

# **Digital Financial Inclusion: Observations and Insights from Hong Kong's Virtual Banks, as Compared to Singapore's Digital Banks**

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# Overview

- **Research questions**

- Regulatory requirements for Virtual Banks (VBs) in HK
- To what extent have VBs in HK contributed to financial inclusion?
- What is the future for Hong Kong's VBs? (competitiveness issue)
- Technology investments by VBs in HK
  - \* The deployment of FinTech & RegTech:  
regulatory compliance (esp. AML/CFT), operation costs, credit rating score

- **Research methodology**

Looking through virtual banks'

- annual reports (cf: interim reports)
  - regulatory disclosures
  - industry reports (e.g. KPMG Hong Kong Banking Reports)
- (Compared with) Digital Banks (DBs) in Singapore
    - What can HK learn from Singapore (SG)?

# Virtual Banks (VBs) in Hong Kong

# Expectations from HK's VBs

- By those previously financially excluded and underserved
  - many **SMEs** included
- By the HKMA
  - When the HKMA invited applicants for virtual banks, it had a two-pronged goal:
    - (a) to promote the application of **fintech and innovation** in HK
    - (b) to promote **financial inclusion**\*
  - [Note]
    - \* Hong Kong's virtual banking licensing requirements **do not allow** VBs to charge **low-balance fees** or maintain **minimum balance requirements**
  - VBs' business target is **retail customers**

# Statistics suggested that...

- **Virtual banks have a role to play in Hong Kong's financial inclusion agenda**
  1. Google survey (2020):
    - an estimated **1.8 million Hong Kong adults** are expected to have a virtual bank account **by 2025**  
[cf: **1.1 million, 17.5% of adult population, as of Sep. 2021**] BIS Papers no. 120, p. 21
  2. PwC's digital banking customer survey of 4,500 customers across **Hong Kong, Singapore** and **Malaysia** in 2019
    - More than half of respondents in Hong Kong showed interest in becoming a virtual bank customer. However,
    - **38%** of respondents in Hong Kong also said that they did **not trust** virtual banks with their **personal data**
    - **33%** did **not** believe virtual banks to be **financially stable**

[See Harjeet Baura (of PwC Hong Kong), Virtual Banking: Customers Take Charge – Are You Ready (Nov. 2019), <https://www.pwchk.com/en/industries/financial-services/banking-and-capital-markets/publications/2019-digital-banking-customer-survey.html>]

# The Qualification Requirements for VBs

- (i) the ownership structure; (ii) mandatory ongoing supervisory requirements; (iii) requirement for having a physical presence in Hong Kong; (iv) maintenance of technology related risks and information security; (v) risk management; (vi) the presence of a credible and **viable business plan**; (vii) requirement to have an **'exit plan'** for, should it become necessary, the winding-up of business operations; (viii) **customer protection**; (ix) outsourcing of computer or business operations of virtual banks to **third party service providers**; and (x) **capital requirements**.

[See HKMA, (revised) Guideline on Authorization of Virtual Banks,  
<https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2018/20180530e3a2.pdf>]

# List of 8 Virtual Banks in Hong Kong

- The HKMA granted eight virtual bank licenses between March and May of 2019
  1. On March 27, 2019: to Livi VB Limited, SC Digital Solutions Limited and ZhongAn Virtual Finance Limited.
  2. On April 10, 2019: to WeLab Digital Limited.
  3. On May 9, 2019, Ant SME Services (Hong Kong) Limited, Infinium Limited, Insight Fintech HK Limited and Ping An OneConnect Company Limited.
- Three (Infinium, Livi and SC Digital Solutions) are **collaborations between financial institutions and technology companies**.
- The main shareholders of Ant SME Services, Insight Fintech and WeLab Digital are **technology companies**.

[See HKMA, Granting of Virtual Banking Licenses, Press Release (Mar. 27, 2019), (Apr. 10, 2019) & (May 9, 2019).]

<b>Virtual Banks</b>	
<b>As at 31 December 2020</b>	
<b><u>Incorporated in Hong Kong</u></b>	<b><u>Formerly known as -</u></b>
AIRSTAR BANK LIMITED	INSIGHT FINTECH HK LIMITED
ANT BANK (HONG KONG) LIMITED	ANT SME SERVICES (HONG KONG) LIMITED
FUSION BANK LIMITED	INFINIUM LIMITED
LIVI BANK LIMITED	LIVI VB LIMITED
MOX BANK LIMITED	SC DIGITAL SOLUTIONS LIMITED
PING AN ONECONNECT BANK (HONG KONG) LIMITED	PING AN ONECONNECT COMPANY LIMITED
WELAB BANK LIMITED	WELAB DIGITAL LIMITED
ZA BANK LIMITED	ZHONGAN VIRTUAL FINANCE LIMITED



Is Hong Kong's legal framework for virtual banks helpful (or detrimental) in attaining financial inclusion?

