

Annex C:

Case Studies

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CANADA

A. CANADA'S OPEN GOVERNMENT

Introduction

Technology has provided the capability to distribute large amounts of data and information via many different platforms, and on a vast array of subjects. This change has been shifting norms in many economies, including in Canada. For example, social media and other online platforms are giving a voice to marginalized communities and historically disempowered citizens, and offering unprecedented opportunities to engage and mobilize citizens. However, it is also presenting challenges related to viral disinformation, declining civic space and online echo chambers that can divide citizens, decrease citizen trust in government institutions, and threaten the social fabric.

Globally, the concepts of 'Open Government'¹ and 'Open Data' are increasingly being seen as countervailing forces that can help build trust in public institutions, strengthening government legitimacy and democratic norms. The idea is to maximize the release of government information and data of business value, to increase transparency, accountability, citizen engagement, and socio-economic benefits.

Pre-reform situation and value proposition for open government and open data

The Government of Canada's concerted efforts on releasing public information go back to the enactment of our *Access to Information Act* in 1983, which created a way for the public to request access to government information. This was enhanced with the *Federal Accountability Act* in 2006, which introduced proactive disclosure for various types of government information.

However, the Canadian policy environment has evolved significantly since that time, and with the advancement of digital technology and the concept of 'Open Data' gaining traction, there was a recognition that the Government could be doing more to make its information publicly accessible, and access the following benefits:

- ***Advancing government accountability and democratic reform*** by providing the public with greater insight into government activities, programs and use of tax dollars. This information makes Canadians and Parliament better able to hold the Government and public sector officials to account.
- ***Supporting research and private sector innovation*** by reducing duplication of effort and enabling the use of public sector data by academics, other levels of government and the private sector. For example, the private sector could use the data to analyze markets, make strategic investment

¹ The Organization for Economic Co-operation and Development (OECD) defines Open government (OG) as a culture of governance based on innovative and sustainable policies and practices inspired by the principles of transparency, accountability, and participation that fosters democracy and inclusive growth.

decisions and develop new commercial products. McKinsey Global Institute estimated that open data can help unlock \$3-5 trillion annually across seven sectors of the global economy including education, transportation, consumer products, electricity, oil and gas, health care and consumer finance.

- ***Supporting engagement and informed decisions by citizens*** by providing information that helps citizens access a wide variety of government initiatives and public services, helps them form and communicate views to improve the design and delivery of public services and programs and helps them make other informed choices (e.g. data on the fuel consumption of different models can help a buyer choose a new car).

Policy response

Over the last few years, the Canadian Government has taken a number of major steps on Open Government, including in the following areas.

Open Government Partnership – In 2012, the Government of Canada joined the global Open Government Partnership (OGP), the leading multilateral initiative focused on open government. Since joining, Canada has released four National Action Plans on open government. These have served as the frameworks for significant reforms in Canada, in the areas of open data, government results and delivery, and citizen engagement. As lead government co-chair of the OGP Steering Committee until October 2019, Canada also hosted the 6th OGP Global Summit from May 29 to 31, 2019 in Ottawa, with over 2,600 participants from 115 economies including senior government and elected officials, academia, representatives from the private sector, civil society and media. The key themes were to champion inclusion, protect participation and create impact with the aim of connecting and empowering people to become more involved in their governments, including a focus on marginalized or under-represented citizens.

Open Data and Information – Canada has developed a world-class open data and information portal on [Open.Canada.ca](https://open.canada.ca), for release of datasets and digital records from federal departments. This was underpinned by a [Directive on Open Government](#)² that established responsibilities for federal departments for the release of data on the portal. The portal also functions as a centralized repository for the Government's proactive disclosures on its financial and human resources-related information, such as on contracts, grants and contributions, travel and hospitality and position reclassifications. This portal makes government data easily available to the public through a single and searchable window, and in machine-readable formats. Examples of tools available through the portal include:

- **Open Maps**: brings together the Government of Canada's geospatial data, services, and applications for use by Canadians.

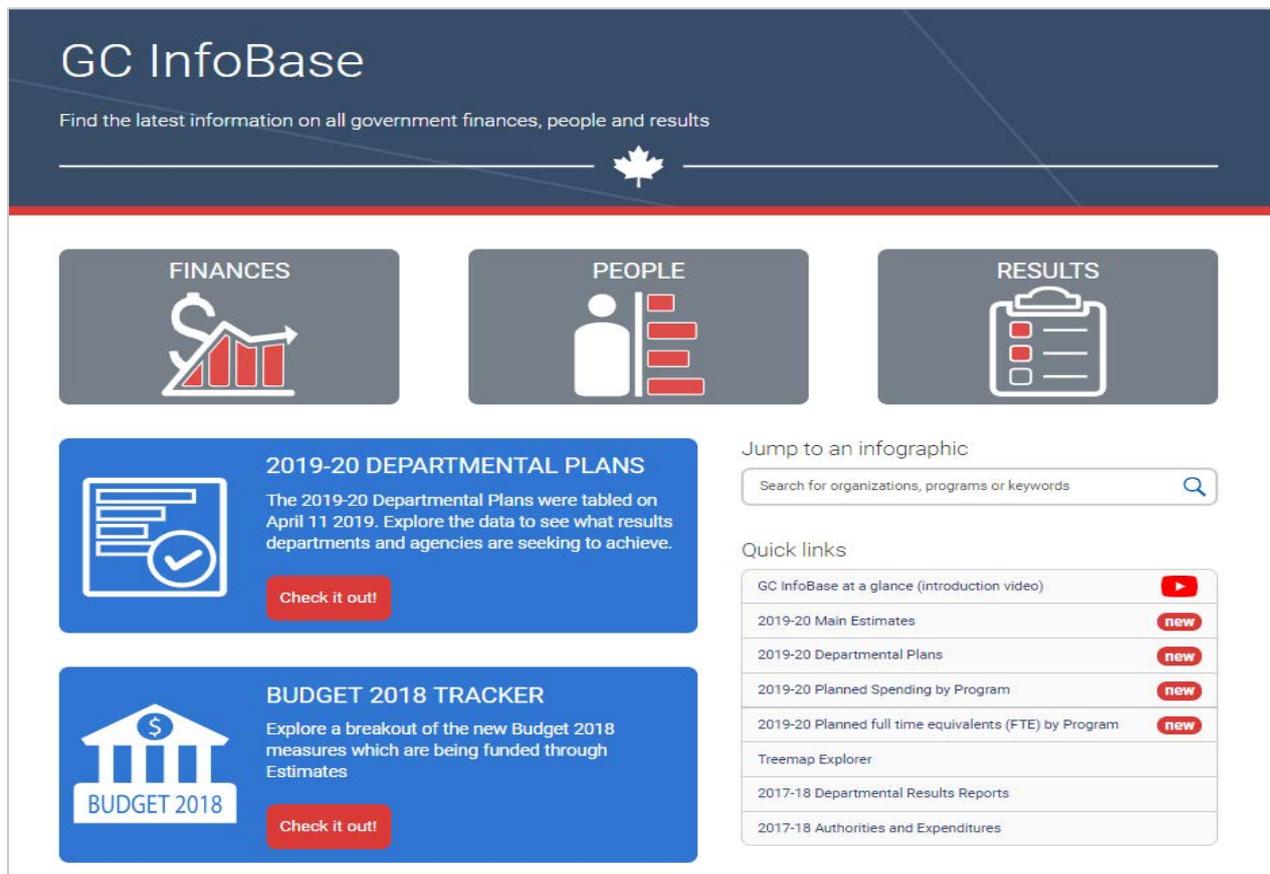
² <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=28108>

- GC InfoBase: interactive data-visualization tool, transforming complex federal data into simple visual stories for Canadians (see picture below) and allowing users to analyse government expenditure management and information about how the government spends and manages money.
- Open by Default: this pilot project provides access to government documents as they are being created, to give users a ‘behind-the-scenes’ picture of what departments are working.
- DIY Open Data Toolkit: provides a step-by step guide on how to implement an open data project at the municipal level. It includes best practices, tools and resources.

Government Results and Delivery: Initiatives in this area include the public release of Ministerial mandate letters, setting out the Prime Minister’s directions to each Minister regarding their priority deliverables. All letters also include direction that “Government and its information should be open by default.” A ‘Mandate Letter Tracker’³ provides a status report on all these deliverables, to help Canadians hold the Government accountable.

Citizen Engagement – An emphasis has been put on engaging citizens in the design and delivery of government policies. Since 2015, the Government of Canada has conducted over 440 public consultations covering a wide range of policy domains including poverty reduction, economy-wide pharmacare, labour market opportunities for persons with disabilities, climate change, and defense. Specific to Open Government, in developing Canada’s latest National Action Plan, the Government engaged over 11,000 people, online and in-person, across the economy and worked closely with the Multi-Stakeholder Forum on Open Government, a permanent dialogue mechanism launched on January 24 2018 for civil society guidance and oversight on the Canada’s open government commitments.

³ <https://www.canada.ca/en/privy-council/campaigns/mandate-tracker-results-canadians.html>

Figure 1: The user-friendly ‘look & feel’ of Canada’s GC InfoBase

Impact

Through these efforts, there has been a successful mobilization of government information for public release. Open.Canada.ca now contains over 80,000 datasets and digital records released from 67 federal departments. In addition, it contains over 900,000 proactive disclosures of the Government’s financial and human resources information. Based on these results, Canada has become a global leader in open data, ranking first alongside the United Kingdom in the 2018 Open Data Barometer⁴ (published by the World Wide Web Foundation).

The portal receives around 140,000 user visits monthly and around 60,000 datasets are accessed by users each month. As one example of the value derived, it is estimated that in 2013, open geospatial data contributed an estimated \$695 million to Canadian Gross Domestic Product. Currently, the most popular datasets from the portal include information on the fuel consumption ratings of vehicles, contact information for Government employees, statistics on the admissions of permanent residents by our provinces and territories and historical trends on minimum wages.

As an example of how the data has been used, a CODE hackathon held in February 2013, with over 900 developers, students, and open data enthusiasts across Canada participating in this 48-hour event.

⁴ https://opendatabarometer.org/?_year=2017&indicator=ODB

Working under the theme of "Solving Problems and Increasing Productivity Through the use of Open Data", teams competed and built over 100 apps using datasets from Canada's Open Government Portal. To see what they developed, visit the [Winner's Showcase](#). More recently, in May 2019 a [hackathon](#)⁵ was held on the margins of the OGP Global Summit 2019, where participants used open data and open source to advance the UN sustainable development indicators.

Many other apps have now been developed by the public and private sector using the open data, including apps for agricultural use (such as on drought conditions and pest populations), apps to track border crossing wait times and traffic, and apps to help consumers determine the nutritional content of their groceries. For more information, see the [Open Government Apps Gallery](#)⁶.

Another initiative called the [Canadian Open Data Exchange](#)⁷ has also supported the successful incubation of dozens of Canadian small businesses, helping over 150 private sector companies use open data to launch new products and services, create ventures, optimize business processes and create economic benefits.

Challenges and lessons

Early reforms focused on opening up as much information as possible, with the expectation that citizens would do the rest. However, it has since become clearer how important it is for the Government to provide tools to make its data useful and reusable for everyone, with an emphasis on “publishing with purpose”. Some of the steps the Canadian Government has taken in this regard include:

- Adopting a set of Open Data principles to guide quality and accessibility of the data (see box below) as well as Digital Standards to improve government services in the digital age
- Making regular improvements to [open.canada.ca](#) to make it easier for users to find what they're looking for and help actively build an open government community
- Building-in capacity on the portal for user feedback including “Suggest a Dataset” and “Rate this Dataset” functions
- Helping Canadians learn about Canada's work on open government through learning materials, information sessions, and enhanced training for public servants
- Co-creating a public, digital collaboration space where citizens and government employees can work together to use and create from the data

⁵ <https://twitter.com/OpenGovCan/status/1133088300783349766>

⁶ <https://open.canada.ca/en/apps>

⁷ <https://open.canada.ca/en/commitment/mtsar/2016-2018/commitment-15-stimulate-innovation-through-canadas-open-data-exchange-odx>

OPEN DATA is a practice that makes machine-readable data freely available, easy to access, and most importantly, simple to reuse. Canada has established the following Open Data principles (based on the Sunlight Foundation’s work):

1. **Completeness** – Datasets should be as complete as possible, reflecting the entirety of what is recorded about a particular subject. All raw information from a dataset should be released to the public, unless there are Access to Information or Privacy issues. Metadata that defines and explains the raw data should be included, along with explanations for how the data was calculated.
2. **Primacy** – Datasets should come from a primary source. This includes the original information collected by the Government of Canada and available details on how the data was collected. Public dissemination will allow users to verify that information was collected properly and recorded accurately.
3. **Timeliness** – Datasets released by the Government of Canada should be made available to the public in a timely fashion. Whenever feasible, information collected by the Government of Canada should be released as quickly as it is gathered and collected. Priority should be given to data whose utility is time sensitive.
4. **Ease of Physical and Electronic Access** – Datasets released by the Government of Canada should be as accessible as possible, with accessibility defined as the ease with which information can be obtained. Barriers to electronic access include making data accessible only via submitted forms or systems that require browser-oriented technologies (e.g., Flash, Javascript, cookies or Java applets). By contrast, providing an interface for users to make specific calls for data through an Application Programming Interface (API) make data much more readily accessible.
5. **Machine readability** – Machines can handle certain kinds of inputs much better than others. Datasets released by the Government of Canada should be stored in widely-used file formats that easily lend themselves to machine processing (e.g. CSV, XML). These files should be accompanied by documentation on the format and how to use it in relation to the data.
6. **Non-discrimination** – Non-discrimination refers to who can access data and how they must do so. Barriers to use of data can include registration or membership requirements. Datasets released by the Government of Canada should have as few barriers to use as possible. Non-discriminatory access to data should enable any person to access the data at any time without having to identify him/herself or provide any justification for doing so.
7. **Use of Commonly Owned Standards** – Commonly owned standards refer to who owns the format in which data is stored. For example, if only one company manufactures the program that can read a file where data is stored, access to that information is dependent upon use of that company’s program. Sometimes that program is unavailable to the public at any cost, or is available, but for a fee. Removing this cost makes the data available to a wider pool of potential users. Datasets released by the Government of Canada should be in freely available file formats as often as possible.
8. **Licencing** – The Government of Canada releases datasets under the Open Government Licence – Canada agreement. The licence is designed to increase openness and minimize restrictions on the use of the data.
9. **Permanence** – The capability of finding information over time is referred to as permanence. For best use by the public, information made available online should remain online, with appropriate version-tracking and archiving over time.
10. **Usage Costs** – The Government of Canada releases the data on the Open Government site free of charge.

B. CANADA’S INNOVATION SUPERCLUSTERS INITIATIVE

Introduction

Digital technologies have become a critical component of Canada’s economic growth and prosperity. From 2010 to 2017, Canada’s digital economy grew by 40 percent. By 2017, it was worth \$109.7 billion (about 5.5 percent of the overall economy), and is now bigger than other industries such as mining, forestry and oil and gas. It is also the sector where job growth has been the fastest (grew by 37% since 2010). Given the importance of the digital economy, it is imperative that Canada has a cohesive vision for its digital future that builds on the economy’s strengths, is flexible and nimble in reducing barriers to innovation, encourages a thriving and secure innovation-based marketplace, and supports a new era of Canadian global competitiveness.

Pre-reform situation

Like other economies, Canada is looking to take advantage of the tremendous opportunities presented by digital innovations. Canada has key innovation strengths to build on —with a 5th rank in the OECD in creative thinking and 9th in problem-solving in a technology-rich environment. Knowledge and technological advantages have been built up in areas such as quantum computing, machine learning, blockchain and fintech, AI, autonomous vehicles and aspects of 5G. Yet, other indicators point to a need for more concerted action. For example, Canada’s research and development (R&D) indicators have been slipping in global rankings and R&D expenditures have been falling in recent years. In addition, Canadian firms have not been as fast in adopting new technology, ranking lower than other economies on robots per worker and e-commerce (20th and 21st in the OECD, respectively).

