

# Company Report

China Merchants Securities (HK) Co. Ltd. Hong Kong Equity Research

# PAX Global (327 HK)

## China payment giant going global; Initiate with BUY

- Initiate BUY for PAX Global with 12-month TP of HK\$9.8, based on 20x FY15E P/E, in line with global peers 20.9x FY15E P/E.
- Accelerated product roadmap (mPOS/NFC/EMV/multi-lane), major market breakthroughs (US/Brazil) and strong R&D innovations to fuel 29% FY14E-16E EPS CAGR growth on mobile payment trend.
- Expect near-term catalysts from M&A, continued share gains and Apple PAY to support further multiple expansions.

## Multi-year growth to transform into global payment giant

PAX Global is No.3 player in global e-payment terminal market (9% mkt share), benefiting from non-cash payment secular trend and continued consolidation amid Verifone's weakness (Global No. 2). After years of R&D investment in product upgrades (NFC/multi-lane), qualifications (EMV/PCI) and overseas penetration (US/Brazil), we believe PAX is now poised to harvest with 27%/29% revenue/earnings CAGR during FY14E-16E, thanks to 22% terminal shipment CARG and increasing ASP.

## Product innovations to capture mobile payments cycle

Given rapid adoption of mobile payments, we believe PAX is set to be a major beneficiary of the replacement cycle with strong product pipeline (NFC/EMV/mPOS/QR-code) and expanding sales network, while Apple Pay will possibly act as a further stimulant to market adoption of NFC terminals in US and worldwide. We expect PAX to ship 910k/1.3m mPOS (22%/25% of total shipment) and 3.3mn/4.0mn EFT-POS in FY15E/16E.

#### Buy industry leader; More catalysts expected ahead

PAX currently trades at 14.7x FY15E P/E and 9.6x FY15E EV/EBITDA. Trading at 42% discount to its global peers (20.9x FY15E P/E), we expect further room for multiple expansions given 1) stronger revenue/EPS growth vs history, 2) continued global share gains in next few years, 3) higher overseas exposure towards high-margin DM and high-growth EM, and 4) accelerated M&A to diversify into services with recurring revenues. Key risks include product concentration risk, pricing/margin pressure in EM and deal execution risk.

#### **Financials**

HKD m	2012	2013	2014E	2015E	2016E
Revenue	1,313	1,472	2,207	2,864	3,589
Growth (%)	19%	12%	50%	30%	25%
Net profit	183	227	405	530	677
Growth (%)	1%	24%	79%	31%	28%
EPS (HKD)	0.18	0.22	0.37	0.49	0.63
DPS (HKD)	0	0	0	0	0
P/E (x)	41.0	33.1	19.3	14.7	11.5
P/B (x)	4.1	3.6	3.1	2.6	2.1
ROE (%)	10%	11%	16%	18%	18%

Source: Company data, CMS (HK) estimates

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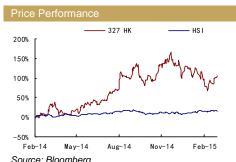
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#### **WHAT'S NEW**

## Initiation

Previous	N/A
Price	HK\$7.21
12-month Target Price (Potential upside)	HK\$9.8 (36%)
Previous	N/A



%	1m	6m	12m		
327 HK	4%	5%	105%		
HSI	1%	7%	15%		

Industry: Hardware Technology						
Hang Seng Index	24,703					
HSCEI	11,945					
Key Data						
52-week range (HK\$)	3.57 / 9.51					
Market cap (HK\$ mn)	7,937					
Avg. daily volume (mn)	6.1					
BVPS (HK\$)	2.40					
Shareholdings Structure						
Hi Sun Technology (818 HK)	33.1%					
FMR LLC	8.0%					
No. of shares outstanding (mn)	1,101					
Free float	58.9%					



#### Investment thesis

## **China Payment Giant Going Global**

PAX Global is the 3<sup>rd</sup> largest e-payment point-of-sale (POS) terminal player globally, capturing 25%+ market share in China and 9% share globally. We believe ongoing global secular shift from paper to electronic payments represents a major tailwind for PAX, and we forecast 27% and 29% revenue and net profit CAGR during FY14E-16E, backed by its strong product pipeline, solid overseas expansion roadmap, international compliance/certification and strategic move into service segment.

No.3 global POS terminal player with multi-year share gain story and 27%/29% revenue/net profit CAGR during FY14E-16E.

#### Multi-year growth to emerge from local leader into global No.2

We believe PAX is poised to accelerate market share gains to become global top two player in next 2-3 years, benefiting from 1) EMV/ NFC upgrade cycle and VeriFone weakness in US, 2) accelerated mPOS demand in EM (Brazil/ Argentina) and mobile payment adoption in DM, and 3) resilient demand from China on macro tailwinds. Innovative products at competitive pricing and successful breakthroughs in selective markets through domestic partnership with top-tier distributors/ acquirers (Heartland in US, Cielo/UOL in Brazil, LAPOS in Argentina) will allow PAX to deliver 22% CAGR POS shipment during FY14E-16E, driven by 22%/21% shipment CAGR in China/overseas markets.