[To address:]

- The Impact of regulatory requirements on VBs

# (HK) Regulatory Framework for VBs

- “Hong Kong SAR offers one example of an integrated regulatory framework\* for virtual banks. The licensing and regulatory regime also [applies] to incumbent banks” [BIS Papers no. 120, Virtual Banking and Beyond, p. 21]
  - \* the principle of **activity-based regulation** applies (“same activity, same regulation”) + **technology neutral** approach (a policy tension point!)
- Regulations for virtual banks include, among others,
  1. the **Banking Ordinance** (Cap.155) and banking rules,
  2. the Anti-Money Laundering and Counter-Terrorist Financing Ordinance (**AMLO**) (Cap. 615)
  3. the Personal Data (Privacy) Ordinance (**PDPO**) (Cap. 486).
- Virtual banks are also governed by:
  4. HKMA’s Supervisory Policy Manual (**SPM**), for example:
    - IC-6 “The Sharing and Use of **Consumer Credit Data** through **Credit Reference Agencies**”
  5. the non-legislative HKMA guidelines such as the Treat Customers Fairly Charter (**TCF Charter**).

# 1. Minimum Capital Requirement

- In Hong Kong:

- the HKMA:

- the minimum paid-up capital requirement of HKD\$300 million is applicable to all licensed banks, as stipulated in the Banking Ordinance and the Banking (Capital) Rules

- suggestion of a lower initial minimum paid-up capital requirement, similar to the level for deposit-taking companies (i.e. HKD\$25 million), was refuted by the HKMA

- Cf: In the UK

- the UK sets the capital requirement for its virtual bank licensees at US\$5.8 million (equivalent to approximate HKD\$44.95 million, with exit plan)

- cf: Singapore's 'minimum paid-up capital' at entry point (S\$15m)\*  
for restricted digital full bank (\*to progressively increase to S\$1.5bn)

[Monetary Authority of Singapore, Digital Full Bank Framework, Annex A, <https://www.mas.gov.sg/-/media/Annex-A-Digital-Full-Bank-Framework.pdf>]

## 2. AML/CFT Requirements

- Virtual banks, similar to traditional banks, must comply with requirements under [Hong Kong's AML/CFT law](#)\* and the [AML/CFT Guideline](#) for obtaining and verifying customer information
  - \* [The Anti-Money Laundering and Counter-Terrorist Financing Ordinance \(Cap. 615\) \("AMLO"\)](#)
- However, remote onboarding clients may present greater risks to virtual banks

# 3. Data Privacy Requirements

- The **Personal Data (Privacy) Ordinance (“PDPO”)** is the data protection legislation in HK
- Under the PDPO,
  - data subjects (e.g. financial consumers) have the right to opt out of direct marketing activities (the PDPO, sections 35G and 35L)
  - There are also provisions that regulate data users from using personal data in data matching procedures (the PDPO, sections 30 and 31)
- Lee: However, there is no equivalent provision under the PDPO concerning the right not to be subject to a decision based solely on automated processing, including profiling (article 22 of the GDPR) and the right to object to the processing of personal data (article 21 of the GDPR).

# Closer Examination of Regulatory Requirements

- Policy tension points:  
The HKMA has been criticised for
  - the **stringent capital requirement**
  - **unclear demands on innovation**
- The HKMA:
  - Regulations must be **technologically neutral**
  - The HKMA is quoted as saying: “it does not expect virtual banks to offer services that are not possible for traditional banks to provide via their eBanking platforms”

[Hejian Ma & Simon Wang, Letter to the Editor, *For Virtual Banking to Thrive in Hong Kong, Regulators Must Encourage Small Players and Innovation*, S. CHINA MORNING POST (Aug. 5, 2019)]
- **Critics**
  - No point of issuing virtual bank licences if the licensees are not expected to **offer new services**

Are virtual banks financially stable?



(HK) VB ranked by the total amount of assets HKD\$ M(million)

Ranking	Assets
1 <sup>st</sup> <b>ZA</b> Bank	<b>9,804M (2021)</b> 7,861 M (2020)
2 <sup>nd</sup> Mox Bank	6,763 M (2021) 6,757 M (2020)
(3 <sup>rd</sup> -8 <sup>th</sup> ) The other 6	1989M-4,407M (2021) 1,069-2,880 M (2020)
Cf: <b>Public Bank</b> (Hong Kong Limited): Smallest Licensed Bank	<b>39,865 M (2021)</b> 41,799 M (2020)



































[See ZA Bank F/S B/S (p.8); Mox Bank F/S B/S (p. 8); Ant Bank F/S B/S (p.7); Fusion Bank F/S B/S (p. 9); Airstar Bank F/S B/S (p. 10)] F/S = Financial Statements; B/S = Statement of Financial Position (Balance Sheet); P/L = Statement of Profit or Loss and Other Comprehensive Income / Statement of Comprehensive Income; C/F = Statement of Cash Flows / Cash Flow Statement

# VIRTUAL BANK SHAREHOLDERS

Over half of the virtual bank backers are based out of Mainland China, while only one is of a foreign origin, together forming a robust mix of finance and technology expertise

## Shareholders

Hong Kong Virtual Banks

								
 Banking								
 Financial Services								
 Technology								
 Travel & Tourism								
 Real Estate								
 Conglomerate								
 Share Capital (HKD)	1.6 Billion	2.5 Billion	0.9 Billion	1 Billion	1.5 Billion	1.5 Billion	0.9 Billion	0.8 Billion

Note: Adrian Cheng of New World Development invested in Fusion Bank via the investment entity Perfect Ridge Limited

