

CLSA Investors' Forum 2019

Loh Boon Chye, Chief Executive Officer
Chng Lay Chew, Chief Financial Officer

September 2019

Singapore Exchange



Who we are

Award-winning diversified exchange group

A diversified exchange group that runs key market infrastructure including the Singapore securities market and a pan-Asian derivatives exchange covering all major asset classes.

Financial Metals Service Provider of the Year

*Standard & Poor's Global Platts Awards
2019*

Exchange of the Year

Energy Risk Asia Awards 2018

Best FX Exchange in Asia and Best FX Clearing House in Asia

FX Week 2019

Derivatives Exchange of the Year

Asia Risk Awards 2018

Exchange of the Year – Derivatives

FOW Asia Capital Markets Awards 2018

Asia-Pacific Derivatives Exchange of the Year

Global Capital 2018

- High operating margin of 51%
- High ROE of 36% and Operating cash flow of 39 cents per share
- Dividend of 30 cents per share
- Most liquid international market for pan-Asian listed derivatives
- Most international exchange in Asia with 44% cross-border listings



Anchored in Singapore, Asia's only AAA-rated economy

Reputation for good corporate governance, infrastructure, regulation and strength of the broader advisory ecosystem

4 Business and Client units (from 1 July 2019)

Four business and client units covering the entire exchange value chain, resulting in diversified and resilient revenue streams.

Fixed Income, Currencies and Commodities (FICC)

- Fixed Income Trading
- Trading & Clearing of Pan-Asian currency and commodity derivatives



Equities

- Trading & Clearing of Pan-Asian equity index derivatives
- Trading & Clearing of Cash equities, ETFs, Structured Warrants, REITs, DLCs, etc.
- Delivery, Settlement and Custody of securities



Data, Connectivity and Indices (DCI)

- FICC and Equities market data
- API and Co-location connectivity
- Development and bespoke calculation of indices



Global Sales and Origination (GSO)

- Nine international offices and specialist sales teams



Our international footprint

Anchored in Singapore with global reach, serving a diverse set of international clients seeking Asian opportunities.



Our offices:

Beijing	Chicago	Hong Kong	London	Mumbai
New York	San Francisco	Shanghai	Singapore	Tokyo

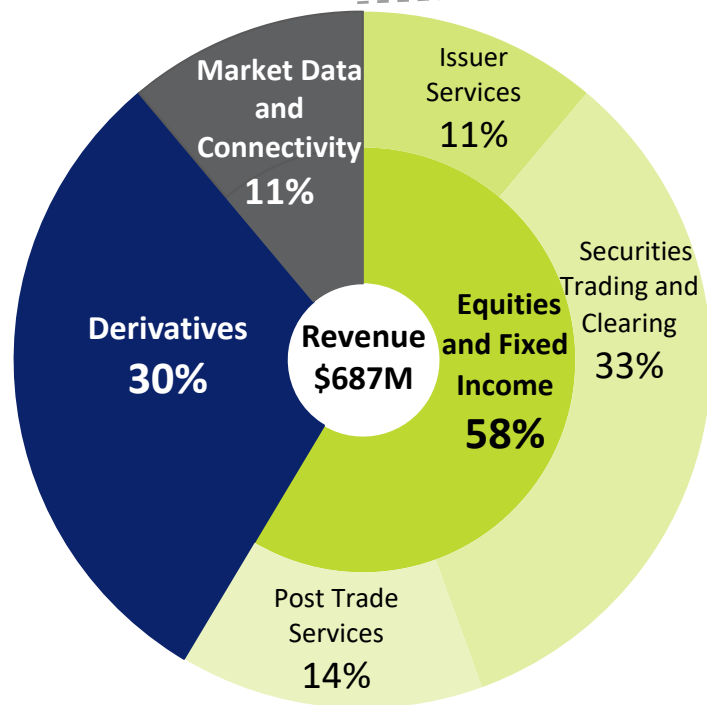
Key roles of our International offices

- Engage existing clients and acquire new clients to improve liquidity (Fixed Income, Currencies, Commodities, Equities and Data, Connectivity and Indices)
- Increase memberships and listing of equity and debt instruments
- Grow existing clients and acquire new clients for connectivity, data, and index licensing services
- Our key clients include: Sell-side participants, Interdealer brokers, Corporate trade clients, Institutional investors and Proprietary Trading Groups.

Successfully achieved growth in revenues

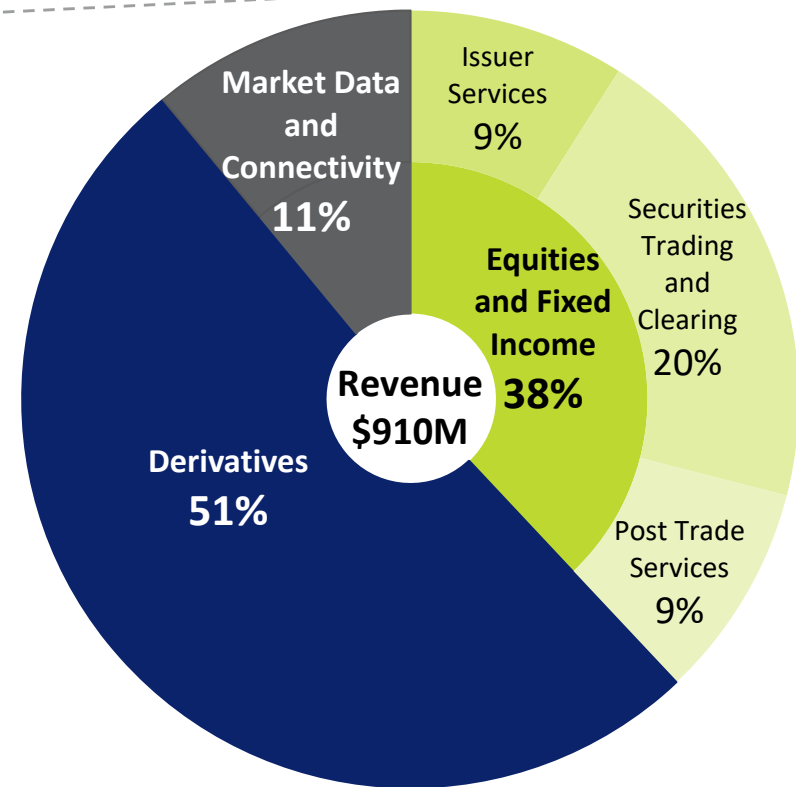
Revenue contribution from Derivatives grew from 30% in FY2014 to 51% in FY2019. Total revenue grew 32% during the same period.

FY2014 Revenue Breakdown



Net Profit: \$320 million

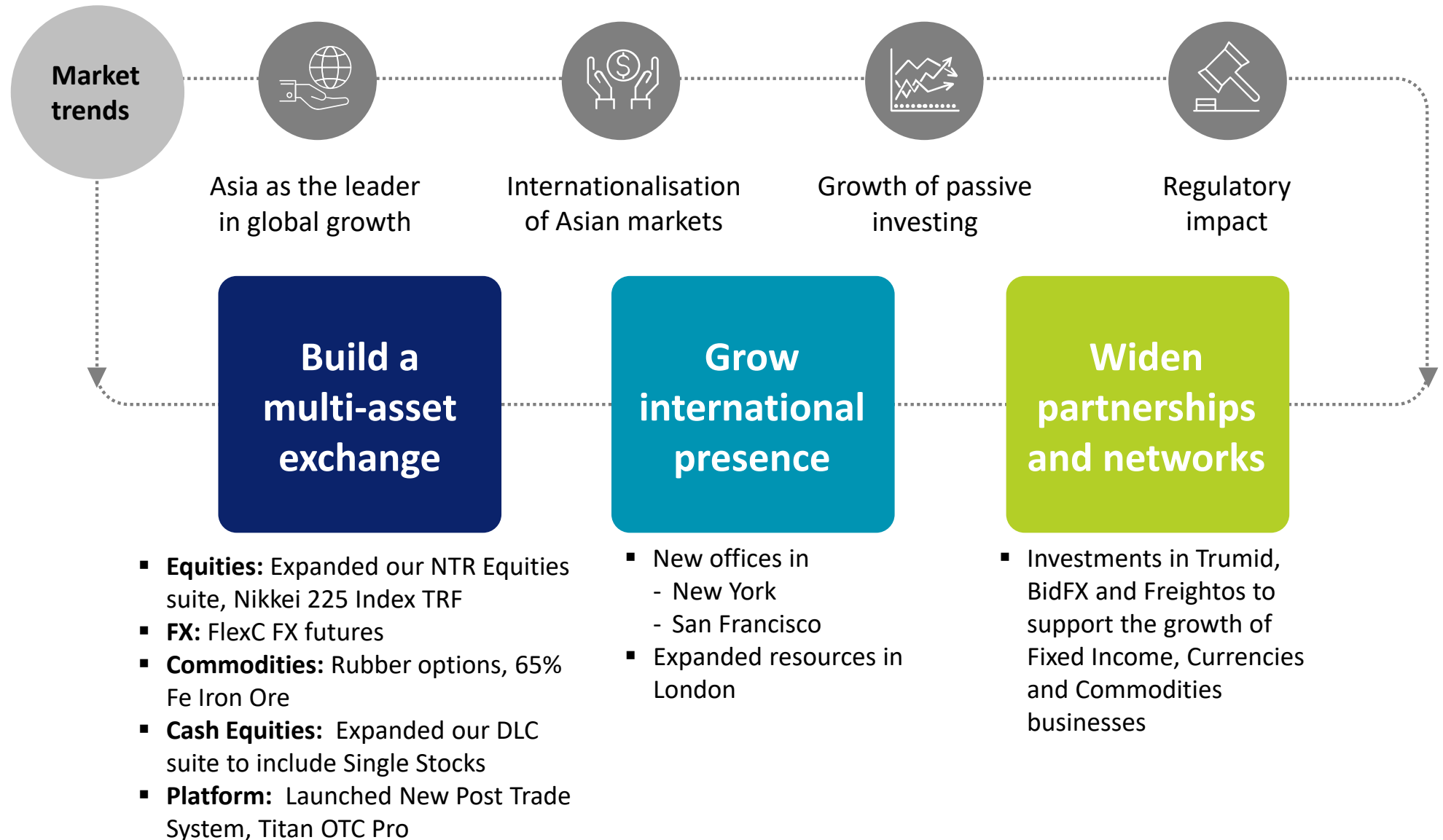
FY2019 Revenue Breakdown



Net Profit: \$391 million

Note: Numbers may be subject to rounding
Source: SGX

Executing Our Strategic Priorities



Looking Ahead... positioning for growth and scale



- Capture the digitalisation of the Fixed Income markets and rising convergence of OTC and listed FX and Commodity markets



- Coordinate varied demands of retail and institutional customer segments accessing our continuum of international equities products



- Focus on building capabilities in our Index Business to position ourselves for growth, amid a global shift towards passive investing





- Holistically serve all customer segments with the full spectrum of SGX products and services across asset classes



- Continue to expand globally and use our international presence to facilitate capital raising from key markets

Fixed Income, Currencies and Commodities (FICC)

A leading Fixed Income listing venue

	Size of Market 	Singapore 	SGX 
Fixed Income	<ul style="list-style-type: none">▪ Asia (ex-Japan) bond market of US\$14 trillion▪ Shift towards electronic trading▪ Regulatory trends favour shift to on-exchange clearing	<ul style="list-style-type: none">▪ Strong distribution network to global investor base with US\$2.4 trillion of AUM in Singapore	<ul style="list-style-type: none">▪ US\$2T amount issued, with more than 5,000 listed bonds from over 50 countries in 20 currencies▪ Launched SGX Bond Pro, an electronic platform for Bond Trading

Key SGX Highlights

>5,000 bonds

listed by 1,500 issuers from over 50 countries in 20 currencies

~40%

market share for listed G3 APAC bonds

Leading Bond listing exchange in Asia Pacific

~200

Number of customer sign-ups as at Jun 19

SGX Bond Pro gaining traction

TRUMID

Expanding network

Largest and fastest growing FX futures exchange in Asia

	Size of Market 	Singapore 	SGX 
FX	<ul style="list-style-type: none"> US\$5 trillion traded daily Asian NDF, excluding CNH, is a \$73 billion DAV market with the potential to be futurised Largest off-exchange (OTC) market globally Regulatory trends favour shift to on-exchange clearing 	<ul style="list-style-type: none"> US\$500 billion traded daily Largest FX center in Asia Pacific, third largest globally Leading global trading venue for key Asian currencies 	<ul style="list-style-type: none"> 21 currency futures and options contracts >70% market share in USD/CNH and > 40% market share in INR/USD FlexC FX futures launched in August 2018 Investment in BidFX

Key SGX Highlights

19

Futures

2

Options

Diverse Asian
FX suite

~200%

Total Volume –
CAGR
Nov 13 – Jun 19

>US\$8Bn

Open Interest value
(Jun 2019)

