SMU FinTech Publication

Research – RegTech

Friday, 16 July 2021
By: Yong Hwee Shi, Research Analyst

The Rise of the RegTech Industry

It is set to shape the future of regulatory compliance in the financial sector.

Introduction: RegTech vs. FinTech

According to the Financial Conduct Authority (FCA), RegTech is "a sub-set of FinTech that focuses on technologies that facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities"[1]. Beyond this definition, RegTech can also be viewed as a separate but parallel phenomenon to FinTech.

FinTech is often perceived as a disruptive innovation as it continues to challenge business models technologically and shift competitive patterns in the financial services industry[2]. RegTech on the other hand, is better viewed as an enabler that is harnessed to help financial service companies comply with their new and existing compliance regulations[3]. Moreover, contrary to FinTech's inherent financial focus, RegTech's adoption can also be seen in other highly regulated sectors and contexts. For instance, RegTech can be used to monitor corporations' compliance with environmental regulations.

That said, increasing regulatory challenges necessitate the development of RegTech along with the evolution of FinTech, as RegTechs present a regulatory opportunity for FinTechs to transition from a 'big data' to a 'smart data' approach[13]. This paper will thus focus on the application of RegTech in the financial sector, and its potential to handle regulatory risks and significantly transform compliance.

Background: Regulatory Challenges in the Financial Sector

RegTech's uprise can be traced back to the changing regulatory environment after the 2008 Global Financial Crisis. As financial services regulations expanded at an astonishing rate (Appendix A), the burden and cost of regulatory compliance have consequently inflated as well.

The increased regulations concern capital and liquidity requirements, consumer protection, money laundering, data access, cyber-crime, and more[9]. This growth of regulations has increased the complexity and costs of compliance for financial institutions. Globally, compliance costs in the banking industry in 2018 have tripled to be US$780 billion since 2008, due to inconsistencies and rapid changes in national regulations around the world[16]. Over the past decade, compliance failures in the form of fines and penalties have surged to US$321 billion across the financial sector as well[17].

According to Oliver Wyman, the proportion of financial services employees in compliance and risk management has exploded to around 10% to 15% over the past decade[9]. On the other hand, the headcount of those in customer-facing roles has declined with the increasing digitalization of financial services[9].

The glaring problem, however, is that many of the employees in compliance are channeling their efforts into regulatory paperwork. Besides increasing compliance costs and regulatory pressures, transforming manual compliance processes into efficient systems is another key challenge that the financial sector is grappling with. It would necessitate systematic changes to compliance solutions, reporting functions and data tracking, for more transparency and lower risks[4].

Currently, some institutions rely on manual practices to take inventory of services, interpreting and translate regulations, assess impacts of regulatory obligations, and developing operational controls to satisfy them[14]. Furthermore, modernizing these processes has led to issues with complex and heterogeneous IT infrastructure, and data management, and data quality problems[12]. In the long run, such classic compliance IT solutions cannot cope with the immense data volumes especially in the shorter reporting timeframes.

Overall, there is a gap between the rapidly evolving digital marketplace in the financial sector and having an effective compliance and operational risk management system. Unless new, sophisticated technologies such as AI, robotics process automation (RPA), blockchain and predictive analytics are deployed to replace manual workflows in regulatory compliance and risk management, this gap may widen further[14].

The Catalysts Driving RegTech's Growth

The period where demand for more sophisticated regulatory solutions surged in the financial sector also coincided with the advancement of data science, RPA and cloud-based infrastructures[5]. Regulators themselves are seeking new technologies to enhance their supervision of firms and markets—what we will come to know as SupTech[5].

With the increased digitalization of financial services and the adoption of advanced technologies by regulators, financial institutions will seek to enhance their compliance and risk management functions, as they need to take stock of changes in regulations and consider how their compliance operating practices will stay current[14]. RegTech is, therefore, poised nicely to catalyze the transformation of such functions over the next decade, by closing the aforementioned gap and tackling firms' regulatory weaknesses.

RegTech's Value Proposition: Transforming Compliance and Risk Management

Technological Compliance Transformations

New technologies such as AI and machine learning in RegTech solutions allow for cost reductions in regulatory compliance, as well as increased speed, efficiency, and reliability of processes:

1. Alternative regulatory reporting methods[9]

The advancement of AI and cloud systems would mean cheaper data storage and increased information-sharing capabilities such as real-time communications between banks, financial institutions, and even regulators. Workflows are automated to evaluate large datasets and generate reports quickly, which saves firms time and costs from slow reviews and investigations.