Capturing good entry point in mature market amid EMV/ NFC upgrade cycle, and Verifone's weakness, US sales to double in FY15E.

#### Innovations and R&D investment to ride on mobile payment wave

We commend PAX for adapting to an accelerating and rapid pace of POS technology change and global security standards. As an early mover to ride on widespread emergence of mobile payments, PAX is proactively developing a product portfolio for each potential winner in the mobile payment war (NFC, QR-code, cloud-based), and we expect the company to further strengthen its leadership in the payment chain while benefiting from these trends to boost revenue and profitability.

Strong momentum in emerging markets (e.g. China, Brazil) fuelled by mobile payment (mPOS/NFC/QR-code) adoption.

Further growth from consolidation and diversification into services With increasing entry barriers into the R&D-driven e-payment market, we expect accelerated industry consolidation in next few years, and PAX is well-placed to win more shares with its distinct advantages in technology innovations, established global presence and economy of scales. PAX also started tapping into high-margin high-growth payment services segment via M&A with Chinese peers and overseas distributors.

Valuation attractive on promising outlook and profitability

Our FY14E/15E/16E EPS are ahead of consensus by 2.5%/8.0%/9.3%, mainly on the back of stronger shipment growth in US (EMV/NFC) and emerging markets (mPOS) like Brazil/Argentina. The stock is currently trading at an undemanding valuation at 14.7x FY15E P/E, close to 1-SD above its 5-year historical multiple (10.4x P/E) but 33% below its recent historical peak forward P/E (19.4x P/E). We believe its global leadership position, solid growth profile and unique market positioning justify it trading at a high-end of its historical multiple.

We initiate coverage of the stock with BUY and TP of HK\$9.8 (36% upside), based on 20x FY15 P/E, in-line with global peers and 15% discount to global No.1 player, Ingenico (23.3x P/E). Upcoming catalysts include continued global market share gains, potential M&A for diversification, introduction of flagship products for overseas market, faster-than expected EMV/NFC adoption cycle in US. Major risks include product concentration risks, pricing/margin pressure on intense overseas competition and M&A integration/execution failures.

Attractive valuation on margin expansion and massive increase in overseas shipment.

## CMS(HK) @ 招商证券(香港)

#### **Focus charts**

Figure 1: FY14E-16E Rev CAGR: 27% with increasing overseas exposure



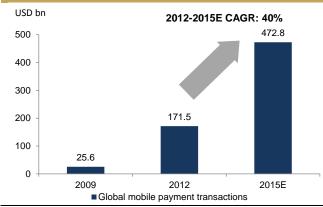
Source: Company, CMS(HK)

Figure 3: PAX gained market share amid consolidation



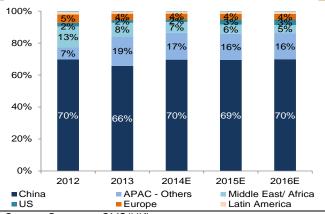
Source: Nilson, CMS(HK)

Figure 5: Global mobile payment transactions value: 40% CAGR during 2012-2015E



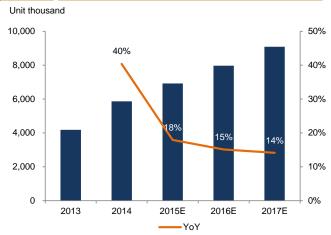
Source: BI, CMS(HK)

Figure 2: Margin improvement with shipment mix change to higher-ASP overseas market



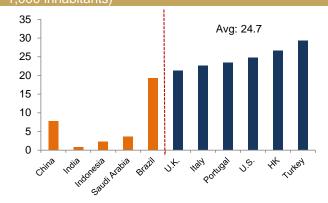
Source: Company, CMS(HK)

Figure 4: China POS terminal market growth is stabilizing



Source: PBOC, Bureau of Statistics, CMS(HK)

Figure 6: Strong potential in emerging market given low POS penetration (in terms of no. of POS per



Source: Ingenico, CMS(HK)



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## Multi-year growth story to transform into global No.2 in POS terminal market

We expect 22% POS shipment CAGR during FY14E-16E, accounting for 98% of FY15E revenue. PAX ranked No.3 in 2013 in terms of POS terminal shipment and we expect PAX to climb up to No. 2 position in FY15-16E. We are optimistic to PAX overseas expansion as it is the only Chinese vendor that can compete with global leaders in terms of scale, expertise and competitive cost product offerings. We expect the multi-year overseas expansion strategy to bear fruits in FY14E-16E, after years of R&D investment, distribution network establishment and quilification acquisitions.

