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Financial sector in Singapore

Hwee Kwan CHOW
Singapore Management University, hkchow@smu.edu.sg

Sai Fan PEI
Singapore Management University, SFPEI@smu.edu.sg

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Chapter 10: Financial sector in Singapore

Hwee Kwan CHOW, School of Economics, Singapore Management University

Sai Fan PEI, Lee Kong Chian School of Business, Singapore Management University

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Introduction

Over the past five decades, Singapore has established a sound and progressive financial center of international repute that serves both the local economy and the Asia Pacific region. As an international financial center, it is home to a high concentration of over 1,200 financial institutions which offer a myriad of products and services across diverse asset classes. Financial markets in Singapore are well-established and the main financial services industries include banking (especially investment banking, wealth management and treasury activities), insurance and capital market (securities, futures and derivatives) services. The key descriptors of the financial center in Singapore are: a pro-business environment that is efficient; an effective regulatory environment; excellent infrastructure; and the availability of highly skilled and experienced pool of finance professionals.

Unlike other more laissez-faire major financial centers, however, financial development in Singapore since independence owes much to the government's proactive policies. The Singapore government has been actively undertaking financial liberalization and reforms since the 1960s. Financial liberalization was hastened in the aftermath of the Asian financial crisis in order to build a resilient and competitive financial sector in the advent of a more globalized environment. In particular, greater access was granted to foreign participants along with a wave of consolidation of domestic banks. Moreover, a different "risk-based" approach to regulation and supervision was adopted to facilitate financial development and innovation and at the same time guard against systemic risks of the financial sector.

This chapter reviews the financial development strategies adopted by the Singapore government as it navigates internal and external changes to build a vibrant center of finance in the Asia Pacific region. Sections 2 and 3 provide an overview of the structure of the financial system and the financial governance framework respectively. This is followed by a discussion, in Section 4, on the outward looking development strategy that underpinned the successful development of Singapore's financial sector. Section 5 highlights the reforms undertaken in the aftermath of the Asian financial crisis that led to the building of a well-diversified and thriving international financial center. We conclude in Section 6 with the challenges Singapore faces in the new global financial landscape.

2 Overview of Financial System

The banking sector in Singapore had a total asset size of around SGD 2 trillion in 2014 and there are currently more than 200 banks (including representative offices of banks) operating in Singapore. Of the 125 commercial banks, only 5 are local and 29 foreign banks are awarded full bank status.[i] The other foreign commercial banks are either wholesale banks or offshore banks, numbering 53 and 38 respectively. Foreign full banks include global players in the banking business such as HSBC, Citibank and Standard Chartered among others. A growing number of foreign banks are choosing Singapore to be their regional headquarters or as a global platform for banking services.

The three dominant local banks are DBS Bank Ltd (DBS), Overseas-Chinese Banking Corporation Ltd (OCBC) and United Overseas Bank Ltd (UOB), each ranking highly in Bloomberg's list of world's strongest banks. Table 1 records the key characteristics of the three banks in 2014. It is clear from the table that the individual banks have strong financial fundamentals in terms of being well-capitalized and profitable. Moreover, each of these local banks has a low level of nonperforming assets as well as healthy funding and liquidity profiles.

	DBS	**OCBC**	**UOB**
(in million SGD)			
Total assets	440,667	401,226	306,736
Total loans	275,588	207,593	195,903
Total customer deposits	317,173	245,519	233,750
Shareholders' equity	37,783	34,185	29,772
Net interest income	6,398	4,842	4,606
Net fees & commissions	2,027	1,495	1,749
Profit (loss) before tax	4,906	4,763	3,825
Profit (loss) after tax	4,190	4,076	3,264
(in %)			
Tier 1 capital ratio	13.1	13.8	13.9
Non-performing assets to total assets ratio	0.3	0.3	0.8
Deposits to funding ratio	85.7	83.3	87.6
Loan loss reserves to non-performing assets ratio	141.9	173.7	132.9

Table 1: Characteristics of Singapore's Largest Banks in 2014

Sources: (i) EIU Singapore Financial Services report, Banks (November 2015) http://www.eiu.com/industry/Financial%20services/asia/singapore/article/2013913385/banks; (ii) Bloomberg's list of World's Strongest Banks 2014 http://www.bloomberg.com/visual-data/best-and-worst/world-s-strongest-banks

Apart from the traditional lending and deposit-taking functions, banks located in Singapore also provide sophisticated banking services like corporate and investment banking. In addition, Singapore has emerged as a leading wealth management and private banking hub as it capitalizes on the rising number of high net worth individuals in Asia, Europe and other regions. In this respect, the deep and liquid capital markets in Singapore play an important role in facilitating greater financial intermediation particularly within Asia.

Singapore's foreign exchange market is ranked third largest in the world by turnover, just after the United Kingdom (first) and the United States (second) based on the 2016 Bank for International Settlements triennial central bank survey. The average daily volume of foreign exchange turnover and foreign exchange derivatives turnover amounted to USD 419.2 billion and USD 87.3 billion respectively in April 2016.[ii] Singapore is also ranked the largest over-the-counter (OTC) interest rate derivatives center in Asia Pacific by turnover. The large trading volume can partly be attributed to Singapore's time zone which is well-suited for trading the increasing important Asian currencies. Indeed, Singapore has positioned itself as a major global trading and treasury hub serving investment and risk management needs in the Asian time zone.

With over 40% of its listing originating from outside Singapore, the Singapore Exchange (SGX) is Asia's most internationalized exchange. The SGX has a listing of close to 800 companies and is the largest Real Estate Investment Trust (REIT) market in Asia ex-Japan. Its derivatives exchange is also one of Asia's largest and trades a wide range of international derivatives. These include interest rate futures; currency futures; bond and stock index futures; and commodity futures. Singapore's derivatives exchange has built a reputation of being a successful regional risk management center for global investors. In recognition of its continued innovation across the risk management portfolio, the SGX was awarded the Global Exchange of the Year, and Exchange of the Year for the region that includes Asia, Australasia and Middle East and Africa by Futures and Options World in 2015.