Policy response

This prompted the Canadian Government to rethink its traditional policy prescriptions on innovation. While indirect measures (i.e. tax incentives) had typically been the main policy tools in the past, the Government began to look for more direct ways to connect businesses, governments, academic and research institutions to mobilize innovation (i.e. grants and non-repayable contributions). One main goal was to support technology transfer and facilitate the commercialization of Canadian intellectual property, especially from Canada’s academic community. Another was to support entrepreneurship and connect start-ups with larger firms to realize innovative projects.

The result was Canada’s Innovation and Skills Plan. Released in 2017, the plan has four key themes: 1) equipping Canadians with the necessary skills to succeed in the workforce now and in the future, and attracting global talent; 2) encouraging greater business investments in research and capitalizing on Canadian inventions through shared risk-taking and partnerships; 3) simplifying business innovation programs, and; 4) attracting investment and supporting the growth of leading Canadian companies and start-ups.

The Innovation Superclusters Initiative (ISI) is a centrepiece of the plan. It was recognized that innovation clusters⁸ have great potential to energize economies and act as engines of growth. While many clusters were already forming in Canada across diverse sectors, there was a desire to see that progress accelerated to reach a larger scale. Through the ISI, the Government will provide funding of up to \$950 million over five years to five business-led innovation “superclusters” with the greatest potential to accelerate Canada’s economic growth.

The ISI selection process was launched in May 2017. A two-phase application process was deliberately chosen to give applicants the opportunity to surface new ideas, meet new partners, and make ambitious proposals, knowing that they would have a second phase of development if they were chosen for the shortlist. Applicants had two months to prepare and submit their first applications.

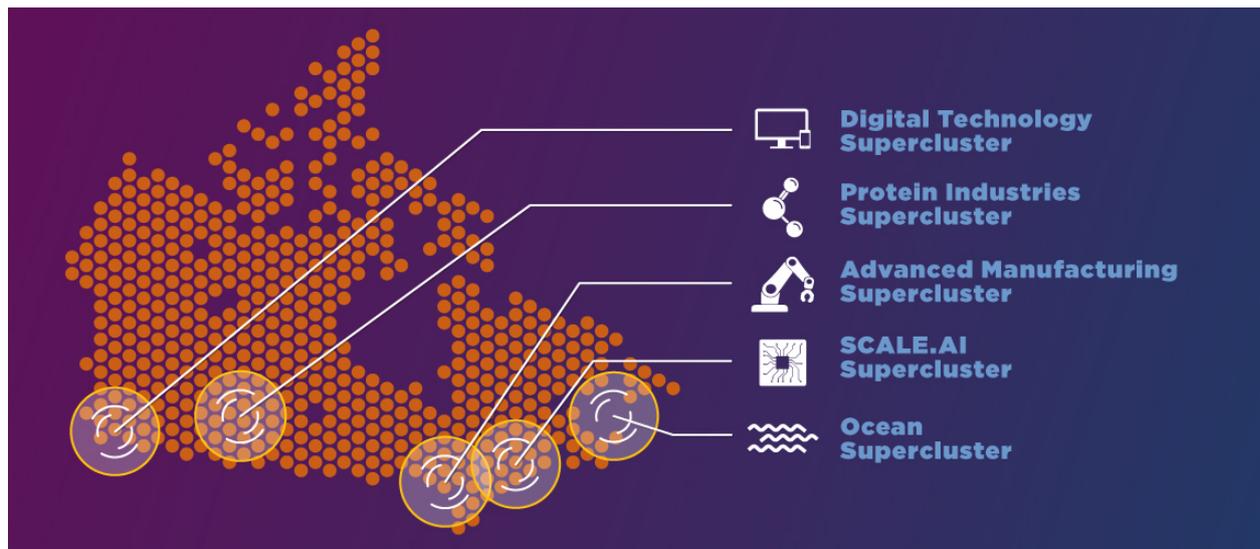
With the goal of building on Canada’s areas of existing or emerging strength, some main criteria used to assess proposals included how well they would:

- Address gaps and accelerate opportunities in innovation ecosystems;
- Support industry-led collaborative R&D and commercialization activities;
- Enhance labour force skills and create jobs; and
- Foster a critical mass of growth-oriented firms.

In early October 2017, nine proposals were shortlisted and applicants had an opportunity to further refine their proposed plans. The final recipients were selected in February 2018 (see map).

Each supercluster will receive either up to \$153 million or up to \$230 million, with industry players matching these contributions at least dollar-for-dollar. Each supercluster is represented by an industry-driven, membership-based not-for-profit organization that acts as a central organizing body.

⁸ Dense areas of business activity that contain large and small companies, post-secondary institutions and specialized talent and infrastructure.



Below is a snapshot of the five superclusters, and the types of activities they will work on.

	<u>Canada's Digital Technology Supercluster</u>	British Columbia	Using virtual, mixed, and augmented reality, data, and quantum computing to improve service delivery in the natural resources, precision health and manufacturing sectors.
	<u>Protein Industries Canada Supercluster</u>	The Prairie provinces	Using plant genomics and novel processing technology to increase the value of key Canadian crops.
	<u>Next Generation Supercluster</u>	Ontario	Building up next-generation manufacturing by adopting advanced processes and by developing and deploying new technologies like Internet of Things, robotics and 3D printing.
	<u>AI-Powered Supply Chains Supercluster (SCALE.AI)</u>	Quebec and spanning the Quebec-Windsor Corridor	Bringing the retail, manufacturing, transportation, infrastructure, and ICT sectors together to build intelligent supply chains through artificial intelligence and robotics.
	<u>Canada's Ocean Supercluster</u>	Atlantic Canada	Harnessing emerging technologies to strengthen Canada's ocean industries, such as marine renewable energy, fisheries, aquaculture, oil and gas, defense, shipbuilding, and transportation.

As an example, members of the Protein Industries Canada Supercluster will use cutting-edge technology to increase the value of key Canadian crops, including plant-based alternatives to meat—such as pulses and flax-based proteins—that are in high demand in foreign markets. Key activities for the supercluster will include:

- Undertaking collaborative technology projects for the creation of high-quality germplasm, smart production, novel process technology and product development;

- Helping businesses with financing/capitalization, and linking start-ups with strategic partners to help them scale;
- Promoting wide-scale adoption of data analytics and AI for better crop management; and
- Undertaking international trade missions and market research, and developing a venture capital fund to attract international investments.

Impact

The ISI is a high-profile program in Canada that garnered a huge response. Over 50 applications were submitted to the first-phase of the process, backed by over 1000 businesses, 100 post-secondary institutions, and 250 other participants. These represented strong collaboration and highly innovative ideas from every region of the economy. The selected proposals brought together more than 450 businesses, 60 post-secondary institutions, and 180 other partners.

The five superclusters are now up and running, and are expected to create over 50,000 jobs and add more than \$50 billion CAD to Canada's economy over the next 10 years. Detailed performance results will be tracked for the duration of the program, such as the number of collaborative projects, the value of investments generated, the number of products and processes developed and commercialized, and employment growth.

Challenges and lessons

There were a number of challenges in creating the ISI program, as it represented a new way of doing business for the government and its industry partners.

One key challenge was to activate as many high-potential industries and firms as possible, and to motivate them to come together around transformative proposals. This gave rise to a high-quality shortlist but it also generated high expectations among sectors, with keen interest in the government's ultimate selections. In response, Innovation, Science and Economic Development Canada (ISED) officials, other relevant federal organizations, third-party contractors, and expert reviewers administered a rigorous assessment of proposals. The assessment considered the ultimate value the applications would deliver for Canada, including the potential to create jobs. It also considered superclusters' plans to increase the representation of women and other underrepresented groups in supercluster activities and leadership, and help them succeed in skilled jobs in highly innovative industries.

Another challenge was to encourage applicants to come together in new ways to achieve transformative results that will extend beyond their existing partnerships and lines of business. For many applicants, this challenge meant that they needed to think about shared challenges and interests in disruptive technologies, and how they might advance these interests by collaborating in new ways (including sometimes with their competitors). To bring new partners together around shared priorities, supercluster staff work actively with industry partners to think beyond the status quo, help shape projects, and promote frictionless collaboration. Projects are also evaluated for their benefits to the members' broader

ecosystems, which provides incentive for them to consider potential partners and applications beyond their direct interests.

CHILE: GENERAL BANKING ACT REFORM

Reasons for the reform

On 2018, the Chilean Congress approved a major reform on the banking legislation, which dated from 1986. The main objectives of this reform were to bolstering the capital requirements of the banking system by adapting the existing regulation to the Basel III standards and enhance the banking regulator's governance by consolidating the main financial regulatory function in a single entity, the Financial Market Commission (FMC). The General Banking Act Reform was the most significant structural reform on the banking industry in Chile in the last 30 years.

Before this reform, there was a significant gap with international standards. The banking legislation was primarily based on Basel I standards, while as a result of the development and changes on the global banking industry, the internationally applicable standards were Basel III, which incorporated lessons from the last global financial crisis.

Taking into account the importance of the stability of the banking industry for the functioning of the economy and the financial system, the government understood that improving the mechanism to prevent insolvencies scenario was highly desirable due to the high costs that banking crisis can inflict to depositors, fiscal budgets and the whole financial system. Beyond preventing insolvencies, the government foresaw other benefits attached to this reform.

On one side, measures that strengthen the solvency of banks can boost the international competitiveness of the sector because it allows them to access new and more diversified funding. This aspect acquired special significance because most of the jurisdictions in the LAC region were transitioning to Basel III.

On the other side, the banking sector in Chile has several subsidiaries of foreign banks that apply Basel III in their home jurisdictions, and they extend the applicability to their Chilean subsidiaries. This situation could cause regulatory asymmetries on the competitiveness of the local banking system. Besides, foreign regulators impose penalties on cross border investments to a counterpart that is resident of a jurisdiction that is not in compliance with Basel III, this, in turn, means that gaps with international standards impose a barrier to funding and investment from foreign banks.

All of these aspects were especially relevant for Chile, as a small and open economy, with a liberalized capital account, deep financial markets, strong regulators, and experience with the banking crisis.

Beyond adopting international standards, the structural reform on banking regulation involved other measures that in general, aimed at the modernization of the local banking industry.

Policy response

New governance for the bank regulator: The banking regulatory body was integrated with the insurances and securities regulator. This is the final step of the transition from an industry-focused regulator to an integrated model with a single entity, having overall responsibility for the financial sector

supervision. This will provide the banking sector with modern and independent governance, where market development and financial stability will be amongst the explicit objectives of the regulator. The new governance for the banking regulator was seen as a pre-requisite for providing the regulator with the necessary faculties for applying Basel III in Chile.

Adapts the capital requirements to Basel III: This is a substantial development with respect to the capital requirements that were largely based on Basel I. In line with Basel III, the regulator will define the standard model for the definition of Risk Weighted Assets (RWA) and the banks will be able to use internal models once the regulator authorizes them. In addition to the new capital requirements, defined in table 1, the regulator will be able to impose additional capital requirements when the standard model fail to mitigate relevant risks.

Table 1: Capital Charges (as % of RWA)

Capital Requirements	Former Law	New Law
(1) Tier 1 Capital (2+3)	4,5	6
(2) Common Equity Tier 1 (CET1)	4,5	4,5
(3) Additional Tier 1 (AT1)	-	1,5
(4) Tier 2 Capital	3,5	2
(5) Total Regulatory Capital (1+4)	8	8
(6) Capital Conservation Buffer	-	2,5
(8) Countercyclical Buffer	-	Up to 2,5
(9) Systemic Charges	Only for mergers.	From 1 to 3,5

New tools for early regularization of banks: The Law extends the range of tools available for the regulator to deal with unstable or weak banks, before these problems evolve into insolvency scenarios. If a bank is showing solvency, liquidity or management problems, the regulator will have to approve and supervise the application of private recovery plans proposed by the bank. At the same time, the regulator will be allowed to restrict the range of operations that a bank can perform while applying the recovery plan.

The new law also eliminates the “creditors proposal resolution tool” that involves a negotiation with creditors in a context of financial problems. This was done because it was considered to be of little practical use and has the potential to aggravate the problems of banks that are close to insolvency.

Extension of government guarantees for term deposits: The law expands the term deposits guarantee scheme. Term deposits are now guaranteed on a 100% by the government, this has a limit of 200 UF for deposits on the same bank and 400 UF for deposits on all the system⁹. The current sights deposits guarantee scheme is not changed, meaning that these kind of deposits are still covered up to a 100% with no maximum limit by the Central Bank.

⁹ Before the law the deposits were covered only for 90% of the amount and up to a limit of 120 UF.

Conclusion

Notwithstanding the proved stability of the Chilean financial sector during the last 30 years, this new law will allow Chilean authorities to implement mitigation measures in case of risk of a banking crisis. This new measures will benefit depositors by diminishing the risk of losing their deposits. Also, will help entrepreneurs looking for funding by ensuring a healthy banking system capable of exercise its intermediary role in an effective manner and without any interruption. This is one of the most relevant benefit of this reform, considering that the major limitation for SMEs' growth is the lack of funding¹⁰.

This new regulation will also favor the internationalization of the Chilean financial system, expanding it beyond the internal borders, thereby allowing greater diversification of risks and creating new opportunities for growth.

In the long term, this law will create a more sustainable and competitive industry by reaching the necessary standards for operations with foreign institutions. Besides, harmonizing local capital and risk management standards with foreigners will improve the risk assessment and competitiveness of the Chilean financial system.

¹⁰ Arellano, P. y T. Schuster (2016). "Informe de resultados: El microempendedor en Chile". Cuarta Encuesta de Microemprendimiento 2015, Ministerio de Economía.
<http://www.economia.gob.cl/wp-content/uploads/2016/02/Informe-de-resultados-el-microempendedor-en-Chile.pdf>

CHINA: PROMOTING HIGH-QUALITY DEVELOPMENT OF E-COMMERCE WITH STRUCTURAL REFORMS IN CHINA

—Illustrated by the Enactment and Implementation of the E-Commerce Law

Introduction: E-commerce becomes an important force driving the development of the digital economy in China

At present, the Chinese economy maintains steady and rapid growth. In 2018, its GDP exceeded 90 trillion yuan, an increase of 6.6% over 2017. To further advance the quality-oriented economic growth, China boosts the development of digital economy and takes the acceleration of industrial digital transformation and the unleashing of digital economy dividend as important means. E-commerce is an important part of the digital economy and a strong force driving China's digital transformation. Statistics show that the scale of China's e-commerce transactions continued to increase in 2018 and maintained a high-speed growth trend. The annual e-commerce transaction volume was 31.63 trillion yuan, in which online retail sales amounted to 9.01 trillion yuan, a year-on-year increase of 23.9%; express delivery exceeded 50.7 billion pieces. The development of e-commerce not only spawned in China a group of leading Internet companies with international clout, but also gave birth to the world's largest online retail market, digital payment market and logistics market, and also promoted the digital transformation of manufacturing businesses. Currently, e-commerce is playing an increasingly positive role in boosting consumption upgrade, increasing urban and rural employment, improving openness, helping combat poverty, and serving green and coordinated development.

Pre-reform situation: E-commerce development is not adequately regulated and shows many chaotic operations

The development of the digital economy represented by e-commerce has produced desirable economic and social benefits. However, due to reasons like low threshold of entry and inadequate regulations and policies, it has inevitably caused a series of problems that harm consumer rights and interests and jeopardize the market competition order. For example, new shopping forms, such as WeChat business and delegated purchase, have provided more options for consumers, but since the practices are not on the radar of existing regulatory system, they have become areas prone to consumer disputes. Due to the asymmetry in technology and information between the two parties in online transactions, some E-commerce operators would hype their credit, delete bad reviews, and make up transaction data, which seriously damages consumers' right to be informed. Some platforms would abuse their market dominance and prohibit simultaneous sales on other platforms, request bundling or limit geographic areas of sales, which not only infringes on the right of the businesses on a platform to independent operation but also on the choices of consumers. In addition, problems such as varied product quality, dishonesty of logistics companies from time to time, platform information insecurity and personal information leaking for profit also constrain the quality-oriented development of e-commerce.