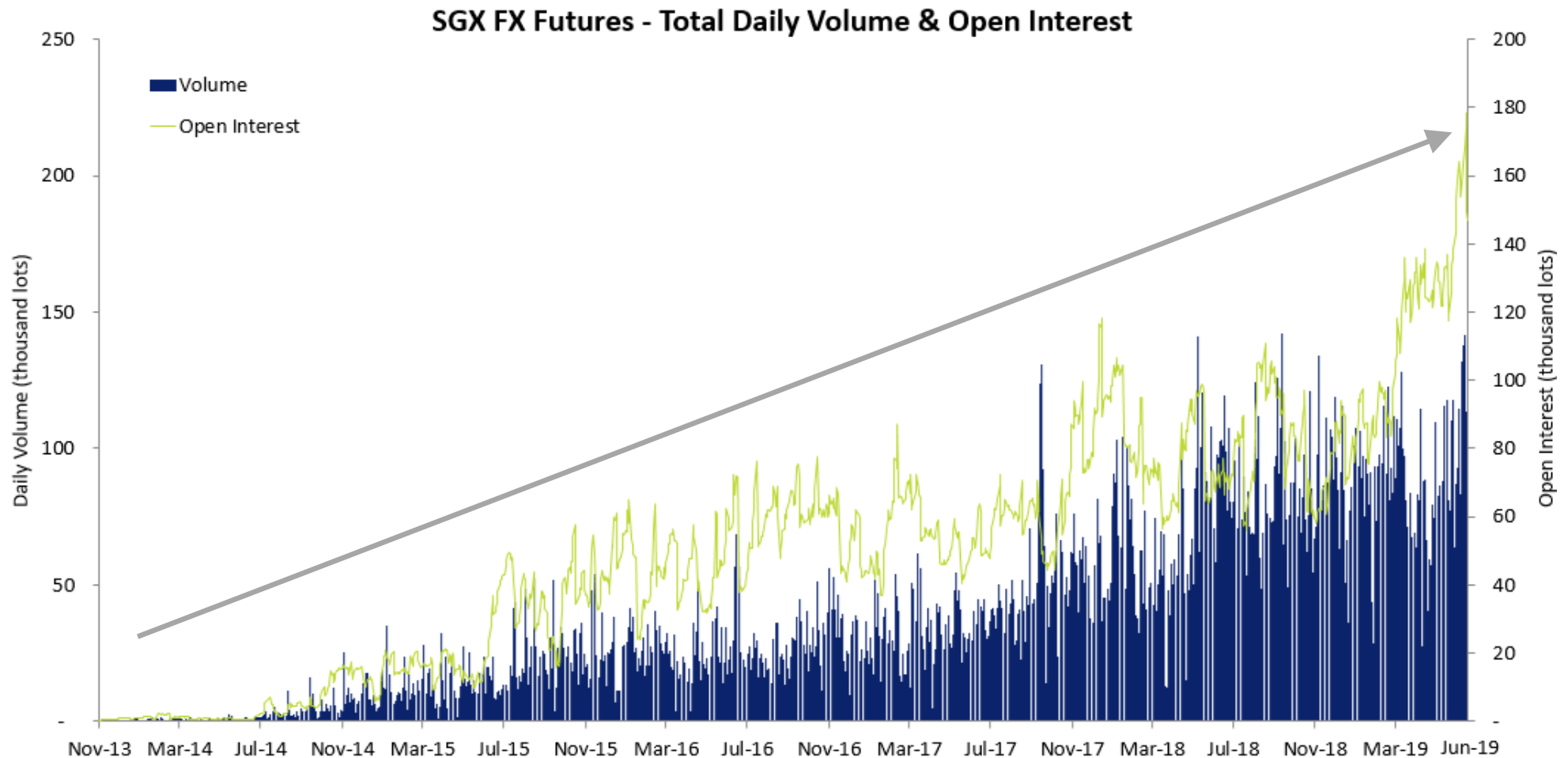
~US\$1T

Notional value traded in
2018
up 108% y-o-y



Expanding Network

FX Futures as a growth driver

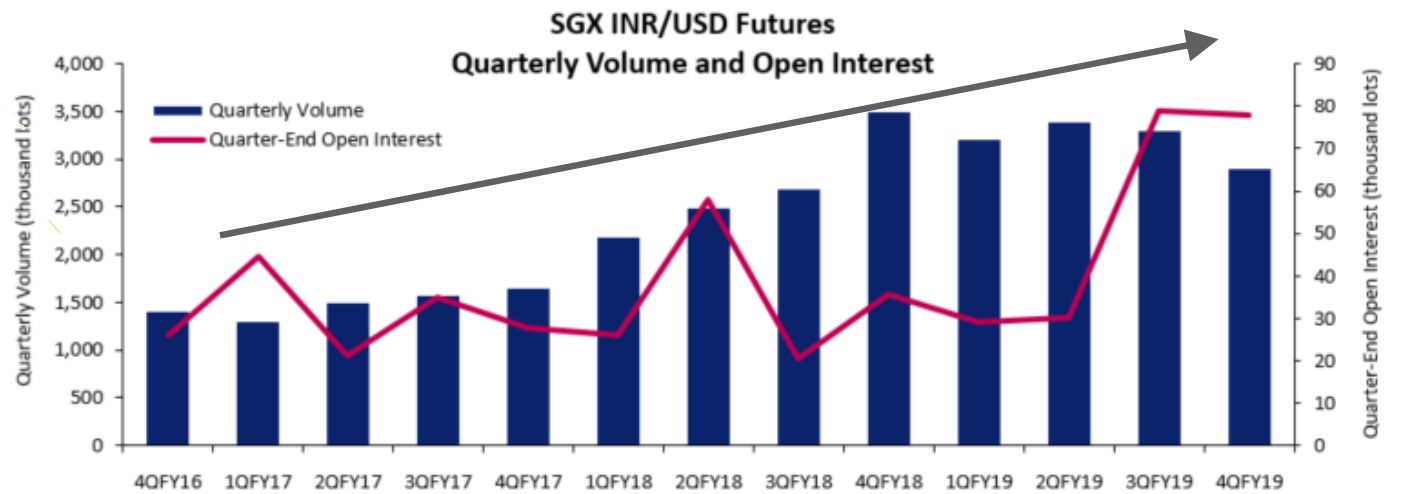
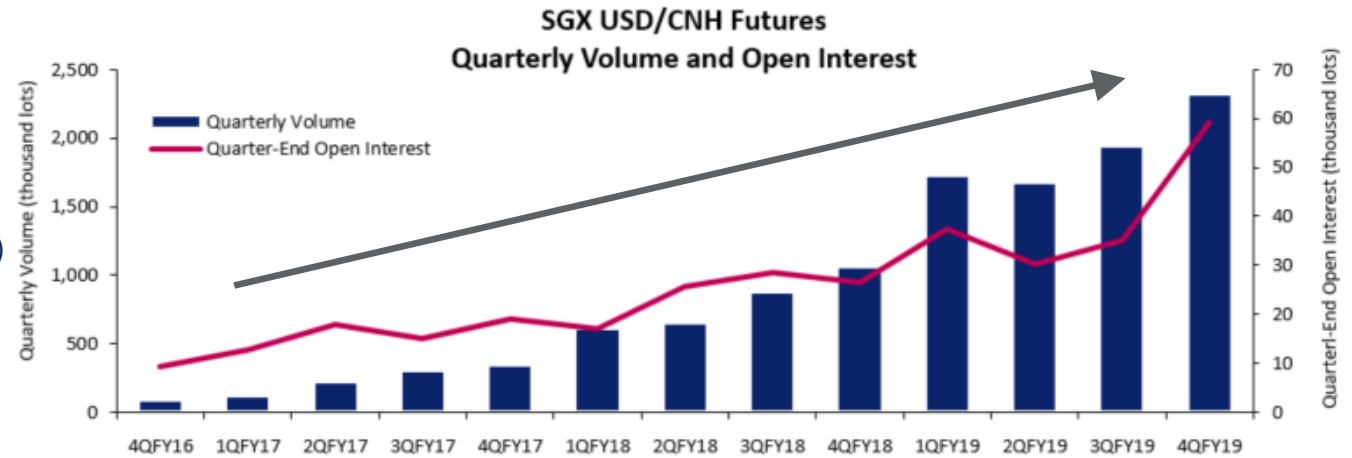


■ Asia's Best FX Exchange & Clearing House – by FX Week (2018 and 2019)

Note: Data as at 30 June 2019

Broad suite of Asian FX futures offering

~200% volume CAGR since November 2013



Note: Data as at 30 June 2019

Innovative FlexC FX futures

Bridging OTC and listed FX markets



Global regulatory changes after GFC have led to increased friction and complexity in today's FX trading environment

- Leverage Ratio
- Counterparty Credit Risk charges
- Liquidity Coverage Ratio
- Uncleared Margin Rules



As a result, the FX market is moving towards Central Clearing. SGX FlexC Futures amplifies the benefits of clearing. It has flexibility features of OTC FX and the surety of Exchange Clearing.

Benefits of SGX FlexC FX

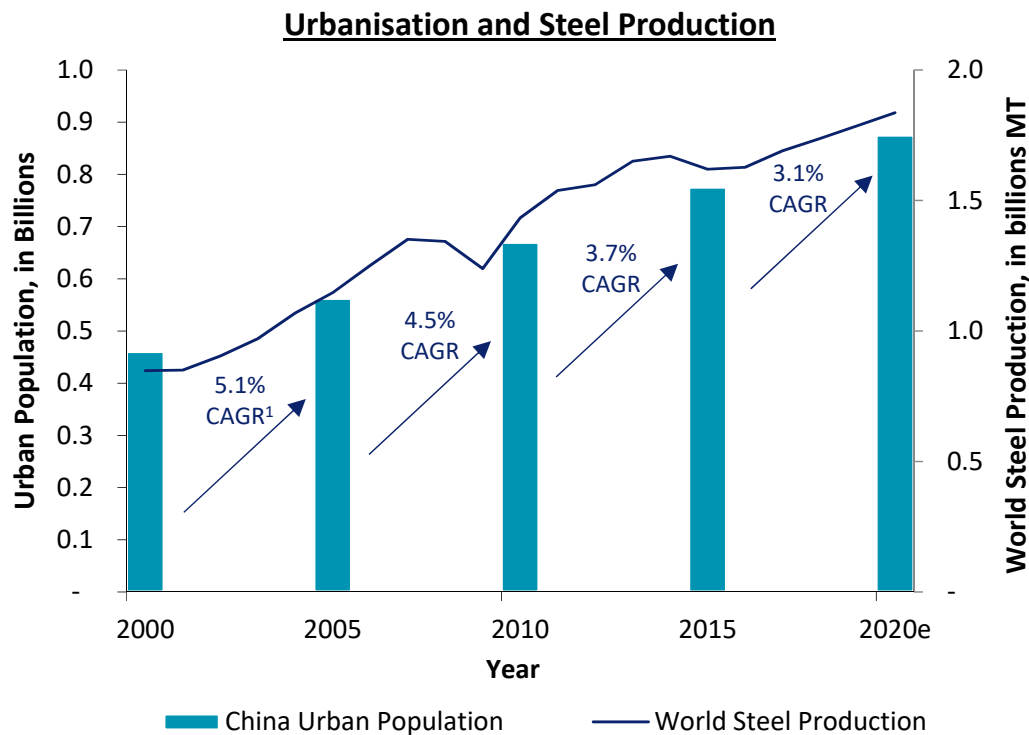
- Retain bilateral relationship, tiered pricing capabilities
- Improve capital efficiency
- Optimise credit lines and balance sheet
- Lower KYC cost, expand distribution
- Reduced counterparty credit risks

Product features of SGX FlexC FX

- Bilaterally negotiated futures
 - Flexible dates of up to 100 calendar days
 - Trade any tenor (t/n,1m) outright or swaps
- Customizable
 - Cleared
 - Capital and Cost Efficiency