Likewise, Singapore is a key international debt arranging hub in Asia. According to the annual survey of the Singapore corporate debt markets, total corporate debt capitalization reached a record high of SGD 200 billion with a record number of 149 issuers by the end of 2014 (MAS, 2015). In particular, renminbi bonds shot up by 153% from 2013 exceeding RMB 35 billion in 2014. Besides corporates, there is also a steady flow of issuance from the Singapore Government, statutory boards and supra-nationals.

Supported by well-developed capital markets, Singapore has become a premier asset management center in Asia. Assets under management by fund managers in Singapore reached a record high of SGD 2.6 trillion in 2015, with 80% of funds sourced from outside Singapore and 68% of funds invested in the Asia Pacific (MAS, 2015). The industry is essentially a pan-Asian asset management center that serves global investors in search of Asian growth. There were approximately 628 fund managers in 2015. The breadth and depth of players can be seen from global and locally-owned asset managers in the traditional space, as well as alternative players including hedge funds, private equity and real estate managers. Diversification across asset classes is revealed in the following distribution in 2015: Equities (43%), Fixed Income (23%), Alternatives (20%), Collective Investment Schemes such as Mutual Funds (10%) and Cash/Money Markets (4%).

Singapore has also established itself as an insurance hub and is often used as a base to write risks from the region. Local as well as major international life and general insurers, reinsurers, captives and intermediaries provide a range of services. Total insurance industry asset was SGD 197.4 billion in 2014. In particular, offshore insurance business has become a major driver of industry growth, accounting for more than half of the total general insurance business written.

The liberalization of the renminbi (RMB) by the Chinese government has led to a new growth area for the Singapore financial services sector. According to the Society for Worldwide Interbank Financial Telecommunications (SWIFT), Singapore is the largest offshore renminbi (RMB) trading hub outside China and Hong Kong by payment value. As of March 2015, RMB deposits was RMB 257 billion; outstanding RMB loans and trade financing exceeded RMB 300 billion; and the average daily turnover for RMB foreign exchange reached USD 60 billion (MAS, 2015a). Direct trading for RMB and SGD has also commenced on the China Foreign Exchange Trade System. Other collaborative efforts include cross-border RMB flows arrangement whereby eligible companies in the Suzhou Industrial Park, Tianjin Eco-City and

Chongqing can borrow in RMB from the Singapore market.[iii] An overnight RMB Liquidity Facility that caters to the short-term funding needs of financial institutions was also set up in Singapore in July 2014. In October 2014, Singapore Exchange also successfully launched the RMB currency futures, namely USD/CNY and CNY/USD futures.

3. Financial Governance Framework

The development of Singapore as a sound and reputable international financial center is underpinned by the consistent high standards of financial regulation that allows well-managed risk taking and innovation. The Monetary Authority of Singapore (MAS), established as a statutory board in 1971, is responsible for the supervision and development of the Singapore financial services sector. The MAS also functions as Singapore's central bank, formulating and implementing monetary policy.

Governed by the MAS Act, the MAS is conferred the powers to issue legal instruments for the regulation and supervision of financial institutions. As financial institutions develop mixed operation models with hybrid products and services cutting across different financial services industries, MAS takes an integrated supervisory approach by evaluating financial groups on a whole-of-group basis across their banking, insurance and securities activities. The MAS also establishes supervisory frameworks, methods and guidelines on topics which cut across various classes of financial institutions.

The supervisory objectives of the MAS include the promotion of (1) a stable financial system; (2) safe and sound intermediaries; (3) safe and efficient infrastructure; (4) fair, efficient and transparent markets; (5) transparent and fair-dealing intermediaries and offerors; and (6) well-informed and empowered consumers (MAS, 2004). To this end, the MAS performs the tasks of regulation, authorization, supervision, surveillance, enforcement and resolution. A risk-focused approach is adopted. The MAS evaluates the risk profile of an institution, providing closer supervision for those that are systemically important and giving greater business latitude to well-managed institutions. At the same time, the MAS requires financial institutions to have a shared ownership of supervisory outcomes.

Additionally, the MAS collaborates with other authorities and principal regulators to facilitate corporate governance, market discipline, consumer education and consumer safety-net. For instance, the MAS works with the Council of Corporate Disclosure, the Ministry of Finance, and the Accounting and Corporate Regulatory Authority to strengthen corporate governance and disclosure standards. For capital market enforcement, MAS collaborates with Singapore Exchange, Commercial Affairs Department of Singapore Police Force and Attorney General's Chambers. While the MAS administers statutory laws regulating the capital markets and has oversight of SGX's regulatory function, the SGX has frontline responsibility of regulating market participants and ensuring compliance.

By benchmarking itself against international standards and best practices such as capital rules by Basel Accords and recommendations by Financial Action Task Force (FATF) on combating money laundering, MAS' sound regulation and rigorous supervision have earned investor confidence in the Singapore financial system. This has resulted in financial stability, even amidst external turmoil such as during the 1997-1998 Asian banking crisis and the 2007-2008 global financial crisis. Moreover, MAS has a long tradition of active consultation with the industry on proposed new rules and initiatives. Such a consultative approach to regulation has contributed to building a responsive and progressive financial system.

4. An Outward Looking Financial Development Strategy

At the outset, the Singapore government recognized the financial sector for its growth potential and regarded it as an important sector in its own right. Despite prevailing norms in Asia, an outward looking financial development strategy was adopted in the 1960s. This was motivated by the desire to become a regional financial center. After all, the small size of the domestic market means a limited growth potential and posed the need to look outside to engender growth.

