

### Regtech

The next giant in Southeast Asia?

#### What is Regtech?

Regtech, or regulatory technology, mainly involves the use of technology to enhance the efficiency and effectiveness of risk management and regulatory compliance in financial institutions. Regtech is commonly categorized as a sub-set of fintech, since it is mainly applied in the financial sector. However, the parallel between Regtech and Fintech remains nuanced. It will be illustrated later in the publication that a significant portion of Regtech vendors target players in non-financial sectors as well, through the provision of non-financial service use cases. Like other realms of fintech, such as payments, lending, insurance, and e-commerce, which are all experiencing a phase of explosive growth marked by the proliferation of start-ups, innovation, and the creation of new markets over the past five years, Regtech is certainly not left out. In 2015, FinTech Global estimated that there were 149 Regtech-related investment deals across the world, totaling USD\$1.1 billion. Four years later, 2019 saw 317 deals amounting to a total of USD\$8.5 billion<sup>1</sup>. Moving forward, it can be expected that Regtech will continue to see momentous growth, due to the significant value it provides to players in both the regulatory and financial space globally.

#### The History and Emergence of Regtech

It is imperative that we first understand the factors that gave rise to Regtech, which will better enable us to appreciate the value that it provides for firms and regulators today and in the future.

The evolution of Regtech can be categorized into three phases, each representing a different time-period and level of sophistication, as illustrated in Figure 1<sup>2</sup>.

The first iteration of Regtech can be dated back to the 1980s, where financial technology was used to facilitate risk management. The financial sector, at that time, was becoming increasingly quantitative and depended heavily on rapidly developing information technology (IT) systems. These are some systems and practices that are prevalent today. However, come 2008, the ability of these quantitative IT frameworks to manage and control risks, such as financial engineering and value at risk (VaR) systems, proved to be overly inflated when the Global Financial Crisis (GFC) occurred<sup>3</sup>. This ended the first iteration of Regtech, or 'Regtech 1.0', as seen in Figure 1.

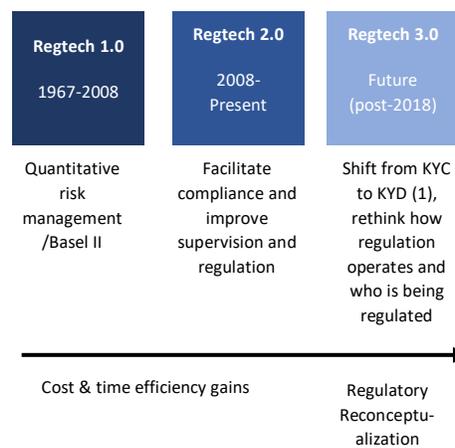
After the GFC, regulators began imposing hefty penalties on financial institutions for failing to meet regulatory requirements. Regulations were also constantly increasing in multitude and became more complex. As a result, financial institutions suffered in terms of profitability, ability compliance matters. Through various technologies (to be discussed later in the

publication), financial institutions were and are more and more able to leverage Regtech 2.0 to manage compliance-related matters more efficiently and effectively.

Finally, Regtech 3.0 refers to the future of Regtech. Like other technologies, therein lies many opportunities for Regtech to evolve and enhance its ability to value-add to the compliance ecosystem. Understandably, there are also several barriers that may stifle this favorable development

We are currently in the process of transitioning from Regtech 2.0 to Regtech 3.0, as we begin to see more of its widespread adoption by private institutions and regulators.

Figure 1.



Source: CFA Institute

#### Why is there so much buzz about Regtech?

To fully grasp the role that Regtech plays in the financial sector, it is imperative that we first understand what the regulatory environment is currently like.

After the GFC in 2008, regulators in the financial sector will do everything in their disposal to prevent history from repeating itself. This translates to an everchanging, voluminous, and accelerating number of regulations. For example, Thomson Reuters recorded 56,300 regulatory updates globally in 2017, up from just 8,700 in 2008 and 17,800 in 2012<sup>5</sup>. Regulators also imposed hefty fines on financial institutions for non-compliance. The sheer volume and complexity of regulations, and hefty penalties thus made compliance and non-compliance extremely costly for financial institutions. This problem is exacerbated for multinational corporations since financial regulations are not identical across different markets. To put some numbers into perspective, firms in the financial sector reportedly spends approximately 4% of their revenue complying with regulations. Additionally, a report published by BBVA noted that in financial institutions, an estimated 10-15% of its total workforce are directed to governance, risk management, and compliance (GRC). As for

non-compliance, banks have reportedly paid a total of USD\$320 billion in fines from 2007 to 2016<sup>6</sup>. McKinsey also found that regulatory fines and settlements in 20 large US and EU universal banks increased forty-five-fold from 2010 to 2014<sup>7</sup>.