2. Data Ontology Standards (DOS)[9]

RegTech solutions also include technology that eliminates any discrepancies between regulatory intention and interpretation. DOS enables real-time regulatory interpretation, assessment, and reporting as well. This lowers the need for post-trade surveillance and transaction monitoring.

3. Secondary regulatory data architecture with open-source application programming interfaces (APIs)[9]

RegTech solutions adopt ETL (Extract, Transfer, Load) technologies to organize cluttered data sets for smoother and fuller utilization, and integrates cloud models and APIs with existing systems[4]. This will enable simplified, real-time reporting and decisions. Cognitive automation also influences further changes to simplify the 'three lines of defenses' risk models.

4. Holistic digital compliance[9]

RegTech solutions mine large datasets with powerful analytics to allow regulation and compliance processes to be reviewed and reported proactively. It enables integrated, utility-based risk management and reporting over a wide range of regulations, and produces actionable insights on financial and non-financial risks to enable quick decision-making.

5. Digitization of regulations in RegTech[9]

Financial regulations can be keyed into regulatory systems, from which RegTech solutions allow banks to plug into and build their compliance processes from. Provided that the regulations are objective rules, any regulatory change will be met by an automatic adaptation of banks' compliance processes.

Digitized Risk Management (DRM) Strategy

RegTech helps financial institutions to remain consistent with sound risk management while meeting the evolving needs of their customers and staying aligned with the paradigm shifts in the regulatory environment. It enables a DRM strategy that creates a compliance system driven by advanced, efficient technologies.

Such a strategy consists of data-driven workflows and interdependent technological systems linked to support customers, business processes, modeling techniques, and governance routines of the compliance function[14]. This entails the digitization of critical compliance processes such as completing Know-Your-Customer (KYC) requirements, accepting deposits, giving credit extensions, and issuing required disclosures[14]. What results are near real-time compliance with regulations and internal policies, and this is key to transforming risk management processes.

That said, the nascent nature of RegTech makes its functional and financial impact unclear in future. However, experts are certain that a properly defined and deployed DRM that is driven by RegTech will have a positive effect on bottom-line business outcomes[14].

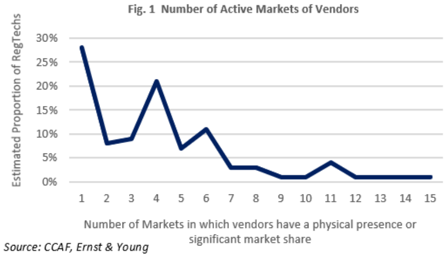
For instance, it will help to enhance the customer experience with real-time responses and swift resolution. According to Deloitte Experience (DX), some existing DRM programs at financial institutions automated their systems to proactively alert customers about aging assets that are subject to abandoned property requirements[8]. Some others detect in real-time, any services or products that were executed incorrectly which will then prompt the institution to identify the compliance or service issue and resolve it swiftly[8].

RegTech's ability to improve compliance and risk management practices helps to raise an institution's supervisory standing with regulators. Beyond this, an effective DRM strategy also prepares institutions to respond to potential risks in a timely and proactive manner, by shaping strategic business decisions. For instance, RegTech technology can detect macro threats following economic or political developments, or pick out risky clients who are more likely to default on their loans or run large deposits[14].

The Global RegTech Industry (Appendix B)

The global RegTech market is expected to total more than US$20 billion by 2027[4] and is expected to attract significant funding. From January 2017 to June 2020 alone, the funding raised globally is estimated to be between US$11 billion and US$18.7 billion[5].

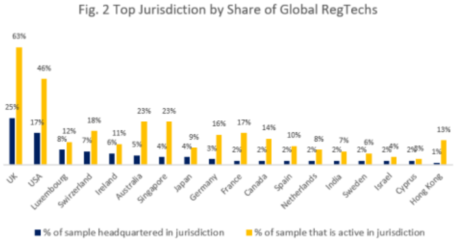
Fig. 1 Number of Active Markets of Vendors



Source: CCAF, Ernst & Young

Most financial regulations have converged towards international standards, causing many RegTechs to have an international focus at the onset[7]. From Fig. 1, less than 30% of RegTech firms have a single market focus. This was extracted from a study conducted by the Cambridge Centre for Alternative Finance, which also found that paradoxically, more mature firms tended to be active in fewer markets[7]. It suggests that RegTechs seem to be unable to sustain their international focus, perhaps due to the significant upfront investments needed to reconcile divergent local regulations and data structures[7].