A two-tier banking system

The Singapore financial center has its beginnings in the financing of merchant trade in the region. Taking advantage of its status as a trading hub, Singapore started in the 1960s as an offshore trading center for foreign currencies.[iv] It established the Asian dollar market (ADM) as an international money and capital market, channeling savings in foreign currencies mainly in USD from advanced and oil rich middle-eastern countries to the growing economies in the region particularly during the 1970s and 1980s. The ADM also attracted multinational companies to set up regional treasury and financing operations in Singapore (Hew, 2005)

A two-tier banking system was designed since 1968.[v] Banks were required to partition their offshore from local operations by using separate accounting units. The Asian Currency Unit (ACU) was a bookkeeping entity for non-Singapore dollar transactions while the Domestic Banking Units (DBUs) were for Singapore dollar transactions. This segregation of international vis-à-vis domestic banking activities ensures the flow of funds into the ADM did not disrupt monetary management in Singapore. It also protected domestic banks from larger and more sophisticated foreign financial institutions.

The MAS imposed liquidity requirements on the DBUs and subjected DBU activities to large exposure and equity investment limits in order to safeguard domestic financial stability. By contrast, ACU activities were minimally regulated and enjoyed withholding tax exemptions.[vi] Consequently, the ACUs grew spectacularly outpacing the expansion of DBUs. Starting with just USD 33.2 million in 1968, monies in ACU accounts grew quickly to cross the USD 1 billion mark only three years later and reached almost USD 2 trillion by the end of 2013.

Foreign Exchange Market

Singapore's favorable time zone which bridge the gap between the close of US markets and the reopening of European markets enabled its foreign exchange market to become part of the round-the-clock global market for foreign exchange trading. This, along with the success of the ADM, boosted the growth of the foreign exchange market. In 1984, the foreign exchange market was broadened with the establishment of Singapore International Monetary Exchange (SIMEX) which offers currency futures contracts. Singapore overtook Switzerland in 1992 and Tokyo in 2013 to become the third largest foreign exchange market in the world today, in terms of average daily forex turnover. This no doubt contributed to Singapore's rise in stature as a leading financial center.

The rise in foreign exchange trading and ADM activities, in turn, led to the robust growth in the banking sector. To protect the local banks from excessive competition, new types of banking licenses were issued. In 1973, the MAS established the offshore bank license category to attract foreign banks of good standing to operate mainly in the ADM and foreign exchange market and to conduct wholesale banking with non-residents. Developmental incentives targeted at ACU activities were offered to encourage the growth of the offshore banking sector. By 1997, Singapore became a dominant offshore banking sector in Asia, as the ADM reached USD 557.2 billion and the financial center made up 12% of Singapore's GDP.

In spite of its notable achievements, the financial sector in Singapore faced an increasing competitive external environment with the advent of globalization. Advances in technology enabled financial institutions to introduce new products and distribution channels, as well as scale up their operations across geographical and industry barriers. The increasingly fierce competition across borders resulted in the growth of large financial conglomerates and the congregation of international financial activities in fewer centers. For instance, London as a financial hub partially replaced Zurich, Paris and Frankfurt. Meanwhile Euronext became the consolidated stock exchange between Paris, Amsterdam and Brussels. To ensure Singapore stayed ahead of the competition, a major review of the financial sector was conducted in Singapore after the outbreak of the Asian financial crisis.

5. Review of the Financial Sector

A Financial Sector Review Group (FSRG) was formed in 1997 to conduct a comprehensive review of Singapore's financial sector. This was led by the then Deputy Prime Minister Mr Lee Hsien Loong who was the Chairman of the MAS in 1998-2004. Inputs were sought from experts from the Bank of England and the US Federal Reserve, amongst others. Feedback was also obtained from private sector committees that worked on various aspects of reforming the financial sector. In addition, McKinsey and Arthur D Little were commissioned to carry out strategy studies on the financial sector and financial sector information technology.

The review of the financial sector led to the development of the following three broad strategies: (i) promote a vibrant asset management industry; (ii) develop deep and broad capital markets in debt, equity and derivatives; and (iii) build a strong and competitive banking industry. While the FSRG recommended bold measures to liberalize the financial sector, it urged the careful implementation of these measures in order to safeguard stability and confidence in Singapore's financial markets. Hence, the MAS decided to avoid a "big bang" liberalization approach, preferring instead to make a series of significant incremental changes. In particular, a careful balance was struck between supervision and development of the financial sector.

A Dedicated Financial Promotion Department

Inherent tension exist between taking risks to facilitate business innovation and enterprise for development versus the effective monitoring and mitigating of risks for safety. The FSGR believed this tension between promotion and supervisory roles is best managed within a single organization with a shared purpose instead of separate entities with conflicting goals. In 1998, the MAS Act was amended to include financial sector promotion as a principle objective so that the central bank can be more proactive in promotional efforts. Hence, a dedicated promotion department was set up in the MAS to work closely with the industry to bring in new products, technologies and activities. Another function of the new Financial Sector Promotion Department was to champion industry's needs with various government agencies such as the Ministry of Finance and the Inland Revenue Authority of Singapore.

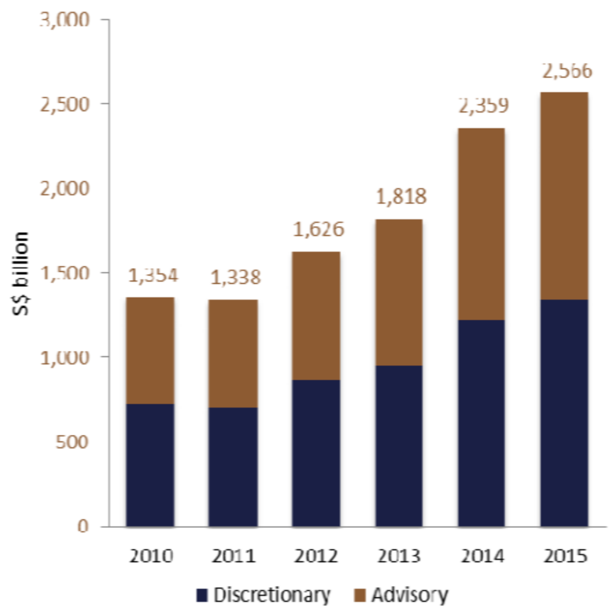
To encourage productive public-private sector collaboration and cross pollination of ideas, the MAS set up two institutions. They are the Financial Sector Advisory Council which facilitates regular feedback of ideas from market participants in Singapore and the International Advisory Panel that provides MAS with a global perspective from leading financial executives worldwide.

