by their EEA members (who will become 3rd country firms as regards the UK after 29 March 2019).
Impact	Potential conflict on current **PvA** solution and **MiFID II STO**. Indirect impact on Securitized Products.	Expectation is that decision will be taken that the **same rules** will apply in the EU and UK. In this case no changes would apply. Should this not be the case, the trades done on UK venues will be seen as OTC and published.	**Post-trade Transparency** – deferral rules may change based on liquidity, large in scale thresholds etc. **Pre-trade Transparency** – Instrument scope may change based on liquidity etc. **TV** – no direct impact for WM, IB knock on impact possible (to be analyzed).	**APAs** – Unavista and TRAX are creating EU and UK flavours to their platforms. WM UK will connect and report to the UK platforms and all other locations to the EU platforms. **ARMs –** ARMs need to be certified by the FCA for UK based reports and by an EU regulator for EU27 reports. This applies already, as Unavista has a legal entity in EU27.	**FIRDS listings** will be different between FCA and EU27. UK firms will need to connect to the FCA FIRDS, and EU27 need to connect to ESMA FIRDS data bases. In addition locations need to track the data historically, pre and post Brexit.
Resolution Plan	Monitor hard Brexit discussions in relation to the trade flow: AG --> CH AG --> ESE --> AG LB --> ESE --> Venue (potential conflict with EEA and UK STO can come) Dependency on IB for STO solution.	Monitor communication.	No changes to current setup. **Deferral rules for PTT** are based on this determination but are outsourced to the APAs. **Pre-trade Transparency** for FX is expected to not apply in the future due to them being illiquid	**APAs** – We also expect Deutsche Boerse (DB) to follow the same approach. However in the meantime the expectation is that DB will keep its validity in the UK as an APA. **ARMs** – ARMs are already segregated by UK and EU27.	**FIRDS connectivity** needs to be confirmed by locations. **WMs strategic static data repository (FI)** will need to source information from both UK and ESMA FIRDs data bases.

Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan
No	**H**		ISDA	**H**		ISDA	**M**		FCA / ISDA	**M**		FCA / ISDA	**M**	

Items aligned with the IB approach

Impacts case of a no-deal Brexit (1/2)

	MiFID		EMIR		Best Execution (Costs & Charges)
	Identifiers for natural persons, Art. 6 RTS 22	**Transmission of orders vs. Agency Trading**	**EMIR ETD reporting**	**UK Venue Equivalence**	**Stamp Duty**
Regulator Statement/ Assumption	Expectation is that **Annex II of RTS 22** would be amended after a hard Brexit in such manner that UK nationals would fall within the "All other countries" category.	Potential changes regarding **assisted reporting / transmission** (CID transmission down the chain).	**EMIR delegated reporting** to be sent to FCA for UK/Gibraltar domiciled clients. For EEA clients reporting continues to be sent to ESMA.	**EU Commission** (EC) will decline to recognize UK exchanges as equivalent.	EEA members benefit from **stamp duty intermediary relief** in a Hard Brexit scenario. We await clarification from the UK Government as to whether EEA members and participants will continue to benefit automatically from stamp duty intermediary relief in a Hard Brexit scenario.
Impact	In Annex II of RTS 22, all non-EEA countries use the national passport numbers as **NCI**, while UK uses the national insurance number. After Brexit, the UK would fall under the "All other countries" category, and thus the national passport number would be used as NCI. This would affect six fields of Transaction Reporting.	**Assisted Reporting / transmission** model ("transmitting firm" is discharged from its reporting obligation) might no longer be applicable. However no impact identified for FIMs as DE does not have any UK FIMs transmitting to them.	UBS Switzerland AG carries out **delegated reporting** on behalf of UK/Gibraltar domiciled clients. EMIR reports will need to be submitted to FCA.	Unclear impact. **ETD transactions** executed on UK TVs may need to be reported as OTC if it is not an approved 3rd country TV.	If **stamp duty relief** will apply, we need to ensure that it is not charged to our clients, due to hardcoded logic (e.g. MIC code).
Resolution Plan	Further investigation required.	Further investigation required.	We are expecting repositories to live up to regulatory requirements. **LU / MC** – stopped offering delegated reporting so Regis is out of scope. **1WMP locations** – CSTR solution for OTC transactions, Topaz solution in development for ETDs.	DTCC are set up to handle this, further analysis required for Regis. May also affect moving some clients from NFC- to NFC+.	Monitor change / and adapt the client charging rule.

Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan	Comm. available	Impact	Res. plan
No	**M**		No	**L**		Reg. Policy Flash	**H**		No (only for CCPs)	**H**		No	**M**	

Items aligned with the IB approach

Hard Brexit Main Assumptions – In Favor of the Client

Assumptions

1. We are preparing for a hard Brexit
2. However, where ambiguities exist we will ensure to act in favor of the client to ensure stability in trading
3. Some regulatory requirements that are currently ambiguous will remain in the status quo until further regulator advice is given