Extensive Suite Of Commodities Products

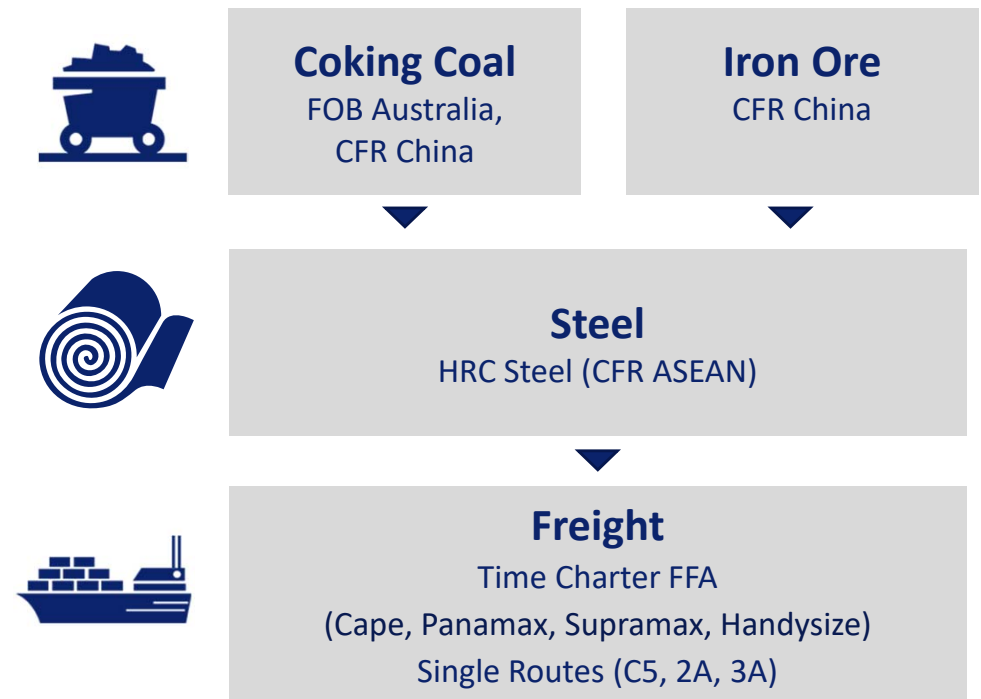
- Complements Singapore's commodities hub status
- Demand for industrial commodities set to continue amid sustained urbanisation



Source :
 UN Population Division, <https://population.un.org/wup/DataQuery/>
 Steel production statistics: World Steel Association

¹ CAGR in chart relates to growth of China's Urban Population

Price-Discovery Centre For The Steel Value Chain



Baltic Exchange Maritime Indices

The leading offshore Iron Ore risk management hub

	Size of Market 	Singapore 	SGX 
Iron Ore	<ul style="list-style-type: none"> ▪ Largest in the metal market by tonnage ▪ Notional value of >US\$115B traded annually in the physical market ▪ Asia's first truly global commodity, with China a major consumer 	<ul style="list-style-type: none"> ▪ Leading merchant hub for commodities houses with ~140 metals and mineral companies ▪ Include top iron producers e.g. Vale, Rio Tinto, BHP Billiton 	<ul style="list-style-type: none"> ▪ Global pricing and risk management centre ▪ Cleared 1.3 billion MT of iron ore in 2018 ▪ Offers a complete iron ore suite: 58% Fe, 62% Fe, 65% Fe and Lump Premium ▪ Steel value chain incorporating coking coal and freight

Key SGX Highlights

1.3 billion MT

cleared in CY2018

> 95%

market share of international iron ore volumes cleared

Fe 65%

futures contract launched in Dec 2018

1.2x

of paper to physical ratio

Potential to grow

Equities (Derivatives and Cash)

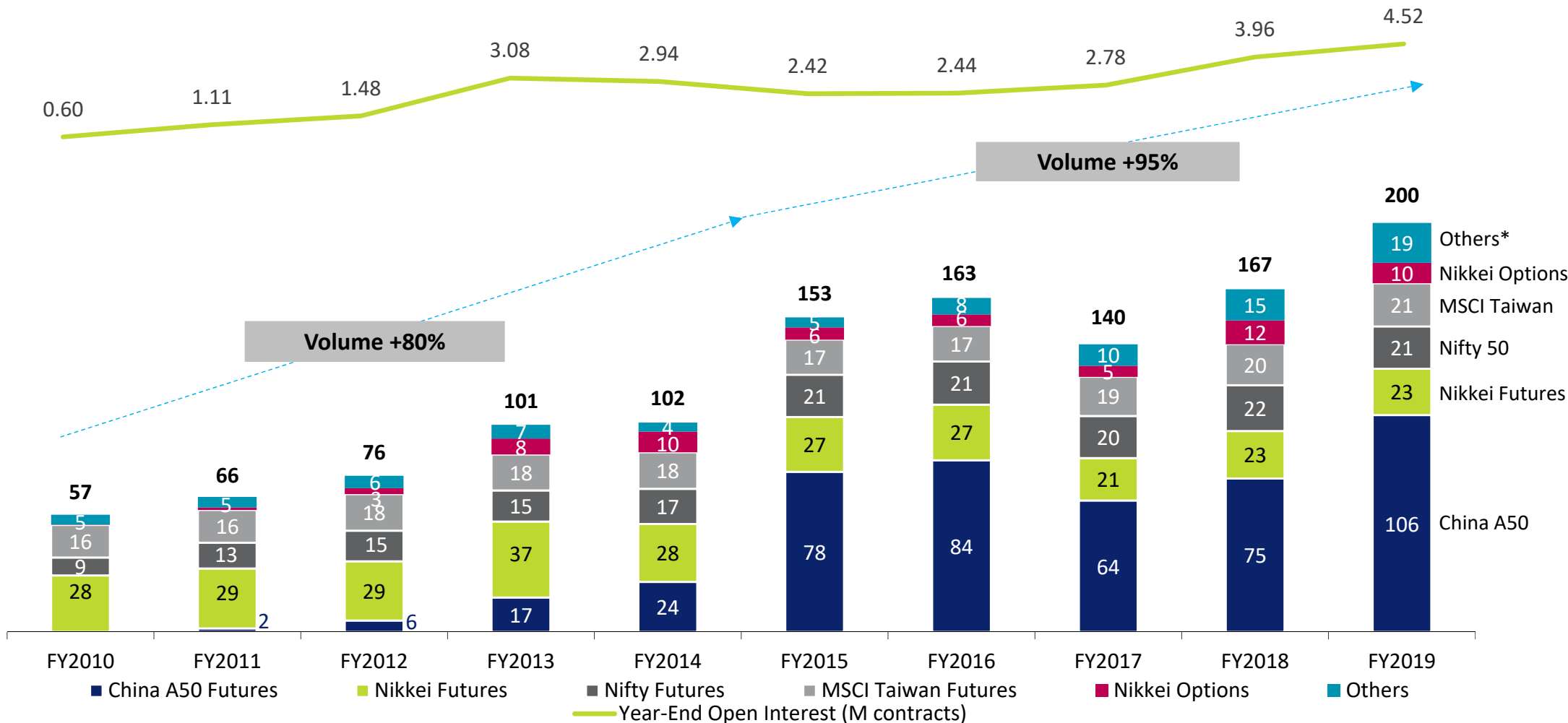
Our strengths as a multi-asset marketplace



Rapidly growing offshore market for Asian Equity Derivatives

Multi-asset exchange, offering a broad range of Asian access and risk management solutions

Volumes and open interest, in millions



Growing demand for Net Total Return Index Futures

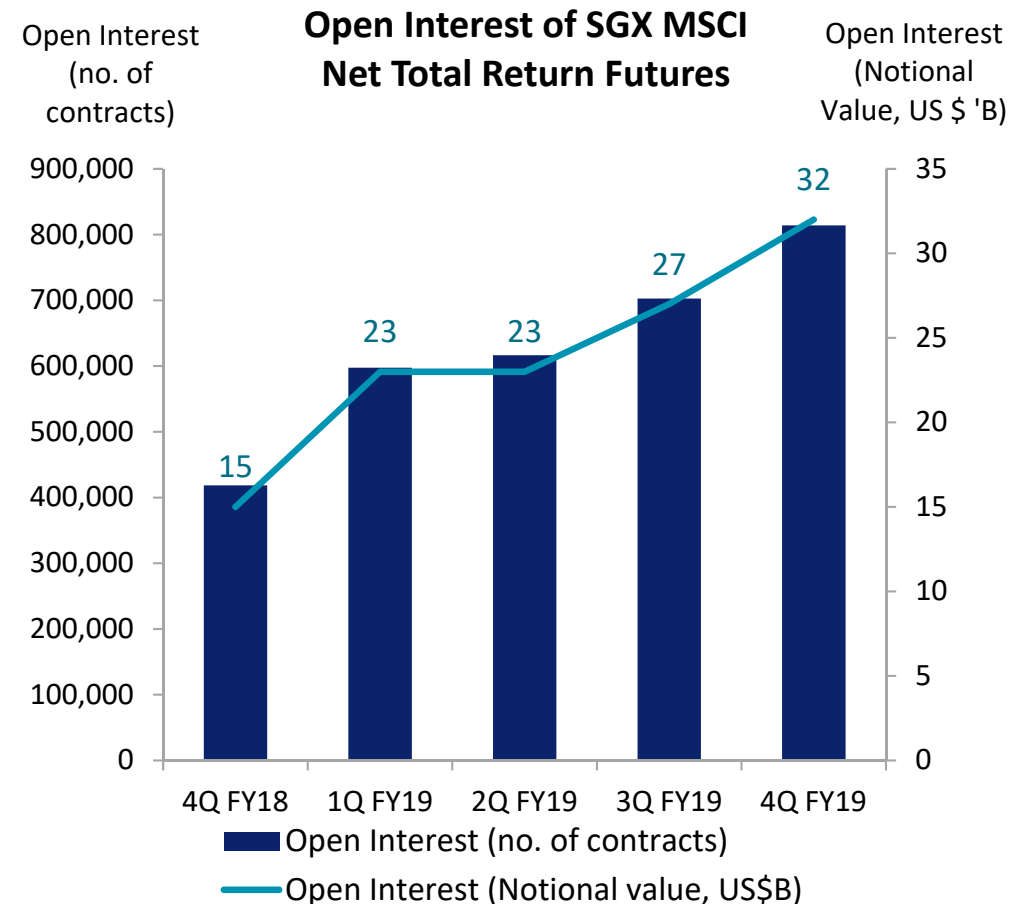
- Designed to meet increased demand for greater capital efficiency, in light of new margin requirements imposed on uncleared derivatives trades globally
- 23 SGX MSCI NTR Index Futures listed as of FY2019
- Notional open interest grew y-o-y to US\$32B, leading to higher collateral balances
- Resurgent Chinese economy and general elections in India, Indonesia, Philippines and Thailand sharpens focus on Emerging Asia



SGX is the first and only exchange in Asia to offer investors a comprehensive Net Total Return futures product suite covering Asian Emerging Markets.

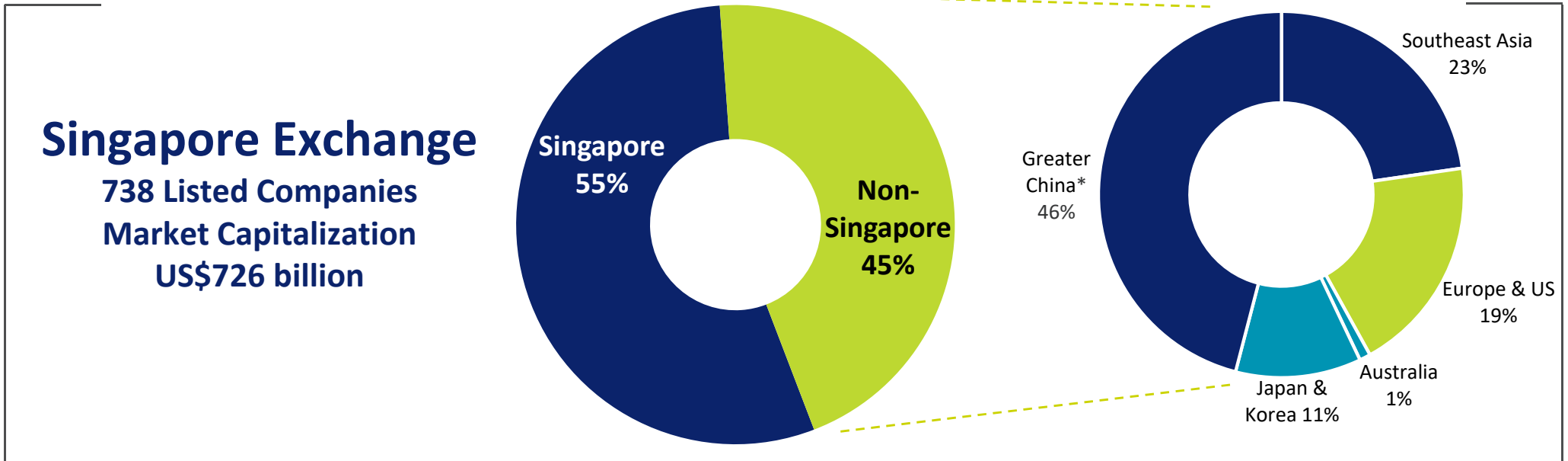


The growth of SGX's MSCI NTR product suite demonstrates the growing popularity of composite index investing in Asia.