Source: Quinlan & Associates analysis

 Domestic  Mainland  Foreign

# (HK) VB: Dominance of Mainland Companies

## Virtual Banks

Airstar Bank

Ant Bank (Hong Kong)

Fusion Bank

Livi Bank

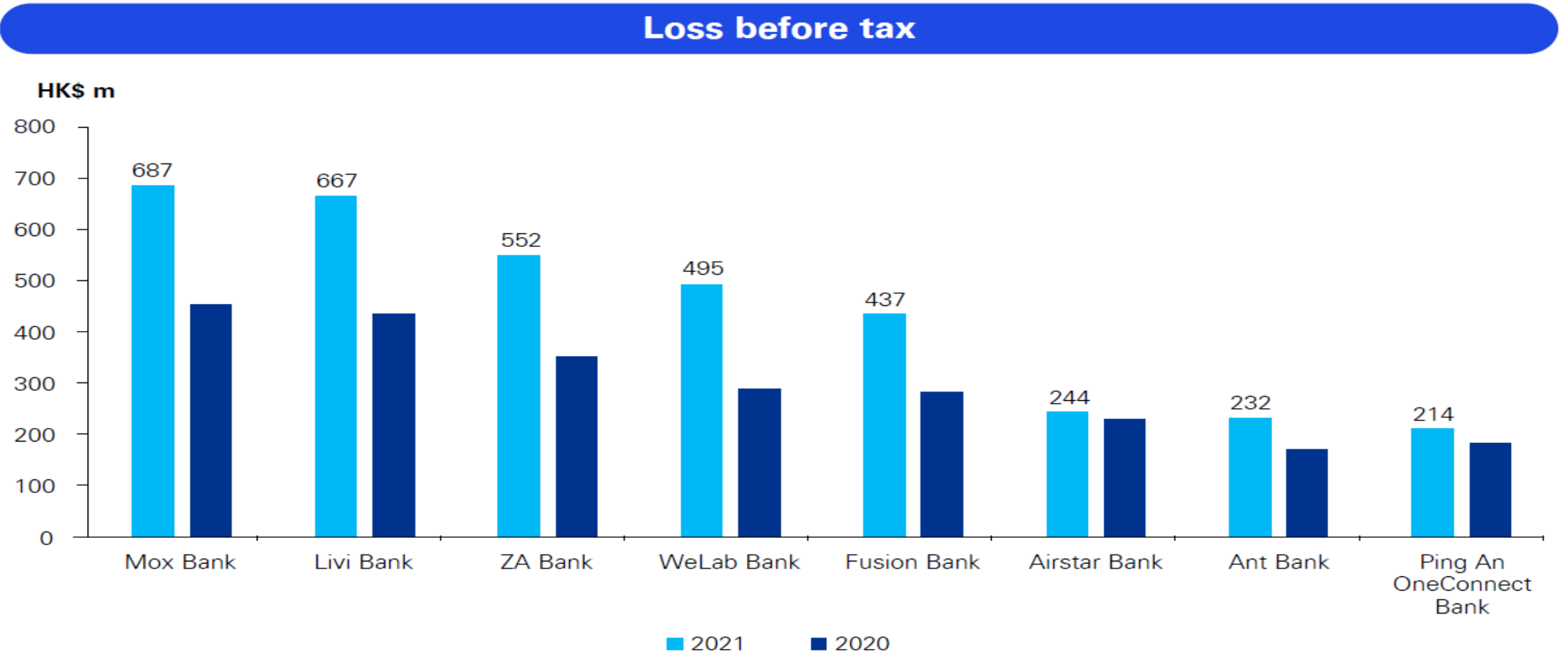
Ping An OneConnect Bank (Hong Kong)

ZA Bank

[KPMG, 'Resilience through change, transforming for the future—Hong Kong Banking Report 2022', p 11.]

Are (HK) virtual banks' business models sustainable?