Resulting in 4 **dependencies**

	EMIR ETD reporting	MiFID II Trading Obligation	MiFID II Financial Instruments Ref. Data Risks	MiFID II Transparency
Current situation	Under EMIR, ETD reports are currently to be submitted to ESMA for EU based clients.	Under MiFIDII, all shares that have been traded in the EEA are to remain on EEA or equivalent venues.	Under MiFID, the same instrument scope for various MiFID streams is applicable to both UK and other locations.	1) Under MiFIDII, EEA NCAs can approve APAs. 2) Under MiFIDII, UK domiciled Investment Firms, TVs, SIs are considered MiFIDII entities.
Impact	• UK domiciled clients will need to be reported to the FCA, not ESMA after Brexit • Neither of the repositories (DTCC nor Regis) are currently ready to report to the FCA as well as ESMA.	• EEA traded shares can no longer be traded in the UK after Brexit • UK traded shares can no longer be traded on non-UK venues after Brexit	• The instrument classification of ToTV & uToTV potentially changes after Brexit. • Reporting logic i.e. for PTT and TXR would be different and reference data would have to be sourced (FIRDs FCA vs FIRDs ESMA)	1) UK APAs (e.g. TRAX) can only be used for UK PTT publications & non-UK APAs (e.g. DB) cannot be used for UK PTT publications. 2) UK domiciled Investment Firms, TVs, SIs no longer be considered MiFIDII entities.
Resolution Plan	**We are expecting all repositories to live up to regulatory requirements.**	**We are expecting the UK venues to have "equivalence status".**	**We are expecting the scope of ToTV and uToTV instruments to remain the same** between the UK and the EU, with the UK creating a mirror version of the EU's ToTV instruments database FIRDs in due time after Brexit.	1) Our **APAs will create UK and EEA instances** and we will utilize them according to the domicile of the location. 2) We are expecting the **scope of IFs/TV/ SIs will remain the same** between EU&UK.

Origins of Complexity in Regulatory Implementation in Financial Services

External Complexity

Increasing number of regulations on a global scale

- Investor Protection Regulations (MiFID, Fidleg, FOFA, GDPR etc.)
- Tax Regulations (FATCA, Automatic Exchange of Information etc.)
- Capital Requirements (Basel, CRR, CRD etc.)
- Market Infrastructure (MiFID, Finfrag, EMIR etc.)
- Anti-Money Laundry and Terrorist Financing Regulations

Interpretation

- Individual interpretation of how to achieve a regulatory goal in every jurisdiction
- Discrepancies between different jurisdiction
  - Rule vs principal based regulations (US / EU = Rule based, CH= Principle based)
  - Different definitions for the same terms (Organized Trading Facility; Direct Electronic Access)
  - Conflicting rules (OTFs and SI under the same roof?)
  - Politics (Swiss Equivalence for venues)

Global Community

- Equivalence provisions are hard to manage and to anticipate (Switzerland / Brexit etc.)
- Cross Border provisions depending on the access to the single market place (EU, EFTA, EEA, USA etc.)
- Changes to old regulations and creation of new regulations are accelerating

Market Infrastructure

- Market infrastructure cannot keep up with the pace that new regulations are implemented at (ARMs, APAs, SIs, CTPs etc.)

Origins of Complexity within the Financial Services Firm

Internal Complexity

Systems
- Multiple IT platforms
- Mulitple legacy systems
- Multiple booking centres and advisory offices

Trade Flows
- Multiple CCPs, Exchange Memberships, Broker Relationships
- International trading set up
- International client base with cross border business

Processes
- Slow knowledge transfer, cumbersome process mgmt.
- Lacking standardization for regulatory implementation

Organization
- Hard hierarchies & paralyzing politics
- Cost pressures preventing quick / agile approaches
- Complex legal entity structures

What is RegTech and where is it going?

RegTech describes the use of technology (particularly IT) in the context of regulatory monitoring, reporting and compliance. RegTech is not a subset of FinTech, but a distinct phenomenon.

RegTech 1.0: pre 2008
- Driven by industry
- Involved a partnership with regulators relying on quantitative internal risk management
- Financial institutions integrating tech into internal processes to combat rising compliance costs

RegTech 2.0: post 2008
- Driven by financial market participants and regulators
- Technology is used to enhance regulatory compliance and streamline its components
- Data analysis enhancement

RegTech 3.0: future
- Conceptualize finance and its regulation to build a better financial system
- --> paradigm shift from KYC to KYD

•RegTech helps transition from "know your customer" to "kow your data" (KYC to KYD)
  - Efficient and effective processes for collection, formatting, management and analysis of reported data
  - Datacentric mindset

FinTech's focus is shifting from the digitization of money to the monetization of data, which requires sufficient RegTech in order to accommodate new concepts such as data sovereignty and algorithm supervision

Technology Trends in General

User Centric

User Centric Trends relate to anything that affects the human end user

- Habits of consumption
- Multi-option offerings
- Client tailored information on products
- Mobile Access
- Transparent solutions
- Easy execution of purchases

Connected World

The Connected world relates to the advancement in communication between humans and machines

- Waerable devices
- Smart Machines aware of their environment and in connection with one another
- Drones, smart homes, autonomous vehicles

Artificial Intelligence

Artificial Intelligence relates to any systems that learn adapt and act autonomously

- Technologies that use large amounts of data
- Virtual personal assistants
- Speech recognition
- Robots, autonomous vehicles
- Process automation

Disru[illegible]nologies

edit

Disru[illegible]ologies relates t[illegible]velopments that substitute an existing industry or create an entirely new one

- Formerly: internet / telephone
- Today: Crypto Currencies
- Internet of Things

RegTech Application most likely?

Questions:

- What do the tech trends mean for Financial Services?
- Which of the tech trends find their application in Risk, Compliance and Regulatory implementation in Financial Services?
- Where can RegTech and/or FinTech help and where can it be disruptive?