Asset Management Industry

A key strategic trust that emerged from the review was to develop Singapore into a premier asset management hub. MAS' vision was to attract more global fund managers to use Singapore as a base to invest in Asia as well as for Asian investors to use Singapore as a base to diversify out of Asia. To realize this vision, capital markets needed to be deepened and widened to provide a greater variety of investment products that reached more market segments. Global investors could then have more instruments to gain Asian exposure across a wide range of asset classes.

Hence, the MAS streamlined regulations to make it easier for fund managers to enter domestic markets and distribute their products. The Government Investment Corporation (GIC)[vii] and the MAS provided USD 35 billion and USD 10 million seed money respectively to fund managers with proven track record and who showed commitment to develop the local asset management industry. The rules of the Central Provident Fund (CPF) Investment Scheme were also relaxed to allow CPF members to engage professional asset managers to manage their investible funds.[viii] Apart from the generous tax incentives, foreign fund managers were attracted by the opportunity to manage a substantial amount of funds from the national pension scheme.

Singapore became a major player in the management of offshore money for investors based overseas. We see from Figure 1 that assets under management by fund managers in Singapore shot up from SGD 274 billion in 1999 to SGD 2.6 trillion in 2015.



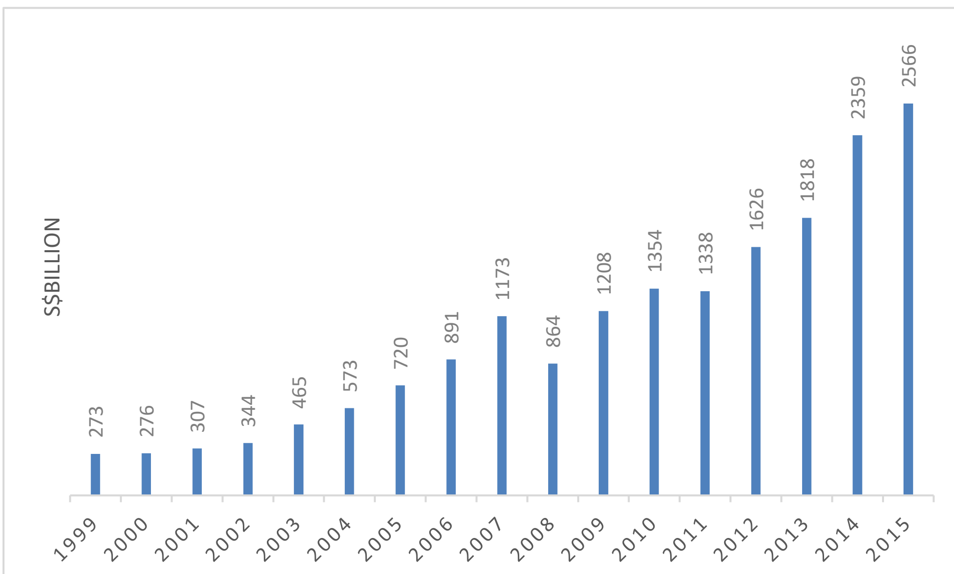


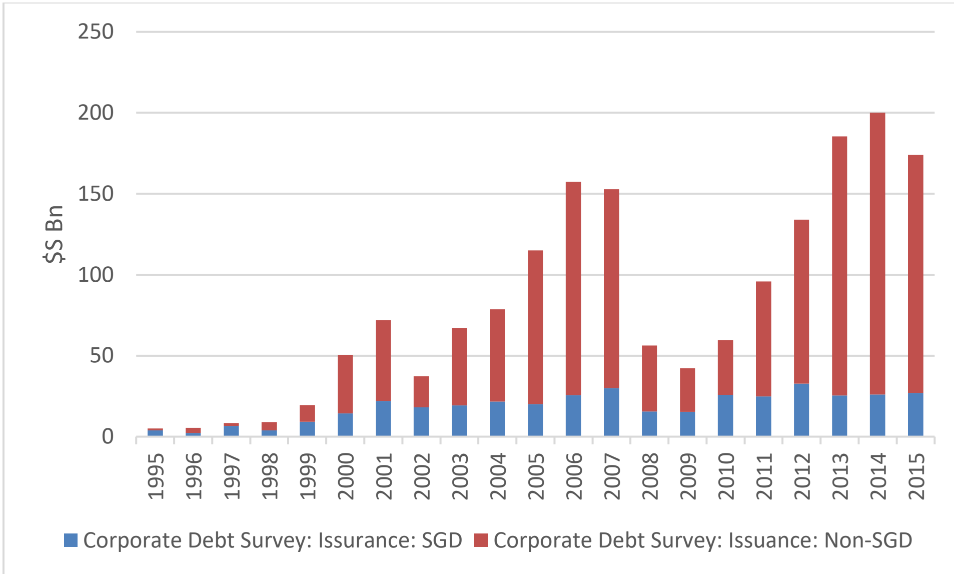
Figure 1: Total Assets under Management
Source: CEIC database(Monetary Authority of Singapore),

Capital Markets

An important lesson drawn from the Asian financial crisis is that over-dependence on the banking system exacerbated problems for borrowers and national financial security. This prompted a greater push to develop broad and deep capital markets so as to diversify sources of funds. In particular, the development of a deep and liquid bond market would provide borrowers a good alternative source of long term capital to match long-term expenditure needs, and a more diversified funding base for the national economy. Hence, the MAS issued Singapore Government Securities (SGS) despite persistent fiscal surpluses in order to create a benchmark Singapore dollar yield curve on which corporate debt issues can be priced. The inclusion of SGS in the JP Morgan Government Bond Global Broad Index[ix] in 2000 gave the debt market a further boost. In addition, public sector agencies such as the Housing Development Board and the Land Transport Authority were encouraged to issue bonds in order to enlarge the pool of tradable Singapore dollar bonds.