# All Hong Kong Virtual Banks Reported Loss (2020, 2021)




Source: Extracted from individual banks' financial and public statements

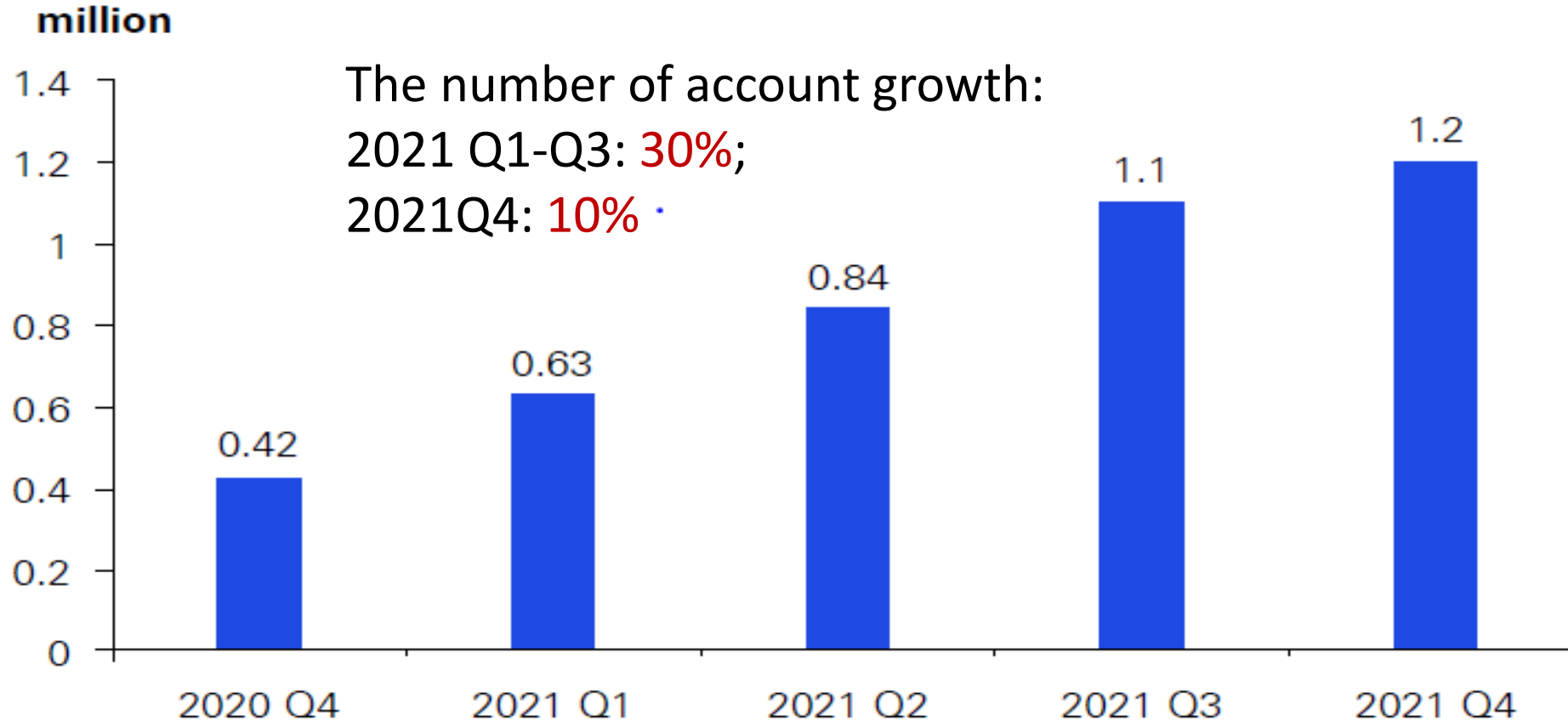
[KPMG, 'Resilience through change, transforming for the future—Hong Kong Banking Report 2022', p 16.]

# [HK] Comparison of VBs' promotional offers

[<https://www.planto.hk/en/blog/neo-virtual-banks/>]

<b>Airstar Bank</b>	<ul style="list-style-type: none"><li>– <u>3.6% annual interest rate</u> for the first HK\$20,000 deposit for 1 year</li><li>– Apply for a personal loan through Planto to enjoy APR as low as 1.85% and receive HK\$200 cash reward upon a successful application</li></ul>
<b>livi Bank</b>	<ul style="list-style-type: none"><li>– Receive HK\$1.00 <u>cash reward after opening an account</u></li><li>– Earn HK\$100 for each successful referral of up to HK\$1,000 0.5% interest rate on the first HK\$500,000 deposit</li><li>– Shake your phone after using UnionPay QR code to receive reward up to 3 times per day</li></ul>
<b>Mox Bank</b>	<ul style="list-style-type: none"><li>– 1% interest p.a. daily interest on the first HK\$1 million deposit</li><li>– 1% unlimited <u>cashback on eligible spending</u> 5% cashback at Mox's Founding Merchants (up to HK\$1,000 of cash back) before 31 December 2020</li></ul>
<b>WeLab Bank</b>	<ul style="list-style-type: none"><li>– 8% <u>cash rebate</u> on WeLab Debit Card until 27 January 2021</li></ul>
<b>ZA Bank</b>	<ul style="list-style-type: none"><li>– Receive a 200 HKD <u>cash reward or 3% rate-up coupon</u> by using Planto's link and exclusive promo code to open an account  <a href="#">Learn More</a></li><li>– 1% interest on the first HK\$500,000 deposit</li></ul>
<b>Ant Bank</b>	<ul style="list-style-type: none"><li>– 2.5% interest p.a. on the first HK\$20,000 deposit</li><li>– 1% interest p.a. on deposit above HK\$20,000 and below HK\$500,000</li></ul>
<b>PAO Bank</b>	<ul style="list-style-type: none"><li>– 2.5% interest p.a. on the first HK\$1 million deposit</li></ul>