Policy response: Formulate and implement the E-commerce Law to promote market and law-based development of e-commerce

To solve the problems in the development of e-commerce with more market-oriented and legal means, China promotes structural reforms through legislation and strengthening regulation. On August 31, 2018, the Chinese legislature passed the E-Commerce Law and decided to implement it on January 1, 2019. The law was made based on four times of deliberation and three times of public consultation in five years. It is one of the few comprehensive e-commerce laws in the world. In particular, it clearly provides for the registration of entities, fines, taxation, platform responsibility, false advertising, and IPR protection. It not only responds to the current hot issues in the development of e-commerce in China, but also explicitly proposes to make enough space for future development, and encourages the formation of a social co-governance model, reflecting strong pertinence and foresight. Key measures include:

- 1) Clarify that legal entities need to be registered. The law includes new business types and involved entities into the scope of registration and requires them to fulfill their tax obligations. This helps strengthen the regulation in related areas and better settle consumer disputes.
- 2) Prohibit fictitious transactions, false advertising, fabrication, and deletion of reviews. The law requires e-commerce operators to disclose goods or service information in a comprehensive, true, accurate and timely manner, which helps protect consumers' rights of informed choice.
- 3) Prohibit and punish e-commerce operators for abusing market power. The law requires e-commerce operators to provide consumers with options non-specific to their individual characteristics when using big data for targeted marketing; the operators are not allowed to set unreasonable terms for the refund of deposit; platform operators shall not use service agreements, trading rules or technical methods to impose unreasonable terms on the operators within the platform, and a fine of under 2 million yuan will be imposed in cases of severe violation.
- 4) Clarify that a platform shall bear responsibilities if it fails to fulfill its obligations. The law requires e-commerce platforms learn about or check the qualifications of the products and services for sale to ensure compliance with relevant requirements, otherwise the platform should bear the relevant responsibilities. This clarifies a platform's responsibility in e-commerce activities and provides legal guidance for handling disputes.
- 5) Prohibit e-commerce operators from arbitrarily break the contract after consumers have successfully made the payment. The law requires that the spirit of contract and credit building be strengthened in e-commerce activities, and clarifies the burden of proof of operators, which enables consumers to safeguard their rights and interests according to law.

Impact: Disorders in e-commerce are initially curtailed, and the protection of consumer rights and interests significantly improves

Although it has only been implemented for about half a year, the E-Commerce Law has played a positive role in regulating e-commerce activities. According to some sample surveys, some disorders and illegal operations have been initially curtailed. Consumers are already sensing the improvement in the operations of e-commerce operators and are more confident about protecting their legitimate rights and interests.

- 1) The business entities in the new e-commerce model are more regulated. According to the E-Commerce Law, delegated individual purchasers must issue shopping certificates or invoices, and those who violate the law may face a penalty of up to 2 million yuan. Affected by this regulation, some unqualified and non-eligible entities have withdrawn from e-commerce. Some large-scale delegated purchasers have registered themselves as e-commerce platforms or self-support platforms due to their strength and rich customer resources, and are engaged in legal business activities under effective regulation. This metabolism is conducive to consolidating the foundation for e-commerce development.
- 2) E-commerce platform operators are more proactive. Large-scale e-commerce platforms such as Taobao, Pinduoduo, and Jingdong actively guide and constrain the activities of businesses within their platforms by implementing diverse measures such as timely releasing guidelines, strengthening systems, and promoting credit management, and timely adjust and regulate their own unreasonable practices. For example, Taobao officially released a key FAQ to the E-Commerce Law to guide the businesses on the platform to be more compliant. Jingdong strives to optimize the consumption environment in e-commerce by establishing a “beehive” commodity qualification management system, a “Jing credit” scoring mechanism, and a counterfeits interception database.
- 3) The law has improved the regulatory and enforcement effects of relevant institutions. Pursuant to the E-Commerce Law, regulators have rectified cases where e-commerce platforms arbitrarily cancel orders after consumers have made the payment. The Beijing Consumer Association inspected 21 e-commerce platforms, identifying 4 non-compliant ones and guiding them to rectify immediately, which effectively safeguarded consumer rights and interests. The Beijing Internet Court also ruled a relevant case and sentenced the e-commerce operator to an indemnity of 500 yuan to the consumer.
- 4) Consumers clearly sense that their legitimate rights and interests are more secure. A sample survey shows that the bundle sales of value-added services to consumers when they book air tickets, tickets for vehicles, and hotels have been greatly corrected. At least most of the larger platforms have made adjustments and regulations to avoid compliance risks. Since the law imposes a penalty of 500,000 yuan on the deletion of bad reviews, many consumers said that many businesses will pay more and more attention to consumer experience, and often call to ask about their services after orders are completed.

Challenges and lessons: Strengthen law enforcement, and implement inclusive regulation with market and legal tools

Although the E-Commerce Law has achieved positive effects, in reality, there are still challenges such as the need to improve legal awareness, the absence of supporting rules, and the coordination between laws. In the future, it is still necessary to improve the publicity of laws, coordination of laws, implementation standard, and supporting rules. For example, some scholars have pointed out that there are overlaps between the E-Commerce Law and the Anti-Monopoly Law and Anti-Unfair Competition Law, and that the coordination of the laws needs further research. In addition, the Ministry of Commerce has proposed to speed up the introduction of supporting rules in the future, establish and improve the e-commerce regulation system, and implement credit evaluation in e-commerce so as to build a law-based business environment that is more conducive to the healthy and sustainable development of e-commerce companies.

The implementation of the E-Commerce Law in China, with an aim to strengthen the effective regulation of the industry, is not only recognized by e-commerce practitioners but also further clarifies the rights and responsibilities of different entities, which has greatly enhanced the market vigor and standardization of e-commerce. China's practice further illustrates that promoting structural reforms with more active market and legal means so as to boost the development of the digital economy not only helps to encourage competition through the formulation of rules, but also promotes inclusive and prudent regulation by regulating government acts, thus building a favorable environment for the healthy development of the industry.

INDONESIA: THE TRANSFORMATION OF SOCIAL ASSISTANCE DISBURSEMENT

Introduction

Indonesia is an archipelago consisting of more than 17,000 islands with population of more than 260 million people¹¹. This demographic condition is supported by the availability of financial institutions and payment system infrastructure such as banking services, ATMs, EDC machines, electronic money readers and agent banking. However, the availability of infrastructure is still focused on the Java region, where the majority of economic activities are running. For example, the availability of banking services and ATM machines per 1000 km²: In Java, banking services has reached 138 offices, while outside Java only 47 offices are available. For the availability of ATM machines on Java has reached 521 units while outside Java Island only reached 159 units. This uneven amount and spread, affect people's access to financial services brings an impact on the level of financial inclusion in Indonesia. Based on World Bank Global Financial Inclusion Index, in 2014, 36% of Indonesia's adult population had accounts in formal financial institutions and continue to increase to 49% in 2017.

In order to improve access to finance, financial inclusion has become a priority program of Indonesia government in promoting economic growth, creating financial system stability, supporting poverty reduction programs, and reducing inequalities between individuals and regions. To encourage financial access in Indonesia as well as to improve the disbursement's governance, one of the policy has been taken is through the transformation of social assistance disbursement from cash into non-cash. Non cash social assistance disbursement not only bring potential to connect social assistance beneficiaries to the formal financial system; but in the long run, it will also reduce economic inequality and increase public participation in the economy.

Pre-reform situation

The Indonesian government already initiated assistance programs in various sectors including food, education, health, energy, social and economy. Assistances are provided to the poor and vulnerable group to meet basic needs, ensure social welfare, improve the life quality of the poor, and as part of efforts to reduce poverty. The assistance program is organized by various Ministries/ Institutions with classification as follows¹³:

¹¹ Bappenas (2018)

¹² Bank Indonesia - Indonesia Financial System Statistic (December 2018)

¹³ Bappenas (2019), "Pemetaan Program Bantuan Sosial, Bantuan Pemerintah, Dan Subsidi Bagi Masyarakat Kurang Mampu".

Table 1 – Mapping of Assistance Programs

	Social Assistance	Government Assistance	Subsidies
Cash	<ul style="list-style-type: none"> • Smart Indonesia Program (Program Indonesia Pintar) • Conditional Cash Transfer (Program Keluarga Harapan / PKH) • Non-Cash Food Assistance (Bantuan Pangan Non Tunai / BPNT) 	<ul style="list-style-type: none"> • School Operational Assistance Program (Bantuan Operasional Sekolah / BOS) • Credit for Business Program (Kredit Usaha Rakyat / KUR) 	
Goods/Services	Prosperous Rice (Beras Sejahtera / Rastra)	<ul style="list-style-type: none"> • Priority Skill Education Program (Program Pendidikan Kecakapan Unggulan) • Entrepreneurship Skills Program (Program Kecakapan Wirausaha) 	<ul style="list-style-type: none"> • LPG • Electricity • Fertilizer & Seed

Disbursement of social assistances before 2017. Most of assistance programs were distributed in terms of cash or in terms of goods/services, and beneficiaries should be waiting in line at the disbursement location on the predetermined schedule. On this disbursement mechanism, social assistance beneficiaries should withdraw all the fund received.

Challenges of cash disbursement. Disbursement of social assistance in the forms of cash and goods/services resulted in many challenges both for government and beneficiaries. For government, distribution of social assistance in remote areas/islands requires considerable time, high costs and risks. On the other side, beneficiaries are experiencing difficulties in managing their financial as resulted from its irregular timing as well as amount. It is also trivial for them to access financial services. For social assistance in the forms of goods/services, the quality of the goods/services usually does not meet beneficiaries' expectations.

Policy response

To encourage the disbursement of social assistance efficiently, timely, and targeted as well as to increase financial inclusion level, the Indonesian Government transformed the disbursement from cash into non-cash. This transformation was a follow up of the President of the Republic of Indonesia's direction issued on April 26, 2016.

a. President of the Republic of Indonesia Direction, 26th April 2016

President Indonesia direction to transform the social assistance disbursement from cash into non-cash aims to change the people' way of thinking and behavior as well as to create a productive, independent and dignified society. The disbursement of social assistance programs must be delivered in the form of

non-cash through banking system, using 1 card and 1 account to accommodate various social assistance programs. The disbursement must follow the principle of 6T (6Tepat or 6Right) namely Right Target, Timely (Right Time), Right Amount, Right Price, Right Quality and Right Administration.

b. Follow-up Actions from President's Direction

Following the direction, the Indonesian government, Bank Indonesia and Indonesia Financial Services Authority (OJK) have made various efforts as follows:

1. Strengthening the Legal Basis

The government issued Presidential Decree No. 63 of 2017 regarding Non Cash Social Assistance Disbursement, as legal basis for the disbursement of non-cash social assistance. It regulates among others the principles of the disbursement; mechanism; the formation of The Control Team for the Implementation of Non-Cash Social Assistance Disbursement; and the role of the regional government.

2. Developing Non-Cash Social Assistance Business Model

The authorities prepared a business model of non-cash social assistance program to ensure the sustainability of the program. It consists of 4 (four) quadrants with the following coverage:

- a) **Registration or Account Opening.** The process of account opening of a social assistance beneficiaries by bank collectively based on the data provided and validated by the Ministry of Social Affairs.
- b) **Education and Socialization.** The materials of education and socialization cover the benefits of non-cash transactions; non-cash social assistance disbursement policies and mechanisms; the use of non-cash payment instruments; consumer protection; and financial management.
- c) **Disbursement.** Social assistance disbursement is conducted by overbooking the fund from the government account to the beneficiaries' account in the bank.
- d) **Withdrawals and Purchases of Food.** The beneficiaries utilize the social assistance fund through cash withdrawals and/or food purchases.

3. Strengthening the Infrastructure

In order to strengthen the infrastructure, banking agents/branchless banking have been appointed to act as delivery channels of the non-cash social assistance program. Banking agents are third parties, both individuals and business entities, who can provide banking services supported by the use of information and technology. Banking agents can act as e-warong, that is a place to withdraw or to utilize social assistance fund. Withdrawals are made by social assistance beneficiaries using the Combo Card (Kartu Keluarga Sejahtera / KKS) as a payment instrument with features of electronic money and basic saving account as channel for various social assistance.

4. Strengthening the Coordination

To ensure the effectiveness of non-cash social assistance program disbursement, the authorities formed a Control Team who is in charge of coordinating, monitoring, evaluating and reporting of the implementation of Non-Cash Social Assistance Program. The Control Team also formed comprises of representatives from related Ministries including Coordinating Minister for Human Development and Cultural Affairs, Minister of National Development Planning, Minister of Social Affairs, Minister of Home Affairs, Minister of Finance, Governor of Bank Indonesia and Chairman of the Board of Commissioners of OJK. Furthermore, MoUs were signed between the relevant Ministries / Agencies to improve coordination between related parties.

Initiatives were also put in place to strengthen coordination among Ministries/Agencies and to promote non-cash social assistance program. These include modifying regulation for bulk registration, implementing simplified customer due diligent, encouraging the creation of innovative delivery channels such as bank and e-warong agents, as well as encouraging payment system interoperability and interconnection.

Progress and impact

The transformation efforts aim to improve social assistance disbursement governance, to increase the convenience of beneficiaries, and to build awareness among the beneficiaries (those who are in low-income and vulnerable group) on the importance of sound financial planning that will improve public welfare. This was in line with the National Strategy for Financial Inclusion which targeting people in low-income and vulnerable group, woman, SMEs, migrant workers, people in frontier, outermost and least developed regions, people with special social welfare issues, and students and youth

The transformation was started by using Combo Card (Kartu Keluarga Sejahtera / KKS) to facilitate disbursement which has dual features that enabling saving account and electronic money in one card, and directed to integrate all social assistance disbursement in one card. In this regard, the social assistance beneficiaries will only need one card to receive assistance from different social assistance programs.

The integration of social assistance disbursement was started by incorporating PKH (Conditional Cash Transfer Program) and BPNT (Non-Cash Food Assistance Program) since the aforementioned programs were targeting similar beneficiaries. The non-cash social assistance was started in 2016 by using PKH (Conditional Cash Transfer Program) as a pilot project. It was disbursed to 1.2 million beneficiaries in 48 cities/regencies and gradually increased. The conversion was also implemented on the food assistance program named BPNT (Non-Cash Food Assistance Program) in 2017 to 1.2 million beneficiaries in 44 cities/regencies. The development stages of non-cash social assistance program over years is shown as follows:

Table 2. Development Stages of Non-Cash Social Assistance Programs

Year	PKH		BPNT	
	Number of Beneficiaries (KPM)	Number of Location (City/Regency)	Number of Beneficiaries (KPM)	Number of Location (City/Regency)
2016 <i>(Pilot Project)</i>	1.2 million	48	-	-
2017	6 million	298	1.2 million	44
2018	10 million	511	10 million	219
2019	10 million *nonflat scheme	514	15.6 million	514

In general, the disbursement through banking system improves the governance of social assistance disbursement; enhances payment security; transparency; reduces financial and nonfinancial cost (distance traveled by a beneficiary to reach payment point); enhances beneficiaries' capacity in managing risks; improves beneficiaries' control of fund; and increases the speed of disbursement.

Furthermore, disbursement through banking system minimizes the risks of deducted amount of fund assistance. In addition, disbursement through electronic payment improves quality as well as quantity. Based on survey to BPNT (Non-Cash Food Assistance Program) beneficiaries¹⁴, 79% of beneficiaries were satisfied and 19% of beneficiaries were very satisfied with the quality of food received; while 75% of beneficiaries satisfied and 11% of beneficiaries were very satisfied with the quantity of food/benefits given by the government. The changes in the mechanism of social assistance disbursement were also well received by the community. Survey shown that 92% of beneficiaries preferred BPNT (Non-Cash Food Assistance Program) than Beras Sejahtera (Rastra)¹⁵ since BPNT offered better quality, easier transaction and disbursement process, more option on the food/benefit and faster time.