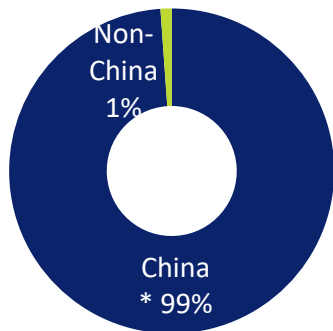


The world's most international exchange

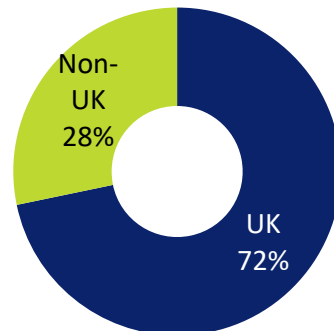
45% of total market cap of companies listed on SGX are overseas companies



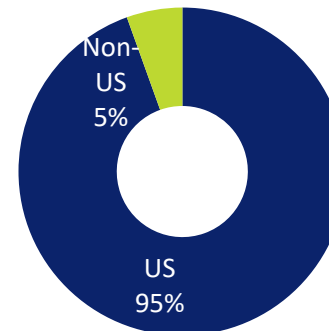
Hong Kong Stock Exchange



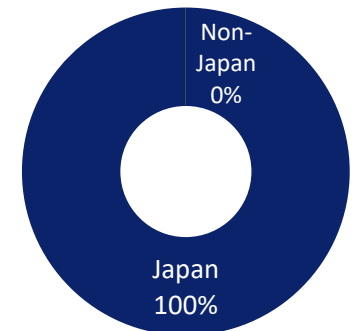
London Stock Exchange



NASDAQ



Tokyo Stock Exchange



*Note: Greater China includes Hong Kong, Taiwan and Mainland China companies

Our key sectors*

Consumer



PE: 20x

- Includes food & beverage, retail and others
- 141 companies with market cap of US\$68 billion

Technology



PE: 22x[^]

- Includes technology hardware & equipment, digital, semiconductor and telecommunications services companies. Other businesses include media, clean tech and engineering.
- 85 companies with market cap of US\$68 billion

Healthcare



PE: 48x[#]

- Full range of companies from pharmaceuticals, healthcare services to medical devices technology
- 37 companies with market cap of US\$50 billion

Maritime, Offshore Services & Energy



PE: 15x

- Asia's largest cluster of listed companies
- 67 companies and 2 business trusts with market cap of US\$22 billion

Commodities



PE: 16x

- Includes agri-commodities and mineral & coal companies
- 31 companies with market cap of US\$30 billion

Real Estate

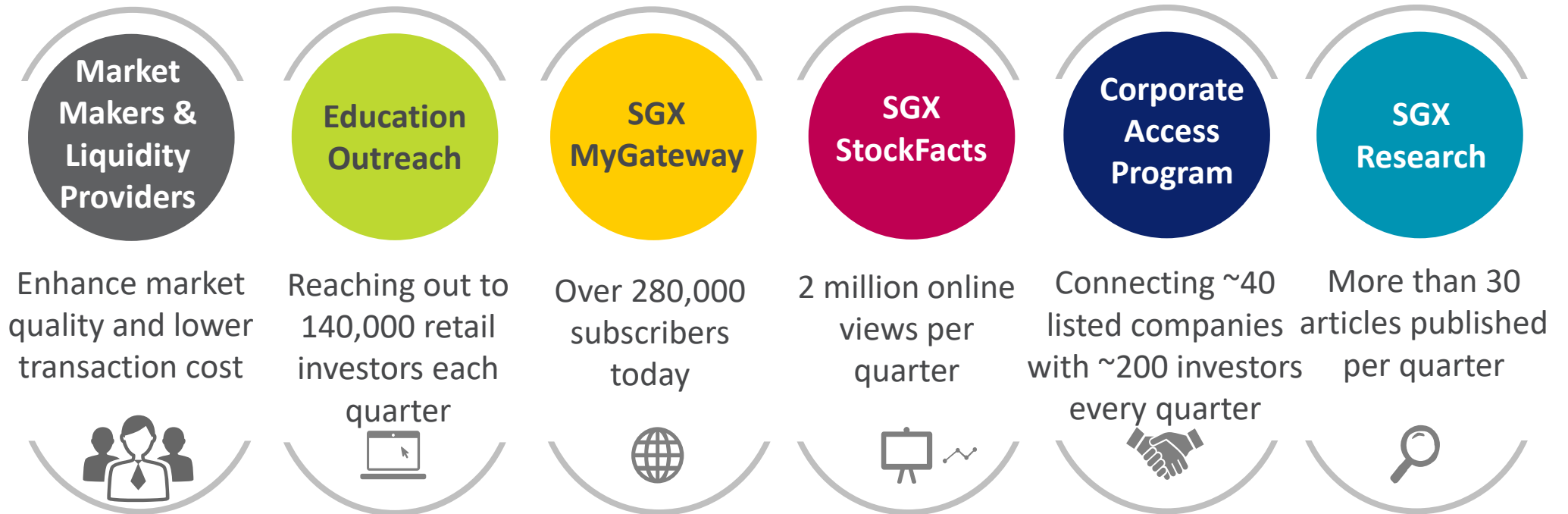


PB: 0.9x

- Asia's broadest range of real estate companies and property trusts covering global real estate assets
- 109 real estate companies and property trusts with market cap of US\$141 billion

Building liquidity and profiling our listed companies

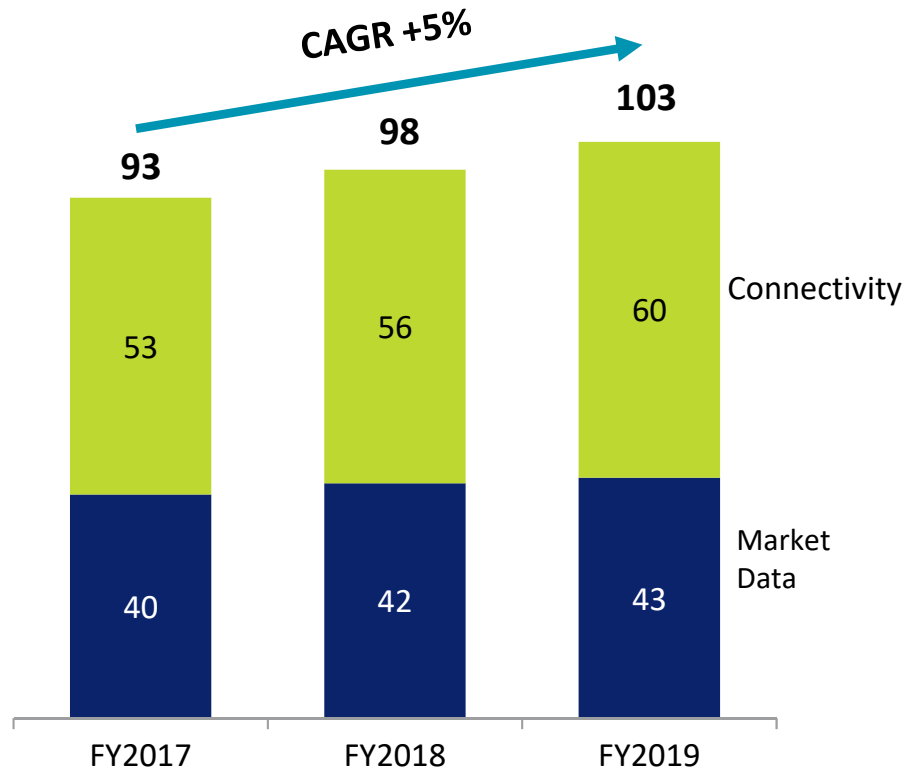
Continuing our efforts in increasing trading activity



Data, Connectivity and Indices (DCI)

Overview

Data, Connectivity and Indices



- Market infrastructure business driven by increased use of technology in trading
- Supports Securities and Derivatives Trading:

Data: Price data, Company Announcements, Financial Indices

Connectivity: Trading system connections, Network linkages and Data center co-location

Note: Numbers may be subject to rounding.

SGX Index Edge

- Index business established to take advantage of global shift to index-based investing
- Global Exchange Traded Products (index-based) have AUM of > US\$4tn
- Index funds (unlisted) has grown >230% to > US\$ 6tn since 2007



Index Calculation Service

- Calculating for leading investment banks and asset managers
- Flexible index engine for calculating and disseminating wide variety of indices
- Strong governance framework to meet regulatory requirements
- Established capabilities in Europe



SGX Proprietary Indices

- **Domestic Indices**
 - SGX Thematic indices e.g. S-REIT 20
 - SGX Sustainability index
- **Regional Indices**
 - SGX Developed Asia Quality Dividend Index
 - SGX APAC Dividend REIT



SGX Index Edge – Best Index Provider at Structured Retail Products Asia-Pacific Awards (2018)

FY2019 Performance

FY2019 Performance

- Record total revenues since listing in 2000
- Record revenues for Derivatives and Market Data & Connectivity businesses
- Net profit at 11-year high

Derivatives



Revenue Contribution

51%

Change (y-o-y)

35%

Equities & Fixed Income



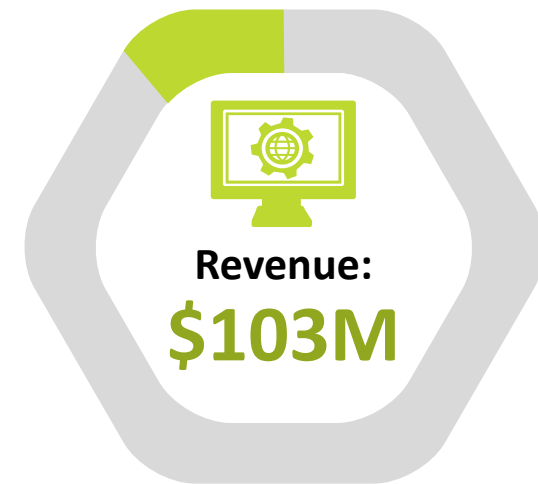
Revenue Contribution

38%

Change (y-o-y)

-15%

Market Data & Connectivity



Revenue Contribution

11%

Change (y-o-y)

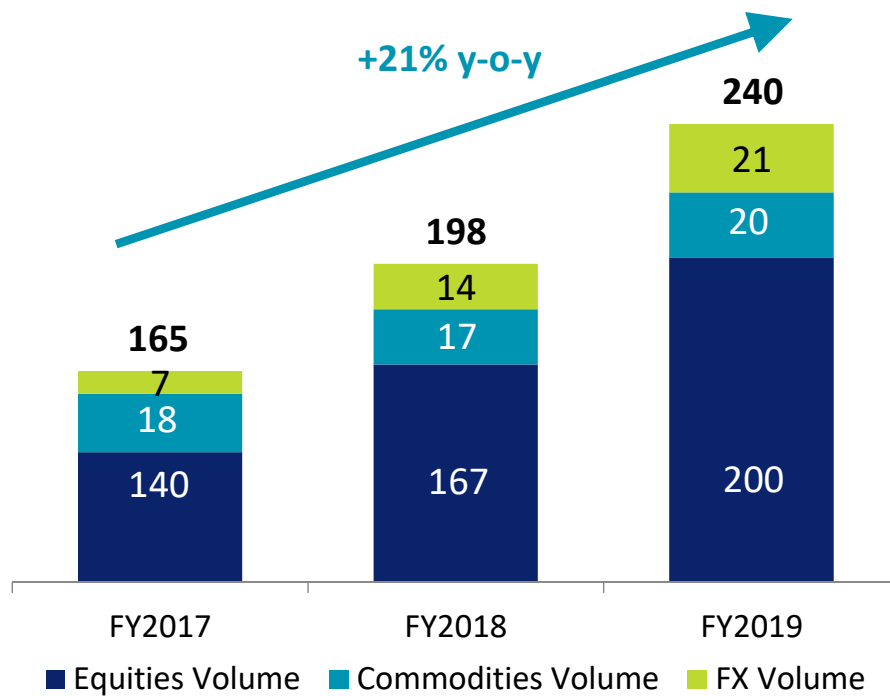
4%

Derivatives

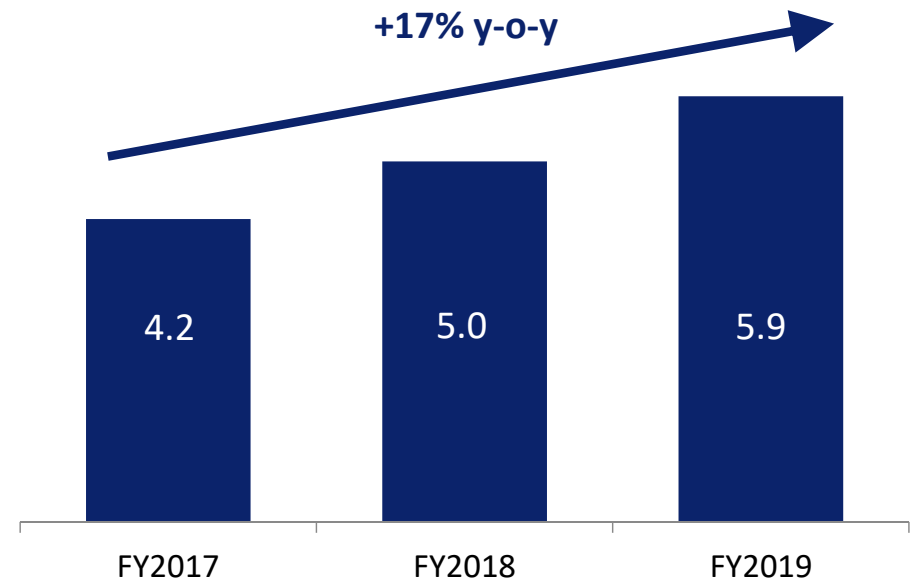
Derivatives
\$460M ↑ 35% y-o-y

- Record Derivatives volume in FY2019, up 21% y-o-y
- Full year T+1 volume up 38% y-o-y; contributing 14% of total derivatives volumes
- Record average month-end open interest, up 17% y-o-y