The MAS also made it easier for foreigners to issue local currency bonds by gradually liberalizing the Singapore dollar non-internationalization policy. This policy, adopted in the early 1980s, restricted the international use of the domestic currency essentially to deter currency speculation so as to facilitate the effective conduct of Singapore's exchange-rate centered monetary policy (Ong, 2003). The restrictions have been progressively removed over the years to facilitate the development of Singapore's capital markets. For instance, banks were allowed to lend any amount to non-residents provided proceeds were for investment purposes in Singapore assets. At the same time, there was active promotion of Singapore as a regional hub for arranging and trading debt securities. Importantly, a strong talent pool with expertise and experience in debt origination, sales and trading was built through the Approved Bond Intermediary tax incentive scheme.

With these changes, the bond market attracted a diverse range of local and foreign issuance. Figure 2 displays the rapid growth in corporate debt issuance from a total capitalization of SGD 19.5 billion in 1999 to SGD 174 billion in 2015, with less than 16% of issuance in Singapore dollars.



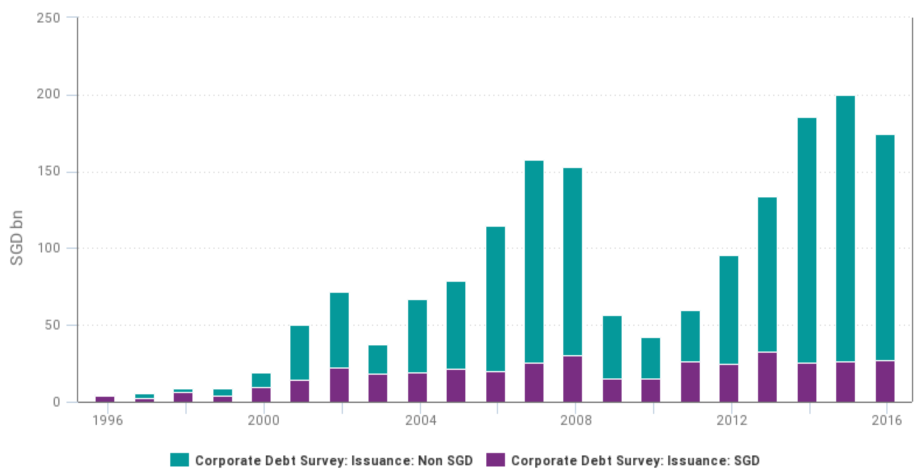


Figure 2: Issuance in Corporate Bond in Singapore dollar and other denominations
Source: CEIC database (Monetary Authority of Singapore)

Turning to equities and derivatives, the Stock Exchange of Singapore and the Singapore International Monetary Exchange were merged and demutualized to form an integrated stock and derivatives exchange,– the Singapore Exchange (SGX), a first in the Asia-Pacific in 1999. Synergies between the securities and derivative business were offered by the merger, which also increased the financial capability to undertake heavy capital investments and financial innovation. Besides improving its technological infrastructure, the SGX relaxed foreign listing requirements and pursued strategic alliances with other exchanges. The MAS liberalized brokerage commissions, opened access to foreign stockbroker participation and expanded product offerings by encouraging the creation and hedging of structured products, credit derivatives and the use of securitization. To maintain investor confidence, various measures were implemented to improve corporate governance of listed companies, enhance disclosure and strengthen market discipline.

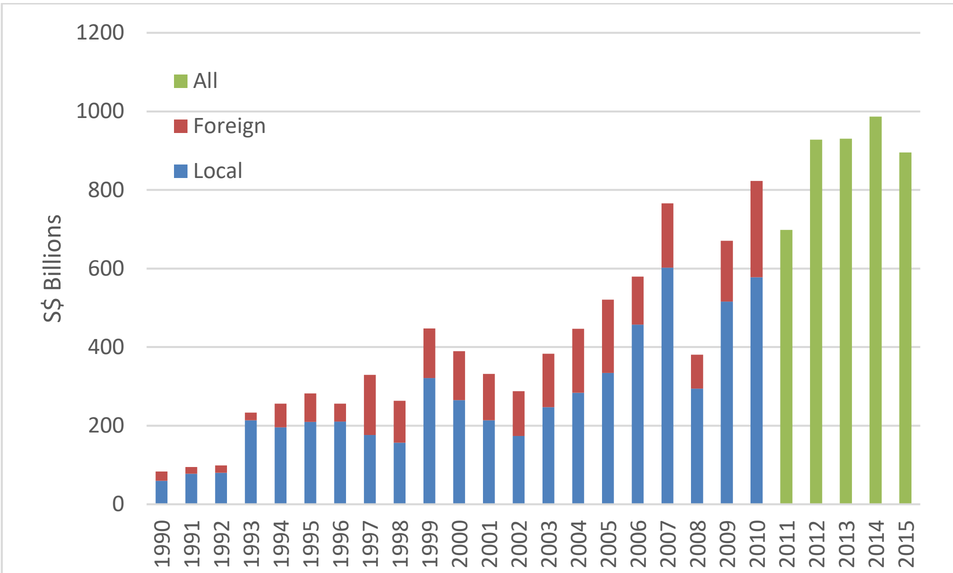
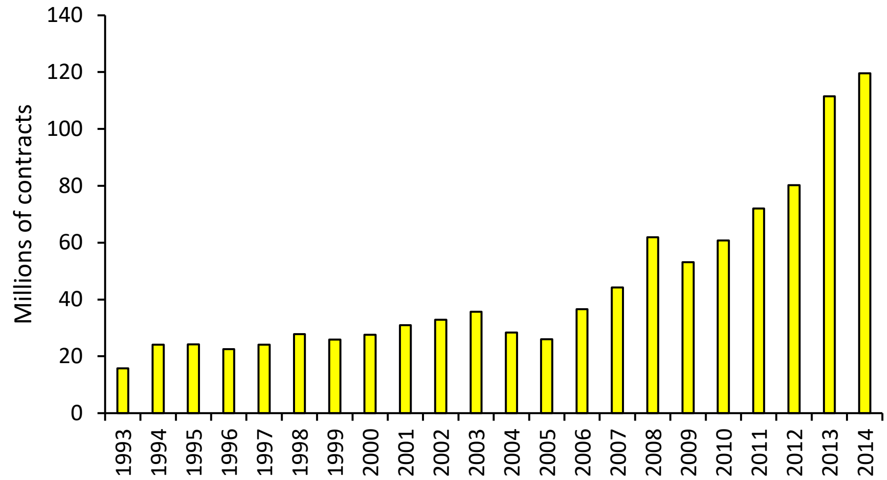


