The Flood of Regulation

The pre-crisis laissez-faire regulatory approach towards financial institutions in many jurisdictions in Europe and the US was a major factor that led to the Global Financial Crisis (GFC) in 2008. To avoid its repetition and to fight against systemic risk, national regulators around the world have tightened and multiplied the laws and regulations for financial institutes.

Nowadays, financial institutions have to comply with a set of regulations that can be organized into three categories:

1. **Regulatory: Reporting standards as introduced by Basel III and the Dodd-Frank Act, and regulatory requirements like stress tests performed by the European Central Bank (ECB) or the US Federal Reserve.**

2. **KYC Know-Your-Customer (KYC), Customer Due-Diligence (CDD) and Anti-Money Laundering (AML) requirements.**

3. **Compliance: Trading and market conduct rules as enshrined in the Markets in Financial Instruments Directive (MiFID II).**

To handle the mass of regulations, especially the real-time reporting and very complex stress tests, the application of new technological means becomes more and more important, and opens up a gateway for RegTech firms.

Prominent RegTech Examples

The trend towards technological facilitation of regulatory processes has led to a new service industry: the RegTech companies. Start-ups have seized the potential and entered the market with new products and software to tackle the data flood bashing against the walls of Wall Street and regulators.

A study of 100 RegTech firms shows that the majority of RegTech companies originates either from the United Kingdom or the United States (around 30% each). At the same time, firms from other financial hubs like Switzerland, Luxembourg or Singapore merely got a small slice of the pie (less than 5% each) in 2016.2

To have a notion of what RegTech companies do, some successful and exciting RegTech start-ups that applied innovative technologies to comply with new regulatory requirements are introduced briefly:

- Fintellix is a RegTech company with more than a decade of regulatory experience, headquartered in New York with offices in the UK, India, Australia, Brazil, UAE and Singapore. The company developed a platform to convert internal data into regulatory reporting formats—which aspires to make regular reporting less time-consuming and more effective.

- Suade was founded in 2014 in London and offers Regulation-as-a-Service (RaaS) in the form of a software platform, which interrelates the regulatory data, calculates risks and creates reports to put in place the necessary controls and governance.

- Sybenex was founded in 2009 in London, acquired by NASDAQ in July 2017 and won the 2018 US Technology Award. The firm offers a surveillance platform that helps buy-side firms like asset managers to comply with regulatory requirements such as MiFID II. They use behavioral profiling algorithms to detect and flag manipulative behavior such as insider trading, front-running and market manipulation, which saves time and improves workflow efficiencies.

Other exciting, but less prominent RegTech examples outside the UK and US also deserve attention:

- QumRan is a Swiss start-up founded in 2011 that tracks all of a company’s digital interactions to comply with record-keeping

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1 Patrick Schueffel, The Concise FinTech Compendium (School of Management Fribourg, Switzerland, 2017).

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1. Regulatory: Reporting standards as introduced by Basel III and the Dodd-Frank Act, and regulatory requirements like stress tests performed by the European Central Bank (ECB) or the US Federal Reserve.
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Prominent RegTech Examples

The trend towards technological facilitation of regulatory processes has led to a new service industry: the RegTech companies. Start-ups have sensed the upcoming potential and entered the market with new products and RegTech has the potential to create a new market segment that is expected to tackle the data flood bashing against the walls of Wall Street and regulators.

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- Fintelix is a RegTech company with more than a decade of regulatory experience, headquartered in New York with offices in the UK, India, Australia, Brazil, UAE and Singapore. The company developed a platform to convert internal data into regulatory reporting formats which aims to make regular reporting less time-consuming and more efficient.

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Other exciting, but less prominent RegTech examples outside the UK and US also deserve attention:

- Gann-Ram is a Swiss start-up founded in 2011 that tracks all of a company's digital interactions to comply with record-keeping requirements, fraud detection and customer experience analysis. The Swiss universal bank UBS is one of its recent customers. Gann-Ram has won several awards, including the WealthBriefing Swiss Awards 2017, and was acquired by a US-based private software intelligence company later that year.

- FundSquare is a Luxembourg company, constituted in 2013 and a subsidiary of the Luxembourg Stock Exchange. It offers secure communication channels between funds and supervisors. The standardized communication line aims to decrease costs and risks for both funds and regulators.

- Trulioo, a Canadian start-up was founded in 2011 and is active in the field of KYC/AML. It provides electronic identity verification for businesses using government and private databases. It allows verifying more than 5 billion people using one single application programming interface (API), which helps large multinationals to verify customers across the world.