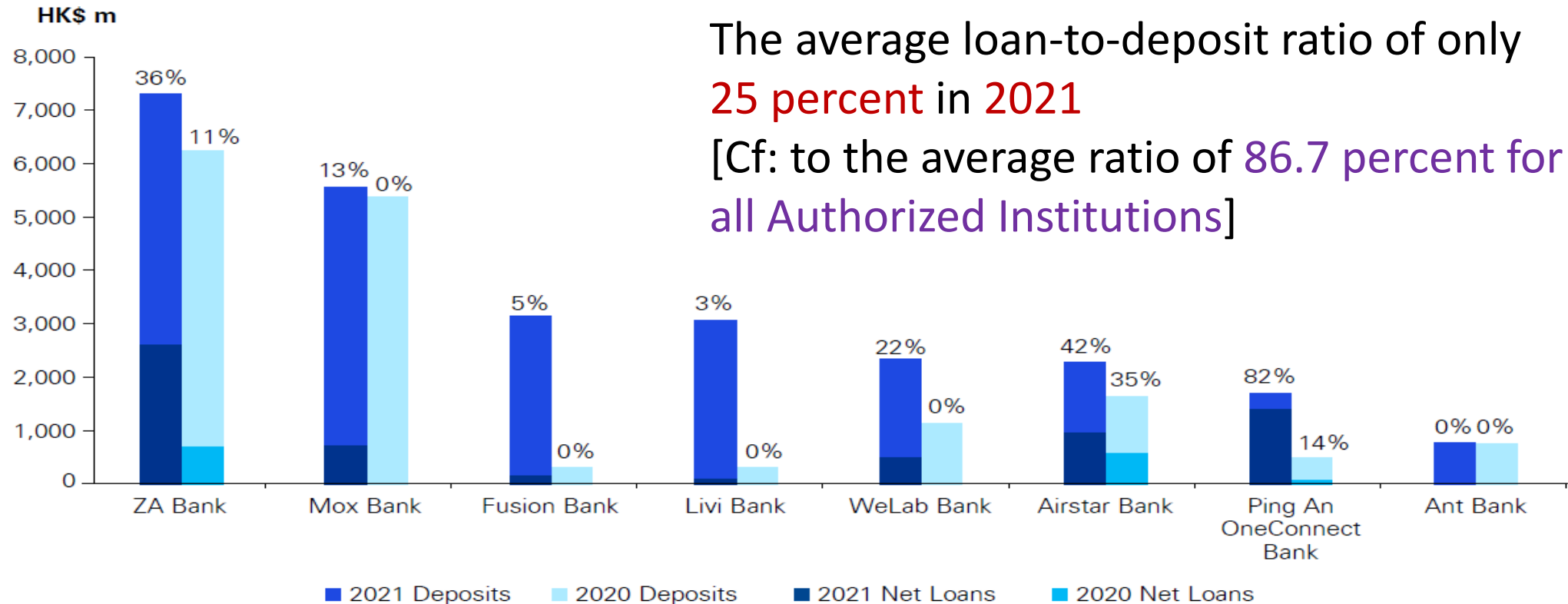
## Number of virtual bank accounts



Source: HKMA<sup>20,21</sup>, The Wall Street Journal<sup>22</sup>

# (HK) Virtual Banks' Loan-to-Deposit Ratios

## Loans and deposits



Percentage shows loan-to-deposit ratio

Source: Extracted from individual banks' financial and public statements



(continued...)

(HK) VBs' low rates of loan-making were affirmed by BIS:

- “As of end-September 2021, the virtual banks had ... attracted over **HK\$ 24 billion** (or about \$3 billion) **in deposits**. The aggregate amount of loans extended by virtual banks remained small, at approximately **HK\$ 4 billion**. [BIS Papers no. 120 titled ‘Virtual Banking and Beyond’, p. 21]

[Lee: Loan to deposit ratio:  $4/24 = 16.67\%$ ]

# Products and Services Provided by VBs in HK

## Products and Services

Overview

		RETAIL FOCUSED				RETAIL SKEWED		SME SKEWED	
		mox	livi	WeLab Bank	FusionBank	Z	airstar	PAObank	ANTBANK
PAYMENT DEPOSIT	Savings Account	✓	✓	✓	✓	✓	✓	✓	✓
	Time Deposit	×	×	✓	✓	✓	✓	×	×
	Online	✓	✓	✓	✓	✓	✓	✓	✓
	Offline	✓	✓	✓	-	✓	×	✓	-
PAYMENT	Credit Card	✓	×	×	×	×	×	×	×
	Debit Card	✓	✓	✓	×	✓	×	×	×
LENDING	Personal Loan	×	×	✓	✓	✓	✓	×	×
	PLGS <sup>1</sup>	×	×	×	×	✓	×	×	×
	Debt Consolidation	×	×	×	×	×	✓	×	×
	BNPL <sup>2</sup>	✓	✓	×	×	×	×	×	×
	Business Loan	×	×	×	×	✓	×	✓	×
	SFGS <sup>3</sup>	×	×	×	×	✓	×	✓	×
INSURANCE	Life	×	×	×	×	✓	×	×	×
	VHIS <sup>4</sup>	×	×	×	×	✓	×	×	×
	Cancer	×	×	×	×	✓	×	×	×
	Accident	×	×	×	×	✓	×	×	×
	Heart Attack and Stroke Bill	×	×	×	×	✓	×	×	×
OTHERS	Investments	×	×	×	×	✓	✓	×	×
	Foreign Exchange	✓	×	×	✓	✓	✓	×	×
	Lifestyle Offerings	✓	✓	✓	×	✓	✓	×	×

Note: Mox Bank, livi, WeLab Bank, and ZA Bank are applying for Securities Licence



Very few credit products



Applicable



Unspecified



Inapplicable

<sup>1</sup>Personal Loan Guarantee Scheme, <sup>2</sup>buy-now-pay-later, <sup>3</sup>SME Financing Guarantee Scheme, <sup>4</sup>Voluntary Health Insurance Scheme

Source: virtual bank websites, Quinlan & Associates analysis

1

Digital product/service offerings of Hong Kong's virtual banks, Source: Quinlan and Associates

