



FINTECH, REGTECH & REPORTING TO REGULATORS

- THE BIG BANG OF REGTECH IN EUROPEAN FINANCIAL LAW -

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RUL | RESEARCH UNIT
IN LAW



FINTECH, REGTECH & REPORTING TO REGULATORS

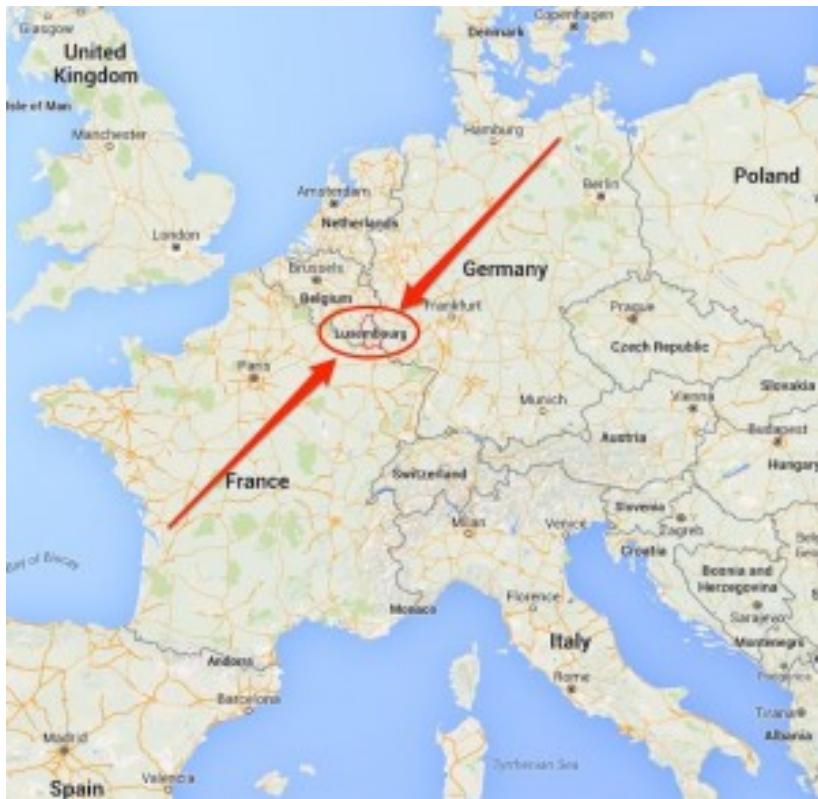
§ 1 - The FinTech Multiverse

§ 2 - RegTech

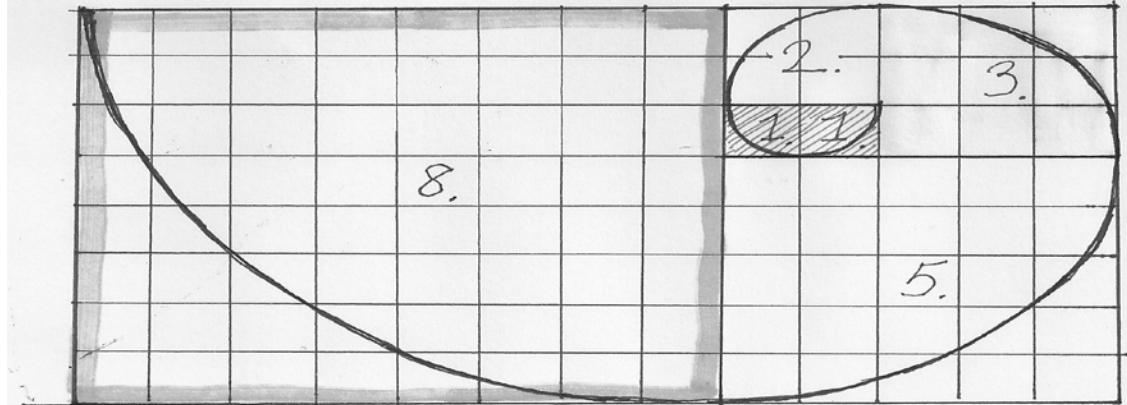
§ 3 - Reporting to Regulators

§ 4 - The Road to RegTech

§ 5 - Conclusion & Theses