Figure 3: Market Capitalization of SGX Mainboard[x]
Source: CEIC Database (1990 – 2010), Monetary Authority of Singapore (2011 – 2015)https://secure.mas.gov.sg/msb-xml/Report.aspx?tableSetID=III&tableID=III.7

Consequently, the SGX became an access point for managing Asian capital and investment exposure. Total equity market capitalization of SGX grew from SGD 126 billion in 1999 to SGD 895 billion in 2015, with a significant proportion of the trades originating from outside Singapore (see Figure 3). As shown in Figure 4 financial derivatives trading volume in Singapore grew from 25.9 million contracts in 1999 to 172.3 million contracts in 2014.



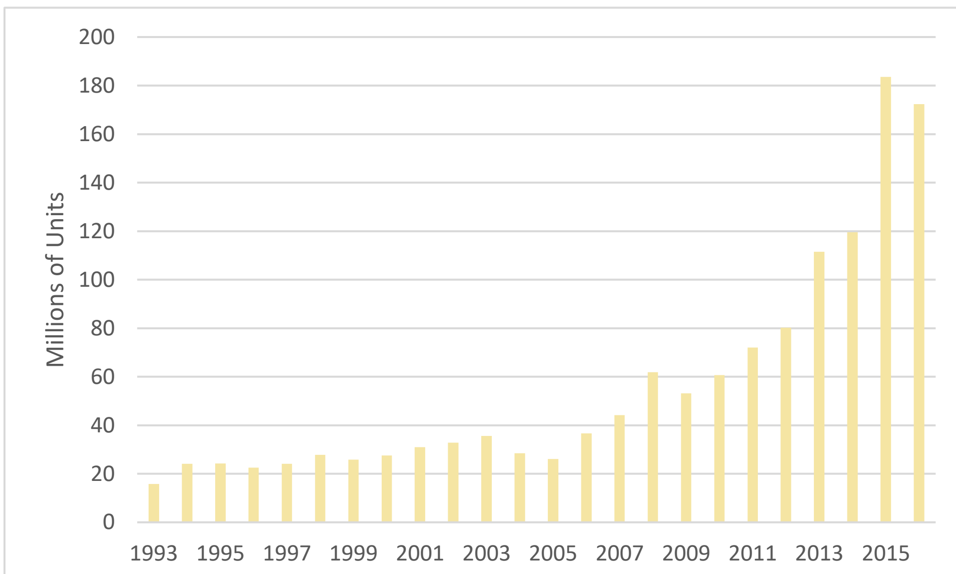


Figure 4: Annual Turnover of SIMEX/SGX Futures and Options
Source: CEIC database (Monetary Authority of Singapore)

Banking Industry

Another strategic trust that emerged from the review was to build commercial banking as the bedrock of Singapore's financial sector. To this end, the domestic banking sector was liberalized and a five-year program to develop strong local banks through consolidation and competition was launched in 1999. Rather than opening the domestic retail market indiscriminately, the MAS granted access only to strong, well-managed foreign banks committed to growing in Singapore. It awarded a new license category - Qualifying Full Bank, and the Restricted Bank category was renamed Wholesale Bank with increased lending limits and lower restrictions on engaging in Singapore dollar swaps. These measures were successful in attracting foreign banks to base their operational headquarters in Singapore to service their regional activities.

Such an increase in foreign participation resulted in stiffer competition for the local banks. The government recognized that strong local banks with a significant home market share is vital for domestic banking system stability. The domestic banks were encouraged to consolidate, merge or form alliance to take on the more competitive environment.[xi] A wave of consolidation took place such that by 2004, seven local banking groups had merged into three main local banking groups, namely DBS, OCBC and UOB. As a result, the local banks' capabilities were strengthened with improved management teams, enhanced operational effectiveness, and expanded range of business activities and better risk management capabilities. The greater financial strength also enabled the local banks to embark on regional expansion through mergers and acquisitions.[xii] According to Asian Banking and Finance (2012), overseas assets represented 37% of total assets of these three local banks in 2012.

In line with the FSGR recommendations, the MAS enhanced corporate governance and raised accounting standards in line with international best practices. Guidelines were issued to separate non-financial from financial activities of banking groups, as well as to limit cross-shareholding structures. All these boosted investor confidence in the domestic banking industry. At the same time, increased competition had the advantageous effect of spurring the development of innovative products, more competitive pricing and better services for the customers. Singapore's banking environment evolved to be one of the most liberal in Asia, due to these liberalization measures and reforms.

Financial Infrastructure

Apart from building capability in a broad range of clusters of activities, emphasis was also given to develop the financial infrastructure which includes rules and regulations, networks and manpower capabilities. In 1999, the Financial Sector Development Fund was set up for the purpose of developing financial sector expertise, upgrading of infrastructure, and support of research and other projects to develop the financial sector. Cognizant that a successful financial sector depends much on the availability of a strong talent pool, the fund supports various training schemes to equip the Singapore financial sector workforce with relevant skills. At the same time, measures such as enhancing the living environment in Singapore were put in place to attract foreign talent with relevant expertise and experience. Steps were also taken to improve the infrastructure supporting financial sector development such as ensuring the availability of support services including telecommunications industry and networks; transport, legal and accounting services; as well as information technology.

Regulatory Reforms

Prior to the Asian financial crisis, the MAS's regulatory approach was to take minimum risks to protect the financial system with extensive regulation. An often heard lament by the market participants then was that "*in Hong Kong anything not expressly forbidden is permitted, whereas in Singapore anything not expressly permitted is forbidden*".