Total Derivatives Volume (M contracts)



Average Quarter-End Open Interest (M contracts)



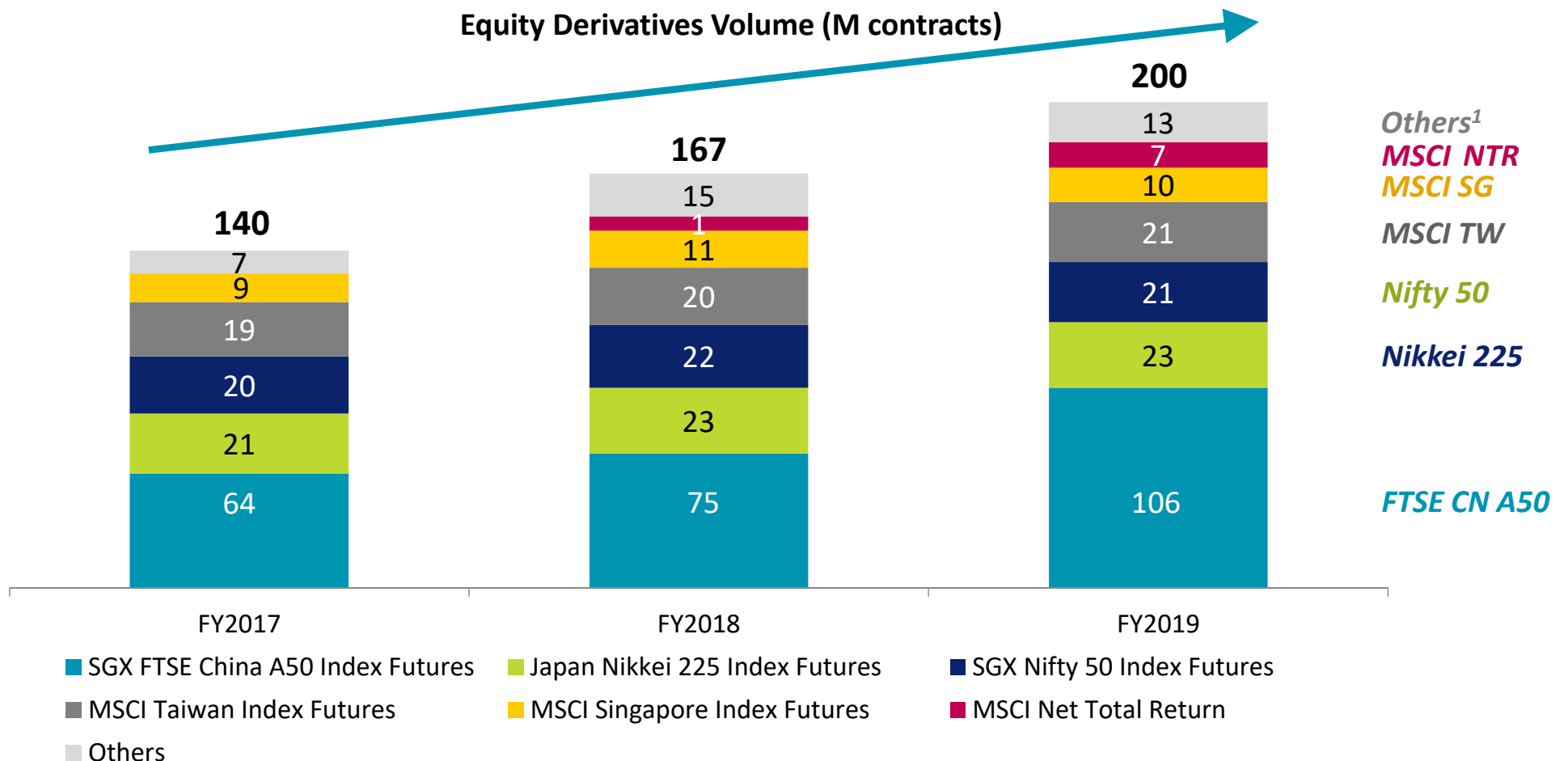
Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

Derivatives – Equities

Derivatives
\$460M ↑ 35% y-o-y

- Higher trading volumes in key Equity Index contracts, up 19%
- Growth in SGX FTSE China A50 and MSCI Net Total Return index futures
- MSCI NTR Open Interest of 814K contracts; \$32B notional at year end

Equity Derivatives Volume (M contracts)

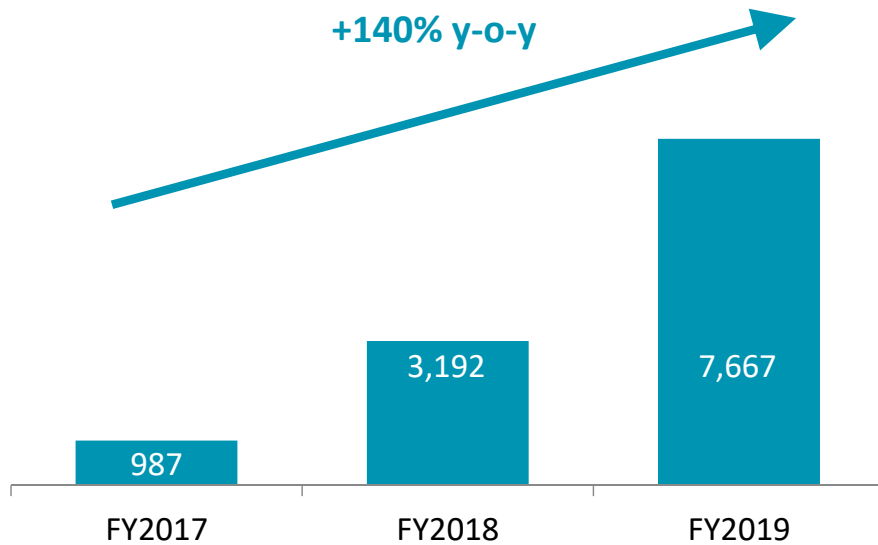


Derivatives – FX

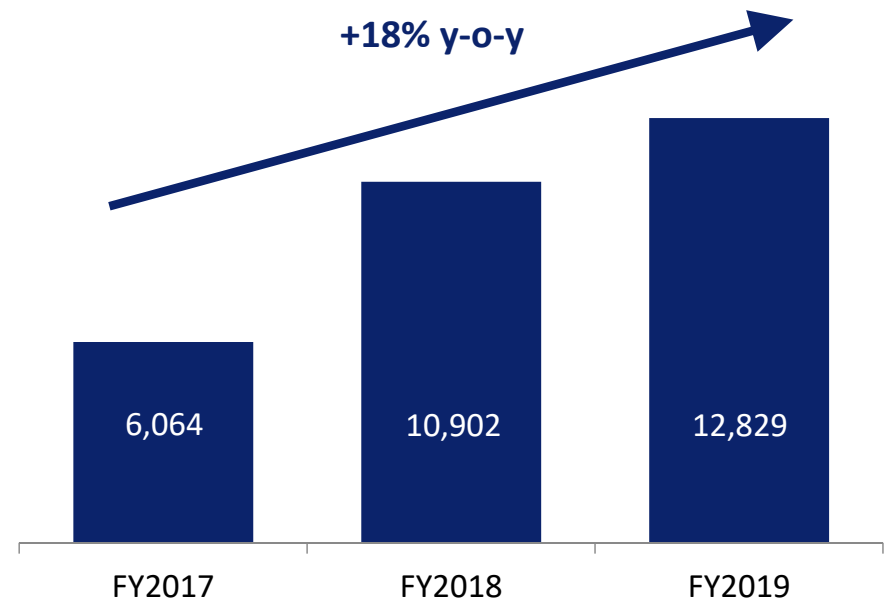
Derivatives
\$460M ↑ 35% y-o-y

- Record FX futures volume, up 46% from 14.3M to 20.8M contracts
- Fastest growing, Asia's largest FX futures exchange
- Strategic investment in BidFX

USD/ CNH Volume ('000 contracts)



INR/ USD Volume ('000 contracts)

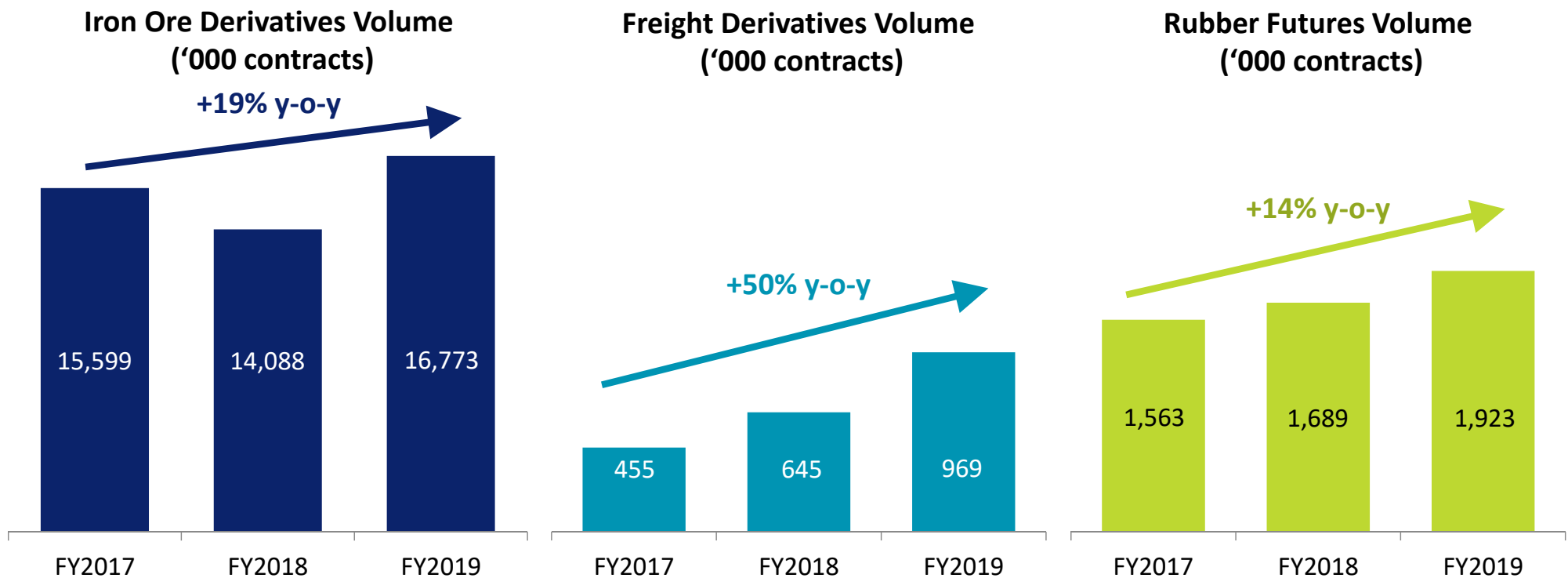


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Derivatives – Commodities

Derivatives
\$460M ↑ 35% y-o-y

- Iron Ore Derivatives volume up 19% from 14.1M to 16.8M contracts
- Freight derivatives volume up 50% from 0.6M to 1.0M contracts
- Rubber derivatives volume up 14% from 1.7M to 1.9M contracts



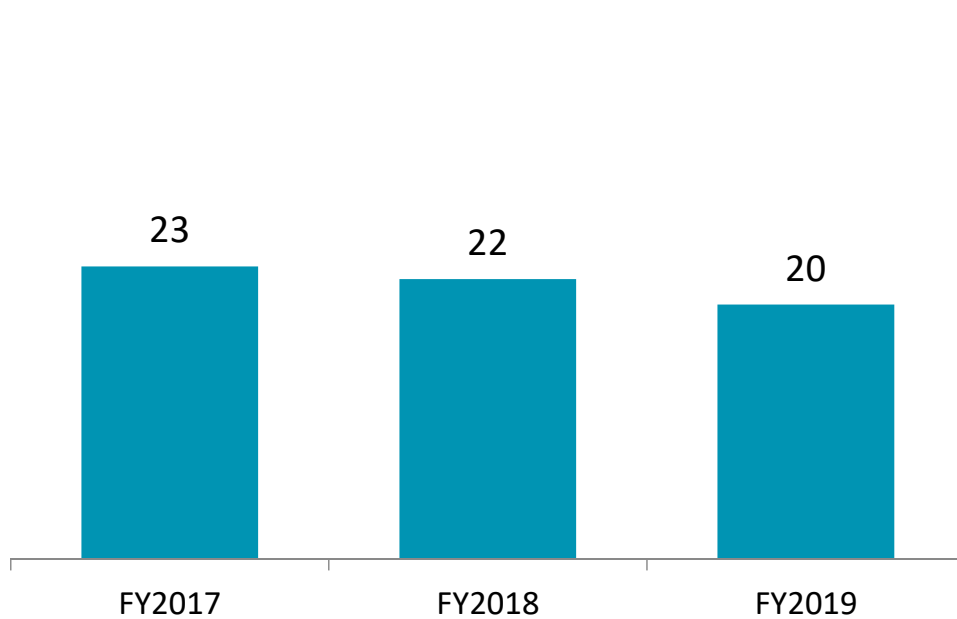
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Equities & Fixed Income – Issuer Services