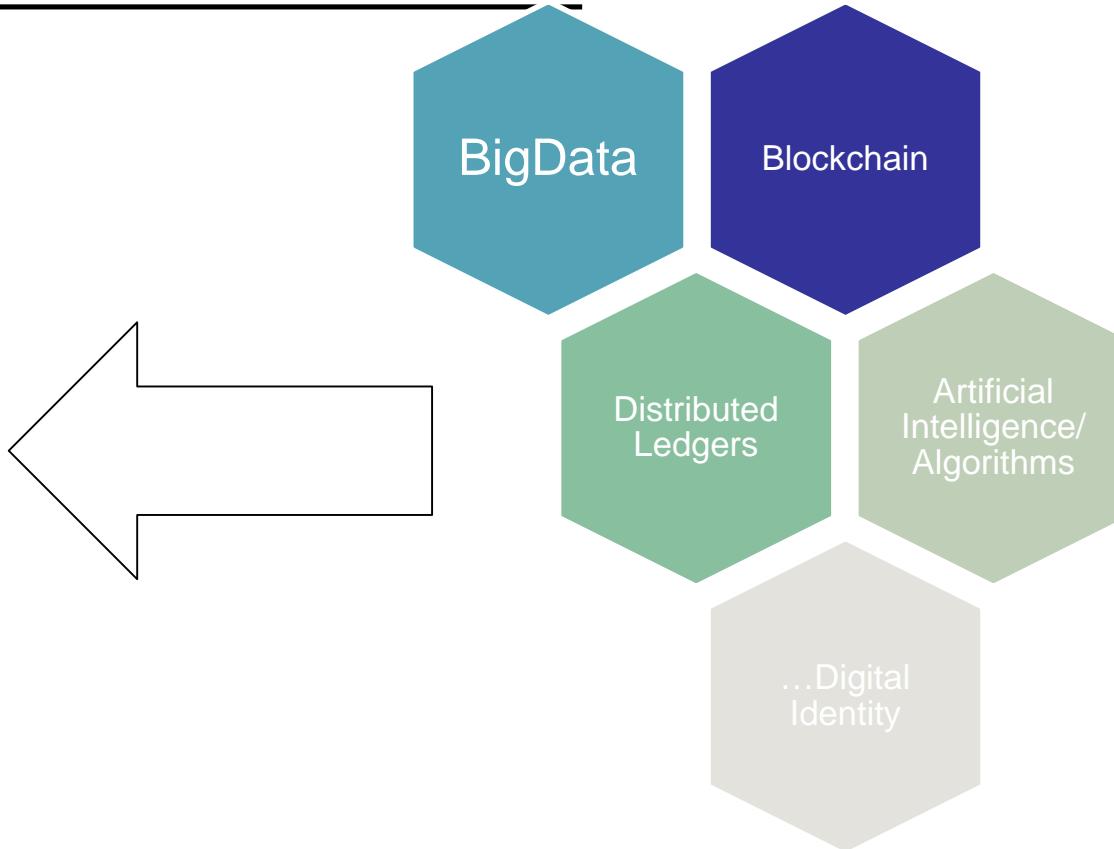


§ 1



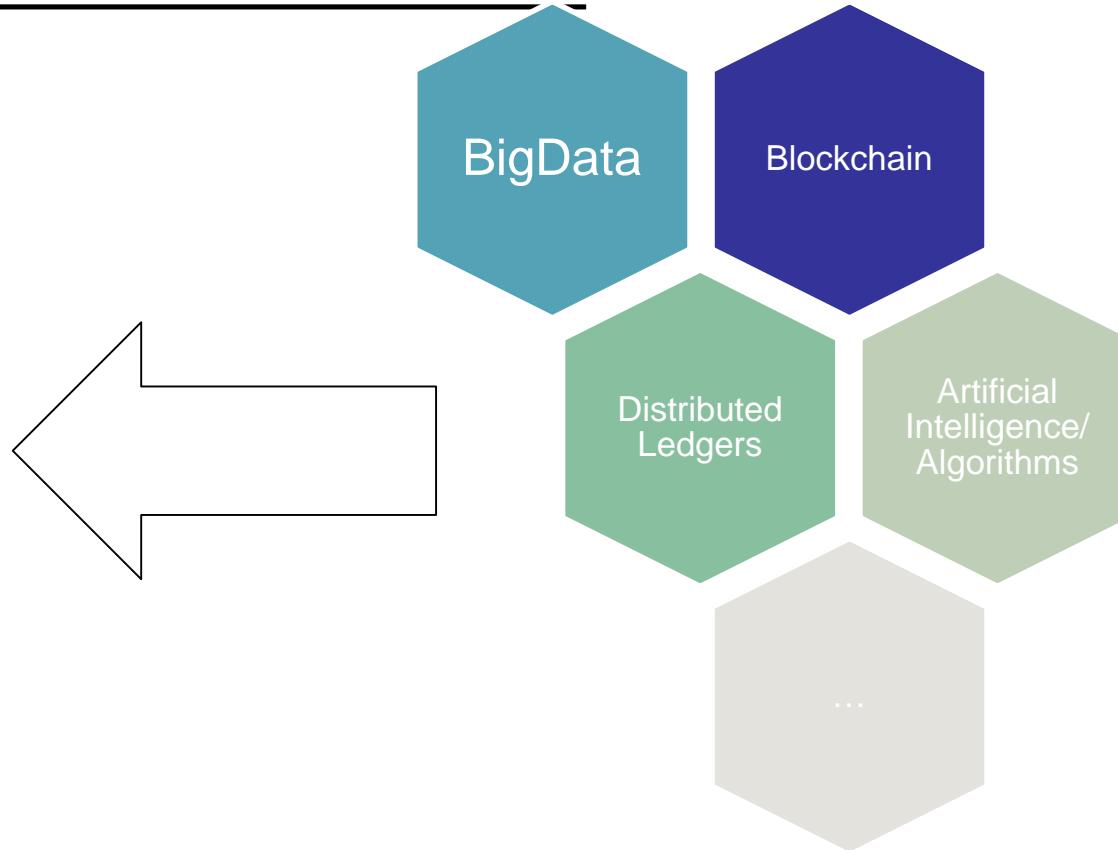
FinTech & How to deal with innovation

THE FINTECH MULTIVERSE



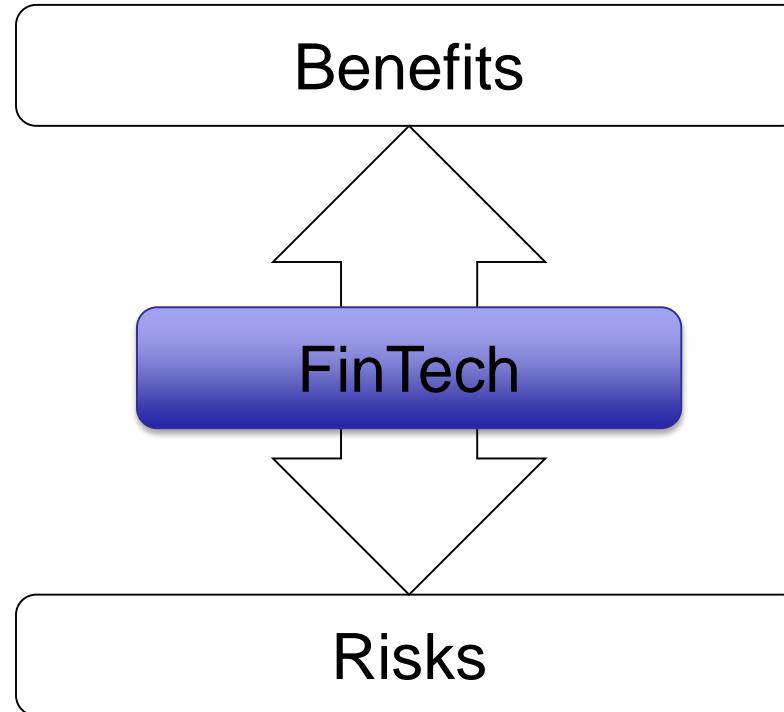
THE FINTECH MULTIVERSE

Data + Analytics +
Automation + Storage



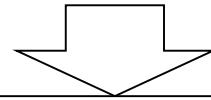
CHALLENGES

- Amount of Data
- Algorithms
- Cybersecurity
- Complexity
- Expertise (Supervision, Regulation)
- Clash of Cultures (Bank/IT)