We like PAX for its solid expansion roadmaps. After doubling its global distributors to over 80 in 2013, PAX shipment ramp up rapidly in 2014 with POS terminal shipment of 2.7mn (up 30% YoY) especially in APAC market where China/ other APAC countries accounting for 70%/17% of FY14E shipment mix. For FY15E, we believe the urge of POS terminal upgrade in U.S. and growing demand from Latin America will be the key growth drivers and we expect PAX's total shipment to reach 3.3m, up 23%YoY. Given more advanced product offerings, PAX is likely to enter other mature markets like Europe to capture replacement demand from large merchants in FY16E onwards.



Source: EMV Co, CMS(HK)

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Region	CMS FY15E Shipment (thousand)	FY14E-16E CAGR
APAC	2,837	22%
China	2,297	22%
Others	540	20%
Europe	117	20%
LaTam	47	27%
M. East/ Africa	190	5%
US	106	80%
Canada	8	25%
Total	3,306	22%

Figure 8: PAX FY15E shipment & FY14E-16E CARG

Source: Nilson Report, CMS(HK)

#### 1. Great Leap in U.S.: Favorable industry dynamics and flagship product launch

We expect NFC-based Apple Pay has the critical mass to boost demand for upgrading POS equipment, given 1) Apple Pay's minimal disruption in existing payment ecosystem, 2) US's EMV upgrade cycle in 2015 to promote NFC adoption, and 3) alleviated consumers' concerns in security/privacy with tokenization technology and transaction data storage. In addition, with the rising penetration of wearables (Apple Watch) and other tech giants' payment initiatives (Google GOOG US, Samsung 005930 KS) in 2015, we believe the replacement cycle in US will provide massive tailwinds to PAX's NFC contactless POS business in developed markets.

PAX targets to double sales in U.S. market in 2015 and we expect shipment to reach 106m and 138m in FY15E/FY16E, +150%/+30%YoY, respectively. We believe our estimates are achievable, thanks to:

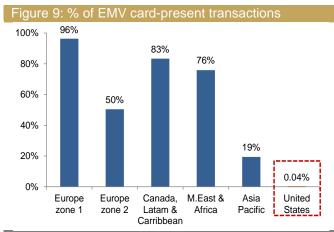
#### Terminal upgrade demand fueled by EMV migration and NFC payment adoption.

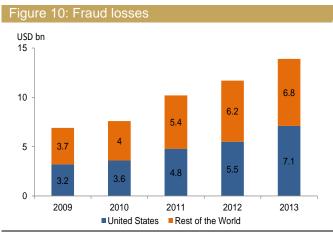
# (1) Management expects EMV migration is a key opportunity to PAX and sales from U.S. is likely to double in 2015 despite a small market share for now (2% in U.S. in 2013).

Currently EMV card-present transactions in U.S. is just 0.04% vs. >50% in other developed markets mainly due to high upgrading cost (USD1.3 per unit for chip cards vs. USD0.13 per unit of magnetic strip card) and weak regulation. The low adoption has resulted in serious fraud problem in the U.S. (51% of global fraud losses in 2013). To lower the fraud rate, card networks have set deadline for EMV adoption to Oct 2015 or fraud liability will be shifted to merchants.

EMV (Europay, MasterCard and Visa) is a payment security standard for credit and debit card transactions. Chip card standard is more secure than conventional magnetic stripe cards as the chip allows dynamic data authentication while magnetic cards are more easily skimmed for cardholder data.







Source: EMV Co, CMS(HK), (EU zone 2:Eastern EU, Russia)

Source: Nilson Report, BI, CMS(HK)

(2) The high iPhone user base and Apple Pay activation rate provide stronger incentives for merchants to upgrade to NFC-enabled POS terminals. PAX's flagship mPOS devices (D200 and D210) are Apple MFi certified, supporting Apple Pay solutions launched in US in Oct 2014. The two largest banks in the U.S., Chase Bank and Bank of America, revealed in late-Feb 2015 that the number of credit cards being activated for Apple Pay reached 1m and 1.1m respectively.

While iPhone devices made up 48% of smartphone sales in 4Q14 in the U.S., we believe much of the contribution comes from the lately launched iPhone 6 and 6 Plus. The high iPhone user base allows Apple Pay adoption to ramp up quickly.

Apart from Apple, another tech giant Google has just announced the acquisition of Softcard, a JV between U.S. largest 3 carriers. Under the agreement, Google Wallet will be pre-installed in Android phones sold via these carriers. Market interpreted more from this transaction and is expecting Google to launch Android Pay using similar NFC technology as Apple Pay.

Samsung has also acquired LoopPay and market is expecting a new mobile payment method Magnetic Secure Transmission other than NFC. On 1 Mar 2015, Samsung announced that the new smartphones Galaxy S6 and Galaxy S6 Edge to be launched in Summer will incorporate the Samsung Pay feature. The major advantage over Apple Pay and Android Pay is the compatibility of existing (90%) POS terminals and thus no upgrade is required. However, we think the impact to POS terminal market is minimal as we expect Apple Pay/ Android Pay to dominate the mobile payment system using NFC technology as they have a combined user base of 60%+ vs. 20%+ for Samsung.