Furthermore, the disbursement of PKH (Conditional Cash Transfer Program) through electronic payment offered advantages that has not been provided by the conventional social assistance such as timely, simplified process, various location of payment point, and better complaint handling. Microsave Consulting Survey (2018) shows the satisfaction of beneficiaries as follows: (1) On the timely fund transfer: 24% of beneficiaries are very satisfied and 69% of beneficiaries are satisfied; (2) On the location of payment point: 31% of beneficiaries are very satisfied and 62% of beneficiaries are satisfied; (3) On the transaction process: 28% beneficiaries are very satisfied and 66% beneficiaries are satisfied; and (4) On complaints handling and resolution: 23% of beneficiaries were very satisfied and 69% of beneficiaries were satisfied.

The social assistance disbursement through electronic instruments has led to significant increase in the number of account ownership in financial institution. 87% of BPNT beneficiaries¹⁶ and 86% of PKH beneficiaries¹⁷ obtained their first formal financial fund through Combo Card. This contributes to

¹⁴ Microsave Consulting (2018). BPNT Operational Evaluation Survey.

¹⁵ Beras Sejahtera (Rastra) is an in-kind government program of subsidized rice to help low-income communities.

¹⁶ Microsave Consulting (2018). BPNT Operational Evaluation Survey

¹⁷ Microsave Consulting (2018). PKH Impact Operational Evaluation Survey

increase the number of account ownership in formal financial institutions from 36% in 2014 to 49% in 2017. In addition, the disbursement of BPNT also encourages economic empowerment specifically for women (68%) by providing business opportunities for micro and supply chain related including e-warong Kelompok Usaha Bersama (KUBE). At macro level, social assistance programs contribute to poverty reduction by 1.66%.

Challenges and lessons learned

Despite progress made in disbursing non-cash social assistance through banking system, several challenges remain as follows:

1. **Infrastructure.** There are rooms for improving the coverage of telecommunication network, to be able to cover blank spot areas, as well as improving the access to electricity for all social assistance disbursement's areas.
2. **Data:** Enhancement in the beneficiaries' data management as well as its accuracy and quality will improve the ability to distribute Combo Card (Kartu Keluarga Sejahtera / KKS) to all the targeted beneficiaries.
3. **Financial Literacy.** It is necessary to increase the capacity of human resources by strengthening education and socialization both at the central and regional levels to the beneficiaries, bank officers, e-warong agents, assistants, and related agencies. Low literacy level of beneficiaries has resulted in a high number of cases of forgetting PINs and damaged KKS Cards, which can hinder the beneficiaries to disburse the assistance.
4. **Harnessing Technology Advancement** to facilitate the KYC and authentication process using biometrics as well as the use of technology in the monitoring process with online monitoring to ensure the effectiveness and efficiency of the use of state's fund.

Changes in the mechanism of disbursement from cash to non-cash through banking system has been a big stride for Indonesia, to achieve better social assistance disbursement's governance and improve the shortcomings of the previous mechanism. Some takeaways from this case are:

1. **Regulation and supporting policies** are important as the basis to implement the programs in an effective and efficient manner. Moreover, it is also important to ensure that regulations and policies are harmonized.
2. **Strong and sound Inter-Institutional Coordination** is needed to ensure the synergy among institutions.
3. Amid the dynamics and rapid development of technology, the government or authorities need to continuously **encourage financial product and service innovation while taking into account the inherent risks of the innovation.**

4. **Strengthening Education and Dissemination** to various related parties to increase awareness of the benefits and risks of using financial products and services, and to increase literacy to improve the quality of usage of products and financial services for multiple

MALAYSIA: OPPORTUNITIES AND CHALLENGES OF SHARING ECONOMY

Introduction

Malaysia has steadily transitioned into a connected, digitalized economy; positioning the economy in line with current digital trends. In 2018, Malaysia has an internet penetration rate of 85.7%, doing fairly well in the South East Asia region which averages at around 60%. In Malaysia Budget 2019, Malaysia introduced the National Fiberisation and Connectivity Plan (NFCP) in support of the government's aspiration to increase internet access and improve Malaysia's infrastructure to support the growth in digital economy and Industry 4.0. The Malaysian digital economy on average had grown 9% annually in value-added terms between 2010 to 2016. In addition, the International Data Corporation (IDC) predicts that by 2022, over 21% of Malaysia's GDP will be digitalised against the current level of 18%. In light with the positive growth, government services are also being digitalized to maintain compatibility with the industry and regulation technology (RegTech) is a crucial topic in which Malaysia has put in efforts in understanding and providing infrastructure to implement such idea. Governments operations are being modernized and digitalized which improves the quality of life of ordinary people by cutting lines in government services and shifting towards online government processes. For example, Malaysians are now able to renew their road taxes online removing the need to visit a brick and mortar office to do so. The success of Malaysia's effort in digitalization government services has ranked Malaysia at 15 out of 190 economies on the World Bank Report on ease of doing business with simpler processes and faster turn-over rates for government services.

Despite being friendly to digitalization and innovation, issues have surfaced as a result of the digital economy. For example, the sharing economy has provided cheaper and more accessible accommodation and transportation services with platforms such as Airbnb and Uber. However, the issue of job losses by traditional hotels and taxis have led the need of providing a fair and healthy competition between traditional occupations in an ever-disruptive ecosystem. In addition, issues of safety and legality of the digitally operated services requires a need for Malaysia to study the regulatory framework in addressing the new economy. The Malaysia Case Study focuses on the tourism sector, specifically studying the home sharing economy impacts and drafting a regulatory framework to improve the quality and safety of the industry and aiding stakeholders to shift into the digital economy in the accommodation industry.

Pre-reform situation

Before the home sharing economy regulatory framework study was conducted, home owners have begun inviting guests to stay on their properties in exchange of a fee, equivalent gift or item of value. Before short term accommodation was popular, homestays were the norm in Malaysia. Homestay is a term coined to explain tourists staying in a room or some parts of a complete house to learn and experience the cultural and traditional values of the local community. These values typically include lifestyles which could be experienced through immersing in the language, food and beverages, clothing, music and dance unique to specific cultures. The homestay program in Malaysia is a government initiative launched in 1995 under the Ministry of Tourism and Culture to promote cultural tourism in

Malaysia. The total income of homestay has been steadily increasing over the years with RM2.06 million collected in 2006 to eventually collect RM28.39 million in 2015. Besides that, the number of operators has ballooned to 3653 in 2015 from only 1939 operators in 2006. However, the rise of popularity of alternative accommodation has led to growth of purely providing accommodation to generate additional income. The provision of a bed for the night was focused rather than providing the cultural experience. In addition, the rise of digital platforms such as Airbnb has provided home owners to access a larger and more efficient market base to promote their services.

The economic implications of these platforms are huge with Airbnb recording a profit of \$93 million and receiving \$2.6 billion in revenue for 2017 and signaling the transformation of the landscape of accommodation industry. Zooming in to see the effect of Airbnb in Malaysia, it has set the highest growth rate of all Airbnb markets in Asia with a 137% y-o-y growth in 2017 and received a total of 1.5 million bookings. In addition to that, Airbnb's listing in Malaysia ballooned to 31,900 by the end of 2017 which is a 69% increase from 2016. The annual median income for the host on Airbnb comes to about RM4,725 for the year of 2017. It has grown from a simple model of renting additional space into a billion-dollar accommodation industry.

The voice of traditional players of unfair advantage over the unregulated activity and the high growth rate has led Malaysia to study the regulations needed to govern the industry. Clear definitions, limitation and safety of all stakeholders are needed as the industry grows even bigger. Unregistered and unrecorded activities need to be regulated to ensure domestic safety is maintained and the industry is able to be managed and compete fairly with existing players.

Policy response

To improve regulation in the digital sharing economy, Malaysia conducted a study on policy recommendations on short term accommodations in 2018. The study provided a basis for regulatory framework that addresses the issues of public nuisance, safety, security, change of land use, taxation, registration and licencing. The policy recommendation targeted to improve the definition of short-term accommodation as current laws does not fully capture the nature of the new accommodation service. The benefit of a better definition of short-term accommodation allows the government to differentiate between it and the traditional hotels which will provide a better policy structure to govern both types of accommodation services accordingly. Clarity on mechanism collection tax will allow the government to capture data on reported revenue in the industry and income to enhance the tourism industry development. The recommendation also allows safety and zoning issues to be addressed combating public nuisances, safety concerns and commercial activities occurring in residential areas. Public consultation sessions were conducted to gather feedback on the regulatory framework ensuring all issues are captured and a good regulatory practice is achieved.

Impact

The study has allowed Malaysia to begin drafting a regulatory framework for the home sharing economy through understanding the model as a whole. The study aided the government in understanding the

differences provided by the new accommodation service as compared to traditional hotels. Challenges and issues were highlighted and provided a better insight in ensuring a well addressed and functioning regulations is to be implemented in the home sharing economic model.

The study finds that home sharing economy could create a new category in the hospitality industry with a regulatory framework that is less stringent requirements on number of rooms, sizes and services offered. All hosts must then be licensed and comply with local government requirements, such short-term accommodations may be restricted to certain districts and limits on the number of stays. For strata buildings, hosts required to obtain approval from Joint Management Body/ Joint Management Corporation.

With sensible management and regulation, governments will benefit from the influx of tourists and their spending, and hosts may earn an income without disrupting the lives of local populations. This will result in the economy as well as the citizens to be able to reap all the benefits of a sharing economy mechanism while at the same time negating the possible negative implications of STAs by putting in the necessary safeguards addressing concerns from all stakeholders.

Challenges and lessons

Malaysia's experience of implementing reforms highlights that in the light of regulating digital economy, there are winners but there are also some losers. The point of regulation and the responsibility of the Government in implementing reforms is to ensure a level playing field. Traditional hotels are being disrupted by digital platform services that are unregulated and provided at a cheaper cost. Regulation ensures stability in the growth of digitalization ensuring consumers are protected. Malaysia learn that to control the digital economy as a whole would be a fool's errand as the degree and magnitude of the economy far exceed the enforcement capacity. However, a proper guideline is needed in place and better regulation approach is needed to govern a new form of economy.

Another challenge involves taxation. In Malaysia, the digital economy has thrived in a largely tax-free environment, while the old economy is burdened by taxes. Indeed, the shift from the physical economy to the digital economy has partly contributed to the erosion of the Government's revenue base. In Malaysia, our government revenue has slowly fallen from 21.4% of GDP in 2012 to 16.3% of GDP in 2017. The challenge lies on coming up with an effective method of taxation on online platforms and cloud companies with little to no physical presence. The digital economy regulation will certainly provide a positive impact on the economy's GDP due to better capturing of unrecorded revenue from online platforms. The regulatory framework is still in the midst of discovering a solution in framing government's jurisdiction in the digital economy, and enforcement methods to monitor multi-million-dollar revenue generated on the cloud to be recorded and taxed accordingly.

Finally, a challenge arises in drafting a hybrid regulatory framework in the digital world. The sharing economy and the digital reforms involves multiple government agencies and require these agencies to champion policies and legal laws in close association. Regulatory framework in the digital economy is complex as it touches multiple jurisdiction and even across economy borders. Government

infrastructure are still being improved in order to ensure regulatory compliance can be achieved and cross border corporation are needed in order to effectively regulate the digital economy.

MEXICO: LAW REGULATING FINANCIAL TECHNOLOGY INSTITUTIONS (FINTECH LAW)

Introduction

Economic growth usually lies in the increase of the Gross Domestic Product (GDP) of an economy, which rely on the combination of various components such as: employment expansion, capital formation, volume of trade, credit expansion and domestic consumption in the domestic economy, as well as in the efficiency of the financial system and the interaction of the economic agents. In this regard, such economic growth can happen by two ways, by an "expansive way" using more resources (such as the physical, human or natural capital) or by an "intensively way", using the same amount of resources more efficiently (more productively).

The regulation of the traditional financial system is essential in order to guarantee its appropriate functioning. An adequate legal framework generates greater certainty about the operations carried out by the economic agents involved (banking, stock market, derivatives, insurance, and bonds) and encourages growth in economic activity by mobilizing the savings of the various agents to finance productive activities, facilitate transactions and to allocate the resources efficiently. So, the diverse regulations in this matter add stability to the whole financial system.

However, as a result of the *subprime*¹⁸ crisis, a new global scenario was generated where the general mistrust caused by traditional financial institutions gave rise to the need for the user of financial services to demanding more transparent, inclusive and friendly alternatives within the financial sector. This situation triggered that many young entrepreneurs who participate in a natural and intrinsic relationship with the recently active technology in the financial system began to observe these trends and to offer alternative solutions.

On this basis, emerged a proliferation of alternatives in the financial services based on accessible information and communication technologies, such as the use of the internet, smartphones, intelligent algorithms, and mobile applications to provide such services. Such alternatives have been commonly referred to as *FinTech*¹⁹, having as one of the most considerable differences, compared to the services provided by the traditional financial system, the high degree of technological content and the challenge towards the status quo of the financial services industry.

In this regard, according to "*The FinTech Book*"²⁰ it is noted that FinTech companies have similar characteristics among them, which are described below:

¹⁸ It is the name of the financial crisis of 2008, originated by an overvaluation of the real estate assets in the United States.

¹⁹ The University of Wharton define the term Fintech as “an economic industry composed of companies that use technology to make financial systems more efficient.”

²⁰ Susanne Chishti & Janos Barberis, the Fintech Book.

1. They are based on an approach to satisfying the needs of specific segments of the market, which allows a greater degree of specialization in the services provided and a greater capacity for disruption in traditional sectors.
2. They don't rely on having a huge infrastructure, operational structure or the costs assumed by traditional financial services institutions. FinTech companies making more use of technological tools gives them greater capacity to innovate in the offer of its services.
3. FinTech services and products that have achieved the most success are characterized by being transparent, practical, easily accessible and closer to customers.

Pre-reform situation

According to the "*National Report on Financial Inclusion 2016*"²¹ only 39% of Mexico's 127 million inhabitants have access to formal financial services. The lack of a bank account embodies a serious limitation to improve the quality of people's lives, to strengthen personal finance and to increase micro, small and medium enterprises, as well as, to achieve greater social inclusion. So the fact that having more alternatives of financial services embodies in Mexico a fertile ground for the development of the FinTech sector since technology characterizes an essential factor for expanding and deepening financial inclusion, especially in rural areas and for the attention of traditionally excluded groups.

Furthermore, characteristics such as high penetration of fixed and mobile internet²², an adequate electronic commercial ecosystem and an increasing number of reforms to the core and adjacent sectors of the financial sector such as the "*Financial Reform*"²³ and the "*2016 National Financial Inclusion Policy*", make Mexico an attractive destination for FinTech companies.

According to the Inter-American Development Bank (IADB), the FinTech ventures have been strengthened in Mexico during the last years due to public and private initiatives implemented through stimulus packages for the development of new technological tools. These initiatives have allowed the growth and diversification of financial products, which have also benefited the entrepreneurial capital by having a greater amount of resources of domestic and international origin available.

In this regard, at the moment the Law was proposed, Mexico had 238 Fin Tech startup companies²⁴ distributed in the following segments: Payments and Remittances (48 startups, 20%), Lending (41 startups, 17%), Enterprise Financial Management (35 startups, 15%), Crowdfunding (22 startups, 9%), Insurance (15 startups, 6%), Lending:P2P (13 startups, 6%), Personal Financial Management (12 startups, 5%), PFM (11 startups, 5%), Financial Education and Savings (11 startups, 5%), Enterprise Technologies for Financial Institutions (10 startups, 4%), Scoring Identity and Fraud

21 According to the National Policy on Financial Inclusion, financial inclusion is defined as the access and use of formal financial services under the consumer attention and the promotion of financial education to improve the financial capacity of all segments of the population.