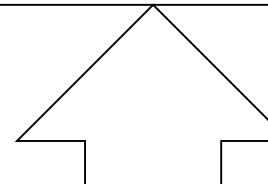
OPPORTUNITY

- Innovation
- Cost Reduction
- Disintermediation

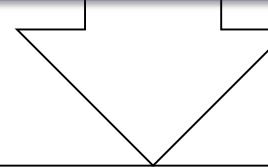


- Testing/Piloting
- Regulatory Sandbox
- FinTech Licenses
- Deregulation

Benefits

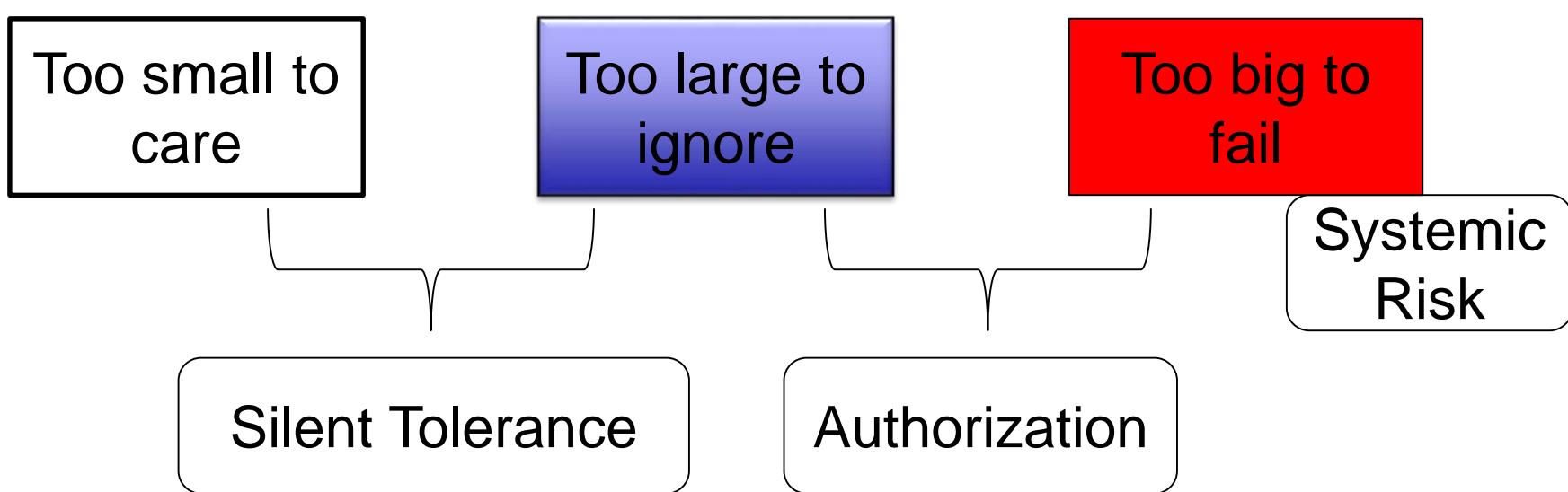


FinTech

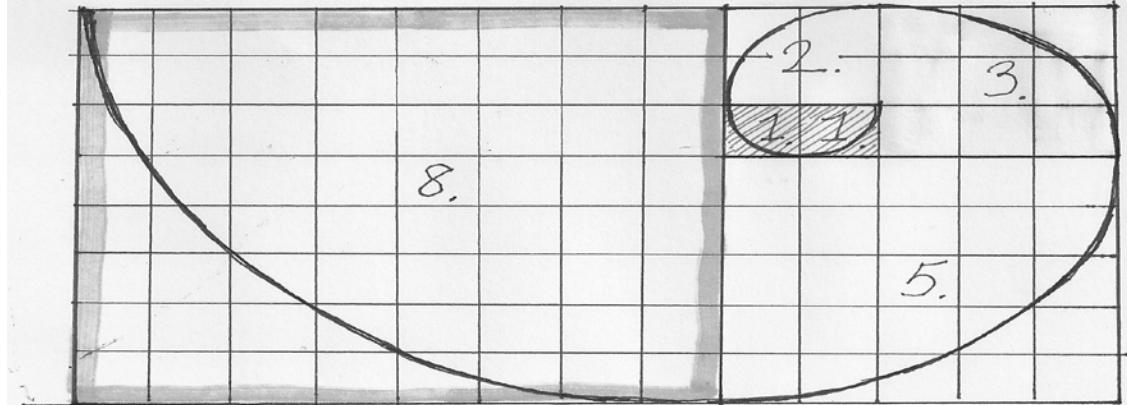


Risks

Disruption and Financial Supervision



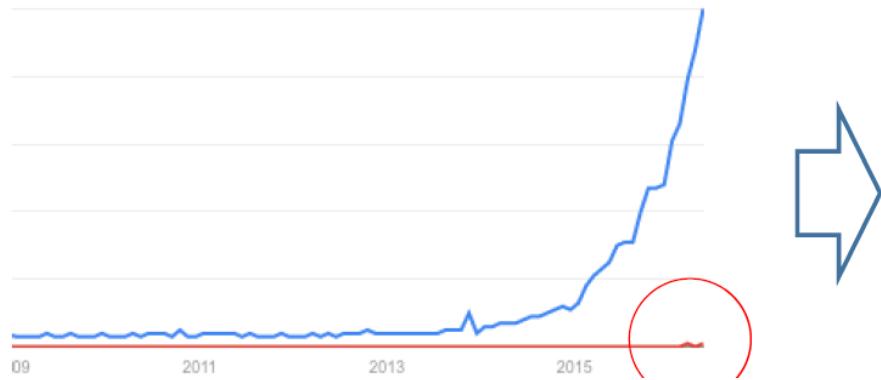
§ 2



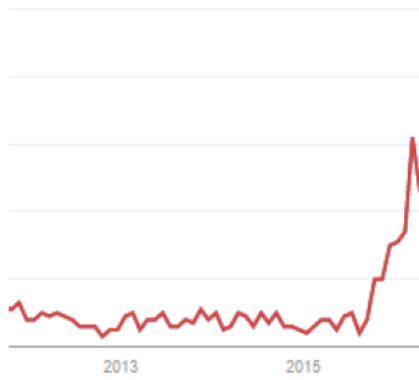
RegTech / SupTech as Response to FinTech

REGTECH: THE ANSWER TO FINTECH

FinTech vs RegTech



RegTech



REGTECH DEVELOPMENT (ARNER ET AL., 2017)



- Analysing exchange-based activities
- Quantitative risk management / Basel II

- 2 stages:
 1. facilitate compliance
 2. improve supervision and regulation

- From KYC to KYD
- RegTech to reconceptualize finance and financial regulation

The financial system is on the edge of moving from being based on Know-Your-Customer (KYC) principles to a Know-Your-Data (KYD) approach.

REGTECH: THE ANSWER TO FINTECH

,Regulatory Technology‘

- ⇒ Technical Handling of Large Amount of Data
- ⇒ Sophisticated Data Analytics
- ⇒ Automatised Data Processing
- Intermediaries (Asset / Fund Managers, Investment Adviser)
- Supervisors („SupTech“)

Examples:

- Electronic KYC Test
- Digital Limit / Fraud Control
- Smart Clearing & Settlement System incl. Ownership / Share Registry

REGTECH: THE ANSWER TO FINTECH

Requirements

- ⇒ One-stop-shop for Data on-boarding / Avoiding manual processing, intervention
- ⇒ Anticipated processes: High degree of automatisation and control
- ⇒ Storage of all process steps
- ⇒ Analytics with smart algorithms (‘artificial intelligence’)

! ≠ Improvement => Substitution!