Mobile Payment	Apple Pay	Android Pay	Samsung Pay		
	Pay 220 32				
Technology	NFC	NFC	Magnetic Secure Transmission		
Official launch	Oct 2014 (U.S.)	N.A.	N.A.		
Latest development	Chase Bank and BoA revealed in Feb 2015 that no. of activated Apple Pay credit cards already reached 1m and 1.1m respectively.	Softcard, a JV between	Acquired LoopPay in mid-Feb 2015 and new S-series model are first batch that will be compatible to Samsung Pay.		
Advantage	More secure with TouchID and better protect privacy as Apple will not have access to trasaction data	Existing Google Wallet users can link their accounts to apps that support Android Pay	Compatible with traditional magnetic card readers (Supports 90% of all POS terminals)		

Source: Company data, CMS(HK)



#### PAX continues to gain shares amid VeriFone weakness

We believe PAX can ride on VeriFone weakness and capture U.S. terminal upgrade demand in 2015E. PAX aims to at least double U.S. sales in 2015E helped by growing customer base to 500+ in 2015E vs. 250+ in 1H14 (4,000+ potential customers in U.S. market) and expanded U.S. direct sales team (increased to 45 staff from 15 in 2013).

Despite a low market share (2% in 2013), management targets U.S. market share to reach 10% in 3 years. We think incremental share gain potential to PAX is large amid VeriFone share loss, given 1. PAX products are offered at 10-15% discount to VeriFone/ Ingenico, 2. Upgraded products (e.g. Multilane terminals) are specially-designed to meet U.S. demand and 3. PAX simple business structure and centralized R&D centre help reduce the admin cost.

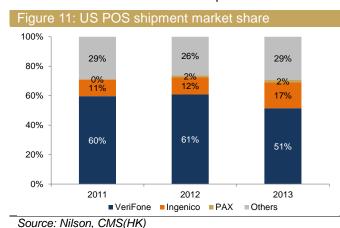


Figure 12: VeriFone vs. PAX

VeriFone	PAX
Numerous acquisitions - Over 1,000 products & 13 different operating systems	Moderate acquisitions - Only 1 acquisition (Kashuo)made in 2014
Decentralized R&D - Over 1,800 R&D staff in 74 locations	Centralized R&D - Only 1 R&D centre in Shenzhen
Complex structure - Over 132 legal entities, 129 facilities and 40 data centres	Simple structure - Only 3 subsidiaries

Source: Company data, CMS(HK)

#### Capturing large merchants market by partnering with top 3 acquirer and launching multilane terminal

PAX is well-prepared to enter the U.S. market with products upgraded to meet the U.S. demand. Margin improvement is expected as ASP for multilane terminals (USD400+) is 2 times of traditional POS terminals. In U.S. market, over 70% demand comes from all-in-one multilane terminals, a more advanced POS terminal and features include providing branding channel/ touch-screen enabled / supporting all kinds of cards and mobile payment. R&D expense ratio increased to 5% in 2012-2013 as PAX hired many U.S. engineer to develop the advanced payment products.

We believe 2015 is the time for harvest after launching the advanced product - multilane terminal. Hurdle to penetrate into the large merchants market became lower. Also, PAX has won a new partnership with U.S. top 3 acquirers in 2014, going a step further in large merchants market after its successful partnership with one of the top 5 payment companies.

Figure 13: MT30 Multilane terminal



Source: Company data, CMS(HK)

Figure 14: R&D expense to revenue ratio

8%

6%

2%

2011

2012

2013

1H14

2014E

R&D Ratio

Source: Company data, CMS(HK) Estimates



#### 2. Latin America: Strong momentum in Brazil and Argentina

We expect 25%/30%/25% EFT-POS terminal shipment growth in FY14E/15E/16E in Latin America with strong demand from Brazil and Argentina. Apart from EFT-POS terminal, mPOS to Brazil is expected to reach 300k/510k/663k in FY14E/15E/16E, contributing 7%/9%/10% of total revenue respectively.

We believe the strong momentum in Brazil market will continue given

#### (1) Customers are price sensitive and PAX pricing is more attractive than key rival Ingenico.

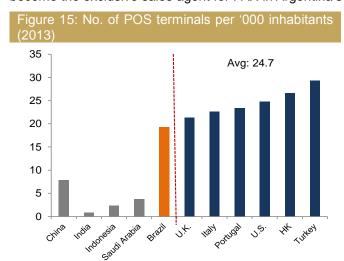
ASP for PAX mPOS is approx USD70 per unit vs. USD90 for Ingenico. Back in 2013, Ingenico Latin America showed flat growth as it lost share in Brazil market and BRL was weakened c13% against EUR. Brazilian customers are price sensitive given the many available substitutes and we believe PAX will be the major beneficiary to Ingenico share loss given its lower cost offering.

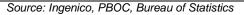
# (2) Strong mPOS demand to prepare for Apple Pay's arrival and Visa is pushing contactless technology for 2016 Olympic Games.