Fig. 2 Top Jurisdiction by Share of Global RegTechs



Source: CCAF, Ernst & Young

From Fig. 2, two-thirds of RegTech firms have a strong presence in the UK, and nearly half in the US, while some Pacific and European financial centers attract significant RegTech interest. While some of these top RegTech markets are smaller, they have strong specialisms. For instance, Luxembourg has a regulatory sandbox and many active partnerships with foreign regulators[7]. On the other hand, emerging markets do not see much RegTech presence—more than 9% of the study sample are not active in any African or South Asian country[7]. The concentration of RegTechs in Europe, particularly the UK, is to be expected given the large volume of financial regulations by EU institutions between 2014 and 2018[7]—which naturally spotlights the RegTech industry.

Case Study: The UK RegTech Industry

Industry Profile (Appendix C)

The number of RegTechs in the UK industry has grown substantially since 2005, until 2016 when there was a decline which signaled the maturing of the industry[5]. The industry in 2020 is no longer dominated by start-ups, as incumbents are looking to scale up. The proportion of UK-based RegTechs tackling financial crimes is the largest, followed by the Market Integrity and Transparency category, where RegTechs solve problems associated with financial conduct risk[5].

The development of the latter range of RegTech products rose after the second EU Markets in Financial Instruments Directive and Regulation in January 2018[5]. The next two largest categories for UK-based RegTechs are Cyber / Identity / Privacy (CIP) and Regulatory Data and Information Management (RDIM). RegTechs develop CIP products to address cybersecurity risks and enhance data management processes for more security and privacy, while RDIM products create automated solutions to improve data governance and lineage, especially in regulatory and transaction reporting[5].

RegTech Adoption and COVID19 Impact

In a research by RT Associates, 78.8% of the sample of UK-based RegTechs rated the adoption level of RegTech financial crime solutions by financial institutions to be high or moderate, and 21.2% rated it to be low[5]. The high adoption in the financial crimes space is expected, due to increasing cases of identity theft, fraud and terrorist financing activity[5]. Institutions thus seek RegTech solutions to protect themselves and their clients, even before the pandemic swept the global in 2020[5]. COVID-19 served as an accelerant for the uptake of RegTech solutions with the mass transition to remote activities and the accelerated rate of adoption of digital channels in many financial services.

However, for regulatory and compliance management (RCM) solutions, the percentage that rated adoption levels to be low is 56.5%, and 55% of the sample stated that regulated financial institutions were not ready or open to integrating with a digitally-driven regulatory framework[5]. Nonetheless, a substantial majority of 70% agreed that the introduction of digital regulations would help institutions manage their regulatory obligations better, especially given the pandemic which has stimulated more adoption in RCM solutions relative to other solution categories[5].

Generally, the UK RegTech industry has yet to achieve high levels of maturity, though the gradual proliferation of RegTech is undeniable. Financial institutions in the study stated that most of the adoption is internal rather than external strategic engagements[5]. RegTech solutions are deployed tactically to address immediate, urgent needs, namely to plug short-term loopholes, but not deployed strategically to improve overall compliance standards—which hinders long-term adoption.

Especially in the space of RCM, there is a real and potent market opportunity to deepen and direct the growth of RegTech towards the latter. Moreover, there is a strong ecosystem of RegTechs to optimize institutions' infrastructure and improve compliance outcomes[5]. A large majority of the sample (82.3%) has stated their optimism that sales of RegTech solutions in the UK can be expected to grow in 2021, which alludes to the potential and rise of the industry[5].

Challenges in Industry & Recommendations

There exists an awareness problem, which creates a substantial drag on RegTech's adoption[5]. A system of practical, tech-driven and independent RegTech accreditation is needed to provide a test-and-prove platform for RegTechs to assure their clients that their solutions are scalable and interoperable, thus increasing confidence that the solutions will have effective delivery[5]. More exposure to and education on RegTech for boards of regulated institutions is also a critical driver for growth[5].

In the same study by RT Associates, 68.6% of vendors called on supervisors to encourage regulated firms to increase their adoption of RegTech as part of the supervisory process, and the top potential remedy to the low adoption, was voted to be improving the regulators' stance[5]. A more visible and active stance from regulators to adopt RegTech solutions through their regulatory engagements with financial institutions would do much to stimulate demand for RegTech solutions.

Lastly, despite much commercial optimism, there are still significant barriers to adoption such as long procurement cycles, constraints by legacy technology, and the lack of data standards and interoperability[5]. There needs to be a deeper awareness by vendors, of the more complex needs and pain-points of larger institutions to promote their solutions. If RegTech companies are enabled to scale rapidly and sell to those institutions, awareness gaps can be closed and the pool of potential RegTech vendors that larger institutions can tap into will grow—and along with it, adoption will rise as well[5].