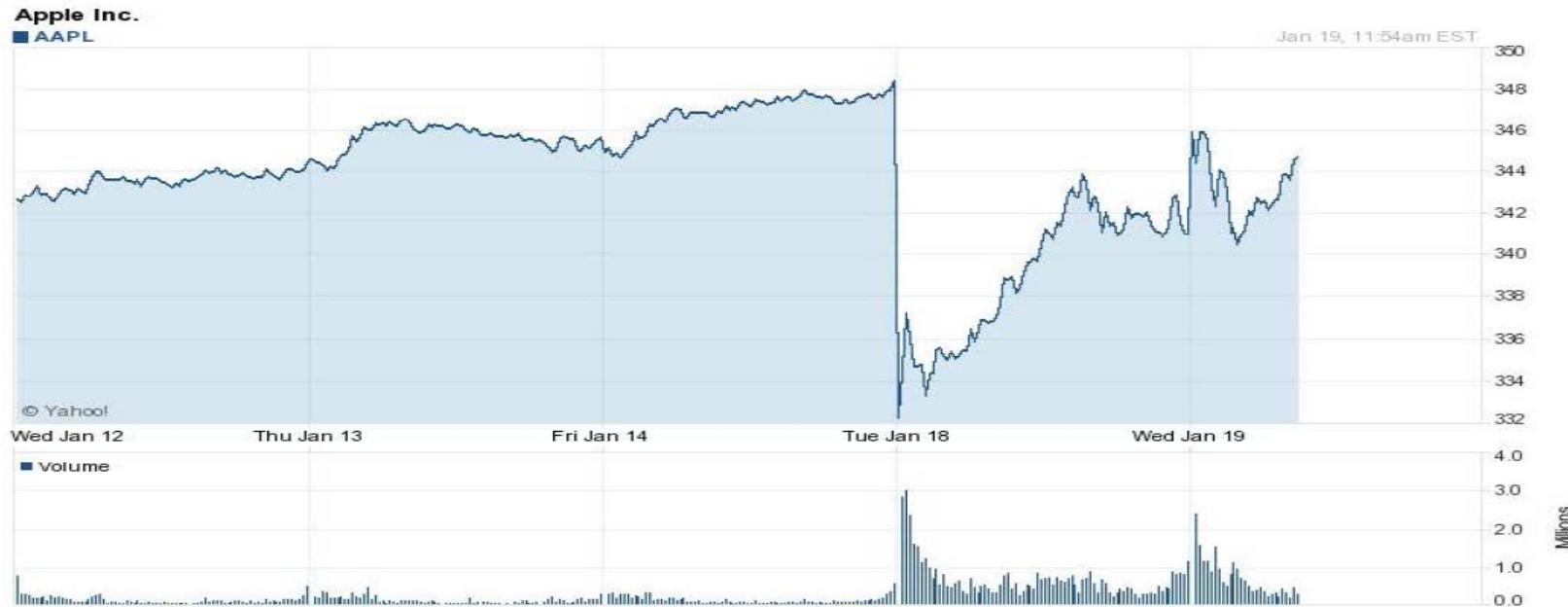
REGTECH: POTENTIAL

- Reducing staff costs
- Better Balance operating business / internal control systems
- Real-time risk management & compliance (internal benefit)
- Real-time enforcement (external effect)
- Freeing superfluous regulatory capital / reducing capital cushion due to
 - Better understanding and testing of internal models as well as regulatory assumptions
 - Shorter processing times (e.g. CI&S)
 - Avoiding penalties (lesser Op Risk)

REGTECH: PROTAGONISTS

Financial Industry	Supervisors	Start-ups / Tech Innovators
<p>Main drivers:</p> <ul style="list-style-type: none">■ Costs!■ Penalties!■ Implementing global Standards	<ul style="list-style-type: none">■ Initially slow■ But steady■ Long-term agenda	<ul style="list-style-type: none">■ Catalysts of Digitalization + Automatization■ Disruptors vs. Cooperators

Example: market abuse supervision by securities regulator



Example: India Stack

Efficiency↑
+1,000%

Vision

Presence-less:
Biometric Identity

Paperless:
Digital Dokuments

Cashless: all payment
systems - 1 Interface

Consent-based
data sharing

Projection

	Trad. Bank	Digital
Days	14-30	1-2
Time (min)	70-91	6-20
US\$	5.2- 8.7	0.34- 1.6

Reality
(short term)

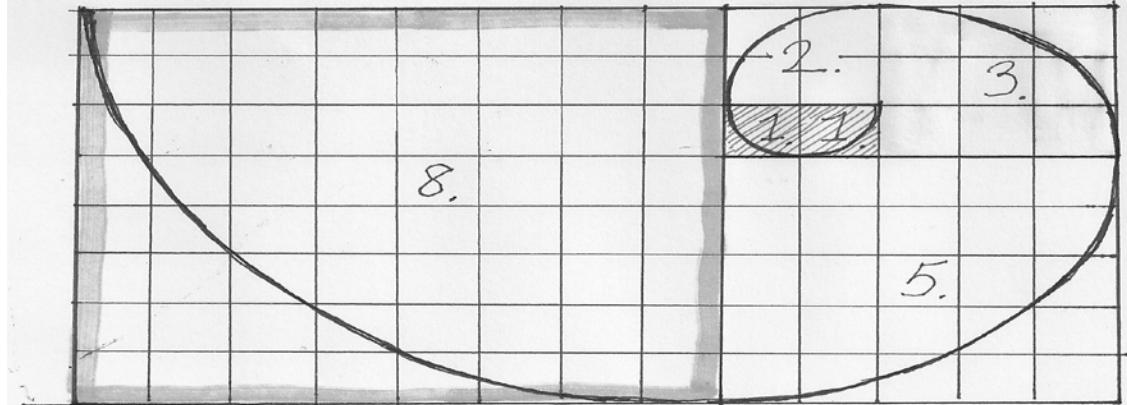
Long Term?

GDP - 2%

Transformation!