22 According to the Mexican Internet Association (AMIPCI) by the end of 2016 in Mexico, there were 65 million Internet users, so penetration of internet service went from 43% in 2012 to 59% in 2016.

23 Published in the Official Gazette on January 10, 2014.

24 Radar Finnovista, July 6, 2017 (<https://www.finnovista.com/actualizacion-fintech-radar-mexico/>)

(6 startups, 2.5%), Wealth Management (6 startups, 2.5%), Payments Crypto (5 startups, 2%), Trading and Markets (3 startups, 1%).

Policy response

As a result of the aforementioned situation, the FinTech Law pursues the following objectives:

1. Contribute to the financial inclusion and market competition by regulating the operations carried out by Financial Technology Companies, resulting in an increase in the quality and the creation of new financial products and services.
2. Establish a flexible legal framework as a result of this Law to facilitate the creation of new products, services, business models and innovative mechanisms, without having to meet all the regulatory burdens that they would be usually applicable. In this sense, the Law will allow the authorized institutions to use innovative models, defined as "those mechanisms that use for the provision of financial services technological tools or innovative modalities different from those existing in the market at the moment in which the authorization is granted" (internationally known as Regulatory Sandbox).
3. Reduce costs in financial products and services (either they are regulated in the Law or in other financial laws) provided by the Financial Technology Companies (authorized companies that operate with innovative models or financial entities authorized by Law).
4. Adjust the current financial legislation in order to make it consistent with this new regulation and facilitate its implementation.
5. Generate greater access to credit and investment flow, in synchrony with the use of technology and financial inclusion of unreached sectors of the population.
6. Continuing with the implementation of the Financial Reform through the proposal of regulations that encourage the flow of more financing, providing more flexibility and agile ways of negotiating, and incorporating international transparency principles.
7. The creation of the Financial Innovation Group, which will act as a group for consultation, advice and coordination.

Impact

In accordance with the data provided by the Ministry of Finance and Public Credit, the economic impact was foreseen as it follows:

Costs:

- Emergence of costs for the regulated sector due to the considerable administrative burdens.

- Emergence of compliance costs caused by prohibitions, obligations, restrictions, and penalties.

Benefits:

- Creation of a well-defined market with a greater degree of security for users and legal certainty for those regulated.
- Development of an appropriate environment for competition among companies by the establishment of the basic rules.
- Contribution to financial inclusion, with an immediate impact on economic development, especially in the promotion of consumption and investment.

It should be pointed out that less than two years after the FinTech Law was issued, there is still no reliable data on the direct economic impacts of this legal reform, at least in quantitative terms.

Challenges and lessons

Challenges:

- Complete the issuance and implementation of the secondary regulation that will allow the appropriate implementation of the Law.
- Implement interagency coordination in order to achieve what was indicated above, since, in the articulation of the normative framework, there are authorities of different legal powers such as the centralized Federal Public Administration, the decentralized agencies and the autonomous constitutional agencies.
- Monitor the performance of the FinTech space, as some companies expressed concern that the Law could have an impact on free competition and could concentrate the market.

Lessons:

- There is a need to encourage financial education in a FinTech environment since the sector could suffer a lack of dynamism if there is a lack of knowledge about how society can interact with this type of services.

THE PHILIPPINES

A. TECHNOLOGICAL ADOPTION IN THE PHILIPPINE INSURANCE INDUSTRY’S REGULATION AND SUPERVISION

Introduction

Today’s insurance environment involves several millions if not billions of data. A few years ago, the only way to access insurance service suppliers were through face-to-face interactions. However, today, insurance service transactions may be done through smart phones and computers, where concluding transactions may now be done with less human intervention.

This innovation in the financial services coined Financial Technologies or “Fintech” could result in new business model applications, processes or products related to financial services that would result to material effect on financial markets and institutions and provisions of financial services (Toronto Centre, 2017, 2019)

The special subset of FinTech related to insurance is InsureTech, which is a variety of emerging Insurance Technologies and innovative business models that have the potential to transform the insurance business. (Toronto Centre, 2019)

The figure below shows what InsureTech tools are being utilized along the business processes of insurance companies.

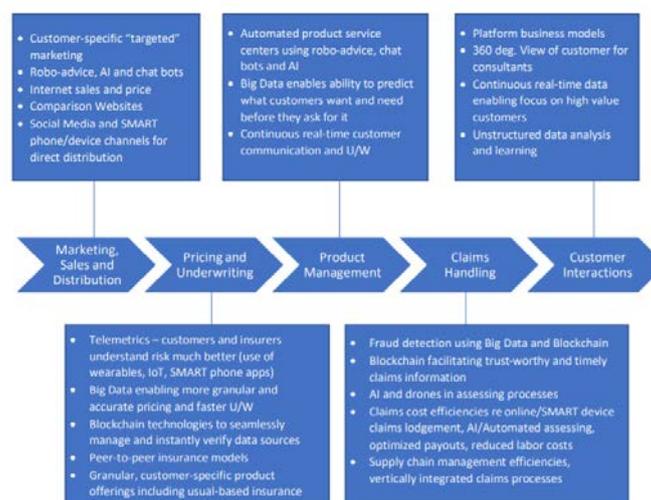


Figure 7 InsureTech Applications along the Business Process

Source: IAIS, 2018

Pre-reform situation

Before the onset of digitalization, the regulation and supervision of industry lies in the manual submission and encoding of data which resulted to backlogs in review and examination process, fewer

and/or trivial analyses and research. There were also redundancy of data submitted to several divisions, creating discrepancies in the summary and analysis of key data.

On December 28, 2016, the Insurance Commission issued Circular Letter (CL) No. 2016-65 entitled Financial Reporting Framework under Section 189 of the Amended Insurance Code (Republic Act No. 10607). This financial reporting framework provides for a standard on the economic valuation of assets and liabilities based on internationally accepted accounting, actuarial and insurance core principles. The financial reporting framework is not the same as the financial reporting framework used for general purpose financial statements for the public and filed to other regulators. It is used for the statutory quarterly and annual reporting of net worth requirements.

Additionally, the IC also issued CL No. 2016-66 and 2016-67 that properly value the policy reserves of insurance companies in accordance with generally accepted actuarial principles.

CL 2016-66 and 67 also provide that an accredited actuary shall be responsible for determining the level of policy reserves based on professional valuation of the company's life and non-life insurance liabilities using a basis no less stringent than that prescribed in the following paragraphs.

Additionally, CL 2016-68 was issued in accordance with Section 200 of the Amended Insurance Code which provides that the solvency requirements shall be based on internationally accepted solvency frameworks and adopted only after due consultation with the insurance industry associations. The CL adopted a three (3) pillar risk-based approach to solvency. The framework is issued to address the 1st pillar on quantitative requirements in relation to the calculation of capital requirements and recognition of eligible capital. All insurance companies are required to hold the RBC requirement determined in accordance with the rules and guidelines set forth by the IC at all times.

Policy response

The IC adopted “Cloud” computing for the submission of the statutory financial reporting requirements, where companies need only access the IC cloud through internet browsers to submit reportorial requirements. Life and non-life insurance companies submit their quarterly reports (Financial Reporting Framework, Risk-based Capital (RBC2) and Reserve Valuation Reports) through their cloud accounts connected to the IC. Companies may upload files in pdf, excel and word format to be accessed by IC insurance specialists for examination.

Moreover, to improve accessing and evaluating not just the financial reports but the operations of insurance companies as a whole, the IC is currently developing its Financial Examination Database System (IC-FEDS) which will help integrate the functions of the IC and the different reportorial requirements so as to capture a real-time, on a per company and industry basis, status of compliance and performance reports.

The Insurance Financial Reporting Framework (FRF), Insurance Policy Reserving Framework and Risk-Based Capital Framework (RBC2) will be incorporated in FEDS along with other operations such as investment approval, market conduct, premium rates, reinsurance and other aspects.

In the future, systems such as data gathering, data accumulation, data management systems will further help the cause of the IC to provide efficient performance of its core functions and address the risks faced by regulated entities.

Impact

Because of the change in regulatory framework and reporting, regulated companies' financial conditions may now be evaluated not just on an annual basis but throughout the quarters during the year.

Companies are compelled to comply with all the statutory financial reporting requirements. Moving forward, the IC aims to be able to process and analyze data more efficiently through the use of technology, to supervise insurance companies on a real-time basis, and to regulate companies while promoting a better consumer protection and financial stability policy.

Challenges and lessons

As the Philippine Insurance industry is adapting the changes brought about by the global technological advancement, the IC is compelled to address and adapt the changes to its own regulatory and supervisory framework. Regulatory Technology (RegTech) is a sub-set of FinTech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities. (Global Financial Innovation Network (GFIN), 2018). RegTech provide real-time monitoring of compliance to regulations, such as Identity Management Control, Counterparty due diligence and Know-Your-Customer (KYC) procedures, anti-money laundering (AML) controls and fraud detection which may be integrated into a RegTech system to manage and analyze data processed by insurers. RegTech is a mechanism to bring efficiencies to the generation of risk data, risk data aggregation, internal reporting, automatically identifying and monitoring risks according to internal methodologies or regulatory definitions and creating alerts or to trigger action at pre-determined levels. (Toronto Centre, 2019)

Another concept related to financial institutions is the Supervisory Technology (SupTech), a sub-set of FinTech that uses innovative technology to support supervision. It helps supervisory agencies to digitize reporting and regulatory processes, resulting in more efficient and proactive monitoring of risk and compliance at financial institutions. (Broeders & Prenio, 2018) SupTech can help reporting institutions automatically package business data in a standard and highly granular format according to specifications (e.g. classification) by regulators and send it to a central database. Raw (non-standardized) business data is sourced directly from the institution's operational system by automated process triggered by the regulator, and only later standardized by the regulator itself, using SupTech solutions. This will make supervisory actions a preemptive tool based on predictive behavioral analysis.

The regulator can pull operational data at will rather than at predetermined reporting periods by directly accessing the institutions' operational systems, which could include monitoring transactions in real time basis. SupTech can create reporting utilities i.e. centralized structures that function not only as a

common database of reported granular data but also a repository of the interpretation of reporting rules, in a format that is readable by computers. Collections and analysis of unstructured data with greater efficiency, which could relieve supervisors from time consuming tasks such as reading numerous PDF files, searching the internet, etc.

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B. SANDBOX

The sandbox setting

1. When was the sandbox established and who are the stakeholders?
 - In 2004, the Bangko Sentral ng Pilipinas (BSP) first used this “test-and-learn” approach to engage e-money pioneers. The providers of G-Cash and Smart Money were allowed to pilot e-

money products in the market at a time when there were no established models to reference anywhere in the world. Rather than say “no”, BSP decided to keep an open mind so that it can fully understand the business model, assess risks and determine how appropriate regulations can be applied to mitigate these risks.

2. Please describe the regulatory framework applied to the sandbox mechanism.

- The “test-and-learn” is within the approving authority of the Deputy Governor of the BSP.
- Since there was no e-money regulation back then, the proponents were required to comply, to the extent possible, to regulations covering technology and information security risk management, consumer protection and anti-money laundering, among others.
- Lessons learned from these pilots eventually formed the BSP regulatory framework for e-money, issued five (5) years later in 2009. This framework opened up the market for non-bank players and expanded the e-money agent ecosystem; but BSP ensured that liquidity, technology and other operational risks, Anti Money Laundering/Counter Financing of Terrorism requirements, and consumer protection concerns are properly addressed.

3. What measures are taken to create legal framework for testing new services?

- Please see responses in items 1 and 2 above.

4. What are the key goals of the sandbox and its target audience?

- The sandbox approach has served the BSP well since 2004. It enabled the BSP to fully understand new business models, assess risks, employ mitigating actions when necessary, while allowing benefits to be realized from these new technologies.
- Non-banks or tech players are able to offer their products and services more openly to the public. The fact that it is a pilot implementation under BSP monitoring somehow lends credibility to the project, not only to the customers, but also with other market players;
- This, in turn, increases the chances of success as the market are more inclined to adopt such products or services;
- Non-bank or tech players can compete with the regulated entities without the immediate burden of regulatory compliance; and
- They can also gain knowledge/experience on relevant BSP rules and regulations that they can leverage on when they are already directly regulated/supervised by the BSP.

5. What are the sandbox main principles?

- The main principles could be deduced from the adopted phases of the approach, to wit:

- a. Allow for market to develop and innovations to take place;
 - b. Proceed with flexibility yet with caution;
 - c. Understand operating and business model;
 - d. Adopt appropriate regulatory approach; and
 - e. Closely monitor developments and related issues.
6. How many staff members have been committed to the sandbox functioning?
- 14 plantilla positions
7. Is there a need to coordinate the sandbox functioning with other authorities due to the scope of the topics under review?
- Yes. If the pioneering products/services do not fall within the supervisory authority of the BSP, the entity/applicant is referred accordingly to other concerned regulators as part of the multi-stakeholder approach to fintech handling. BSP also collaborates for services that may fall
 - within the purview of two or more regulatory authorities. The main goal is to enhance shared understanding of risks and streamline requirements of the different authorities.
8. What kind of contribution does the sandbox operation make to promoting financial inclusion in your economy?
- The BSP measures the impact of innovation facilitators particularly on financial inclusion, efficiency gains in financial service delivery and increase in digital payments.
9. Do you have a Web site to introduce/explain the sandbox scheme outline? If yes, please provide the HP address.
- N/A

The sandbox process

1. What is the duration of the testing and review phases of the sandbox operation process?
 - BSP's test and learn approach as of now has no preset duration for the sandbox as it is primarily dependent on the nature/extent of the fintech product or service being piloted. But normally the duration of the sandbox is within 6 months to one (1) year.
2. Which activities take place after the sandbox? In case a regular update is applied after the sandbox testing what is its typical frequency?

- Once the BSP fully understands the operating/business model as well as detailed mechanics of the innovative product/service, the BSP then issues the appropriate regulations. The BSP continues to monitor developments and introduce supervisory enhancements, when necessary, to address emerging issues and risks.
3. What are the sandbox projects entry requirements?
 - Eligibility requirements include:
 - a. Soundness/feasibility of the business model;
 - b. Innovativeness and currently not within the existing regulatory framework of the BSP;
 - c. Track record and credibility of the applicant/proponent; and
 - d. Resources and capability of the proponent to carry out the pilot activities.
 4. Is it feasible to distinguish between the new entrants or established market participants?
 - Value of such distinction may be explored, though currently, the approach is entity agnostic and focuses more on the entity's proposed service and their capability to manage relevant risks associated with it.
 5. What limitations are applied while testing in the sandbox?
 - There is flexibility in relaxing certain rules and regulations during the sandbox period, except for those related to cybersecurity, consumer protection and anti-money laundering.
 6. What regulatory tools facilitate the testing?
 - Currently limited to periodic status monitoring and review of submitted test results.
 7. Please list the top 3 segments represented by the sandbox participants.
 - Payments, clearing and settlements
 - Consumer lending
 8. Which kind of projects does the sandbox mostly deal with?
 - Digital currency
 - Blockchain-related initiatives
 - Payments, remittance and e-wallet

9. Do real customers take part in sandbox piloting (or experiments are carried out only in test environment)? If yes, what is the maximum number of clients that are supposed to get financial service in the process of sandbox piloting?
 - Yes, but the proponents define the pilot parameters.
10. Which customer safeguards/ transaction limits are applied to the sandbox projects?
 - Please see response in item no. 14
11. What are the project testing milestones and exit conditions?
 - Milestones vary from one application to another though exit condition is clear that the applicant must secure formal approval when relevant regulations covering the piloted activity is established or the proponent determines that the product can already be mainstreamed,
12. Which 5 main challenges can be identified for the sandbox mechanism?
 - Firms applying for the wrong reason, limited impact, lack of awareness, resource intensive, consumer protection issues
13. What are the results of piloting in the sandbox (e.g. legal framework is created, organization receives the required license, service is approved to be provided in the market and etc.)?
 - Adoption/change of regulatory approach, issuance of license and a close monitoring of developments and relevant issues.