Understandably, while the cost of non-compliance is endogenous, financial institutions have played catch-up with regulators by necessitating an army of compliance analysts, consultants, and lawyers. As regulators seek to constantly introduce and amend regulations suited for the evolving financial sector, senior management of firms in the financial sector simply cannot anticipate these changes<sup>8</sup>. Current practices and controls quickly become obsolete, and an expectations gap between regulators and senior management is thus formed. As such, financial institutions cannot simply rely on traditional means of meeting regulatory requirements – which are labor-intensive, costly, and ineffective.

Thankfully, Regtech can address this gap in the regulatory environment.

#### Technologies employed and use cases of Regtech

Regtech differs from that of traditional systems in terms of **datafication** and **digitalization**. Datafication refers to the process where transfer and storage of data is more efficient. The interpretation and analysis of 'Big data' can also generate insights for the business and improve its decision-making. Digitalization refers to the automation of various labor-intensive processes.

One form of technology under the 'digitalization' cluster is Robotic Process Automation (RPA). RPA is a software-based technology that automates labor-intensive and repetitive tasks through emulating the human processes behind these tasks. In simpler terms, RPA acts like a 'virtual' employee, interacting with the existing user interfaces and applications and carries out the tasks automatically by clicking, typing, and opening applications, as would a human employee. Obviously, RPA tools can perform and complete routine tasks better than human employees in a variety of ways.

Apart from speed, RPA tools can eradicate workplace error arising from human oversight. Furthermore, it may also increase the overall quality of work through means like extrapolating trends, testing a full population of data, and creating visualized outputs<sup>9</sup>. For example, Singapore-based Regtech startups like Tookitaki and Comply both provide automated manual workflow solutions, such as banking reconciliations and generation of regulatory reports for companies using artificial intelligence.

Cloud computing, machine learning, and natural language processing (NLP) are considered primary tools for Regtech solutions. It is also common that Regtech companies offer Software-as-a-service (SaaS) solutions to their clients. Since solutions are cloud-based, this means data

is remotely stored, managed, and backed up. This creates increased flexibility and agility as databases can model new regulatory demands efficiently, applications can be updated cost effectively and quickly, and the provision of end-to-end integration and encryption<sup>10</sup>.

Besides the commonly used cloud features, Regtech companies may also employ machine learning and NLP to help financial institutions better analyze, interpret, and understand data, and improve the decision-making process<sup>11</sup>. For example, Silent Eight is a Singapore-based regtech start-up that uses ML and NLP to screen customers and monitor transactions to deter money laundering and terrorist financing. Apart from “learning” and integration to a business’ due diligence process, the underlying mechanism involves multidimensional scanning of large quantities of data (in petabytes) from different data sources to identify relationships, and universal identification and bypassing of language barriers to confirm a subject’s identity.

Other technologies, albeit less common, include biometrics/optical character recognition, and distributed ledgers. Biometrics involve the use of biological traits, such as voice and image recognition, to enhance the precision and speed of identity verification and authentication and track suspicious activities. Onfido, a UK-based regtech start-up, provides its clients with biometric technology for identity verification. One of its clients have seen impersonation attacks and identity theft fall by as much as 22%.

### Regtech in SEA – what is it like?

Singapore currently leads the charge in terms of Regtech, with 24 Regtech-focused startups registered as of January 2020. This does not come as a surprise, as Singapore is prided as being Southeast Asia’s main financial hub, built on ease of doing business, its strategic location, innovation, and political stability. More than that, the Singapore government, namely the Monetary Authority of Singapore (MAS) – Singapore’s central bank, and GovTech, or Government Technology Agency – a statutory board of the Singapore government that delivers and support technology-driven initiatives to the public, have been actively pushing for the adoption and commitment to Regtech since 2016.

In our view, the MyInfo initiative seems to be the most popular and successful Regtech initiative so far in Singapore and Southeast Asia. MyInfo is a digital service that enables citizens to authorize third party access to their data and can be considered a KYC solution. With prefilled and verified personal data, this ‘tell-us-once’ platform makes processes like opening bank accounts more seamless, to the extent that personal loans can be released to a new customer’s account instantly<sup>12</sup>. Since its successful pilot in 2017, there are almost 200 private sector and more than 150 government digital services offering MyInfo. Singapore also boasts a robust Regtech startup scene, where companies like Dathena and Cynopsis Solutions have expanded out of Singapore to set up offices in Europe. Dathena offers data security and compliance solutions,

while Cynopsis Solutions automates complex KYC, AML, and CTF processes. Singapore Fintech Association (SFA) also actively promotes Regtech, having previously worked with their Australian, Hong Kong, and Japanese counterparts to enhance Regtech education and implementation across the Asia Pacific<sup>13</sup>.