RUL |

§ 3



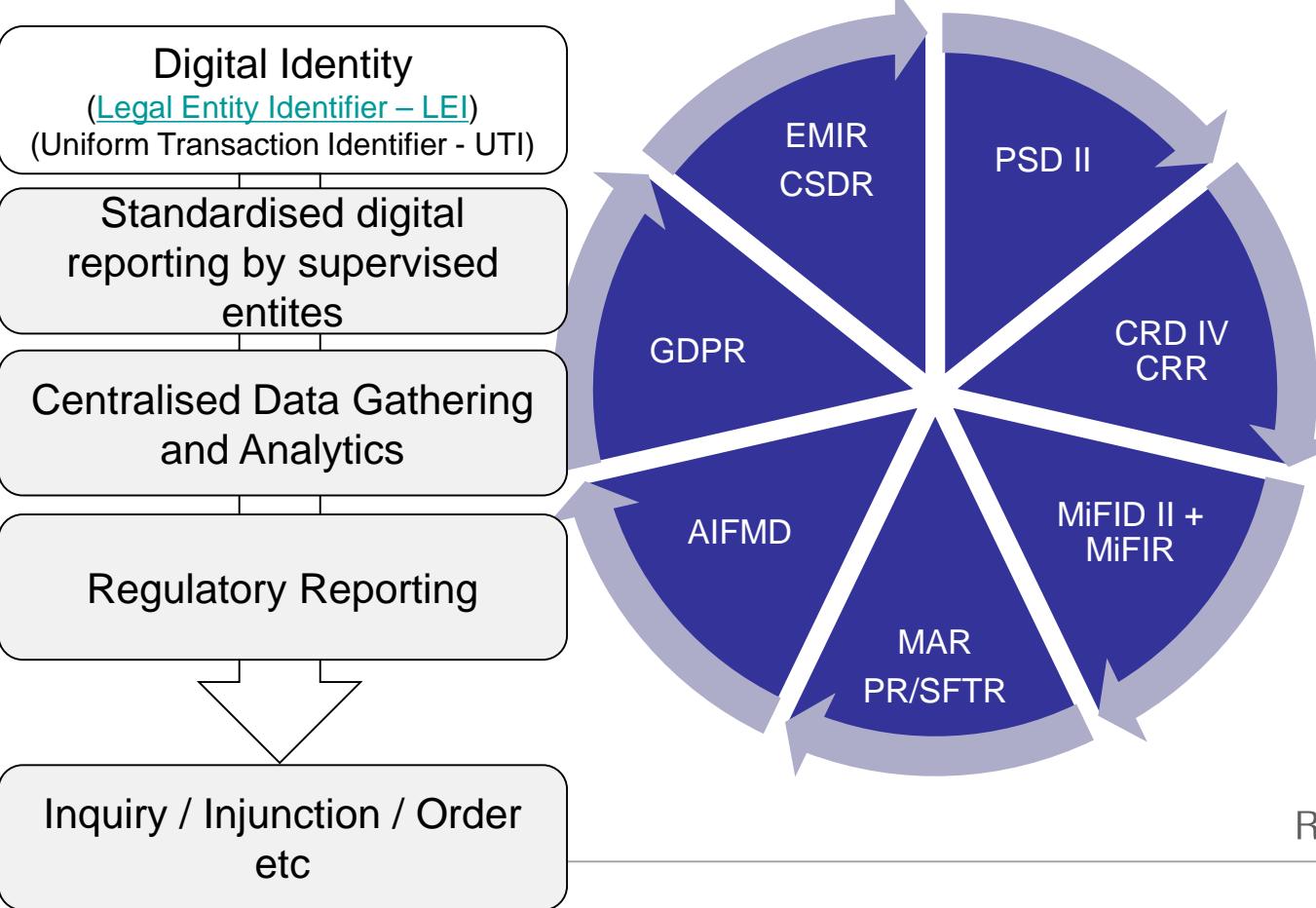
Reporting to Regulators



“I have a dream. It is futuristic, but realistic. It involves a Star Trek chair and a bank of monitors. It would involve tracking the global flow of funds in close to real time (from a Star Trek chair using a bank of monitors), in much the same way as happens with global weather systems and global internet traffic. Its centerpiece would be a global map of financial flows, charting spill-overs and correlations.”

Andy Haldane. Chief Economist Bank of England

'BIGBANG' OF DIGITALIZATION



Example: MiFID II for Investment Firms (Asset Manager, Investment Advisers) and Banks



**MiFID
2004/39**

**Directive
2014/65/EU of
15 May 2014 on
markets in
financial
instruments**

Reg 2017/571 (Authorization Data reporting Providers)

IReg 2017/1110 (Forms Data Reporting Providers)

Reg 2017/589
(Algorithmic Trading)

Reg 2017/587 (Transaction reporting)

IReg 2017/590
(Transaction reporting)

Transaction reporting, order record keeping and clock synchronisation under MiFID II (16/1452)

**Regulation No.
600/2014 on
markets in
financial
instruments
(MiFIR)**

Reg 2017/953 (Position reporting)

IReg 2017/1093 (Format of Position reporting)

Article 26 MiFIR

Obligation to report transactions

1. Investment firms which execute transactions in financial instruments shall **report complete and accurate details of such transactions to the competent authority as quickly as possible**, and no later than the close of the following working day.

The competent authorities shall, in accordance with Article 85 of Directive 2014/65/EU, establish the necessary arrangements in order to ensure that the **competent authority of the most relevant market** in terms of liquidity for those financial instruments also receives that information.

The competent authorities shall make available to **ESMA**, upon request, any information reported in accordance with this Article.

2. The obligation laid down in paragraph 1 shall apply to:

.....

DATA TO BE REPORTED ON TRANSACTIONS

- Identification, number of traded financial instruments, short sales (if any) with counterparty, OTC and at regulated markets
- Volume, Date of Transaction
- Name and Identity of clients; where applicable the clients LEI
- Alternativ: transmission of whole client order
- Used computers and software systems
- If applicable obligations to correct inaccurate reporting
- Counter reporting by regulated market places

REPORTING ENTITIES?

- Investment Firm
- Approved Reporting Mechanism (ARM) pursuant to Art. 66 MiFID2
- Trading Venue (Stock Exchange etc.)

=> Mistakes by ARM and Market Place?

POSITION REPORTING (COMMODITY DERIVATIVES)

- Daily Aggregate Position Reporting
- Under certain conditions weekly overview of aggregated open positions (with breakdown) to NCAs and ESMA



Technical standards under Directive 2004/39/EC (MiFID I), Directive 2014/65/EU (MiFID II) and Regulation (EU) No 600/2014 (MiFIR)

(last updated: 07/04/2017)

RTS/ITS	Legal Basis	Adoption by the European Commission	Acts as adopted by the Commission English version	Acts as adopted by the Commission German version	Acts as adopted by the Commission French version	End of EP/Council scrutiny	Published in the Official Journal
RTS 1	Transparency requirements for trading venues and investment firms in respect of shares, depositary receipts, exchange-traded funds, certificates and other similar financial instruments	MiFIR Articles 4(6), 7(2), 14(7), 20(3), 22(4) and 23(3)	14/07/2016 OJ 2017/587				RTS published in OJ
RTS 2	Transparency requirements for trading venues and investment firms in respect of bonds, structured finance products, emission allowances and derivatives	MiFIR Articles 1(8), 9(5), 11(4), 21(5) and 22(4)	14/07/2016 OJ 2017/583				RTS published in OJ
RTS 3	The volume cap mechanism and the provision of information for the purposes of transparency and other calculations	MiFIR Articles 5(9) and 22(4)	13/06/2016 OJ 2017/577				RTS published in OJ
RTS 4	Criteria for determining whether derivatives subject to the clearing obligation should be subject to the trading obligation	MiFIR Article 32(6)	26/05/2016 OJ 2016/2020				RTS published in OJ
RTS 5	Direct, substantial and foreseeable effect of derivative contracts within the Union	MiFIR Article 28(5)	13/06/2016 OJ 2017/579				RTS published in OJ
RTS 6	Specifying the organisational requirements of investment firms engaged in algorithmic trading	MiFID II Article 17(7)(a) and (d)	19/07/2016 OJ 2017/589				RTS published in OJ
RTS 7	Specifying organisational requirements of trading venues	MiFID II Article 48(12)(a), (c) and (g)	14/07/2016 OJ 2017/584				RTS published in OJ
RTS 8	Specifying the requirements on market making agreements and schemes	MiFID II Article 17(7)(a), (b) and (c) and Article 48(12)(a) and (f)	13/06/2016 OJ 2017/578				RTS published in OJ
9			18/06/2016				

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	RTS/ITS	Legal Basis	Adoption by the European Commission	Acts as adopted by the Commission English version	Acts as adopted by the Commission German version	Acts as adopted by the Commission French version	End of EP/Council scrutiny	Published in the Official Journal
ITS 1	Standard forms, templates and procedures for cooperation arrangements	MiFID II Article 79(9)						ITS published in OJ
ITS 2	Suspension and removal of financial instruments from trading on RM, a MTF or OTF	MiFID II Articles 32(3) and 52(3)						ITS published in OJ
ITS 3	Standard forms, templates and procedures for the authorisation of data reporting services providers	MiFID II Article 61(5)						ITS published in OJ
ITS 4	Position reporting	MiFID II Article 58(5)						ITS published in OJ
ITS 5	Format and timing of weekly position reports	MiFID II Article 58(7)						ITS published in OJ
ITS 6	Standard forms, templates and procedures for competent authorities to cooperate in supervisory activities, on-site verifications, and investigations and for the exchange of information	MiFID II Articles 80(4) and 81(4)						ITS published in OJ
ITS 7	Standard forms, templates and procedures for the consultation of other competent authorities prior to granting an authorisation	MiFID II Article 84(4)						ITS published in OJ
ITS 8	Procedures and forms for submitting information on sanctions and measures	MiFID II Article 71(7)						ITS published in OJ

Financial Instruments Reference Data System (FIRDS)