The sandbox impact

1. What has been the number of projects piloted in the sandbox so far?
 - 132 providers have tested in the sandbox
2. How many of them have been stopped/ approved for implementation?
 - After starting the test, 17 providers later discontinued their test or failed to successfully transition out.
3. Please provide examples of the most significant initiatives tested in the sandbox.
 - In 2004, the BSP used the “test-and-learn” approach for e-money, and allowed the providers of G-Cash and Smart Money to pilot pioneering e-money products in the market. The objective was to fully understand the business model, assess risks and determine how to apply regulatory controls to mitigate these risks. Lessons learned from these pilots eventually formed the BSP regulatory framework for e-money, issued in 2009. This framework opened up the market for non-bank players and expanded the e-money agent ecosystem.

- In 2016, the BSP again made use of “test-and-learn” approach when it allowed BSP-supervised financial institutions (BSFIs) to participate in “Lendr Loan Program” (Lendr) provided by Voyager Innovations, Inc. (Voyager), a non-bank fintech provider, under a community cloud deployment model. Lendr is a fully digital, multi-channel, telco and bank-agnostic consumer loan platform that facilitates BSFIs’ credit origination processes. Through Lendr, customers may select the best deals among the loan products offered by participating banks.
4. Has there been any significant effect of the sandbox operation for promoting financial inclusion?
 - Yes. It extends financial services even to those in unbanked and underserved areas as the platform is accessible via mobile phones.
 5. Should the testing outcomes be shared with other authorities or made public?
 - May be considered except for confidential information.

Next steps

1. What next steps are planned for the sandbox development?
 - The BSP’s test-and-learn approach proved to be a useful tool in promoting development and innovation within the financial services industry. While the approach seems effective as of date, certain enhancements to the sandbox approach are being explored to clearly define the parameters, timelines, and eligibility criteria to improve transparency and efficiency in the approval process. At present, BSP is contemplating on revising the regulations on e-banking/electronic financial products and services that shall formalize the “test-and-learn” approach.
2. What do you think about the establishment of multiple sandboxes in a single jurisdiction?
 - Value of such approach and relevance to domestic fintech regulatory regime may be further explored.
3. What can governments do to promote sandboxes?
 - Government can continue to maintain dialogues with the industry in order to gain insights on innovations and new product/services to be offered to the market.

International cooperation

1. The experience of which economies you think should be studied with regard to sandboxes?
 - For neighboring economies, it would be Singapore, Malaysia and Thailand

2. Which opportunities for international cooperation do you think exist with regard to sandboxes functioning?
 - Information sharing, regulation benchmarking, capacity building
3. What is your attitude to the concept of region-level/global sandboxes?
 - Cooperation and collaboration with peers from other jurisdiction is always an avenue to learn and share information towards formulating the appropriate approach to manage and regulate digital innovations.
4. Which topics will become urgent for sandboxes globally in the near future?
 - Potential use cases for Distributed Ledger Technology, Application Programming Interface, and Artificial Intelligence

RUSSIA

A. PUBLIC SERVICE PORTAL OF THE RUSSIAN FEDERATION (GOSUSLUGI.RU)

Introduction

In recent years, digitization of the economy in Russia has been a top priority at the highest level of leadership, and a number of digital initiatives have been implemented in the economy at the economy-wide and subnational levels. In 2019 Russian Government introduced the program “Digital Economy of the Russian Federation”. It consists of six federal projects:

- Normative regulation of a digital environment
- Digital infrastructure
- Personnel for digital economy
- Information security
- Digital technologies
- Digital public administration

Total financing for the program amounts to 1.6 trillion rubles, including 1.1 trillion from the federal budget and 0.5 from non-budget sources. It is expected that implementation of the program will allow to increase share of households with broadband internet access from current 72.6% to 97% in 2024. Share of the Russian Federation in the global market of data storage and processing will increase from 1% in 2018 to 5% in 2024, 120 thousand people will be engaged in higher education programs in digital sphere by the end of 2024, 10 million people will complete online training in E-literacy sphere by the end of 2024. All socially important buildings will have broadband internet access sphere by the end of 2024 (30.3% in 2018), and Russian software will account to more than 90% of software purchased by the government bodies.

Pre-reform situation

Along with the Public Administration Reform process (2003–2013), the government launched its first “Electronic Russia 2002–2010” program, aiming to adjust the regulatory capacity of the state and improve the efficiency of the public service through ICTs. Initial efforts were focused on the development of an e-government infrastructure. The portal (Ogic.ru) contained only the full list of public services, application templates in pdf format and links to the websites of ministries, agencies, economy-wide projects.

Policy response

The first step was the launch of the new version of the Public Service Portal of the Russian Federation (gosuslugi.ru). At first, only information on sequence of receiving services and list of required documents were available. At the end of 2010, the portal contained full information on 565 federal and 2282 regional public services, including list of required documents and application forms.

Rapid development of electronic infrastructure, including the Public Service Portal, was a consequence of long preliminary work aimed at development of administrative procedures, registries of public and municipal services and corresponding regulation framework. Key challenges that were to be overcome in order to develop electronic services were the following:

- Organization of intergovernmental interaction. The structure and formats of information sharing were analyzed, and for each service process charts of intergovernmental interaction were approved, which contained description of required information for the provision of the service, list of intergovernmental documents, formats of information requests. Starting from October, 2011, federal public bodies moved to the electronic intergovernmental interaction in the process of providing services;
- Update of the list of required documents for each of the services. According to the legislation, the documents which are possessed by public bodies, even other than those bodies providing the service, cannot be required from the applicant. This statutory provision significantly decreased number of documents required from citizens.

The second phase, which builds on the preliminary work described above, included the further development of single-window access for public services through a Public Service Portal of the Russian Federation (gosuslugi.ru) and multifunctional centers of services delivery, the creation of an interagency system for electronic interaction and a document management system, as well as open access to information on the activities of government bodies.

The portal is being continuously updated. In 2018, the following services were added: opportunity to choose the polling station; development of mobile application “Gosuslugi Business”; possibility to receive parcels and registered letters without documents, with SMS code; registration of marriage and birth registration is now available in all regions (85, in 2017 – only in 30 regions).

Impact

Over the past two decades, Russia has demonstrated a strong commitment to adapting its government institutions to the new realities of the digital era. In the development of digital government, Russia has achieved some successes in recent years, most notably an increase in the number of digital federal and municipal services using the e-government infrastructure and an increase in the number of registered users (86 million in 2018) of the Public Service Portal of the Russian Federation. The ongoing focus on government digital transformation at the highest levels of government allowed Russia to rapidly ascend in international e-government ratings and achieve remarkable success. In 2018 UN E-Government

Development Index (EGDI) Russia ranked 32 (35th place in 2016 rating) and joined the Very-High EGDI group.

The number of users of online federal and municipal services has grown rapidly and reached 40 million in 2016, 65 million in 2017 and 80 million in 2018. On average, the portal has 1.6 million users per day, and total annual number of visits in 2018 amounts to 582 million. In 2018 users filled more than 60 million electronic forms in order to get public services. The most popular service is request of position of an account at Russian Pension Fund (more than 16 million requests in 2018). Vehicle registration holds second place with 4.8 million requests, and drawing up of the passport is on the third place by popularity (3 million requests).

Payments through the portal grew from 8.1 billion in 2016 to 30.3 billion rubles in 2017 and to 52.6 billion rubles. Settlement of taxes amounted to 19.9 billion rubles in 2018, payment of duties - 17.5 billion rubles, penalties – 9.8 billion rubles, court fines – 4.3 billion rubles.

B. THE SMES BUSINESS NAVIGATOR PORTAL

Introduction

The improvement of the investment climate in Russia is an important objective for the further economic development of the economy. In Ease of Doing Business -2019 Russia has moved up to the 31st position from the 35th place year earlier. In 2019 Government of Russia approved Roadmap “Transformation of Business Climate”, which contains measures on 12 directions: connection to utilities system, urban development, property rights protection, customs, international trade, SMEs access to public procurement, SMEs access to finance, registration of legal bodies, human capital and labor productivity, enhancing corporate governance, taxes and controls. Roadmap contains some measures in digital sphere, aimed at improvement of business climate:

- Introduction of digital technologies and platforms in cadastral registration of real estate, public registration of real estate and real property transactions;
- Development of electronic documentation between participants of foreign economic activities and public bodies;
- Shift to electronic requests for connection of premises to utilities system;
- Increase of efficiency of intergovernmental interaction in the urban development sphere, shift to electronic requests for the urban development services.

Pre-reform situation

Simplification, cheapening and acceleration of business procedures has long been a priority for the Russian Federation. Starting from the 2012, 12 roadmaps aimed at improvement of the investment climate in the Russian Federation were implemented, which contained actions on digitalization of public services related to business processes. By 2018, most of the measures were implemented, and the Russian government has started to monitor the "roadmaps" to promote competition, improve the quality of supervision, and give SMEs better access to state companies' procurement and enterprise registration. Achievements in the sphere of digitalization during realization of these roadmaps include the following: implementation of online company registration; development of opportunity to pay customs duties online and submit customs transit declaration online; application of electronic document submission system for the state registration of real property titles.

Still, many challenges for the SMEs remained, among other:

- Absence of centralized information on public support for SMEs;
- Lack of entrepreneurship education;
- Absence of centralized information on prerequisites for entrepreneurship activities, such as availability of office real estate, working templates of business plans, information on demand and existing SMEs in specific location.

Policy response

SME Business Navigator (smbn.ru) was established in 2016. It is a free web tool for entrepreneurs, who are willing to open or to expand their own business and who want to work legally, pay all obligatory taxes and charges, earning for their future and for the future of their children.

Business Navigator is created on the one-stop shop principle. It contains services for burgeoning entrepreneurs, such as:

- Creation of a preliminary business plan for one of 103 types of business in 177 cities in Russia;
- Information on bank loans and application for a guarantee;
- Information on public support measures for SMEs (information on 5000 SMEs infrastructure organizations and 7500 support measures);
- Creation of a web-site for a chosen business;
- Information on biggest buyers' purchase plans (more than 5.3 million public procurements by Federal Law #223 and Federal Law #44);

- Information on business premises available for rent (database contains more than 900 000 offices for rent);
- Preliminary information on potential demand and existence of competitors in a specific location;
- Choice of a franchise;
- Step-by-step instructions for typical situations for 90 types of business on 5 phases of a business life cycle. There are more than 22.5 million documents, interactive check-lists and templates with comments for each of business types;
- Information on co-working spaces;
- Specialized resources for agriculture businesses etc.

Business navigator is designed to be useful also for the mature entrepreneurs and provides such services as:

- Checking trustworthiness of partners;
- Information on legal, accounting, management challenges on the help desk “reallife situations”
- Preparation for the exit from business;
- Tax and accounting updates; Preparation for inspections; Placement of advertisement etc.

Impact

Business navigator quickly became a popular service among entrepreneurs. The number of registered users grew from 2 thousand in 2016 to 1.6 million in April 2019. Number of SMEs which used the services provided by the Portal grew from 445 thousand in 2017²⁵ to 1 million in April 2019. As of 20.05.2019 number of registered unique users – 1 744 810; number of unique SMEs users – 1 283 303. Number of SMEs, which increased revenue or number of employees using services provided by the portal amounted to 579 thousand in April 2019.

The most popular services in 2018 were the following: checking trustworthiness of partners (30% of users made use of this service), estimation of market niche (22%), search for public procurement (20%), usage of “real-life situations” help desk (19%), search for location for business (17%), development of business plan (15%), and search for business premises for rent (14%).

As further steps of Portal development RSMB Corporation together with the Ministry of Industry and Trade of the Russian Federation and Industrial Development Fund will integrate services of the SME

²⁵ Although Portal was launched on 09 September 2016, full-scale commercial operation started on 01 January 2017.

Business Navigator Portal with the Public Services Portal of the Russian Federation in part of SMEs support measures and Technology and Industrial Parks.

C. SANDBOX

The sandbox setting

1. When was the sandbox established and who are the stakeholders?

The regulatory sandbox of the Bank of Russia was launched in April 2018. The main stakeholders are financial market participants (fintechs, financial organizations, tech companies) and the Bank of Russia.

2. Please describe the regulatory framework applied to the sandbox mechanism.

Regulated by internal regulatory framework of the Bank of Russia.

3. What measures are taken to create legal framework for testing new services?

New services are piloted in a tested environment (no real customers are involved), hence no special legal framework or regulation is required.

4. What are the key goals of the sandbox and its target audience?

- Development of financial technologies;
- Improving the security of innovative services;
- Promoting competition environment;
- Increased financial inclusion;
- Development of regulatory mechanisms.

5. What are the sandbox main principles?

- piloting innovative solutions in a risk-free environment without customers involved and performing real transactions;
- interaction with associations of financial market participants and public authorities on sandbox pilot projects;
- fast evaluation and implementation of innovative financial services.

6. How many staff members have been committed to the sandbox functioning?

Each service is analyzed by 2-10 employees of the Bank of Russia Fintech Department. At the same time, employees from other departments of the Bank of Russia, professional associations of financial market participants and public authorities are also involved in selection of projects for the regulatory sandbox, evaluation of the results and preparations of proposals for amendments to the existing regulations.

7. Is there a need to coordinate the sandbox functioning with other authorities due to the scope of the topics under review?

Yes.

8. What kind of contribution does the sandbox operation make to promoting financial inclusion in your economy?

A regulatory sandbox influences financial inclusion in several ways:

- It attracts the attention of various players like banks or private equity and venture capital funds hoping to secure their investments. Increased competition has positive impact on pricing of financial products and services that may prompt them to focus more attention on unserved and underserved segments. Moreover, it improves capacity of regulators to balance financial inclusion with other regulatory objectives;
- Companies get an opportunity to work with regulators while testing their products in a live market. Regulators, on the other hand, can develop more appropriate regulatory policies as they are provided with an insight into how innovations function;
- Customers get better protection because company products are tested in a controlled environment before official rollouts;
- Financial institutions and companies have greater confidence in an entity's ability to comply with regulation while still being able to develop truly disruptive products and services.

9. Promoting competition environment. Do you have a Web site to introduce/explain the sandbox scheme outline? If yes, please provide the HP address.

Yes.

https://cbr.ru/fintech/regulatory_platform/

The sandbox process

1. What is the duration of the testing and review phases of the sandbox operation process?

The duration of piloting does not exceed 14 working days, but can be extended by the decision of the participant. Review phase can take 2-4 weeks.

2. Which activities take place after the sandbox? In case a regular update is applied after the sandbox testing what is its typical frequency?

If the service or product tested in regulatory sandbox is deemed to be successful, a roadmap is developed to ensure the creation of the necessary legal framework for the service's/product's launch in the market. The respective changes are made to the regulation in accordance with the arrangements set in the roadmap.

3. What are the sandbox projects entry requirements?

- Consumer benefit;
- Genuinely innovative;
- Test need;
- Ready to test;
- The product or service cannot be introduced in the market per se under current legal framework.

4. Is it feasible to distinguish between the new entrants or established market participants?

No such distinctions are made.

5. What limitations are applied while testing in the sandbox?

No testing in the product environment, so no limitations/safeguards.

6. What regulatory tools facilitate the testing?

New services are not tested in the product environment and therefore do not require regulation.

7. Please list the top 3 segments represented by the sandbox participants.

- Payments, clearing and settlements;
- Lending;
- ICO.

8. Which kind of projects does the sandbox mostly deal with?

- Blockchain or distributed ledger technology;
- Crypto-assets or cryptocurrencies;

- Digitalization of certain processes related to the provision of financial services to the clients.