To avoid over-regulation, the MAS moved from a one-size-fits-all approach to a risk-based supervision approach. An internal rating system for financial institutions was developed that takes into account the quality of an institution's internal risk management and internal control as well as the potential impact it poses to the entire financial system. Supervisory resources were allocated among financial institutions according to their level of systemic risks and risk management capability.While higher requirements or tighter restrictions were imposed on weaker institutions, more leeway was given to stronger and better managed ones so as to encourage financial innovation. Consequently, the financial institutions gained more agility in developing products in response to market conditions.

Furthermore, the MAS shifted away from a prescriptive, merit-based regulation whereby the suitability of a product is assessed by regulator before it is allowed to be introduced in the marketplace. Instead, a disclosure-based approach was adopted where consumer makes well-informed decisions when purchasing financial products and services based on material information being made available to them. By enforcing adequate disclosure and greater transparency for market scrutiny, and professional and ethical sale conduct, the competitive edge of financial institutions was sharpened as they faced pressure to operate more efficiently and professionally.

The implementation of reforms, opening of new markets, and enacting of sound regulations and fiscal incentives that attracted well-established foreign financial institutions to Singapore resulted in a globalized financial services sector. The outcome of such a concerted development strategy is the successful transformation of Singapore into an international financial center. Indeed, the recent Zen Global Financial Centers Index published in March 2016 listed London, New York, Singapore and Hong Kong as the top four leading global financial centers (Yeandle, 2016).

6 Challenges ahead

Successful though financial development has been, Singapore is currently facing various challenges posed by the new global financial landscape.

Digital Revolution and Fintech[xiii]

The digital revolution is transforming the way customers access financial products and services. Fintech have been accelerating the pace of financial innovation at a remarkable rate and is reshaping the financial services industry’s status quo. MAS has to rise to the challenge once again in navigating this digital revolution.

In order to promote financial innovation in a comprehensive way, MAS is building the necessary ecosystem. This includes bringing a whole range of players, both global and local, together such as technology players, and finance players and start-ups. At the same time, MAS provides horizontal infrastructures which can spur innovation in banking and finance including smart regulation for fintech; grooming more tech-savvy professionals; developing efficient and secure storage of data in the cloud; and encouraging the use of common technological platforms and application program interfaces (APIs).

In smart regulation, MAS must remain adaptable and nimble, thinking out-of-the-box when warranted. While regulation must not and cannot front-run innovation, regulators must run alongside innovation. It is interesting to note that MAS will introduce a “regulatory sandbox” approach that aims to give fintech more confidence in experimenting and launching their innovative products or services within controlled boundaries.[xiv] The idea is not to remove all risks since failure is an inherent part of innovation. Rather, this will create an environment where if an experiment fails, it fails safely or without systemic adverse consequences.

In June 2015, MAS also announced a SGD 225 million Financial Sector Technology and Innovation Scheme to be spent over the next five years.The funding is targeted at helping financial firms set up innovation labs and building infrastructure to deliver financial technology services.

Combating Money Laundering

Like other international financial centers which thrive on openness and free capital movement, Singapore has always been a suitable venue for possible international money laundering activities. As Singapore’s financial center grows in scale and sophistication, it has to be even more vigilant against the risk of its abuse for illicit financing activities, and MAS has to enhance the supervisory regime for tackling money laundering and illicit financing risks.

MAS’ supervisory regime against money laundering comprises four key elements: strict regulations, rigorous supervision, effective enforcement, and good cross-border co-operation. MAS views financial institutions as the critical gatekeepers against the flow of illicit funds. It therefore requires financial institutions to comply with strict anti-money laundering regulations and expects financial institutions to put in place robust controls to detect and deter illicit activities. It has recently taken further measures to strengthen the supervisory regime which include (a) criminalizing the laundering of serious tax offences; (b) enhancing regulations and guidelines to comply with evolving international standards; and (c) stepping up inspections of financial institutions.

A recent case in point is the decisive actions taken by MAS in 2006 to revoke the banking licenses of BSI Bank and Fulcon Bank for serious failures in anti-money laundering controls and improper conduct by management staff discovered during several inspections of these institutions. Furthermore, the referral of the banks' management staff to public prosecution for possible criminal offence also demonstrated MAS' resolve to fight against money laundering.`

To enhance MAS' supervisory focus and effectiveness at a time of increasing sophistication of illegal money flows globally and to respond to the increasing use of financial technology in money laundering activities, MAS has in August 2016 set up a dedicated Anti-Money Laundering (AML) department. The responsibilities for regulatory policies relating to money laundering and other illicit financing risks are streamlined, with the AML department monitoring these risks and carrying out onsite supervision of how financial institutions manage these risks. These functions used to be carried out by different departments in MAS and the new structure will enhance supervisory focus. In addition, MAS has also set up a new enforcement department that will work closely with Commercial Affairs Department (CAD) to investigate money laundering and other financial market offences, and will be responsible for enforcement actions arising from regulatory breaches of MAS' banking, insurance and capital markets regulations.

Developing Talent

Another challenge that relates to financial innovation is the need to continuously develop a sustainable talent pipeline relevant to the changing and growing needs of the industry. This is particularly important due to an increasingly complex environment, as consumers become more sophisticated and discerning with the advent of digital age.

MAS has continually placed great emphasis on talent development in the financial services industry. It recently formed the Financial Sector Tripartite Committee (FSTC) which brings together the industry associations, government authorities and labor movement. The aim of the FSTC is to foster a financial sector workforce that is versatile and well-equipped to seize new opportunities and adapt to the changing needs of the industry. Singapore is also facing an aging population and the current political climate places restraints on a large inflow of foreign workers. Efforts to promote continuing professional development in order to reskill our finance managers and professionals, such as the launch of SkillsFuture, is therefore timely and critical.[xv]

Expanding Financial Linkages and Forming Partnership

Unlike Hong Kong which has a vast hinterland to provide its financial services to, Singapore has always been under pressure to find it niches and customer base. One of the reasons for Singapore's success as an international financial center has been its ability to attract top-notch foreign international financial institutions to operate in Singapore. However, in recent times, due to tighter regulatory requirements from Basel III, a more hostile trading environment and increasing operating costs, several foreign international financial institutions have shrunk their operations in Singapore.