Instructions on access and download of full and delta reference data files

Detailed Reporting Rules

Reporting of circuit breakers' parameters by NCAs to ESMA
Procedure / Policy

Format Background																			
1	Document	Version	Change name	Change description	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2	2016-1521 Annex 1 Validation Rules	1.4	Validation of submitting entity LEI (rule ID 021)	Change the validation so that it is required that the submitting entity LEI is valid on the submission date instead of transaction execution date.															
3	2016-1521 Annex 1 Validation Rules	1.4	Error message for underlying instrument and client related fields validation does not include the invalid identifier (rule IDs 148, 150, 211, 240, 212, 241, 213, 242, 243, 244)	Some of the validation rules for the underlying instrument and trade parties do not require to specify in the error message the ISIN of instruments that were rejected. In case more than one instrument or party identifier is rejected, the feedback does not include the list of rejected identifiers and it is not clear for the submitting entity what errors need to be corrected. The revised rules include in the respective error messages the identification of Instrument/party.															
4	2016-1521 Annex 1 Validation Rules		Validation of swap transaction legs	Add validation rule specifying that at least one of the legs is reported (rule ID 281).															
5	2016-1521 Annex 1 Validation Rules	1.4	Clarification on validation rule 270 - dependency between trading venue and instrument	This rule implies that for OTC transactions where TV=XXXX the full description of the traded instrument has to be provided (i.e. FinInstrm\Other XML element should be populated). It is clarified in the rule description that NCAs should validate whether the correct XML element is reported.															
6	2016-1521MiFIR Transaction Reporting Technical Reporting Instructions	1.4	Clarifications and correction of typos / inconsistencies in the document.																
7	DRAFT15auth.016.001.01_ESMAU_G_Reportin..._1.0.3.xsd	1.0.3	Validation of national identifier	Change the XML pattern for national identification in order to allow reporting Finnish identifiers that can also include + and -, and Latvian identifiers that can also include -.															
8	DRAFT15auth.016.001.01_ESMAU_G_Reportin..._1.0.3.xsd	1.0.3	Validation of instrument name / index name	Change the XML pattern for instrument name and index name in order to allow reporting any character.															
9	DRAFT15auth.016.001.01_ESMAU_G_Reportin..._1.0.3.xsd	1.0.3	Incorrect currency attribute name	Correction of a typo in the XML attribute name for the currency of quantity notation. The attribute name changed from Currency to Ccy.															
10	DRAFT5auth.031.001.01_ESMAUG_Reportin..._1.0.2.xsd	1.0.2	Incorrect technical types versions in status advice	Due to a discrepancy in the technical version numbers in the status advice for national reporting between the version published on ESMA website and MyStandards the message schema has been regenerated. The functionality of the message remained unchanged.															
11	2016-1522 FIRDS Reference Data Reporting Instructions	1.1	BAH for reminders and feedback files	Update Reporting Instructions to reflect how the BAH / To: is populated for reminders and feedback files															
	2016-1522 FIRDS Reference Data Reporting Instructions	1.1	Align RTS23 Fields 20 / 28 / 40 to the value from the RCA record	According to the initial business requirements, RTS 23 fields 20, 28, 40 were not to be aligned to the value from the RCA. This could create situations whereby the consolidated data would contain inconsistencies. The															

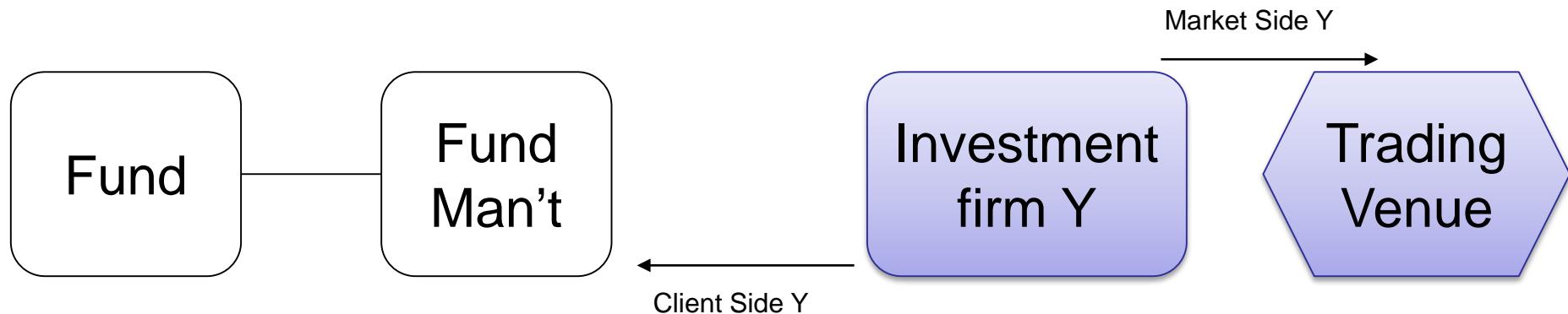
Transaction reporting, order record
keeping and clock synchronisation
under MiFID II (16/1452), S. 15