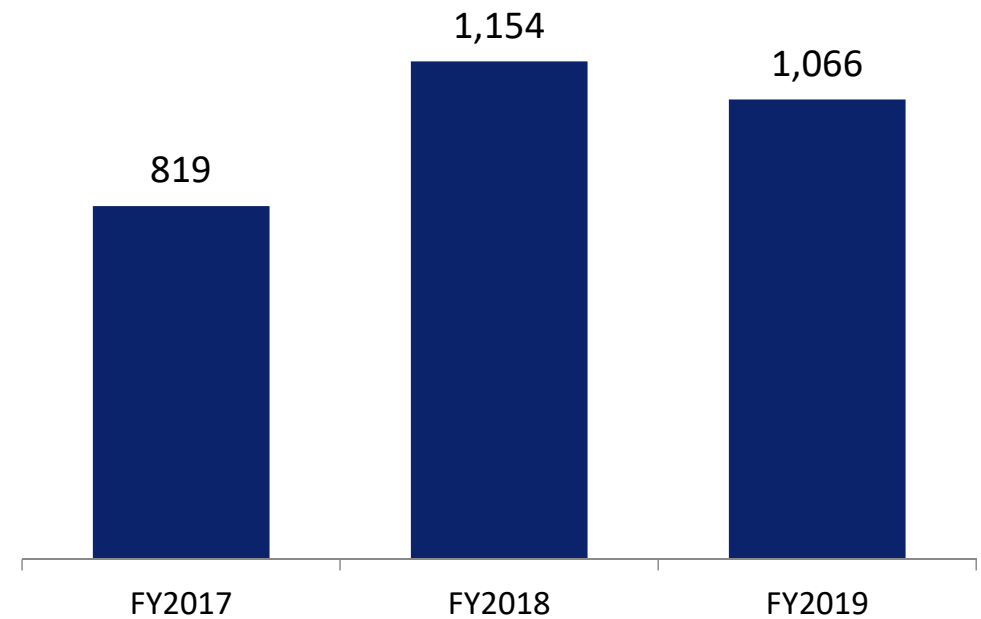
Equities & Fixed Income
\$348M ↓ 15% y-o-y

- Expanded international coverage of equity and bond listings
- Remain the most international exchange with 45% of new equity listings and 90% of bond listings originated from offshore
- Maintained market share of Asia Pacific G3 bond issuance of ~40%

No. of New Equity Listings



No. of New Bond listings



Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

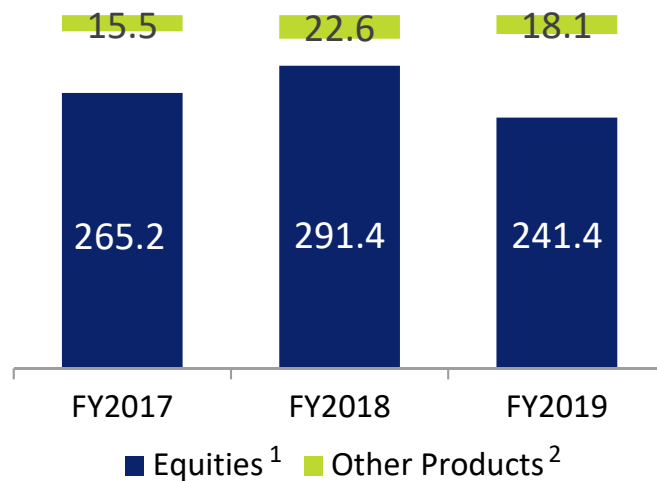
Equities & Fixed Income – Trading & Clearing

Equities & Fixed Income
\$348M ↓ 15% y-o-y

- Lower activity in line with regional exchanges amidst concerns of slower economic growth, with trading activity improving in 2H FY2019
- SDAV declined 17% y-o-y from \$1.26B to \$1.04B
- Introduced Single Stock Daily Leveraged Certificates (DLC) of Singapore and Hong Kong companies

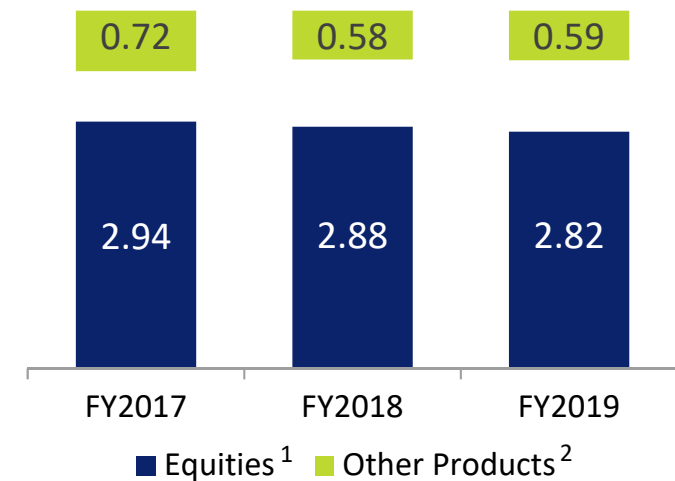
Securities Total Value Traded (\$B)

Total Traded Value	280.7	314.0	259.5
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Average Clearing Fee by Products (bps)

Average yield	2.82	2.72	2.66
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Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

¹ Equities include ordinary shares, real-estate investment trusts and business trusts

² Other products include structured warrants, exchange-traded funds, daily leverage certificates, debt securities, and American depository receipts

Equities & Fixed Income – Post Trade

Equities & Fixed Income
\$348M ↓ 15% y-o-y

- Successfully launched new post trade system to modernize CDP services and meet business and regulatory requirements
- Improved settlement efficiency, reducing fees levied for DVP services → Securities settlement revenue declined 13% from \$88M to \$77M



1. Adoption of International Market Practices

Reduced T+2 settlement cycle

2. Platform to drive digitalization initiatives

Launched new online CDP Account Opening service to enhance investors' experience

3. Increased Operational Efficiency

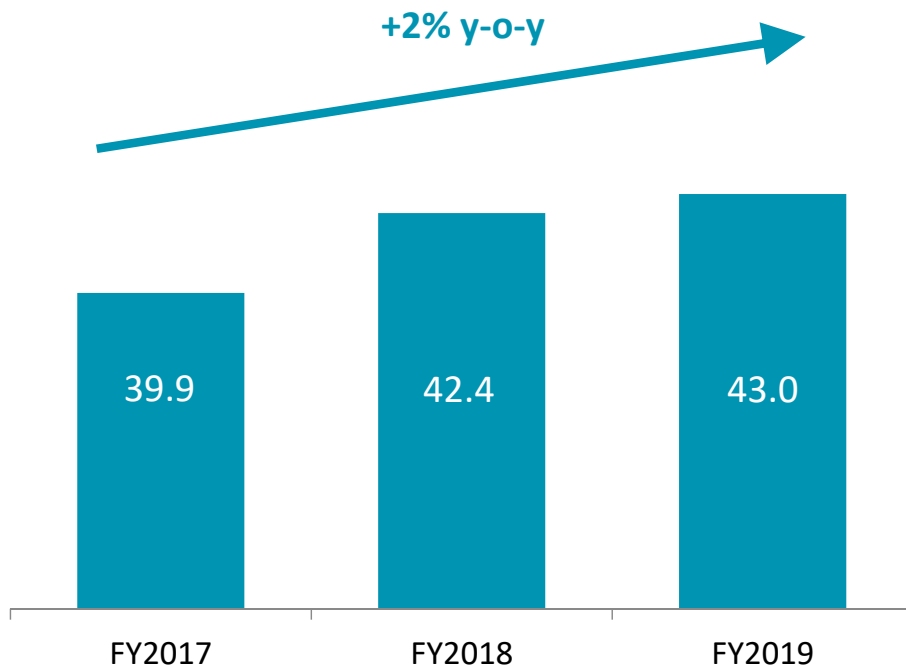
Open API increases post trade operational efficiencies

Market Data & Connectivity

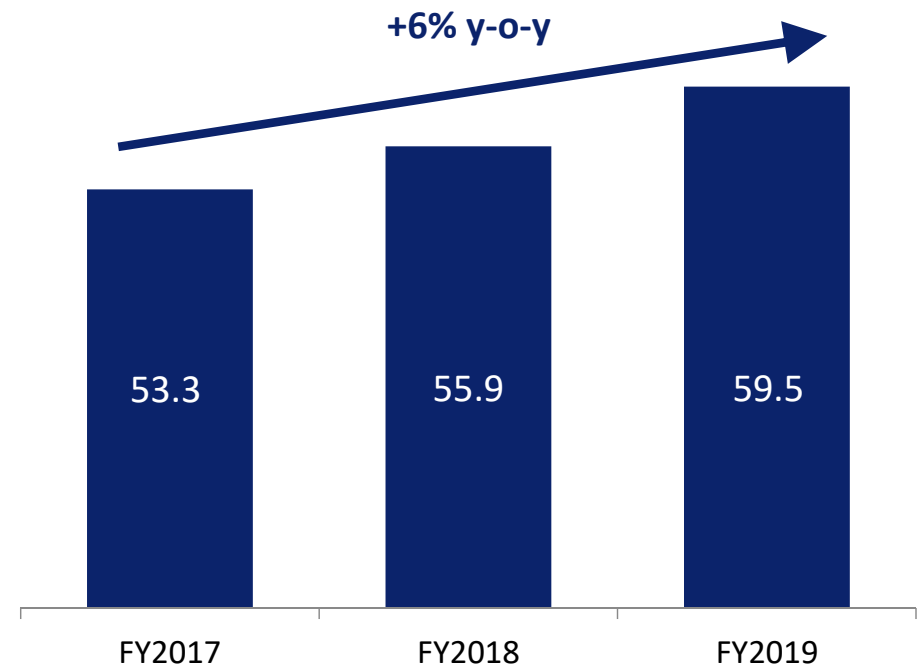
Market Data & Connectivity
\$103M ↑ 4% y-o-y

- Market Data revenue up 2% from higher non-display data subscriptions
- Connectivity revenue up 6% from continued growth in our colocation business and higher derivatives connectivity subscriptions

Market Data Revenue (\$M)



Connectivity Revenue (\$M)



Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

Other Information

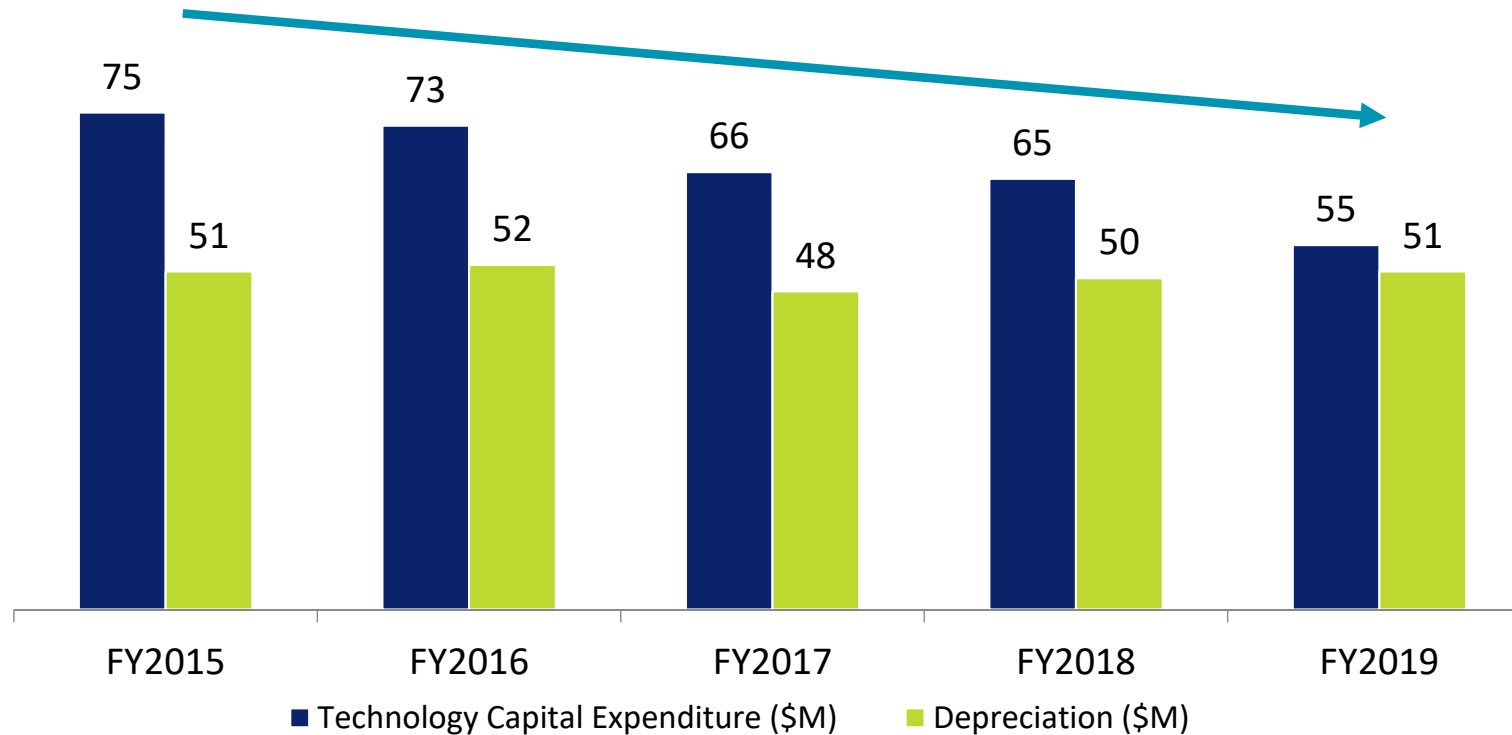
SGX Share Price and STI Index since 1 July 2018

From 1 July 2018 to 30 August 2019, SGX share price increased 14%, outperforming STI which is down 5%. P/E at end of August at 22x.