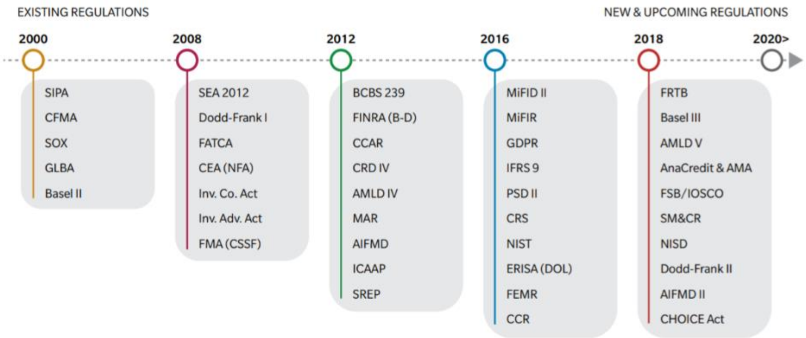
Conclusion

RegTech is becoming more pervasive and is a springboard for broader adoption of DRM at financial institutions. On a positive note, regulatory support for RegTech is also increasing in the UK, as the FCA started the TechSprints events to gather industry participants to collaborate on financial technologies[14]. Such an effort helps to promote digitally enabled compliance functions in financial institutions and allows the sector to tap onto the potential of Regtech's many capabilities. The demand for RegTech will continue to balloon, and the Regtech industry, together with the transformations it offers, is envisioned to be a crucial cornerstone of the financial sector.

Contact: Jax Khor, Research Director
jxkhor.2018@business.smu.edu.sg

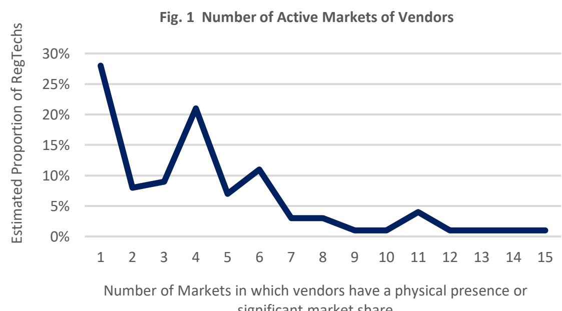
Appendix

Appendix A



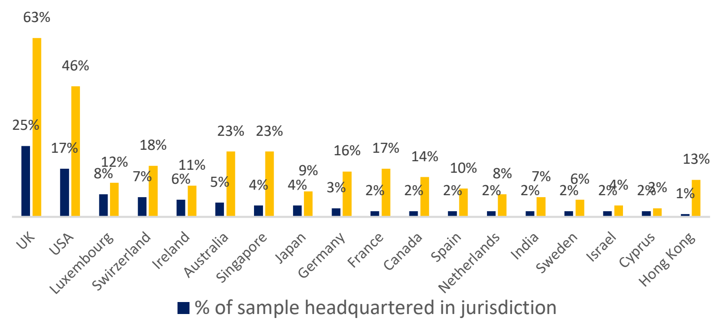
Source: Oliver Wyman

Appendix B (The Global Industry Section)



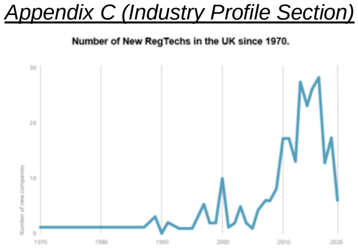
Source: CCAF, Ernst & Young

Fig. 2 Top Jurisdiction by Share of Global RegTechs

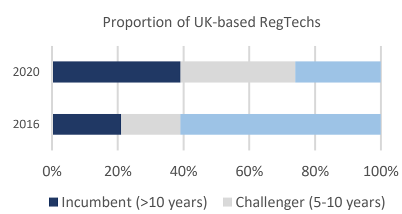


Source: CCAF, Ernst & Young

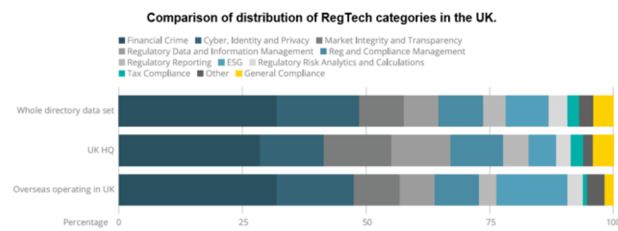
Appendix C (Industry Profile Section)



Source: RT Associates



Source: RT Associates



Source: RT Associates

Sources:

[1] Financial Conduct Authority. (2016). *Call for input on supporting the development and adopters of RegTech.* (Feedback Statement FS146/4. 18-0033-EF). Retrieved from https://www.fca.org.uk/publication/feedback/fs-16-04.pdf.