Basic Structure of Reporting Requirements

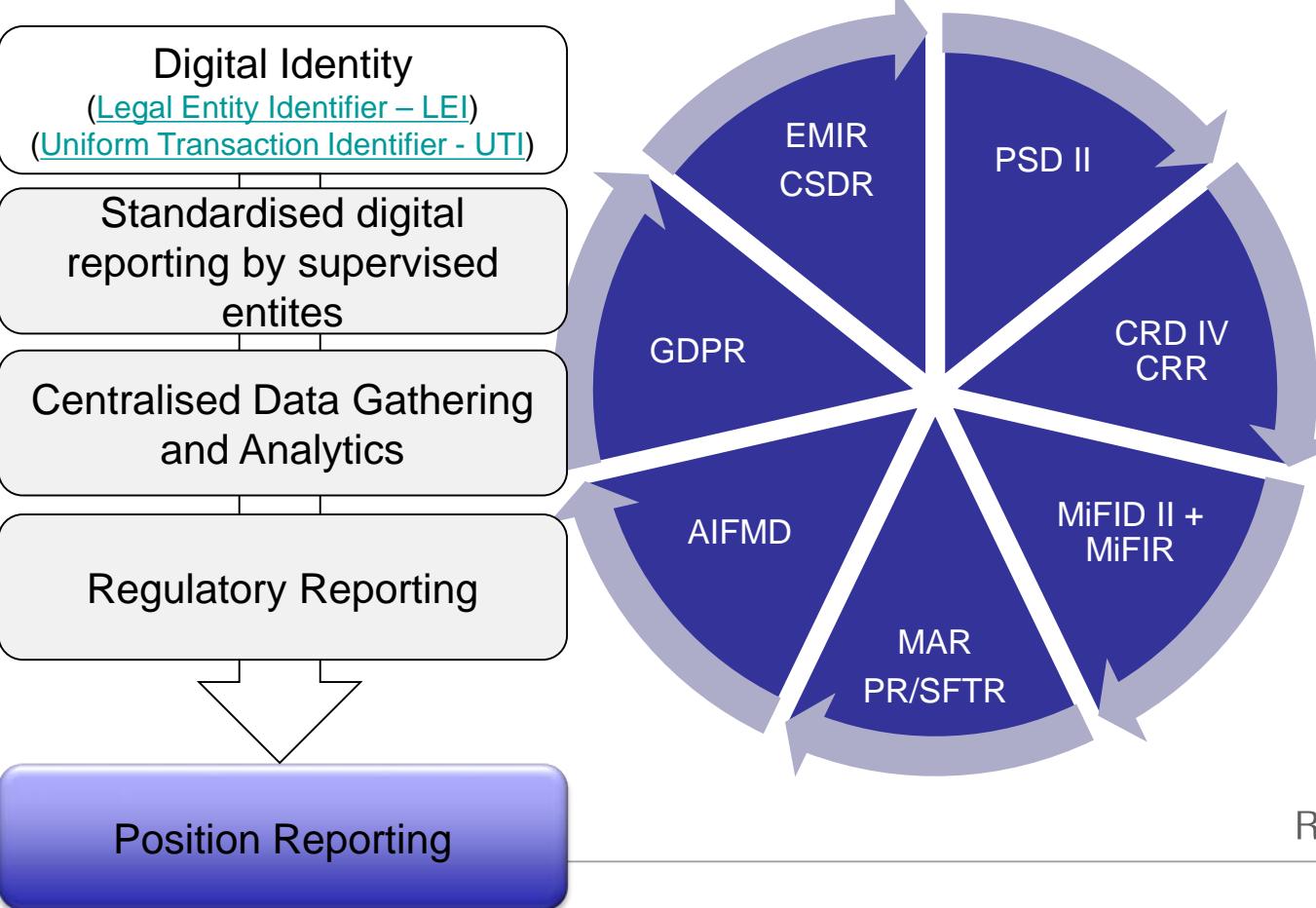


Transaction reporting, order record
keeping and clock synchronisation
under MiFID II (16/1452), S. 15

Basic Structure of Reporting Requirements



'BIGBANG' OF DIGITALIZATION



FIRST RESULTS (MiFID ONLY)

Report on Trends, Risks and
Investor Protection

The
m
esma European Securities and
Markets Authority

EU derivatives markets
a first-time on charges on
Financial markets

ESMA launches key MiFID II
and MAR financial
instrument reference
database

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POSITION MANAGEMENT (COMMODITY DERIVATIVES)

ESMA agrees MiFID II position limits proposed by FCA

- Position limits
- Position management
- NCAs + ESMA
- Supervisor powers
 - Position reduction
 - Prohibition to increase position

24 October 2017

MiFID - Secondary Markets

The European Securities and Markets Authority (ESMA) has published today nine opinions on position limits regarding commodity derivatives under the Markets in Financial Instruments Directive and Regulation (MiFID II/MIFIR).

ESMA's opinions agree nine position limits proposed by the Financial Conduct Authority (FCA). The position limits concern contracts on:

- [London cocoa](#);
- [Robusta coffee](#);
- [White sugar](#);
- [Aluminium](#);
- [Copper](#);
- [Lead](#),
- [Nickel](#);
- [Tin](#); and
- [Zinc](#).

ESMA found that the proposed position limits by the FCA are consistent with the objectives established in MiFID II and with the methodology developed for setting those limits.

As of 3 January 2018 and MiFID II application, limits will apply to the net position a person can hold in commodity derivative contracts. NCAs have to set position limits for commodity derivatives and notify ESMA of the specific position limits they plan to introduce for liquid

CONSEQUENCES FOR INTERMEDIARIES

- Amount of Data => IT
- Abolishing manual processes
- IT/Modell Risk↑
- Intensified macro supervision
- LT: intensified microprudential supervision

Questions

- Costs ./ Benefits
- Quality of macro supervision?
- Microprudential supervision vs Micromanagement
- Monopolization & Antitrust Issues:
IT – Economies of Scale

Sales fees make up a further 20%, leaving redemption fees with a mere contribution of around 2% and inflation with another 31%. IE and LU depart from this pattern, as sales fees account for up to 30% of the reduction in clients' returns. On the other hand, sales and redemption fees represent 110% maximum of the overall return reduction in DK, FI, SE and NL.

CONSEQUENCES FOR SUPERVISORS

- Amount of Data => IT
- Abolishing manual processes
- IT/Modell Risk↑
- Micromanagement => ex ante controls
(early warning system)
- New forms of expertise required (≈ academic)

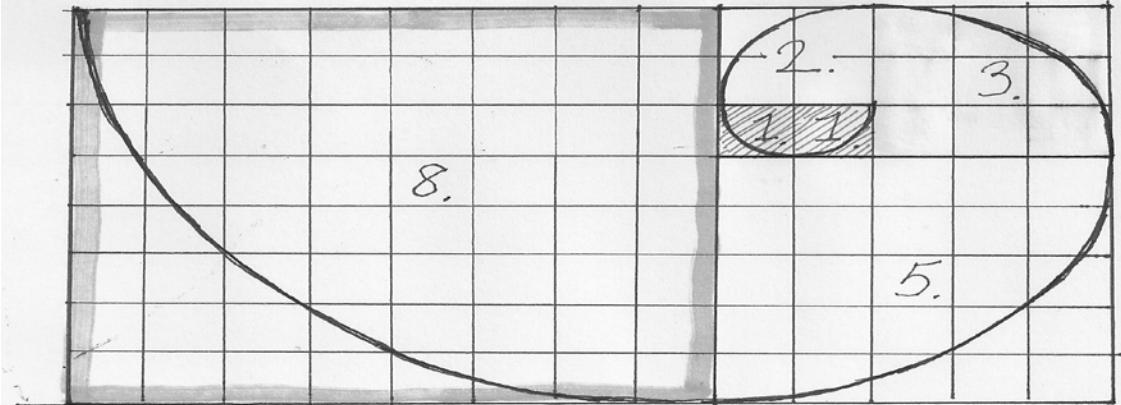
Questions

- Who bears the costs?
- Are regulators up to the challenges?
- Accountability & Liability?
- Delination: Company's board vs Supervisor?



§ 4

The Road to RegTech



ELEMENTS OF A CONSISTENT REGTECH SYSTEM



- Digital ID
- Digital AML/KYC Check
- Digital Payments
- Digital Intermediary Reporting
- Digital Analytics
- Digital Regulatory Reporting
- Digital Decisions (orders, injunctions etc.) – ~ speed limit violations
- Digital Enforcement
- Digital Accountability
- Digital Privacy