This is good news as the Singapore regulatory environment, like others around the world, remains dynamic and ever-changing. In April 2019, the Monetary Authority of Singapore (MAS) unveiled a new regulatory framework to enhance payment services in Singapore. Part of this framework will empower the MAS to regulate payment services in terms of money laundering, terrorist financing, and technology and cyber risks.

This forms part of the broader Payment Services Act, which is a regulatory framework that safeguard the well-being of consumers while encouraging innovation and growth of payment services and fintech. With a dynamic regulatory environment, banking and fintech hub, and state support, there is room for further development for the Regtech sector in Singapore.

Outside of Singapore, we can also see healthy developments for Regtech in neighboring countries like Indonesia and the Philippines. As far back as 2016, the Indonesian government has opened its ID card database, where financial institutions were able to access this database for KYC purposes. BearingPoint, a Dutch multinational management and technology consulting firm, has expanded its tax reporting solution to the Indonesian market, where clients can perform their individual tax filing duties as required in a seamless manner. We view three main drivers for Indonesian Regtech growth:

1. Evolving and dynamic regulatory landscape
2. Increasing number of digital transactions involving banking-related services
3. The country’s inherent risk to ML/TF

Like countries around the world, Indonesia possesses a dynamic and everchanging regulatory landscape in its financial sector since the 2008 GFC. According to the Financial Services Authority (OJK) – the regulatory body overseeing policy implementation in the field, a total of 73 and 47 regulations were issued in 2019 and 2018 respectively<sup>14</sup>.

These regulations relate to banking, capital markets, risk-based supervision, and strategic management. Finastra, a UK-based technology-enabled financial services provider, aims to bring IFRS 9 compliance capabilities to Indonesia, as the country begins to implement the new financial reporting standards in January 2020<sup>15</sup>. As financial institutions like banks and insurers struggle to navigate through these regulatory requirements, Regtech startups can potentially have a huge role to play in filling this gap.

Second, owing to a rising middle class and high internet penetration, we can expect the number of digital transactions to increase tremendously over the coming years. Previously impossible without technology, people in cities and rural areas can now access financial services like insurance, acquiring loans, and investment products through the internet. As the number of transactions increase, there will be a larger influx of data. Both financial institutions and insurers will thus need to employ more resources to manage compliance-related matters like KYC, and better collect, store, and interpret these data to generate insights. As Regtech is employed to manage these compliance-related matters, there is a chance customers’ experience will be enhanced, since the onboarding process becomes more seamless and can be done remotely. Some banks in Indonesia, like Bank Rakyat Indonesia (BRI), are already utilizing Regtech solutions in their compliance and risk management processes.

Third, Indonesia still face a relatively high risk in terms of terrorist financing and money laundering in the region, according to the Asia Pacific Group on Money Laundering (APGML). Both businesses and the government can leverage regtech to combat these risks in a sustainable and cost-effective manner.

The OJK has put in place several strategies that may spawn Regtech start-ups and expedite the adoption of Regtech in Indonesia. For example, the Regulatory Sandbox encourages more fintech experiment whereby innovative fintech companies can first test their business models in the Indonesian market, under regular supervision.

Other initiatives include the establishment of the OJK Fintech Centre, name “OJK Infinity”, serving three key purposes; a learning centre on fintech, media for coordination and collaboration with key stakeholders, and a laboratory for regulatory sandboxing. (CITE) Likewise, in Malaysia, a similar regulatory sandbox known as the Financial Technology Enabler Group (FTEG) was formed in 2016 to support innovations that will enhance the quality, efficiency, and accessibility of financials services in Malaysia.

### Looking Ahead

Although the Regtech scene in Indonesia is relatively nascent, we may see a rise in adoption and development of Regtech solutions, given the speed of digitalization of the Indonesian economy in every domain, from banking and lending, to payments and remittances.

Currently, businesses in Southeast Asia still rely a lot on traditional processes like manual workflows and having armies of compliance analysts, consultants, and lawyers when it comes to regulatory compliance. However, this may begin to change with active government encouragement and participation to adopt and development Regtech solutions in various fields. Furthermore, with a robust startup scene, talent is cultivated which may contribute to a spawn in Regtech solutions to fill gaps in local markets.

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