The above-mentioned success stories are — as all the first-wave RegTech companies — focused on cost and risk reduction. An interesting RegTech example is RegTech also has the potential to introduce revenue-increasing solutions such as new products or business models. Not to compare RegTech with the Industrial Revolution, but as for every technological progress I clearly see the potential of RegTech to create new jobs, business models and eventually also a new set of laws. This change does not necessarily need to happen within the financial services sector but may also — and I argue even more so — emerge in other regulated sectors, such as government procurement where new technologies are not only minimizing costs and time, but are introducing new mechanisms such as real-time and open tendering.

Attractive RegTech Hubs

To better understand which conditions attract RegTech firms, let's have a look at the top global hubs. Most of the RegTech firms are based in London, one of the largest financial centers in the world — and now also being the first jurisdiction that relaxed the regulatory
The existing host countries for RegTech firms show different combinations of the above-mentioned factors. While some of them are clearly profiting from their accumulation of capital like London, New York, Singapore, Switzerland and Frankfurt, others profit from technological synergies from near-by universities and tech companies as located in the Silicon Valley or Israel, which mainly relies on inventions from its military force. A new and here-discussed category of RegTech hubs has started to relax laws and regulatory requirements for financial institutions. As will be elaborated later, the UK was one of the first countries relaxing regulations for FinTech and other innovative companies. Other countries like the US or Ireland profit from the adoption of more lenient laws, like flexible employment or tax laws.

Concluding from this preliminary analysis, it appears that most jurisdictions have chosen a combination of the three factors, potentially with the goal to diversify risk. The coming years will show, which strategy will make the race and be the most successful.

RegTech for Regulators

The private financial institutions dealing with the increased regulatory burden is only one side of the coin. On the other side are the regulators and financial supervisory authorities that are under pressure to create regulations and monitor the compliance of financial institutions with the newly introduced regulatory requirements. It is no secret that many regulators around the world have reached, or are soon reaching, their limits in terms of capacity and infrastructure to deal with the mass of financial actors they need to oversee.

This means that in the current RegTech development, regulators are invested themselves and cannot merely take a backseat but need to take an active role. The regulators of the twenty-first century are mostly affected by and can potentially make most use of RegTech innovations in the following areas:

- Data exchange between regulators and financial institutions through cloud or online platforms.
- Automated data processing, especially APIs that create interfaces between different systems.
- Digital compliance processes to match KYC data from financial institutions and the regulator.
- Data analytics to understand and steer macro-prudential financial policy.

Regulatory Sandboxes for More Innovation

To foster innovation through FinTech and RegTech companies, a handful of jurisdictions have started to introduce regulatory relaxations, so-called regulatory sandboxes. Unbundling regimes innovative financial service providers can test their services and products in the market without being subject to the otherwise applicable regulatory requirements to financial institutions for a certain amount of time.

As a first-mover UK's Financial Conduct Authority (FCA) has launched the first regulatory sandbox in May 2016. The sandbox allows innovative companies in the financial services industry to test their products in the market during a period of 18 months. So far, the FCA has allowed four cohorts of companies to benefit from the exemption and accepted in total 89 out of 276 applications, which breaks down to an average acceptance rate of 30%. Also, to broaden the reach of the UK sandbox, the FCA has established so-called FinTech bridges that allow FinTech firms from Singapore and Australia to participate in the UK exemption. To apply for the UK sandbox, one need to meet the following eligibility criteria:

- The firm must be a regulated business in a services market.
- The innovation must be new or significantly offered in the marketplace.
- The innovation must create benefit to customer higher quality or lower prices.
- There must be a need to test the offering in a full authorization would be too costly to run.
- The innovation must be ready to be tested real customers.
- The firm has measures in place to mitigate risks.

Another country at the forefront of regulatory sandboxing is Singapore. Singapore has followed the UK in due course sandbox in November 2016. It follows a very similar sandbox’s rigid eligibility criteria. Unbundling regimes innovative financial service providers can test their services and products in the market but not exceed an aggregate of maximum 50 people.²

Another country at the forefront of regulatory sandboxing is Singapore. Since December 2016, the Australian Investment Commission (ASIC) allows financial profit from relaxed regulatory requirements. Licensing exemption are:

- For the firm: not more than 100 retail clients and not more than $5 million, test no longer than 6 months.
- Have indemnity insurance and dispute resolution procedures.