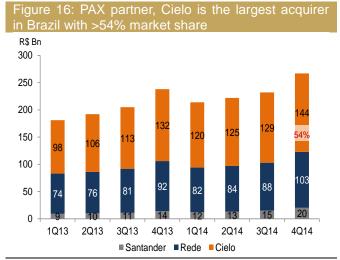
We believe Brazil is one of the first few countries to accept Apple Pay and mobile payment adoption ramp up will be fast given its large user base. Brazil has the world's No.4 largest mobile market.

Brazil POS terminal market is more mature than other emerging countries with 19 terminals per 1,000 inhabitants vs. 25 terminals on average for developed countries. PAX entered Brazil in 2013 and partnered with No. 1 acquirer (>54%mkt share) Cielo Mobile. Cielo has over 1.3 active merchants coverage and >300,000 mPOS products were shipped to Brazil since 2013.

We also expect PAX to penetrate into Argentina market in 2015. PAX entered the region through partnering with LAPOS, the No.1 local payment company set up by Visa Argentina with over 80% market share for E-payment terminal deployment in 2014. PAX has also cooperated with First Systems S.R.L since 2H14. First System has become the exclusive sales agent for PAX in Argentina's financial industry.







Source: Cielo, CMS(HK)



#### 3. China: Solid organic growth driven by rising non-cash transaction and mobile payment ramp up

We expect PAX China POS terminal sales to grow at 38%/23%/21% in FY14E/15E/16E despite facing ASP contraction pressure. We remain positive that PAX will deliver an above average growth in China with shipment reaching 2.4 million unit, up 23%YoY in FY15E despite slower sales growth dragged by decreasing ASP, given PAX advantages in 1. Gaining shares through acquisition and 2. Delivering fastest response to latest payment technology change. PAX has about 30% market share in terms of shipment and we expect the PAX to have a slight 1-2% market share gain during FY15E/16E.

Ride on third-party acquiring market growth, especially on mobile payment. Mobile payment will likely become the major means for non-cash payments given high smartphone penetration (90%+) and improved network connectivity in China. We expect PAX to ride on the trend with products compatible to both NFC/ QR code technology. Specifically, we believe PAX is an early mover in the market as it already partnered with Apple, CCB and VISA to showcase the launch of Apple Pay transactions with PAX's S90 NFC POS terminals in Jan 2015.

In our view, market concerns on QR-code cannibalization towards traditional POS demand in China are overdone. Third-party payment market is highly concentrated with 3 key players. China UMS dominates the offline acquiring business while Aplipay and Tenpay are the leaders in online payment. UnionPay (parent company of China UMS) is pushing for NFC mobile payment while 2 internet giants Alibaba (BABA US) and Tencent (700 HK) have developed QR code intended to bypass the card network and increase profitability. It is still in an ambiguous stage to conclude which mobile payment method will prevail, but, we think the impact on PAX is minimal as we believe PAX, which targests larger merchants, is likely to offer an all-in-one POS terminal that is compatible to both methods. We believe eventually large merchants will accept both payment methods as to enhance users' experience and will adopt/ upgrade to the all-in-one terminals.

Annual transaction value of third-party payment surged at 68%YoY in 2014 to RMB33.2tn, we expect growth to slow to 42%/36%YoY in 2015E/2016E given the high base. We also believe mobile payment is growing faster (+50%YoY) than offline card acquring (+43%YoY) and internet payment (+38%YoY).

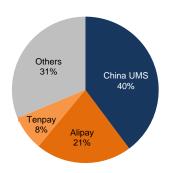


Source: iResearch, CMS(HK) estimates

100% 18% 19% 21% 80% 60% 40% 70% 67% 58% 56% 20% 0% 2012 2013 2014 2015E 2016E Offline card acquiring ■Internet payment ■ Mobile payment

Source: iResearch, CMS(HK) estimates

Figure 19: Market share of third-party payment companies in terms of transaction value, 2013



Source: iResearch, CMS(HK) estimates

Figure 20: Largest potential growth in mobile payment

100%

80%

60%

2012 2013 2014 2015E 2016E

Offline card acquiring Internet payment Mobile payment

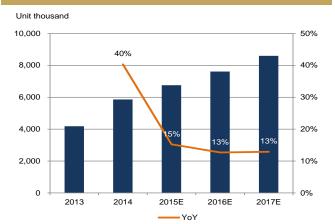
Source: iResearch, CMS(HK) estimates



Benefiting from increasing POS terminal penetration and non-cash payment. We estimate that POS terminal market growth peaked in 2014 after strong growth at 40%YoY. Based on PBOC POS terminal installed base data, no. of terminals per 1,000 inhabitants ratio has increased to 11 in 2014 vs. 8 in 2013. Although the ratio is still lower than the developed countries average at 25, we expect China POS market growth to slow to 15%/13%/13% in FY15E/16E/17E.