# To what extent have VBs contributed to SME financing and financial inclusion?

Average loan size	Incumbent Banks	VBs
Business loans (For <b>SMEs</b> )	HK\$10 million (or higher)  Maturities: more than 2 years	HK\$ 1 million  Maturities: less than 2 years
Personal loans (For <b>Individual borrowers</b> )	HK\$250,000	HK\$40,000 -110,000

[BIS Papers no. 120, Virtual Banking and Beyond, p. 18]

# Using Services by Virtual Banks

- Bloomberg:
  - virtual banks will snare as much as 30 per cent of the revenue of legacy banks in Hong Kong

[*Hong Kong Starts Granting Licenses for Virtual Banks*, STRAITS TIMES (Mar. 28, 2019)]

- Moody's: Virtual banks create a significant competition\* for most incumbent banks in Hong Kong? (\* except for the big three banks)

[Moody's, Research Announcement: Moody's – Entry of Virtual Banks is Credit Negative for Incumbent Hong Kong Banks (May 14, 2019), [https://www.moodys.com/research/Moodys-Entry-of-virtual-banks-is-credit-negative-for-incumbent--PBC\\_1175869](https://www.moodys.com/research/Moodys-Entry-of-virtual-banks-is-credit-negative-for-incumbent--PBC_1175869)]

# Market Share of the Big Three Banks in HK

- “Of all the [Licensed Banks], just three names — [HSBC](#) . . . . , [Standard Chartered](#), and [Bank of China \(HK Holdings\)](#) — control two-thirds of the retail banking, three quarters of the mortgage market, three quarters of the credit card business, and half of the deposits.” [Sukrit Khatri, *A Skeptical Look at HK’s 8 New Virtual Banks*, MEDIUM (May 22, 2019)]
- Critics: Eight new licenses may be five or six too many

[Emily Lee, ‘Digital Financial Inclusion: Observations and Insights from Hong Kong’s Virtual Banks’, *Law and Contemporary Problems*, Vol. 84, pp. 95-113 (March 2021) at p. 113 ]

- A probable solution to the limitations in VBs' Business Model
  - An **open banking business model**
- The increased **partnership between banks and third-party service providers (TSPs)**, which **allows banks to redirect customers to user interfaces** (e.g. **websites and mobile apps**), prompted the HKMA to issue **the Open API Framework**\* on July 18, 2018 for open API implementation.

[\* See HKMA, Open API Framework for the Hong Kong Banking Sector, (Jul. 18, 2018)  
<https://www.hkma.gov.hk/media/eng/doc/key-information/press-release/2018/20180718e5a2.pdf>]

API = Application programming interface

# Digital Banks in Singapore (SG)



# Digital Bank Framework

- announced by Monetary Authority of Singapore (MAS) in June 2019
  - to enable non-bank players with **strong value propositions** and **innovative digital business models** to offer digital banking services
  - to operate new or alternative business models (“**digital-only bank**”)
- Two types of digital banks
  1. **Digital Full Bank (DFB)**
  2. **Digital Wholesale Bank (DWB)**
- different business focuses
  - DFBs: **retail customers**
  - DWBs: **SMEs** and other **non-retail segments**

# Assessment Criteria

- The applications were assessed on the following criteria:
  1. value proposition of **business model, incorporating innovative use of technology** to serve customer needs and reach under-served segments;
  2. ability to manage a **prudent and sustainable digital banking business**; and
  3. growth prospects and other contributions to Singapore's financial centre.

[See Monetary Authority of Singapore, 'MAS Announces Successful Applicants of Licences to Operate New Digital Banks in Singapore', media releases (4 December 2020), <https://www.mas.gov.sg/news/media-releases/2020/mas-announces-successful-applicants-of-licences-to-operate-new-digital-banks-in-singapore>]

# First Launch of Digital Banks by the MAS

- Awarded licences: two + two
- **Digital Full Bank (DFB): 2**
  - (1.1) A consortium comprising **Grab** Holding Inc. and Singapore Telecommunications Ltd (**Singtel**).
  - (1.2) An entity wholly-owned by **Sea** Ltd.
- **Digital Wholesale Bank (DWB): 2**
  - (2.1) A consortium comprising **Greenland** Financial Holdings Group Co. Ltd, Linklogis Hong Kong Ltd, and Beijing Co-operative Equity Investment Fund Management Co. Ltd.
  - (2.2) An entity wholly-owned by **Ant** Group Co. Ltd.
- MAS expects the new digital banks to commence operations from **early 2022**.

[See Monetary Authority of Singapore, 'MAS Announces Successful Applicants of Licences to Operate New Digital Banks in Singapore', media releases (4 December 2020), <https://www.mas.gov.sg/news/media-releases/2020/mas-announces-successful-applicants-of-licences-to-operate-new-digital-banks-in-singapore>]

# Digital Banks in SG have commenced operations

- 1. GXS Bank (digital full bank):** a consortium comprising ride-hailing firm [Grab](#) and telecoms company [Singtel](#)
  - unveiled its virtual offering late in August 2022
  - offering savings accounts
- 2. Trust Bank (full bank), a digital bank:** a joint venture between [Standard Chartered](#) and Singapore supermarket chain [FairPrice Group](#)
  - was launched on 1 September 2022
  - offering savings accounts, credit cards and insurance products

(continued...)