eIDAS Regulation

eID

Europa XB E-ID:
Mandatory 18_9_2018



Mutual
recognition

Levels of
Assurance

Website
authen-
tication

Electronic
registered
delivery

eSig/eSeals
validation
and
preservation

Notification
process

QSCD

Trust mark

Liability

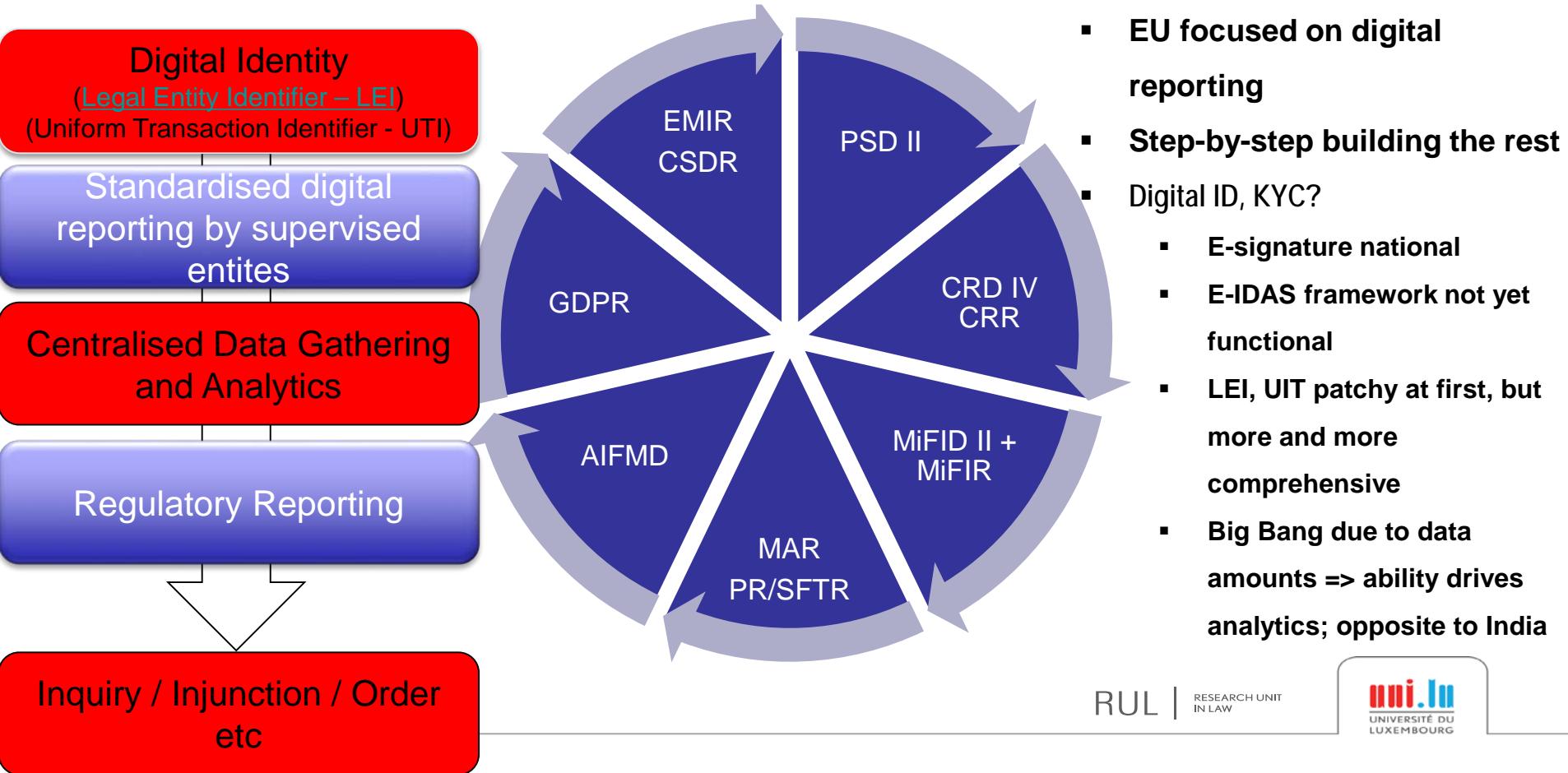
TSP
supervision

Breach
notification

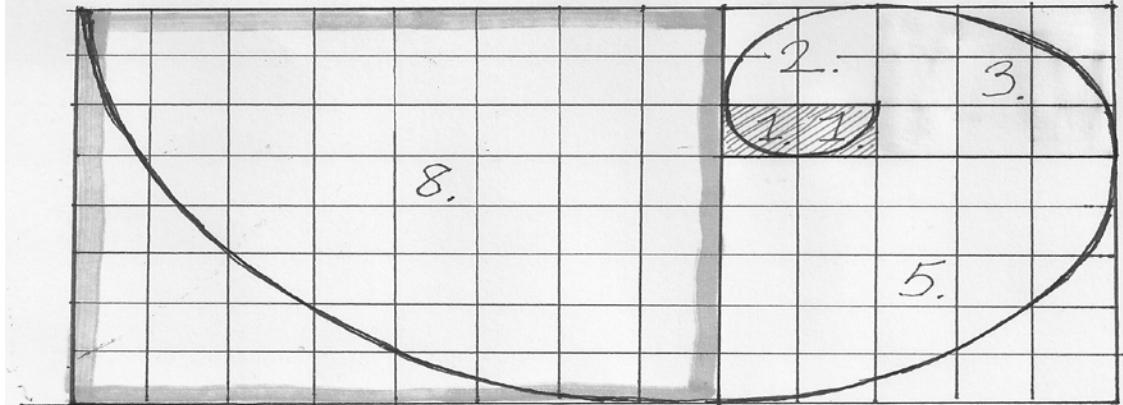
ISSUES

- Solving Cross-border ID issues
- Cross-border financial services: multiple reporting standards
- Economies of scale: Costs for 'small' regulators and intermediaries
- Data security and protection
- Wanted vs unwanted results of algorithms (monopolization, implicit coordination, protected factors, supervisions etc.)
- Accountability & Privacy

FROM THE BOTTOM TO THE TOP



§ 5



Conclusion & Theses

CONCLUSION & THESES

1. RegTech means the automated and data-driven replication and analysis of an intermediary's operating and internal control systems (Compliance, Risk Management, Audit) and could be employed by intermediaries and regulators.
2. RegTech could provide the solution to the challenges created by financial and technical innovation, but creates new challenges in itself, including but not limited to an unprecedented amount of data gathering and exchange, cybersecurity risks, accountability issues, expertise, as well as the role and function of supervisors.
3. A functioning RegTech systems rests on means of digital identification, paired with standardized reporting, algorithm-based data gathering and analytics resulting in well-informed regulatory decision-making; also automatized orders, injunctions are possible.
4. European financial law reforms since the GFC have triggered the “Big Bang of RegTech” since European law requires extensive reporting in a harmonized automatized standard to NCAs and ESMA.
5. Where tech has opened solutions, law needs to respond. E.g. EU-wide **cross-border ID solutions, digital privacy and accountability** are in a nascent state. **RegTech innovation (regulatory and technical) is in dire need.**

Thank you!

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Recommended readings

- Arner, Douglas W. and Barberis, Janos Nathan and Buckley, Ross P., FinTech, RegTech and the Reconceptualization of Financial Regulation, abrufbar: <https://ssrn.com/abstract=2847806>
- Zetzsche, Dirk A. and Buckley, Ross P. and Arner, Douglas W. and Barberis, Janos Nathan, From FinTech to TechFin: The Regulatory Challenges of Data-Driven Finance , abrufbar: <https://ssrn.com/abstract=2959925>
- Zetzsche, Dirk A. and Preiner, Christina, Cross-Border Crowdfunding – Towards a Single Crowdfunding Market for Europe, abrufbar: <https://ssrn.com/abstract=2991610>
- Zetzsche, Dirk A. and Buckley, Ross P. and Arner, Douglas W. and Barberis, Janos Nathan, Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation, abrufbar: <https://ssrn.com/abstract=3018534>
- Zetzsche, Dirk A. and Buckley, Ross P. and Arner, Douglas W., The Distributed Liability of Distributed Ledgers: Legal Risks of Blockchain, abrufbar: <https://ssrn.com/abstract=3018214>
- Zetzsche, Dirk A. and Buckley, Ross P. and Arner, Douglas W., The ICO Goldrush: : It's a Scam, It's a Bubble, It's a Super Challenge for Regulators, <https://ssrn.com/abstract=3072298>
- Arner, Buckley, Weber & Zetzsche, FinTech, RegTech and Reporting to Regulators – Europe's Big Bang (forthcoming)