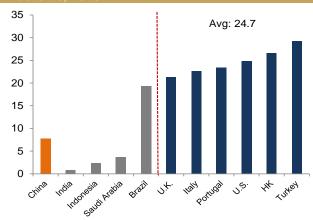
Non-cash payment market size surged 25% in 2013 to RMB1,608tn, attributable to increasing bank card transaction (up 53% to RMB32tn) and mobile payment kick off. We believe PAX will ride on the mobile payment trend with increasing POS upgrade demand in China, thanks to the increasing smartphone penetration as well as a faster and more stable mobile network.

Figure 21: China POS market is slowing down

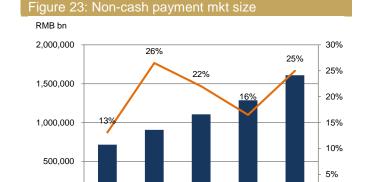


Source: PBOC, Bureau of Statistics, CMS(HK) estimates

Figure 22: No. of POS terminals installed per 1,000 inhabitants, 2013



Source: Source: Ingenico, PBOC, Bureau of Statistics



2011

YnY

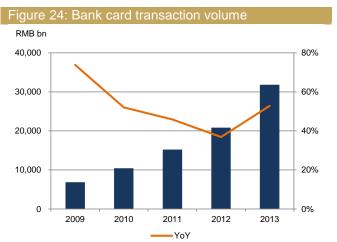
2012

Source: PBOC, CMS(HK)

2009

2010

0



Source: PBOC, CMS(HK)

0%

2013



PAX global development overview

		PAX global development overview												
		FY13		FY14E	FY15E									
	Region	Vol ('000)	Mkt Shr	Vol. gth	Vol. gth	Country		Position						
EM	APAC	1,735	16%	38%	23%	China	2012	Selected as UnionPay POS solutions providers						
		(+79% YoY)					2014	Shipment over 1.3m in 40+ cities						
							2015	Renew e-payment tie-up with CCB						
						HK	2003	Products certified by EPS network and won HSBC bid						
						Indonesia	2014	Partnered with 3 major banks which mkt shr >50% of total merchant transaction volume						
						India	2013	Shipped 10,000 contactless						
						N.Zealand	2014	Selected as mPOS solutions provider of ASB Bank						
						Korea	2001	Won First overseas deal in Korea						
						Vietnam	2001	Entered the market						
	Latin	29	1%	25%	30%	Brazil	2013	Partnered with No. 1 acquirer Cielo (CIEL3 BZ)						
	America	(+35% YoY)					2014	Partnered with UOL ( >40,000 retail POS software customers)						
						Argentina	2014	Partnered with No. 1 acquirer LAPOS (set up by Visa Argentina 80% mkt share) & First Systems						
	Middle	173	6%	5%	5%	Egypt	2013	Partnered with EBE targeting at govt/ acquiring banks						
	East/	(+4% YoY)					2014	Chosen by the Egyptian govt to deploy 20,000 mobile terminals						
	Africa					Iran	2011	Partnered with Tosan (>150,000 POS shipped)						
						Saudi Arabia		Partnered with STC mobile (30,000 shipment)						
						Kuwait	2010	Partnered with KNET, with connections to all local banks, as exclusive agent for PAX POS deployment						
						Egypt	2013	Partnered with EBE targeting at govt/ acquiring banks						
							2014	Chosen by the Egyptian govt to deploy 20,000 mobile terminals						
						Iran	2011	Partnered with Tosan (>150,000 POS shipped)						
DM	Europe	81	2%	20%	20%	U.K.	2012	Opened office in London						
		(+23%YoY)					2014	Launched new POS with Optomany for acquiring banks						
						Russia	2013	Won tender to provide 15,000 POS devices to largest bank						
							2014	Launched a fiscal E-payment terminal integrated with tax modules						
								at lowest cost among competitors						
						Portugal	2014	Passes SIBS certification and partnered with Petrotec						
						Turkey	2010	Partnered with Verisoft to deliver POS solutions to banks						
							2014	Partnered with Derpos						
	U.S./	41	3%	20%	150%	U.S.	2008	Entered the market						
	Canada	(+25%YoY)					2013	Received products certifications from one of the top 5 acquirers,						
								Heartland Payment System (HPY US)						
							2014	Partnered with KinPOS to capture Central America mkt						
	EFT-	2,058	9%	30%	23%									
POS	terminal	(+64%YoY)												
ship	ment													