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- Data exchange between regulators and financial institutions through cloud or online platforms.
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Regulatory Sandboxies for More Innovation

To foster innovation through FinTech and RegTech companies, a handful of jurisdictions have started to introduce regulatory relaxations, so-called regulatory sandboxies. Under these regimes innovative financial service providers can test their services and products in the market without being subject to the otherwise applicable regulatory requirements to financial institutions for a certain amount of time.

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Also, to broaden the reach of the UK sandbox, the FCA has established so-called FinTech bridges that allow FinTech firms from Singapore and Australia to participate in the UK exemption. To apply for the UK sandbox, the FinTech firms need to meet the following eligibility criteria:

- The firm must be a regulated business in the UK financial services market.
- The innovation must be new or significantly different from what is offered in the marketplace.
- The innovation must create benefit to customers, e.g. through higher quality or lower prices.
- There must be a need to test the offering in the market, e.g. because a full authorization would be too costly to run a viability test.
- The innovation must be ready to be tested in the real market with real customers.
- The firm has measures in place to mitigate consumer risk.

Singapore has followed the UK in due course and established its sandbox in November 2016. It follows a very similar approach to the UK but with more rigid eligibility criteria. Most importantly, the sandbox providers have to clearly define exit and transition strategies and allow products to be tested only for 6 months on a customer base of maximum 50 people.

Another country at the forefront of regulatory sandboxies is Australia. Since December 2016, the Australian Securities and Investment Commission (ASIC) allows financial start-ups to profit from relaxed regulatory requirements. The conditions for a licensing exemption are:

- For the firm: not more than 100 retail clients, customer exposure not more than $5 million, test no longer than 12 months, and have indemnity insurance and dispute resolution in place.


For the products: payment, deposit and investment products not exceeding $10,000, consumer credits and loans not exceeding $20,000, and property and home insurance not exceeding $50,000, insurance value.

While all of the aforementioned examples stem from common-law jurisdictions, similar initiatives have been launched in Continental Europe. One example is the regulatory sandbox created by the Swiss Financial Market Supervisory Authority (FINMA). In spring 2016, FINMA announced its support for the establishment of a sandbox and a ‘sandbox license’ light for innovative firms in the financial sector. In contrast to the common-law examples, Switzerland follows a one-size-fits-all model, which is open to all financial players, not only newcomers, gives them an exemption from FINMA’s oversight and is not limited in time. The conditions to benefit from the Swiss sandbox are:

• The firm accepts deposits from no more than 20 persons.
• Funds do not exceed CHF 1 million, are settled in 60 days, and 3% are backed by capital.
• The firm informs its customers that it is not subject to FINMA’s supervision and deposits are not covered by the deposit protection scheme.

Sandbox Goals and Benefits

The primary and universal goal of a sandbox with relaxed regulatory requirements is to foster innovation in the financial services sector and thereby (implicitly) strengthen the attractiveness of the financial market. This goal also benefits consumers and the industry, most importantly in the form of increased efficiency, lower prices, eventually leading to better access to finance, as pointed out by UK’s FCA and the MAS Guidelines 2016. The third goal is explicitly endorsed only by the UK and Singapore and encourages FinTech firms to create products and services that mitigate financial risk and identify new consumer protection safeguards. Other regulators like the Swiss and Australian supervisory authorities do not explicitly mention this goal.

So far, no large-scale or quantitative studies on the impact of regulatory sandboxes and their potential to create new and safe products have been conducted. What we have is a qualitative report from Deloitte about the UK sandbox from 2018, which is based on firm interviews and has identified the following added value:

• Increased credibility vis-à-vis investors and consumers.
• Possibility to identify and address potential consumer risks early on.
• Increased awareness and knowledge of regulatory requirements among start-ups.

While all of these goals and benefits appear beneficial at first sight, they can often have a negative flip side, which is discussed in the following:

Trade-off: Innovation vs Consumer Protection

A major reason why only a handful of countries have created regulatory sandboxes lies in the antagonism of financial innovation vs consumer protection. Since the financial crisis, national regulators have introduced new rules and regulations to restrict financial innovations in their activities, mostly for the benefit of consumer protection. Licensing systems, capital requirements, and reporting standards – all of these measures aim to protect clients from risky business.

In Switzerland, in addition to the sandbox exemption (beginning of 2016 until 2017), and three years for the relaxed FinTech license, which has entered into force in January 2019. One major reason for this lengthy procedure was the challenge to balance-off the two goals.