[2] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. Harvard business review, 93(12), 44-53.

[3] Arner, D. W., Barberis, J., & Buckey, R. P. (2016). FinTech, RegTech, and the reconceptualization of financial regulation. Nw. J. Int'l L. & Bus., 37, 371. Retrieved from https://www.cfainstitute.org/-/media/documents/article/rf-brief/rfbr-v3-n4-1.ashx.

[4] Tookitaki. (2021). Importance of RegTech in the Modern Era. https://www.tookitaki.ai/compliance_hub/importance-of-regtech-in-the-modern-era/.

[5] Lewin, S., Stubbs, R., Parker, N., Rowbotham, J., Pham, W. (2021). *2021: A Critical Year for RegTech*. City of London and RT Associates. Retrieved from https://www.rtassociates.co/regtech-uk-research/.

[6] Harding, T., Lewin, S. (2020). The UK and Ireland RegTech Market. RT Associates. Retrieved from https://www.rtassociates.co/regtech-uk-research/.

[7] Schizas, E., McKain, G., Zhang, B., Ganbold, A., Kumar, P., Hussain, H., Garvey, K. J., Huang, E., Huang, A., Wang, S., Yerolemou, N. (2019). *The Global RegTech Industry Benchmark Report*. Cambridge Centre for Alternative Finance and Ernst & Young. Retrieved from https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-12-ccaf-global-regtech-benchmarking-report.pdf.

[8] Hugé, F. K. (2018). Using RegTech to transform compliance and risk from support functions into business differentiators. *Deloitte Inside Magazine, Part 02*(February Issue), 1-8. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/risk/lu-using-regtech-to-transform-compliance-and-risk-from-support-functions-into-business-differentiators.pdf.

[9] Roy, S., Heaney, M., Seibert, H. (2018). *RegTech on the Rise: Transforming Compliance into Competitive Advantage*. Oliver Wyman Insights. Retrieved from https://www.oliverwyman.com/our-expertise/insights/2018/may/the-rise-of-regtech.html.

[10] Mazurek, K., Pietrzyk, F., Truskawa, M., Szepietowski, S., Sagan-Jeżowska, A., Gałajda, J. … Niemczuk, B. (2017). *RegTech – the importance of regulatory innovations for the financial sector and the state*. FinTech Poland. Retrieved from: http://fintechpoland.com/regtech-the-importance-of-regulatory-innovations-for-the-financial-sector-and-the-state/?lang=en.

[11] Devanesan, J. (2020, October 9). *Shaky times for compliance call for flexible RegTech*. Techwire Asia. Retrieved from https://techwireasia.com/2020/10/shaky-times-for-compliance-call-for-flexible-regtech/.

[12] *Implementing RegTech for cost reduction and compliance*. (n.d.). Deloitte Luxembourg. Retrieved from: https://www2.deloitte.com/lu/en/pages/technology/solutions/regtech-services.html.

[13] Ansone, L. (2021, May 27). The future of FinTech is RegTech. b.fine. Retrieved from: https://b-fine.be/2021/05/27/the-future-of-fintech-is-regtech/.

[14] Siciliano, J. (2020, April 22). *RegTech Clears a Path for Digitized Risk Management*. Wall Street Journal. https://deloitte.wsj.com/riskandcompliance/2020/04/22/regtech-clears-a-path-for-digitized-risk-management/.

[15] Becker, M., Merz, K., Buchkremer, R. (2020). RegTech—the application of modern information technology in regulatory affairs: areas of interest in research and practice. *Intelligent Systems in Accounting, Finance and Management, 27*(4), 161–167. https://doi.org/10.1002/isaf.1479.

[16] Binham, C. (2018, April 12). Differences in financial regulation cost business $780bn annually. *The Financial Times*. Retrieved from: https://www.ft.com/content/d793068c-3d99-11e8-b9f9-de94fa33a81e.

[17] Davis, L. (2017). *The State of RegTech*. CB Insights. Retrieved from https://www.cbinsights.com/research/briefing/state-of-regulatory-technology-regtech/.