- 3. (Ant's) **ANEXT Bank**
- 4. (Greenland's) **Green Link Digital Bank**
  - The two digital wholesale banks have launched in June 2022
- 5. (Sea's) **Maribank**
  - has not released much information or details of its service offerings

[See 1. Dewey Sim, **“Will Singapore’s new digital banks like GXS and Trust be a ‘game-changer’? Experts aren’t so sure”**, South China Morning Post (10 September 2022)

<https://www.scmp.com/print/week-asia/economics/article/3191919/will-singapores-new-digital-banks-gxs-and-trust-be-game-changer>;

2. [https://www.channelnewsasia.com/singapore/trust-new-digital-bank-standard-chartered-ntuc-numberless-credit-card-](https://www.channelnewsasia.com/singapore/trust-new-digital-bank-standard-chartered-ntuc-numberless-credit-card-2914351#:~:text=Mr%20Wong%20also%20encouraged%20the,high%20level%20of%20data%20security.&text=Trust%20Bank%2C%20which%20is%2060,bank%20licence%20in%20December%202020)

[2914351#:~:text=Mr%20Wong%20also%20encouraged%20the,high%20level%20of%20data%20security.&text=Trust%20Bank%2C%20which%20is%2060,bank%20licence%20in%20December%202020](https://www.channelnewsasia.com/singapore/trust-new-digital-bank-standard-chartered-ntuc-numberless-credit-card-2914351#:~:text=Mr%20Wong%20also%20encouraged%20the,high%20level%20of%20data%20security.&text=Trust%20Bank%2C%20which%20is%2060,bank%20licence%20in%20December%202020).

3. <https://www.businesstimes.com.sg/startups-tech/startups/singapores-first-digital-bank-trust-bank-launches>

4. <https://technode.global/2022/10/28/digital-banking-in-singapore-whats-the-fuss-all-about/>]

(continued...)

[Note] Some striking features:

1. Awardees: four operators with most of their roots firmly in the tech sector
  - (1) Sea; (2) Ant Group; (3&4) a consortium between Grab and Singapore Telecommunications (Singtel)
2. Sea and Grab-Singtel have **significant existing customer bases**
3. **China's FinTech players** seek overseas expansion
  - Ant Group
  - Greenland Financial Holdings Group
4. **Ant Group has also received a licence in HK**
  - **Ant Bank** (in HK)
    - major shareholder: **Ant Group's** (formally known as Ant Financial)
    - Strength
      - (a) Ant Group's large **customer base**
      - (b) **Alipay\***
        - \* The world's largest mobile payment platform



Major banks UOB, DBS and OCBC are beefing up their digital capabilities in preparation for the arrival of Singapore's new license winners. © AP

- Similarly, in HK:

1. **HSBC (HK)**

- **PayMe** (a mobile payment service from HSBC):  
2.5 millions customers in August 2021
- Note: HSBC is the only one among three note-issuing banks in HK that does not have a virtual bank licence

2. **Standard Chartered (HK)** owns 65% of **Mox Bank**

3. **Bank of China (HK)** has a 44% stake in Hong Kong's **Livi Bank**

[BIS Papers no. 120, p 16]



# (Singapore) MAS--Financial Industry API Register

- The **Financial Industry API Register** aims to serve as the **initial landing site for Open APIs** available in the Singapore financial industry
- The Open APIs are classified into the following main functional categories:
  1. **Product APIs** (e.g. financial product details and exchange rates)
  2. **Sales & Marketing APIs** (e.g. product sign-ups, sales/cross-sales)
  3. **Servicing APIs** (e.g. customer profile/account details and customer queries/feedback)
  4. **Transaction APIs** (e.g. customer instructions for payments, funds transfers, settlements, clearing)

[<https://www.mas.gov.sg/development/fintech/financial-industry-api-register>]

- Very similar to the 'Four Phases of Open API' by the HKMA

## Open API Phases for the Hong Kong Banking Sector

Phase	Open API functions	Examples	Delivery time
I	Product information	Deposit rates, credit card offerings, service charges and other public information	By the end of January 2019
II	Customer acquisition	New applications for credit cards, loans and other products	By the end of October 2019
III	Account information	Account balance, credit card outstanding balance, transaction records, credit limit change and others	The initial batch of API functions, covering deposit account information and online merchant payments, are implemented progressively starting from <u>December 2021</u>
IV	Transactions	Payment and transfers	

<https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech/open-application-programming-interface-api-for-the-banking-sector/phase-approach/>