Singapore will thus need to explore new linkages and new partnerships to continue growing its financial markets. One such linkage will be with ASEAN - a market of 640 million people with a combined GDP of US$ 2.4 trillion. The ASEAN Economic Community (AEC) came into existence on Dec 31, 2015. Singapore should and can enhance its regional capital market access by tapping into AEC. Nevertheless, challenges remain in aligning the regulatory and governance standards of the financial markets among the ASEAN member countries. Some progress has been made, but more remains to be done. For instance, the ASEAN Collective Investment Schemes (CIS) Framework established in 2014 allows fund managers based in Singapore, Malaysia and Thailand to offer funds constituted and authorized in their home jurisdictions directly to retail investors in each other's countries.

Another important strategy in broadening the market is to develop more China capability by working closely with Chinese authorities in enhancing various schemes such as RMB Qualified Foreign Institutional Investors ("RQFII"), RMB Qualified Domestic Institutional Investors (RQDII) and Qualified Domestic Institutional Investors 2 (QDII2) to allow greater two-way portfolio investment flows between China and Singapore. Equally important is to build a thriving

RMB financial ecosystem in Singapore by introducing or expanding RMB/USD futures, "Lion City" bonds, and cross-border RMB financing in Shanghai, Tianjin and Chongqing.

As highlighted by Prime Minister Lee Hsien Loong in 2011, "*MAS must constantly review Singapore's value proposition and growth strategy. Competition from emerging financial centers in the region is intensifying, but the opportunities in Asia … are growing rapidly too. MAS needs to continue leveraging on Singapore's system-wide capabilities to strengthen our position as an international financial centre*"[xvi] In other words, Singapore needs to continue to plan, invest and anticipate changes to stay ahead as a financial center in the evolving global financial landscape.

Bibliography

Hew, D. 2005. Singapore as a Regional Financial Center. In *Capital Markets in Asia: Changing Roles for Economic Development*, edited by D. Vandenbrink and D. Hew. Singapore: Institute of South East Asian Studies.

MAS, 2004. *Objectives and Principles of Financial Supervision in Singapore*, Singapore: Monetary Authority of Singapore.

MAS, 2014. *2014 Singapore Asset Management Survey*, Singapore: Monetary Authority of Singapore.

MAS, 2015a. *Monetary Authority of Singapore Annual Report 2014/15*, Singapore: Monetary Authority of Singapore.

MAS, 2015b. *Singapore Corporate Debt Market Development 2015*, Singapore: Monetary Authority of Singapore.

Ong, C.T. 2003. Singapore's Policy of Non-Internationalisation of the Singapore Dollar and the Asian Dollar Market. In *China's Capital Account Liberalisation: International Perspective*, BIS Papers No. 15.pp. 93-98

Yeandle, M. 2016. *The Global Financial Centres 19*. Z/Yen Group Limited, March 2016. http://www.longfinance.net/global-financial-centre-index-19/992-gfci-19.html

[i] Please refer to the Financial Directory at MASNET. (https://masnetsvc.mas.gov.sg/FID.html)

[ii] As recorded by the Singapore Foreign Exchange Market Committee Surveyof Singapore Foreign Exchange Volume April 2016. (http://www.sfemc.org/statistics/SFEMCFXSurveyApr16.pdf)

[iii] Both the Suzhou Industrial Park and Tianjin Eco-City are bilateral, national-level projects between Singapore and China.

[iv]Over the years, the ADM developed to include foreign exchange and derivatives, foreign securities, loan syndication and bond issuance activities, see MAS' 30th Anniversary Commemorative Booklet, *MAS: 30 Years of Central Banking Excellence.*

[v] MAS has recently rationalized the regulatory framework that distinguished domestic versus international banking operations, citing market developments and global regulatory changes over the last half decade. See keynote address by Deputy Prime Minister TharmanShanmugaratnam at the Association of Banks in Singapore on 30 June 2015. Available athttp://www.mas.gov.sg/news-and-publications/speeches-and-monetary-policy-statements/speeches/2015/keynote-address-by-dpm-at-abs-annual-dinner.aspx

[vi]For greater clarity on the distinction, please see http://www.mas.gov.sg/fin_development/fin_sec/banking/Asian_Currency_and_Domestic_Banking_Units.html

[vii] The GIC is a sovereign wealth fund that manages Singapore's foreign reserves.

[viii] The CPF is a government administered compulsory savings scheme that is used for funding the citizen's housing, healthcare and retirement needs.

[ix] This includes fixed rate issuances from high-income countries and the indices are tools for measuring performance and quantifying risk across international fixed income markets.

[x] Data on the breakdown between foreign and local listings are available up to 2010 only.

[xi] See speech by then Deputy Prime Minister and Chairman of MAS Lee HsienLoongon *Consolidation and Liberalization: Building World-Class Banks* at the Association of Banks Annual Dinner on 29 June 2001. Available at http://www.mas.gov.sg/news-and-publications/speeches-and-monetary-policy-statements/speeches/2001/consolidation-and-liberalisation--building-world-class-banks--29-jun-2001.aspx

[xii] For instance, DBS acquired DoaHeng Bank the fourth largest bank in Hong Kong in April 2001.

[xiii]FinTech is an economic industry that integrates finance and technology.

[xiv]See panel remarks made by MAS Managing Director Ravi Menon on *Fintech– Harnessing its Power, Managing its Risks* at the Singapore Economic Policy Forum held on 2 April 2016. Available at http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2016/FinTech-Harnessing-its-Power-Managing-its-Risks.aspx

[xv]SkillsFuture is a national movement to enable all Singapore citizens to develop to their fullest potential throughout life by providing a variety of resources to attain mastery of skills. For details, refer to http://www.skillsfuture.sg/

[xvi] Speech by Prime Minister Lee Hsien Loong at MAS 40th Anniversary Dinner on 28 November 2011. Available at http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2011/Speech-by-PM-Lee-Hsien-Loong-at-the-MAS-40th-Anniversary-Dinner.aspx