There is no use case (yet) teaching us about the most effective safeguards for consumers from the negative consequences of failed FinTech companies. I identify three types of safeguards that were put into place for sandboxes and that are more or less effective in protecting consumers:

• Arguably the most effective measure to protect consumers from harmful risky business of FinTech and RegTech firms is to limit the negative effects of a failure from the outset. Limiting the money amount of products, the customer base and the testing phase is an effective measure to constrain potential negative impacts of a failure and to avoid the accrual of systemic risk. The Swiss and Australian supervisory authorities have chosen this approach.

• The second most effective measures appear to be the preventive safeguards. One example is the disclosure obligation in Switzerland where FinTech firms have to disclose to their customers that the Swiss regulator does not supervise them. This helps to create awareness among the customers about the potential risks involved. Also, the risk mitigation measures required by the Swiss regulator include a risk assessment and a risk management report, which will have to have a preventive character. However, up to today it is not clear which measures this might entail. Hence, while preventive measures have the potential to stop crises from happening, often the measures are not concrete enough to be less effective than strict limitations.

• Finally, there are ex-post safeguards with a high help. New consumers for the harmed businesses. For example, Switzerland rdf to back up 3% of the accepted funds by a capital reserve; hence the chance to pay back in a case of insolvency. A Swiss indemnity insurance required for FinTech license is the regulator. I acknowledge that these measures of justice but they do not prevent the harm of a clear disadvantage.

All of the aforementioned jurisdictions have safeguards. While the ante-limitations hand with the ex-post safeguards (Switzerland and Singapore) a stronger emphasis on mitigation measures. Future will show, which limitations vs risk mitigation measures – will be successful in protecting customers.

One last concern relates to the signalling of a sandbox. Often customers and investors acceptance into a sandbox as a quality signal. A negative inference is not correct and utterly dangerous. Quite often the regulator is the signal for future innovators. Also, the regulatory exercise is no guarantee for future success. To create this misperception, the disclosure obligation of firms might have a valuable countervailing deceptive signalling effect.

Global Sandboxes: The Way Forward

Up to today, the development of RegTech sandboxes is still in its infancy and under the Swiss revisions). As we have seen, each
The measures are not concrete enough and are therefore often less effective than strict limitations.

- Finally, there are ex-post safeguards with a restorative effect that help compensate consumers for the harm they suffered from a risky business. For example, Switzerland requires FinTech firms to back up 3% of the accepted funds by capital. The higher capital reserves then increase the chances of customers to be paid back in a case of insolvency. A similar effect has the indemnity insurance required for FinTech firms by the Australian regulator, but they do not prevent the harm from happening, which is a clear disadvantage.

All of the aforementioned jurisdictions have chosen a combination of safeguards. While the ex-ante limitations do not significantly harm the innovators, the ex-post safeguards put stronger emphasis on the outline of risk mitigation measures. Future will show, which approach – ex-ante limitations vs risk mitigation measures – will prove to be more successful in protecting customers.

One last concern relates to the signaling effect of the admitted sandbox firms. Often customers and investors take the acceptance into a sandbox as a quality seal. In my view, this inference is not correct and utterly dangerous. It is highly questionable whether the regulator is the savviest entity to select future innovators. Also, the regulatory exemption of a company is no guarantee for future success. To create the perception that understanding this misconception, the disclosure obligations for Swiss sandbox firms might have a valuable countervailing power against the deceptive signaling effect.

Global Sandboxes: The Way Forward

Up to today, the development of RegTech firms and regulatory sandboxes is still in its infancy and under constant change (see Swiss revisions). As we have seen, each jurisdiction has chosen its
own individual approach to deal with fostering innovation through regulation. However, I see some value in coordinating regulations and goals on a global level. Coordination and harmonization not only levels the playing field and eases the competition between hubs, which may eventually prevent a race to the bottom. They may also foster the development of stronger protection safeguards for consumers.

Hence, I see at least three good reasons to tackle regulatory relaxations through sandboxes on a global level. First, financial markets are highly interdependent – as the global financial crisis has taught us – and therefore deserve cross-border regulation. Second, new technologies like cloud applications, distributed ledger technologies (DLT), and other internet-based solutions do not stop at national borders but are cross-border by nature. Third, this also means that in most cases, customers of FinTech and RegTech firms are scattered across the globe, which in turn asks for more universal rules of consumer protection.

A first step towards a “Global Sandbox” can be the incremental approximation of national rules. While the national regulators shall be given enough freedom to select FinTech firms that fit best into the existing legal and financial setting, the development and harmonization of mitigating measures to protect consumers seems universally beneficial. To achieve such harmonized schemes, cooperation between regulators is a crucial prerequisite.

In this sense: Let’s go play in the global sandbox, but make sure we use the right toys!