# Similarly in HK, examples given by the HKMA of 'Four Phases of Open API'

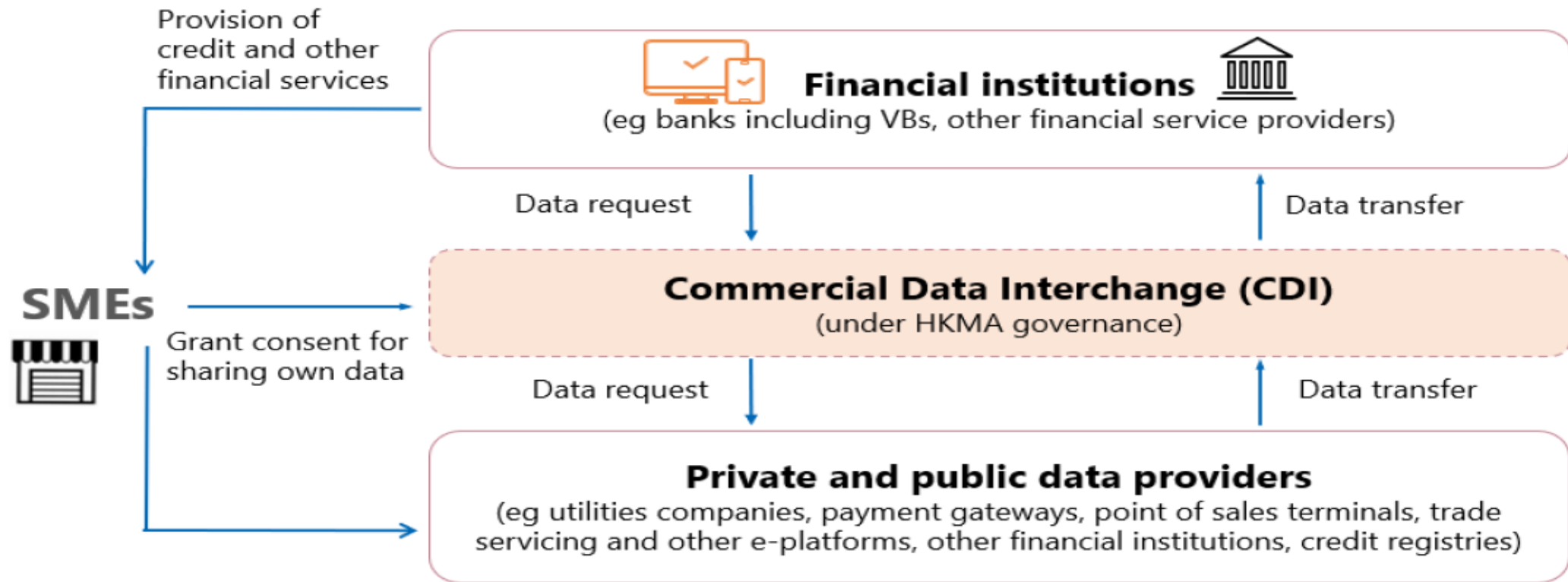
- Phase 1: when a user looks for **foreign currency exchange services**
  - use map app, which shows banks near you
- Phase 2: **marketing** for credit card application
  - discount offerings from different banks, when a user books a restaurant
- Phase 3: use API app to **view** your **account balances**
  - at different banks (Bank A, Bank B, Bank C)
- Phase 4: pay utility bills according to a user's conversation
  - Electricity company to Mr Chen: "Your electricity invoice for the previous month is ready."
  - **Instant messaging apps may also integrate with banks' bill payment**

[<https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech/open-application-programming-interface-api-for-the-banking-sector/phase-approach/>]

# Additionally, the HKMA has touted CDI as a success

Commercial Data Interchange (CDI) design – a digital data-sharing platform

Graph 6



Source: HKMA.

# Conclusion—

## A Comparative Study of VBs in HK & SG

- **Some similarities**
  - in regulatory framework (see next slide, non-exhaustive list)
- **Differences**
  - SG: full (digital) banks vs wholesale (digital) banks
  - HK: All VBs in HK are full banks
- **Sharing similar issues, features, challenges & concerns**
  1. **Overbanking**
  2. **Leveraging** on the founders' ecosystem (eg, customer base)
  3. **Underwhelming** (critics: limited products & services)
  4. **Sustainability** issue
    - eg, VBs in HK offered spending rewards, high(er) interest rates
    - eg, Trust Bank offers, among others, SG\$ 25 sign-up e-voucher & \$10 e-vouchers for referrals (add overhead costs!)

	DBs in SG	VBs in HK
Minimum account balance and fall below fees	<b>x</b>	<b>x</b>
<b>ATMs</b> & CDMs ATM=Automated Teller Machines CDM=Cash Deposit Machines	<b>x</b>	<b>v</b> (In talks with Jetco; WeLab)
<b>Paid-in capital</b>	Phased (S\$15m)	Paid in full (HK\$300m)
Physical place of business	<b>1</b>	<b>1</b>
<b>Business restrictions</b>	<b>v</b> (MAS: 'Phasing in of Permissible Activities')	<b>x</b>
Deposit insurance	<b>v</b>	<b>v</b>
Exit plan	<b>v</b>	<b>v</b>

(continued...)

- Re: What HK can learn from Singapore?
  1. Singapore's emphasis on **innovation** is inspiring for HK
  2. **Infrastructure building**
    - Critics: Open banking has yet to gain full momentum in Hong Kong as much of the **infrastructure** that would allow virtual banks to flourish is **not yet in place**.
    - Lee: gradually improving: eg, HKMA's launch of Credit Reference Platform: slide#10; CDI design: slide #44
  3. Singapore's '**minimum paid-up capital**' at **entry point** (**S\$15m**)
    - cf: HK's minimum paid-up capital requirement of **HKD\$300 million** (**S\$52.7m**)
  4. MAS' selection of digital banks signifies a **more radical change**
    - None of the incumbent banks in SG take significant ownership stakes in virtual bank ventures

The End