9. Do real customers take part in sandbox piloting (or experiments are carried out only in test environment)? If yes, what is the maximum number of clients that are supposed to get financial service in the process of sandbox piloting?

No.

10. Which customer safeguards/ transaction limits are applied to the sandbox projects?

No testing in the product environment, so no limitations/safeguards.

11. What are the project testing milestones and exit conditions?

- Analysis;
- Evaluation;
- Piloting;
- Deciding whether the product/service should be introduced to the market;
- If positive - creation of legal conditions.

12. Which 5 main challenges can be identified for the sandbox mechanism?

- Creation of a mechanism that will allow for the piloting with real customers (introduction of limited licensing);
- making process of evaluation and implementation of innovative financial services faster;
- establishing effective and fast interaction on pilot projects in a sandbox between the Bank of Russia departments and between the Bank of Russia and public authorities;
- approval of amendments to existing regulations by the Bank of Russia departments and public authorities;
- alteration of existing regulations that are issued by other public authorities (e.g. the Parliament, the Government, federal ministries).

13. What are the results of piloting in the sandbox (e.g. legal framework is created, organization receives the required license, service is approved to be provided in the market and etc.)?

- Service is approved to be provided in the market;
- legal framework is created.

The sandbox impact

1. What has been the number of projects piloted in the sandbox so far?

5

2. How many of them have been stopped/ approved for implementation?

Stopped – 0/Approved – 2/Waiting for decision – 4

3. Please provide examples of the most significant initiatives tested in the sandbox.

- Service based on blockchain platform, that helps large business and SME to raise funds via ICO;
- Service that helps SME to get bank loan with scoring carried out by a bank based on transactional data from borrower's online-cashboxes instead of official reports.

4. Has there been any significant effect of the sandbox operation for promoting financial inclusion?

The effect on financial inclusion hasn't been measured.

5. Should the testing outcomes be shared with other authorities or made public?

Testing outcomes should be shared with public authorities that regulate the financial market. In the sandbox of the Bank of Russia public authorities participate in testing, reviewing of its outcomes and making decisions of alteration of existing regulations. The decision on the result publicity must be made by the initiator of a pilot project.

Next steps

1. What next steps are planned for the sandbox development?

At the moment, the Bank of Russia considers introduction of a special licensing regime for new market participants that would imply limited licensing (in terms of geographical coverage/ number of clients/ volume of operations/ type of activity/ etc.) that would follow companies exit from the regulatory sandbox and would apply for a limited period of time to test the service on the real customers.

2. What do think about the establishment of multiple sandboxes in a single jurisdiction?

Only one regulatory sandbox organized by a single authority (regulating the particular market) should function in a certain sector. At the same time, market participants can create industry tech sandboxes to test the products in a virtual environment. If these products do not meet the regulatory requirements, no real customers can be involved in the piloting in the industry sandboxes. Only government authorities and the central bank should have the right to define the exemptions from

legislation, set special requirements or provide limited licenses with respect to the companies taking part in the sandbox.

3. What can governments do to promote sandboxes?

Potential sandbox participants should see feasible outcomes from piloting in the sandbox to be interested to do so. Hence, there should be enough success stories (eg, regulatory amendment to launch the product to the market, finding investors as a result of a pilot project, etc.), which should be published in media.

International cooperation

1. The experience of which economies you think should be studied with regard to sandboxes?

UK, Singapore, Australia, Switzerland, UAE, Kazakhstan.

2. Which opportunities for international cooperation do you think exist with regard to sandboxes functioning?

Divisions and departments providing for the operation of regulatory sandboxes in national regulators can interact on a bilateral or multilateral basis on such issues as exchange of analytical information on innovative financial services, exchange of experience on organizing sandboxes and their regulatory framework, conducting pilot projects, expert participation in foreign pilots, organization of multinational pilot projects, etc.

3. What is your attitude to the concept of region-level/global sandboxes?

Region-level/global sandboxes are relevant for services and products to be introduced in several markets.

4. Which topics will become urgent for sandboxes globally in the near future?

Provided GFIN Global Sandbox initiative, questions related to the fast and effective international interaction between sandboxes and different divisions of financial regulators when conducting multinational pilot projects would be of much interest.

CHINESE TAIPEI

In 2018, the Financial Technology Development and Innovative Experimentation Act and Unmanned Vehicles Technology Innovative Experimentation Act were drawn up with the aim of meeting the development needs of new technology and with reference to legislative trends in other economies, so as to build a “regulatory sandbox” innovative experimentation mechanism. The intention was, with legal protection and under a suitable degree of supervision from the competent authority, to allow innovators to test new products, technologies, services or business models.

A. ENACTING THE FINANCIAL TECHNOLOGY DEVELOPMENT AND INNOVATIVE EXPERIMENTATION ACT

Introduction and pre-reform situation

The Financial Supervisory Commission (FSC) formulated the “Financial Technology Development and Innovative Experimentation Act” (hereafter “the Act”) to assist financial technology (FinTech) innovators to test and realize their innovative ideas and to accelerate the entry of innovative products or services into the market, to promote financial inclusion and the development of FinTech. The FinTech innovative experimentation mechanism (regulatory sandbox) was promoted by means of a special law and the Act came into force on April 30, 2018. This mechanism provides a safe environment for trial of FinTech under development; FinTech innovators are exempt from related criminal and administrative liabilities and applicable regulations during the period of experimentation. Through small-scale experimentation, the feasibility of using innovative technology in financial services can be verified.

Policy response

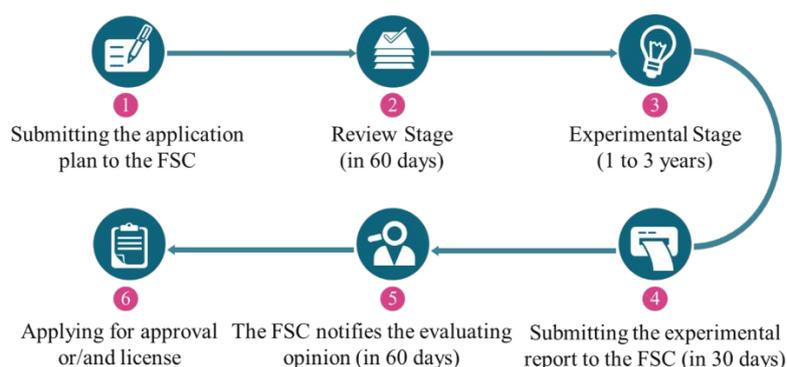
A. The mechanism stipulated by the Act is explained as follows:

1. Eligible applicants: Experimenters that use innovative technology or innovative business model in the scope of business requiring special permission from the FSC are eligible. Domestic and overseas natural persons, wholly owned or partnerships businesses and juristic persons can all apply. At present, most applications have been from FinTech companies and financial institutions.
2. Receiving unit: The FSC has set up the dedicated unit, the “Financial Technology Development and Innovation Center” (the Center), to receive applications for experiments and provide guidance with respect to application.
3. Assessment principles:
 - (1) Operation of financial business requiring special permission: The financial business involved in the application requires special permission, approval or license from the FSC.
 - (2) Being innovative: Utilization of innovative technology or innovative business model.

- (3) Bringing economic and social benefits: The innovative FinTech products/services involved can increase the efficiency of financial service, reduce operating or use costs or enhance the rights and interests of consumers and enterprises.
 - (4) Complete risk management and protection measures: Possible risk has been assessed and related countermeasures formulated; protection measures for participants have also been established and suitable compensation set aside.
4. Accompanying measures:
- (1) Diverse consultation and guidance service channels: The Center will provide consultation and guidance and will jointly handle a “front shop, back factory” cooperation mechanism with the Ministry of Economic Affairs. The FinTechSpace provides the “regulatory clinics.”
 - (2) Measures for speeding up the realization of FinTech innovative products or services: The FSC will, taking into account the implementation situation of the innovative experiment, actively review and revise financial regulations; and will also, at a suitable time, invite related units to provide business startup guidance including matching cooperation and referral guidance.
5. Inter-agency cooperation mechanism: If innovative experimentation involves business that is in the scope of the responsibility of another agency, the FSC will consult the agency involved for related opinions and request that a representative is dispatched as a member of the review committee for reviewing the application; also, the Center has a consultative group that convenes meetings according to the needs of individual cases to discuss related cross-agency policies and revision of regulations and other issues.
- B. The sandbox process:
1. Application and experiment process: (see Fig. 1)
 - (1) Application stage: The applicant submits application form, applicant details, experiment plan and other required documents to the FSC.
 - (2) Review stage: Within 60 days of receiving the application, the FSC holds a review meeting, decides to approve or reject the application and notifies the applicant of the decision in writing.
 - (3) Experimentation stage: Within three months of receiving the review decision, the applicant should begin conducting the innovative experiment. The period of experimentation is up to one year, with a one-time extension of 6 months available when necessary; however, when the contents of the experiment involves the need for amending regulations, the aforementioned extension is not limited to one time, and the maximum total length of experimentation period can be three years.
 - (4) Reporting of experiment results: After the experiment ends, within one month from the expiry of the experimentation period, the applicant reports results to the FSC.

- (5) Experiment results assessment stage: The FSC will complete assessment, provide suggestions within 60 days of receiving experiment results documents and will notify the applicant in writing.
- (6) Application for permission for business operation: If the applicant wants to operate the business involved in the experiment, application for permission must be made according to existing or amended financial regulations.

Fig. 1: The Application and Experimentation Process for the FinTech Innovative Experimentation Mechanism:



2. Limits on experimentation scale: There is no limit on the number of participants; however, the financial exposure of all participants must not exceed NT\$100 million; limits are also set for exposure of individual participants, such as limit on consumer loan of NT\$500,000, limit on insurance policy premium of NT\$100,000 or NT\$1 million insured amount, and limit of NT\$250,000 for insured amount of other insurance products.
3. Measures for protection of participants:
 - (1) In accordance with the professionalism of participants and the risk that may arise from the innovative experiment, a suitable management mechanism for suitability assessment, risk notification, dispute handling and compensation etc. should be established.
 - (2) A suitable compensation mechanism must be in place including consigning to trust or bank escrow.
 - (3) The accounts of the innovative experiment must be independent.
4. Possible experiment withdrawal situations:
 - (1) The applicant terminates the experiment voluntarily.
 - (2) The FSC cancels or terminates approval (if the innovative experiment is materially adverse with regard to the financial market or the rights and interests of consumers or the approved scope is not followed etc.).

- (3) The experimentation period expires.

The sandbox impact

1. Application approval/rejection situation: As of April 23, 2019, 3 applications have been approved for experiment, 1 application has been rejected; also, 4 applications are under review (including waiting for required documents to be submitted) and 28 business innovators are receiving guidance for innovative experimentation application (Table 1).

Table 1: FinTech innovative experimentation application receipt and guidance situation

Item/No. of Cases	Application	Guidance
Total	8	47
Approved	3	—
Rejected	1	—
Under Review	4	—
Under Guidance	—	28
Under Supplements	—	19

2. Industry and business type (Table 2)

(1) Industry type: Non-financial industry application cases and guidance cases total 26; there have been 10 financial industry application cases and guidance cases.

(2) Types of application/guidance: there have been 22 cases involving banking businesses, the highest for any business, mainly cross-border remittance and online loans; there have been 10 cases involving securities & futures business, mainly wealth management and cryptocurrency; and 4 cases mainly involving online insurance.

Table 2: Types of FinTech innovative experimentation

Types of businesses	Application cases		Guidance cases	
	Financial Institutions	Non-Financial Institutions	Financial Institutions	Non-Financial Institutions
Banking	2	5	2	13
Securities & Futures	0	1	2	7
Insurance	0	0	4	0

International cooperation

Financial Technology Cooperation Agreement: As of the end of 2018, the FSC has signed two financial technology cooperation agreements with foreign authorities of other jurisdictions; the contents of the agreements include a bilateral supervisory mechanism referral mechanism, information sharing and potential collaborative innovation plans.

B. ENACTING THE UNMANNED VEHICLES TECHNOLOGY INNOVATIVE EXPERIMENTATION ACT

Introduction

Unmanned vehicles or self-driving vehicles have quickly become a growing trend across the globe. Unmanned vehicle technologies are expected to improve the safety, mobility, efficiency, and productivity of our transportation system. However, the advanced technologies of unmanned vehicles also bring with concerns regarding the risks of unpredictability. Therefore, to make a seamless transition to an integrated future of unmanned vehicles, we need a regulatory framework that removes unnecessary legal barriers and supports a trial of technology in the public arena while ensuring the safety of our community.

To allow the industry's development while ensuring public safety, a bill was approved on May 17, 2018, to govern innovative experimentation with unmanned vehicles. After three readings in the Legislature, the Unmanned Vehicles Technology Innovative Experimentation Act was passed into law on November 30, 2018. Similar to the regulatory sandbox for financial technology, this Act provides, within a certain range and under certain conditions, temporary exemption of related regulations to innovative experimentation to the technical/service/business operation models of unmanned vehicles in a real-life environment.

Pre-reform situation

Unmanned vehicles, including automated automobiles, aircrafts, ships or any combination of these items, are advanced robotic products that utilize artificial intelligence (AI). Chinese Taipei has long been trying to transform and upgrade our high-tech industry so as to add new momentum to economic growth, especially in the digital economy. Significant initiatives include the following:

1. The Asia Silicon Valley Development Plan, approved on September 8, 2016, is to connect Chinese Taipei with high-tech R&D communities across the globe and seize opportunities in next-generation industries. The plan focuses on promoting innovative R&D for the Internet of Things (IoT) and building a comprehensive ecosystem for innovative startups. The strategies include: establishing an innovative R&D center, connecting with Silicon Valley and other innovation communities, converting IoT academic research into commercial applications, coordinating field

verification among central and local governments and international firms, setting up an IoT testing center for the Asia-Pacific, and promoting demonstration projects for smart application services, as well as attracting and retaining talent.

2. The Digital Nation and Innovative Economic Development Program (also known as “DIGI+”) was initiated at the end of 2016, as the blueprint to lead digital development and transform Chinese Taipei into a smart island. The DIGI+ program focuses on enhancing soft infrastructure to create an environment conducive to digital innovation, promoting the development of the digital economy, creating a service-oriented digital government and promoting open governance, developing a vibrant online society with equal access and building sustainable smart cities and townships.
3. The Ministry of Science and Technology (MOST) formulated a five-year (2017-2021) strategic plan to cultivate AI technology specialists and create an environment for AI scientific research. The policy goal is to focus on areas where Chinese Taipei possesses strengths and potential advantages, such as semiconductors and ICTs, and develop selected fields for the future, which may include the IoT, security solutions, and driverless vehicles. Major strategies include: creating an economy-wide AI cloud service and a high-speed computing platform, nurturing AI research service companies, establishing four AI innovation research centers to train AI talents, creating the AI Robot Makerspace for innovative applications and integration of robotics software and hardware, using industrial pilot programs such as the semiconductor “moonshot” project to remove bottlenecks in AI-powered edge computing. Three “Formosa Grand Challenge” technology competitions will also be organized to encourage social participation.
4. The Ministry of Transportation and Communications (MOTC) launched a plan (2017-2020) to develop smart transportation and smart living. The plan will leverage Chinese Taipei’s advantages in ICTs so as to reduce losses from traffic accidents, offer convenient transportation in remote and rural areas, alleviate congestion on main traffic arteries and make public transportation more accessible. The plan contains six programs, including: an intelligent transportation safety plan, relieving congestion on major traffic arteries, making transportation more convenient for the eastern region and remote areas, integrating and sharing transportation resources, developing “Internet-of-Vehicles (IoV)” technology applications, and conducting fundamental R&D for smart transportation technology.