Built new technology platforms to support growth

- Declining annual CAPEX – FY2020 CAPEX is expected to be between \$45M to \$50M
- FY2019 CAPEX of \$55M, below guidance of \$60M to \$65M



Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

Technology As The Business Enabler

Stability

Operational Excellence as a priority for Stakeholder Trust

- ☑ 100% Service Availability for all critical business services
- ☑ Regular benchmarking of cyber maturity using well established FFIEC Guidelines*
- ☑ State-of-the-art Enterprise Command Centre for round-the-clock monitoring of technology environment and swift response and recovery during incident management

Agility

API-enabled business platforms for seamless customer connectivity

- ☑ **Reach-ST, PTS, Titan DTDC** - All platforms are API-based and have been modernized. SGX does not operate any legacy or obsolete technologies.

Differentiated in-house platforms to support multi-asset strategy and bespoke customer needs

- ☑ **Derivatives** - Titan OTC, OTC Pro - trade registration and broker workflow
- ☑ **Fixed Income** - BondPro - trade matching for Asian corporate bonds
- ☑ **Indices** - Index calculation engine for custom indices

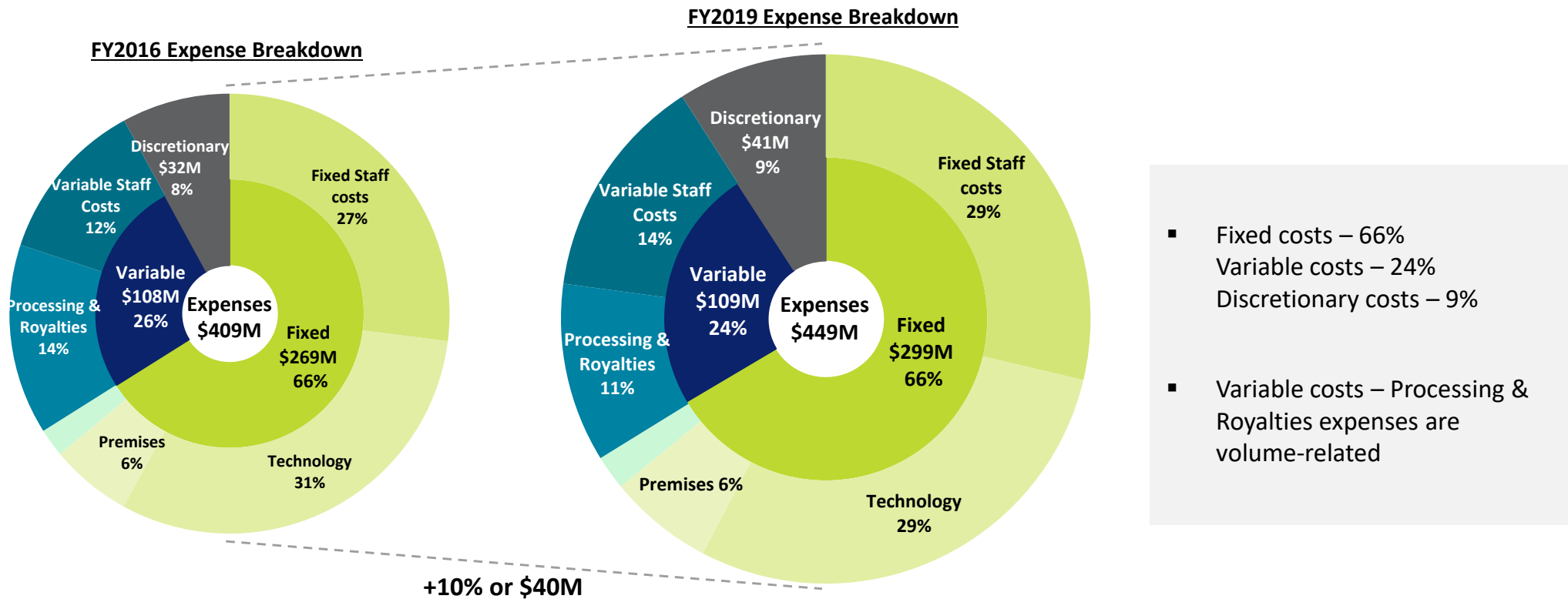
Opportunity

Digitalisation & Innovation

- ☑ Customer specific digital channels – Investor Portal, Issuers Submission Portal, Members Submission Portal
- ☑ Emphasis on engineering innovation and emerging technologies like Machine learning, Blockchain, Cloud & Data.
- ☑ Filing of technology patent on distributed ledger for InterLedger DVP workflow
- ☑ Use of Cloud services in data platforms
- ☑ Data science and analytics for enhanced supervisory functions and user analytics

Disciplined in our expenditure

- Investments in building capabilities to support growth
- FY2019 expense of \$449M, up 7% from a year ago
- FY2020 Operating Expense Guidance: \$465M to \$475M



Note: Numbers may be subject to rounding.

Sustainability at SGX

Ensuring long-term value for our stakeholders and creating a positive, lasting impact on society

- We advocate sustainable reporting by SGX-listed companies
- We seek to promote the sustainability of the financial system, as encapsulated by the World Federation of Exchanges (WFE) Sustainability Principles, and aligned with the UN Sustainability Development Goals
- We are a Partner Exchange of the United Nations Sustainable Stock Exchange Initiative (UNSSE)
- We are a member of the WFE sustainability working group
- We are a founding member of the Advisory Group for the Asia Sustainable Finance Initiative (ASFI), a multi-stakeholder forum based in Singapore that aims to create resilient economies

Sustainability factors that are important to SGX:

1. **Economic Performance** : Our financial performance, economic value creation, distribution, and retention for shareholders
2. **Socioeconomic Impacts** : Our external impacts through our role as a market operator and regulator.
3. **Governance** : Our governance structure, ethics and integrity, anti-corruption and compliance policies
4. **People** : Our talent management and responsible employment practices
5. **Environment** : Our role in mitigating climate change

SGX is a component of the following ESG indices:

Bloomberg ESG Data Index

FTSE4Good Index

ISTOXX Global ESG Select 100 Index

iEdge SG ESG Leaders Index

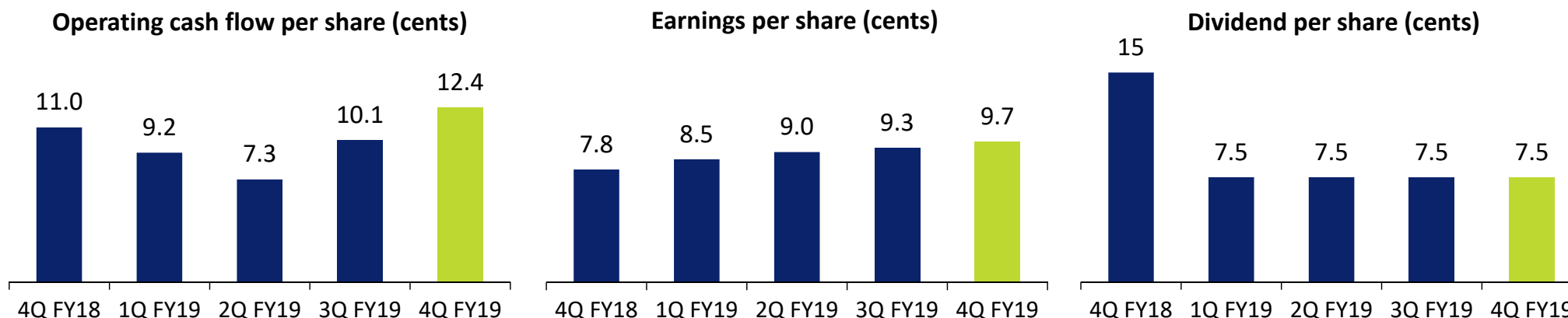


Ranked within the top 5 among listed companies in the NUS Governance and Transparency Index* in the last 5 years

Key Financial Indicators (Recent quarters)

- High operating profit margin of 50%
- High ROE of 36% and Operating cash flow of 12.4 cents per share
- Dividend of 7.5 cents per share

	4Q FY2018	1Q FY2019	2Q FY2019	3Q FY2019	4Q FY2019
Revenue (\$ million)	213	209	224	229	248
Operating profit (\$ million)	98	106	114	118	123
Operating profit margin	46%	51%	51%	52%	50%
Net profit (\$ million)	84	91	97	100	104
Return on equity	34%	39%	39%	37%	36%

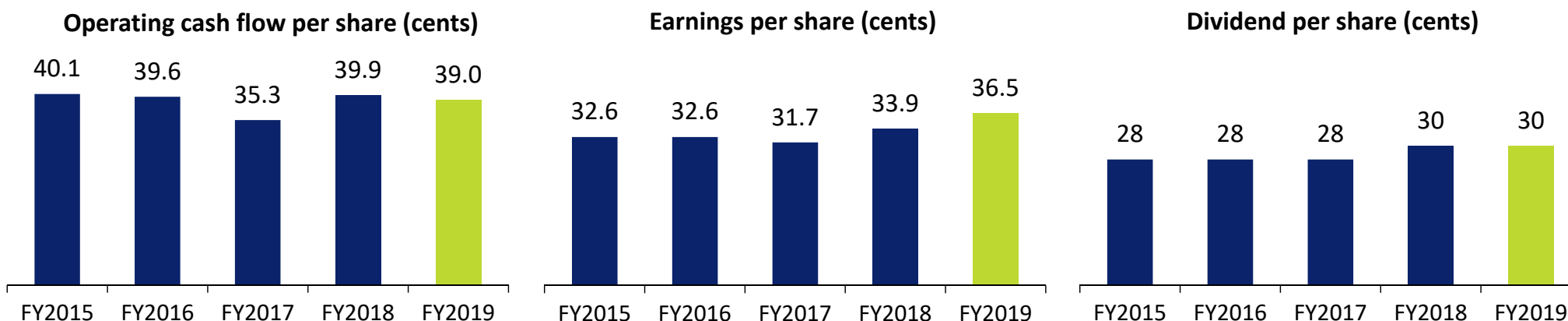


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Key Financial Indicators (Recent years)

- High operating profit margin of 51%
- High ROE of 36% and Operating cash flow of 39 cents per share
- Dividend of 30 cents per share

	FY2015	FY2016	FY2017	FY2018	FY2019
Revenue (\$ million)	779	818	801	845	910
Operating profit (\$ million)	402	409	402	425	461
Operating profit margin	52%	50%	50%	50%	51%
Net profit (\$ million)	349	349	340	363	391
Return on equity	37%	36%	34%	34%	36%