Source: Nilson report, Company data, CMS(HK) estimates

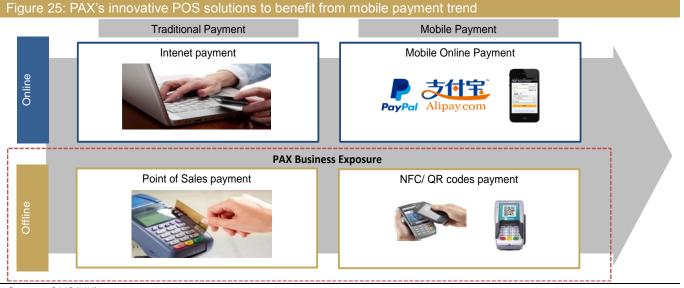


## Product innovation and diversity to capture secular growth in Mobile Payment

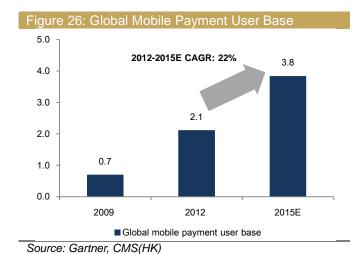
As payment technology advances on the back of increasing mobility and higher smartphone penetration, we believe mobile payments will evolve on two main categories: 1) Mobile POS terminals (mPOS) for broader mobile acceptance and 2) Mobile Wallets (NFC or cloud-based, e.g. QR-codes). We view both trends as positive to PAX as POS terminal remains an integral part of the emerging mobile payment system as well as the increasing penetration of electronic payments.

Benefiting from the enhancing of payment technology, we expect

- 1. 910k/1.3m mPOS to be shipped by PAX in FY15-16E, backed by strong momentum in Brazil and other emerging markets,
- 2. 90% of total shipment in FY16 are NFC-enabled EFT-POS, and
- 3. PAX's payment market leadership to be strengthened through ASP/profitability improvement



Source: CMS(HK)



USD bn
2012-2015E CAGR: 40%
472.8

171.5

2009
2012
2015E

Global mobile payment transactions

Source: Gartner, CMS(HK)



#### 1. Mobile POS boom: PAX is set to benefit from strong demand in underpenetrated micro-merchant market

Low cost and mobility to accelerate mPOS adoption by micro-merchants worldwide. With the improving cloud technology and better mobile connectivity, micro-merchants (with fewer than 10 employees) with lower transaction volumes, especially in the emerging markets, are increasingly adopting mPOS (USD70 vs USD150+ for EFT-POS) solutions for entry-level card payment acceptance. We expect emerging markets like Brazil and China, with a large number of micro-merchants with low POS penetration, would be a huge potential market for mPOS adoption in the next few years.

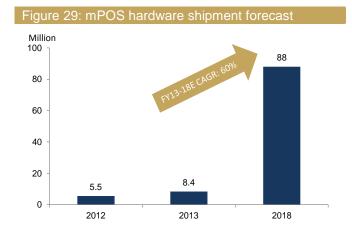
Emerging payment solution providers to deploy free mPOS for broader customer base. Given lower installation/upfront costs of mPOS, we expect new acquirers or other startups may offer free mPOS equipment and differentiated pricing/services, in order to enhance customer stickiness/loyalty and boost sales through broadened acceptance. For instance, Square in US was a first-mover in mobile payments hardware, offering free POS dongles to merchants to accept credit cards at 2.75% per transaction.

**PAX's major success in Brazil to extend into other emerging markets.** With a full range of mPOS product line (D180, D200, D210) launched in 2012, PAX enjoyed huge success in Brazil (300k units in 2014) since the partnership with Ceilo in Nov 2013, primarily due to its price competitiveness, cutting edge embedded technology (contactless, EMV, PCI, SRED), communication options (GPRS, Bluetooth, WiFi), sleeker form factors and industry-leading standards of manufacturing quality.

We expect PAX to replicate its success in Brazil into other emerging markets (China/Turkey/Russia), with high smartphone penetration but low POS penetration, a large base of micro-merchants, an expanding base of card users, and bank/government schemes to encourage card adoption. We expect PAX mPOS revenue to grow 91%/55% to 478mn/740mn in FY15-16E, accounting for 17%/21% of FY15-16E revenue.



Source: Company, CMS(HK)



Source: IHS, CMS(HK)



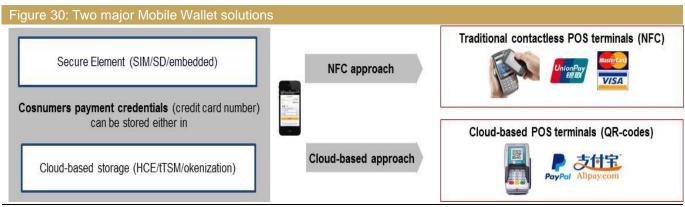
#### 2. Mobile Wallets (NFC/Cloud/O2O): Rapid penetration to accelerate POS upgrade and ASP hike

PAX: Early mover in China; More functionality means higher ASP. We believe the company is well-positioned to capture global NFC opportunities with its wide range of NFC-enabled POS devices, including countertop, mobile and multi-lane NFC equipped terminals, which are all certified by major card networks (MasterCard PayPass, Visa payWave, and American Express ExpressPay).

**Expect 2015 to be NFC inflection point.** Another form of mobile payments refers to transforming mobile devices into payment devices. A number of technologies for mobile wallets are now available in the market, ranging from NFC (Near-Field Communications) and QR-codes to other cloud-based solutions. Although it is clear that mass-adoption of mobile payment solutions did not take off after years of disappointment, we believe mobile payment wallets are now reaching an inflection point as recent technology developments (NFC/smartphone penetration, HCE, tokenization) are solving major barriers and help stimulate demand for mobile payment globally.