Chinese Taipei has been focusing on supporting the development of innovative technologies together with the unmanned vehicle and intelligent manufacturing industry. However, because the current regulatory regime mainly focuses on regulating the behavior of human drivers/operators of vehicles, there are many barriers and impediments for unmanned vehicle development in Chinese Taipei. For example, the “Road Traffic Management and Penalty Act” forbids drivers who use handheld mobile phones, computers, or other similar devices while driving on the road; the “Seafarer Act” regulates ships to have a certain number of seafarers on board; and the “Civil Aviation Act” stipulates that drone operation shall be within the visual range of the operator, etc. Most laws, regulations, and standards require human drivers/operators, and therefore have not incorporated regulation on matters relating to automated/unmanned vehicles. Therefore, while the government is promoting various plans and

programs, there is still urgent need for review and revision to the regulatory framework of Chinese Taipei to lower barriers for operating unmanned vehicles.

Policy response

Referring to the rationale of the regulatory sandbox mechanism of the Financial Technology Development and Innovative Experimentation Act, Chinese Taipei has thus passed the “Unmanned Vehicles Technology Innovative Experimentation Act,” to provide, within certain range and under certain conditions, temporary exemption of related regulations to public-area innovative experimentation on unmanned vehicles’ technical/service/operation models for the industry, academia or research institutions. This Act was expected to lower the barriers of existing regulations and provide industries with a friendly environment for unmanned vehicle experimentation. In the Act, the unmanned vehicle is defined as a driverless transport vehicle that may be an automobile, aircraft, ship or any combination of these items, equipped with sensing, positioning, monitoring and decision making and control technologies.

The Act established a procedure for the applicant to apply for innovative experimentation approval to the competent authority, the Ministry of Economic Affairs (MOEA). Those applying to conduct innovative experiments with unmanned vehicles must present such documentation as insurance plans and a mechanism for managing risk, as well as display a testing notice either at the site of experimentation or on the vehicle itself. The period of innovative experimentation shall be limited to 1 year and the applicant may apply for approval of a one-year extension. Applications for extensions to the experimentation period should not exceed a total of four years. The MOEA should call review meetings to review innovative experimentation applications. Members of the meeting should include competent authorities for the related issues, legal experts and scholars. The review meetings will consider, based on the innovation, conditions and qualification, the safety and risk management of the proposed innovative experimentation. If an accident happens during the experiment, the applicant should immediately suspend the experiment and notify the competent authority of the accident and how it was managed.

Innovative experimentation activities are not subject to the applicable laws, regulations, orders or administrative rules that were exempted in the approved decision. Exempted applicable laws include: Road Traffic Management and Penalty Act; Highway Act; Civil Aviation Act; Law of Ships; and Telecommunications Act, etc. Except civil/criminal liabilities, other specific regulations can also be exempted through application. Laws, regulations, orders or administrative rules to be exempted shall be publicly announced by the competent authority based on the decision of the review meeting. The competent authority shall comply with the approval decision and exempt the application of related laws and regulations in the duration of innovative experimentation.

After this Act is officially implemented, the industry, academia or research institutions involved in unmanned vehicle technology in Chinese Taipei and abroad can apply for innovative experimentation. The Act is expected to integrate with other important intelligent technology and transportation

initiatives of Chinese Taipei, so as to forge a flexible and vibrant regulatory system to support further development.

Impact

The Act is expected to make many improvements and achievements in the near future.

Firstly, through the regulatory sandbox mechanism established by this Act, the government can promote industrial development through science and technology supervision while providing a flexible regulatory environment. Also, the Act enables domestic manufacturers of vehicles, semiconductors, sub-systems, sensors, software and land, sea and air hardware equipment, etc. to connect among them, and establish a technology supply chain system for unmanned vehicles.

Secondly, the government can use the supervisory process to construct a safe and experimental environment to promote technological development, thereby attracting domestic/foreign players and promoting international cooperation. Moreover, the introduction of public-area experimentation can also help to raise public awareness of the developments and applications of advanced unmanned vehicle technologies.

Thirdly, through the regulatory sandbox mechanism, the related authorities can start to review their regulations to cover intelligent transportation and unmanned vehicle of the future, and verify whether the current regulatory system is compatible with the technological development through the outcomes of innovative experimentation. The regulatory sandbox mechanism can help to accelerate regulatory reforms and allow a gradual integration of unmanned vehicles into our daily lives.

Challenges and lessons

As unmanned vehicle technologies and applications affect many different aspects of public administration, apart from competent authorities concerning vehicle technology being involved in the review process of innovative experimentation applications, relevant local authorities and service/business supervisors also play an important role in the management process. To exclude certain regulations, coordination and integration among the various ministries and authorities concerned are indispensable.

On the other hand, because of the forward-looking nature of pilot experiments, how to maintain safety and cultivate social acceptance is also a challenge. Therefore, the government will closely observe trends and developments of international legislation and standards, and make sure the regulatory process is transparent and recognized by the general public. The safety and security issues concerning the innovative experiment should also be addressed, including measures relating to insurance and incident liabilities, which are vital to building a robust management mechanism.

Last but not least, after the experiment ends, revising relevant regulations and removing unnecessary barriers so the unmanned vehicle technology application can continue to be utilized in the real world, will also be a challenge that needs to be solved through cooperation and coordination across sectors.

The role of the legislature and competent authorities will be critical in leading the evolution of the socio-economic and legal landscape of unmanned vehicle technology in the foreseeable future.

Through this Act, Chinese Taipei hopes to build a digital economy with the inclusion of a future with smart transportation that can provide the general public with a better and safer world.

UNITED STATES: THE APEC CROSS-BORDER PRIVACY RULES SYSTEM

In the United States, data flows – both domestic and international – underpin nearly all aspects of our economy. For example, services are responsible for 80% of all U.S. exports and data is essential to all cross-border services. Since the boom of the technology sector in Silicon Valley and the rise of Internet-enabled services, the United States has experienced unprecedented growth and prosperity. Data, and especially the free movement of data, has facilitated immense amounts of wealth creation and lifted quality of life and wages across the United States. As data and data flows are necessary aspects of all economic activity in the 21st century, this case study will be pan-sectoral.

In the 1990's, the European Union introduced the first expansive privacy directive which included principles on restricting the flow of data on the basis of protecting privacy. While the United States and EU share many similar legal structures, the United States operates on a sectoral approach to privacy which necessitated a policy response to maintain data flows with the EU. The solution was to create a bridging mechanism based around companies certifying to a common standard of privacy protections and then being given an ability to transfer data collected in the EU across borders. This mechanism – the first of its kind – facilitated data flows from the EU for more than 15 years before being replaced with an updated certification mechanism known as the Privacy Shield.

However, while many economies – and most APEC economies – did not have privacy regulations which restricted data flows in 2010, the United States made it a priority of our host year in 2011 to finalize the long-discussed APEC certification mechanism, the Cross-Border Privacy Rules (CBPR) System. This mechanism was to ensure both privacy protections for consumers in APEC as well as facilitating trade and economic integration for the region by ensuring the free flow of data for participating economies.

The United States was the first economy to participate in the CBPR System and has worked with partners in APEC to strengthen the system, update the APEC Privacy Framework in 2015 – the Framework underpins the CBPR System's requirements – and to establish a complimentary system, the Privacy Recognition for Processors (PRP) System to facilitate SME activity in the digital value chain.

The United States' Federal Trade Commission (FTC) engaged privacy regulators throughout APEC in the Cross-Border Privacy Enforcement Arrangement (CPEA) to ensure the CBPR System would be enforceable across jurisdictions and the Department of Commerce worked with industry partners to bring multiple Accountability Agents into the CBPR System – with two domestic certifiers in the United States – and has seen more than two dozen companies certify compliance to the regional transfer mechanism. In addition, the FTC labeled the CBPR System as a mechanism which is viewed favorably for enforcement proceedings, offering tangible regulatory benefits in the United States to certified companies.

There are currently eight CBPR participating economies – the United States, Canada, Mexico, Japan, Korea, Singapore, Chinese Taipei, and Australia. These eight APEC economies have a greater combined GDP than the entire European Union, thus enabling the CBPR System to be the single largest mechanism bridging data flows for equivalent parties. In addition, the United States, Mexico, and

Canada agreed to enshrine the protections of the CBPR System and recognize it as a data transfer mechanism in the updated trade agreement between the three parties, the USMCA Agreement.

The CBPR System has served as a bridging mechanism between eight economies with an expectation of further growth – the Philippines has already committed to participation. In addition, the CBPR System has been studied by the European Commission, the European Data Protection Board, and the OECD as a model for certifications in those respective regions. There is an ongoing work streak to promote interoperability between the APEC and EU certification models, and a recent report from the EU indicated that aspects of the CBPR System could be adopted in the certification mechanism being created to facilitate compliance with the EU’s General Data Protection Regulation (GDPR). For the United States, five of our top-10 trading partners are participants in the CBPR System, creating immense benefits and regulatory certainty for U.S. businesses engaged in cross-border activity.

In Japan, the CBPR System is explicitly recognized by the Personal Information Protection Commission (PPC) as a valid basis for transfer of data from Japan, one of the few legal mechanisms available to companies to transfer personal information out of Japan. This has enabled bilateral trade between the United States and Japan to continue efficiently in concert with the 2017 updates to Japan’s domestic privacy law. In addition, as more APEC economies join the CBPR System, there will be more tangible benefits for regional trade and consumers, particularly those who would benefit from the innovative technologies provided by existing and future certified companies.

In the United States, the greatest challenge in the growth of the CBPR System has remained cost of the certification. As the certification requires a review from an independent third party certifier – known as an Accountability Agent – there is a significant cost to obtaining the CBPR certification. The United States continues to actively work to address this situation, including through an increase in Accountability Agents and possible domestic reforms to offer enforcement mitigations for certifying entities. The CBPR System and its growth is a living process and the more APEC economies that participate, the greater the benefit will be for economies, businesses, and consumers. The United States remains committed to this System and to the region’s continued integration through its increased adoption, as demonstrated through our upcoming workshop on the CBPR System and Accountability Agents in Honolulu, Hawaii in June 2019.

Ultimately however, the greatest challenge to the CBPR System remains the trend towards divergent privacy regimes or restrictions on cross-border data flows in the name of economic protectionism. APEC has always been a forum to lower trade barriers, and the CBPR System presents the region with perhaps the best opportunity to prevent a balkanized digital economy.

VIET NAM: STRUCTURAL REFORM FOR E-COMMERCE DEVELOPMENT

Introduction

Viet Nam has recognized that e-commerce development could generate spillover impacts to many economic sectors and sectors. For example, the rapid development of e-commerce can help promote transformation of business models and production methods, whilst supporting the development of small and medium-sized enterprises (SMEs) in Viet Nam. On the other hand, e-commerce can help enterprises, including SMEs, to promote and diversify trade activities. With this acknowledgement, Viet Nam has promoted structural reform for e-commerce development since 2005.

Some remarkable structural reforms

In 2005, the National Assembly of Viet Nam passed the three laws that laid the legal foundation for e-commerce, namely the Commercial Law, the Civil Code and the Electronic Transaction Law. Basically, these three laws recognize the legal value of data messages in civil and commercial transactions. The Electronic Transaction Law 2005 sets the basic legal foundation for electronic transactions. This Law also provides detailed regulations of e-signatures, a factor that ensures the reliability of data messages when conducting transactions. The Law on Information Technology in 2006 then regulates the application and development of information technology and security measures in terms of policies and infrastructure for these activities.

In the period of 2011-2015, Viet Nam's legal framework related to e-commerce continues to be improved towards more clarity in obligations of enterprises, while enhancing the management role of state agencies. Various legal documents related to e-commerce have been issued, including important documents such as Bidding Law No. 43/2013/QH13, Decree No. 83/2013/ND-CP in 2013, Decree No. 52/2013/ND-CP in 2013, Decree No. 72/2013/ND-CP in 2013, etc.

Managing Internet services and electronic information on the Internet is one of the most concerned issues related to e-commerce. Decree No. 97/2008/ND-CP on management, provision and use of internet and electronic information services on the Internet was issued in 2008, which marked a significant step forward in creating a more open environment for e-commerce applications in Viet Nam. A major improvement of Decree 97 is the reduction of licensing regulations. In addition, this Decree narrows the scope of "internet service" to a form of telecommunications service, to include only internet access services, internet connection services and internet application services, under telecommunications and under the direct management of the Ministry of Information and Communication. This is considered a new regulatory approach, viewing the internet as a complementary and modern channel for socio-economic activities, rather than a separate area that requires special management. Consequently, the e-commerce environment is more open, along with the

gradual elimination of licensing barriers; the IT and communication infrastructure in general is increasingly competitive, creating a strong driving force for internet application services.

The Telecommunications Law in 2009 further improve the regulatory approach over domestic domain names. Previously, the domain name ".vn" was considered a part of Viet Nam's information resources and managed under a registration mechanism - the allocation scheme was quite tight. The provisions of the Telecommunications Law are closer to the general trend of the world to allocate domain names according to the market mechanism, allowing the transfer of internet domain names (except domain names for state agencies), and simultaneously allows the allocation of high-value internet resources through auction.

The participation in some new FTAs also requires Viet Nam to make commitments on e-commerce. The most prominent among them is the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The most direct is the Electronic Commerce chapter of CPTPP, with various commitments on e-commerce policies, consumer protection, and respect of freedom for entities in e-commerce. However, regarding data flows, commitments are not only in the Electronic Commerce chapter, but also scattered in the Financial Services, Intellectual Property, and Telecommunications chapters. Besides, in November 2018, Economic Ministers of ASEAN (including Viet Nam) signed the Agreement on E-Commerce to facilitate cross-border e-commerce transactions in the ASEAN region.

Some notable progress

Viet Nam is considered to have a fast growing e-commerce market, especially in the last 5 years. Statistics in recent years show that the B2C e-commerce market size has a stable growth rate, the trend of increasing gradually over 20% per year, from USD 2.2 billion in 2013 to USD 6.2 billion USD in 2017.

Viet Nam's e-commerce market also attracted the presence of the world famous "hypermarkets" such as Alibaba or Amazon. Lazada e-commerce site (already in Viet Nam for 6 years) also rated Viet Nam as the fastest growing market in 6 markets that Lazada has commercial presence, with growth rates of up to 100%. The presence of large foreign e-commerce enterprises also creates more competitive pressures for e-commerce enterprises within Viet Nam. In turn, the latter must improve their capacity to strengthen competition with foreign counterparts.

E-commerce transactions not only take place on websites or traditional electronic devices (such as desktops, laptops), but also thrive on applications through other electronic devices such as smartphones, smart watches, tablets. The survey showed that the percentage of people accessing the Internet via mobile phones increased rapidly from 50% in 2013 to 89% in 2017. The rate of Internet users participating in online shopping also increased from 57% in 2013 to 67%. In 2017, three of the most popular consumer goods for online transactions were clothing, footwear and cosmetics; technology and electronic equipment; and household appliances (with respective shares of 59%, 47%, and 47% in 2013 - 2017).

Apart from other factors (such as increasing use of smartphones, etc.), improved telecommunication services – which benefited from structural reform in this sector – also contributed to the development of e-commerce. According to the Vietnam Internet Network Information Center (VNNIC), by the end of 2017, the number of internet users in Viet Nam reached 53.86 million, accounting for about 66.3% of the population, almost twice as large as in 2010. Viet Nam's download speed reached 6.72 Mbps, an increase of 23% compared to 5.46 Mbps in 2017 and the same as the average growth rate of the world. In the official list of the Ministry of Information and Communication, by the end of 2017, Viet Nam had 65 licensed internet service providers, of which 51 were providing internet services in the market. However, Viet Nam still needs to improve Internet-related infrastructure further, as it only ranks the middle group of APEC in terms of download speed and cost of Internet access (PECC 2018).

Some major policy directions

- Develop and improve institutions, mechanisms and policies for the development and application of digital economy;
- Establish and operate essential infrastructure for e-commerce (including telecommunication and logistics); build the architectural framework and technical platform for popular electronic business models;
- Building capacity for enterprises, especially SMEs, in the digital transformation process;
- Build and enhance the connectivity of economy-wide and regional supply chains, aiming for effective participation in global value chains;
- Develop human resources for digital economy.