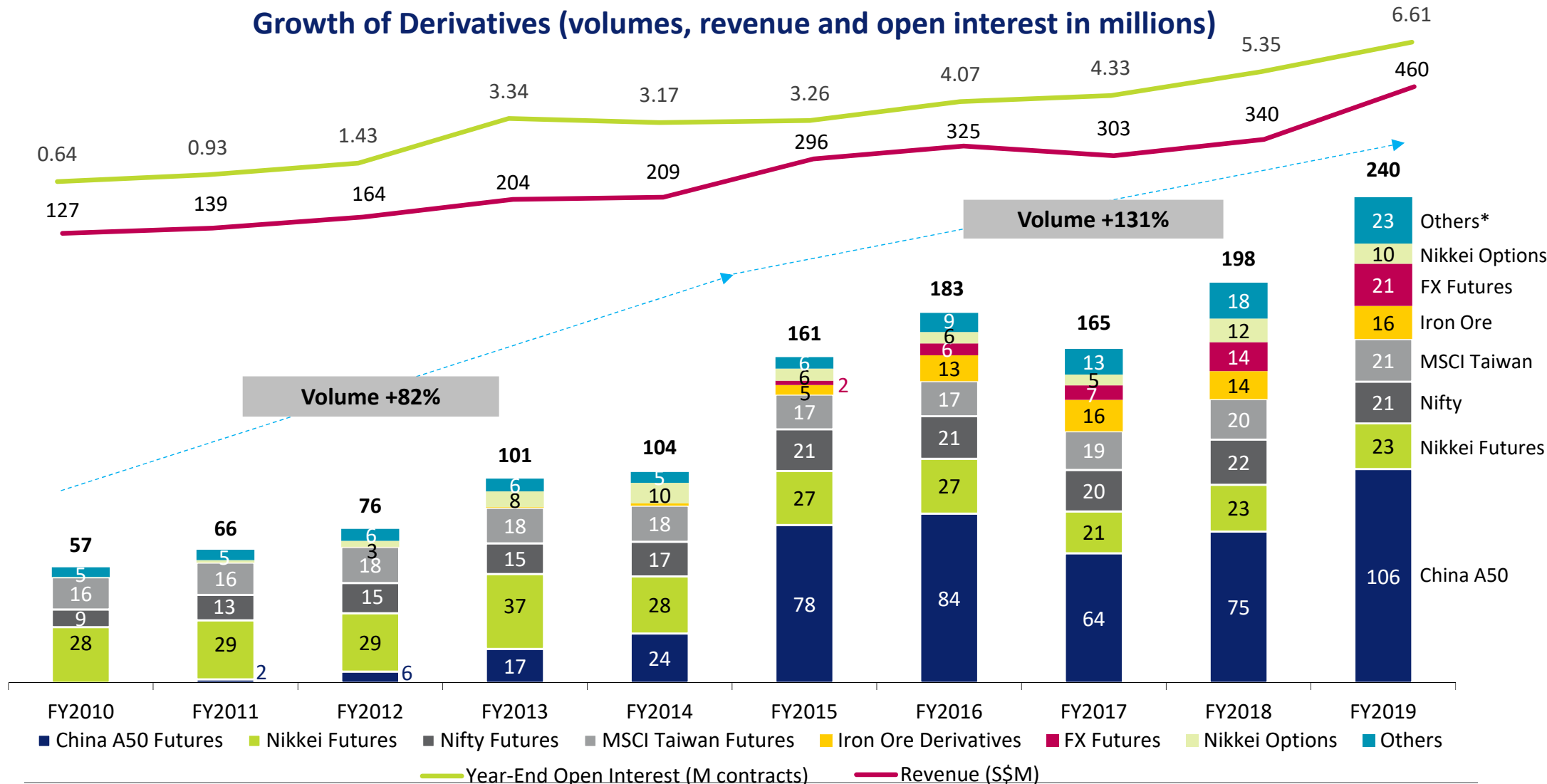
Note: All figures in \$ millions unless otherwise stated and may be subject to rounding

Appendix

Rapidly growing offshore market for Asian Equity, Currencies and Commodities

Multi-asset exchange, covering a broad range of liquid Asian asset classes.

Growth of Derivatives (volumes, revenue and open interest in millions)



*Others comprise mainly MSCI Singapore Futures, FFA futures & swaps, and Rubber Futures.

High operating margin business

Operating Income Margin Trends			
Segment	FY2017	FY2018	FY2019
Equities and Fixed Income	56.0%	55.1%	44.9%
Derivatives	39.7%	43.7%	54.5%
Market Data and Connectivity	58.9%	53.3%	53.2%

Cross Margining Efficiencies

Correlated products, margin netting efficiencies

Note:

+ correlation Long – Short spread
- correlation Long – Long spread

INR/USD
FX futures

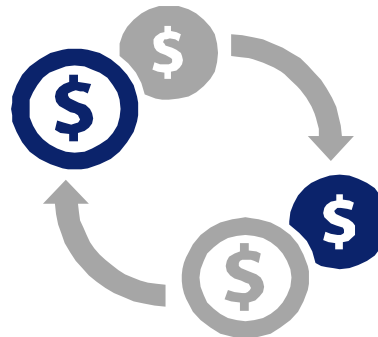
36%
Margin
offset

Nifty 50
Index Futures

MSCI
Taiwan
Index Futures

56%
Margin
offset

Nikkei 225
Index Futures



USD/CNH
FX futures

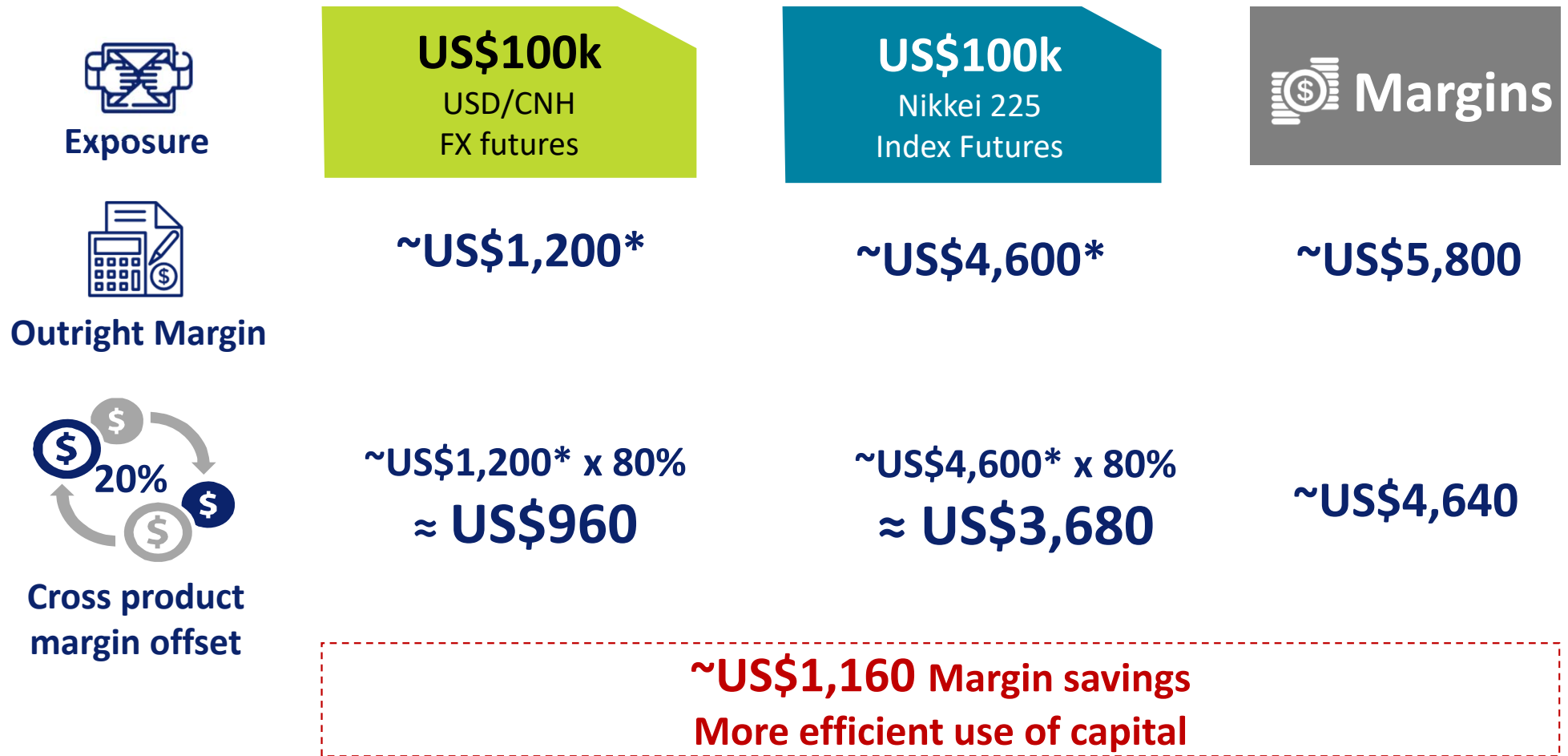
20%
Margin
offset

Nikkei 225
Index Futures

Note: Based on Margin Schedule as of 3 June, full schedule available on SGX website

Cross Margining Example

More exposure with the same amount of margins



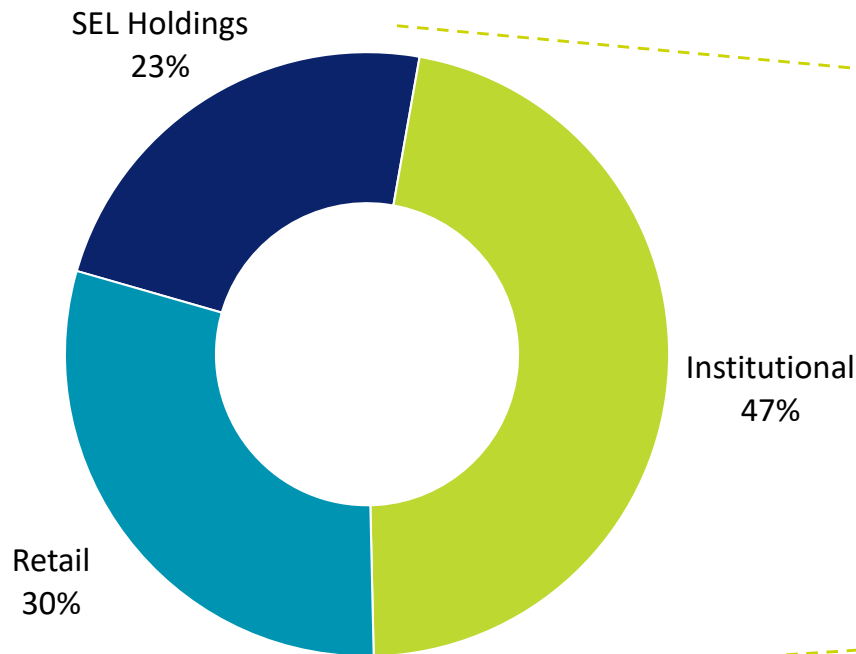
Note: Based on FX rate as of 3 June

Based on Margin Schedule as of 3 June, full schedule available on SGX website

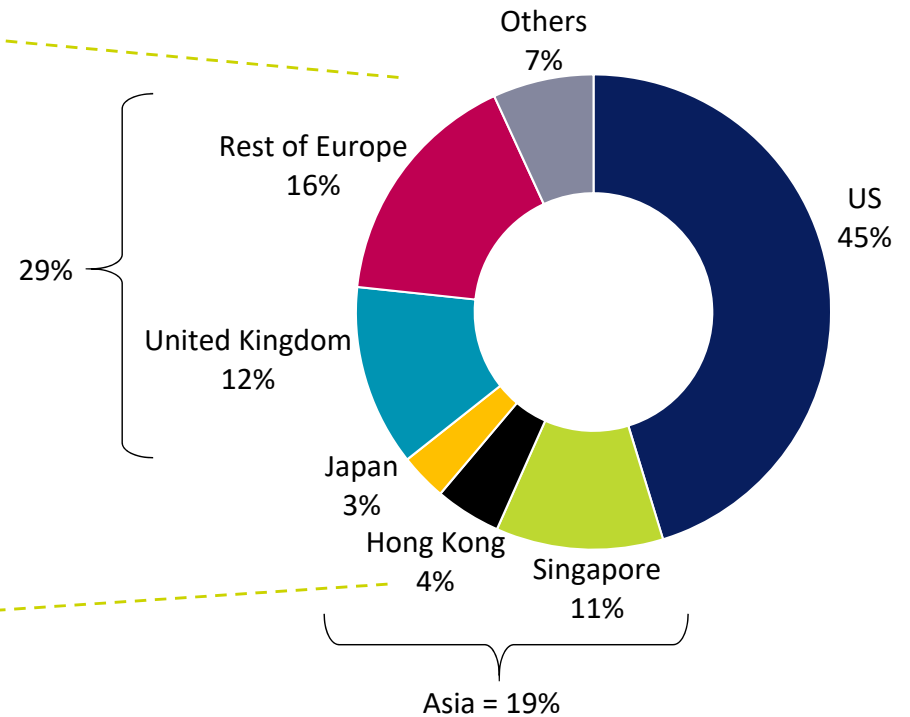
SGX Shareholders' Profile

Broad shareholding base with domestic retail shareholders, as well as domestic and international institutions

SGX Shareholder Composition¹



Institutional Shareholding by Geography



Note: Numbers may be subject to rounding.
¹ As at 30 June 2019

Thank You

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