**NFC/Cloud-based approach to co-exist.** In transition from a traditional payment with bank cards to mobile payment using a smartphone, we expect two options to adopt in near term: NFC-based solution (Apple PAY) and O2O/cloud-based solution (QR-code). In our view, we would see both solutions to co-exist, but broad adoption will be NFC-based approach given its broader acceptance and minimal disruption to existing payment ecosystems.

PAX views innovation as key pillar of its strategy. In order to support mobile payments, merchants must install a contactless NFC-enabled terminal at point of sale. We expect PAX will be the major beneficiary of the POS upgrade cycle of both NFC-based and O2O/cloud-based mobile payment solutions, following its heavy R&D investment in product design and certifications for mobile payment solutions over the past few years.



Source: CMS(HK)



## (1) NFC-based mobile wallet: Introduction of Apple Pay to drive NFC-enabled POS penetration

**2015 will be the inflection point in NFC adoption**, given higher penetration of NFC handsets, easier software upgrade of NFC-enabled POS terminals, and reduced security concerns with development of Host Card Emulation (HCE) and tokenization.

**Existing industry players to prefer NFC.** In our view, increasing threat from online payment companies in offline payment market will promote closer collaboration between telcos, issuing banks, and card network to accelerate development of NFC mobile payments. Take China as an example, while China Mobile offered subsidies for NFC-enabled handsets and required all 4G phones to have NFC chips, China UnionPay also promoted NFC payment through offering subsidy to merchants for POS terminals upgrade.





Source: IHS, CMS(HK)

#### (2) Cloud/O2O-based mobile wallet: PAX benefits as industry innovator despite disruption to ecosystem

**New payment solutions continue to evolve.** Another trend in global mobile payment market in recent years is the rise of cloud-based mobile payment solution (or O2O-based solution in China), due to their easy-of-use and lower installation/transaction cost. There are a number of companies along the payment value chain making heavy investments which try to become mainstream mobile payment solutions for consumers, including eBay's PayPal, Google Wallet, Visa's V.me, MasterCard's MasterPass and Square's Pay with Square.

**Potential disruption to ecosystem remains a concern.** One major impact to the payment industry is the potential disruption of the four-party payment model (consumer, issuer, merchant and acquirer) in the traditional payment ecosystem, where card networks (VISA/Mastercard/UnionPay) would charge merchants a processing fee for providing interconnection. In China, we believe rapid adoption of O2O/cloud-based payment solution (led by QR-code of Alipay) will result in a serious threat to the government-backed card network, UnionPay, by challenging its monopoly role as the clearing network with a lower processing fee.

**PAX:** Proactive strategy to mobile wallet innovations. PAX's continued R&D investment and innovation capability would enable the company to capture opportunities in the latest evolution of payment technology. For instance, during Alipay's latest move on single day "12-12" promotion in 2014, media reported that PAX's mPOS, s90Q model, was the primary POS model to use with Alipay's mobile apps for receiving discounts.

Figure 33: Mobile Payment methods: Cloud/O2O-based approach vs NFC-based approach

	Apple Pay	Google Wallet	Alipay Wallet	Wechat Pay	UnionPay Quickpass
Parent	Apple	Google	Alibaba	Tencent	UnionPay
Technology	NFC	Cloud	Cloud	Cloud	NFC
Usage method	iPhone with TouchID	NFC Android handset	QR-code scanning	QR-code scanning	Credit card or NFC handset
Password	No	Yes	Yes	Yes	No
Use case examples	McDonals, Macy's	MasterCard PayPass merchants	Alipay App, Intime	Wechat app, Wangfujing	3.6mn Quickpass POS merchants
Fee	0.15%	-	0.7-1.2%	0.60%	0.2-1.25%

Source: Company, CMS (HK)



## Stronger leadership on consolidation and strategic expansion into services

1. Market leaders continue to add scale amid increasing entry barrier

**Accelerated consolidation among top 3 players.** After a wave of M&A over the past few years, the largest three global players (Ingenico, VeriFone, and PAX) now account for ~60% of global market share, up from 52% in 2010. We see further scope for consolidation among POS terminal companies, given increasing R&D investment for stricter security/certifications requirements, upcoming EMV/NFC upgrade cycle and scaling benefits from expanding global presence.

**Expect PAX to widen gap with domestic peers amid overseas expansion and POS upgrade cycle.** Three out of the top five global POS players in 2013 are Chinese companies, namely PAX Global, SZZT Electronics and Fujian Newland, which recorded 58%/14%/73% POS shipment CARG during FY10-13, backed by their strong presence in fast-growing China market. We believe PAX will extend its lead over domestic competitors through strategic overseas expansion into US/LATAM and continued R&D-focused investment for global certificated products (EMV/NFC) and innovations (mPOS, multilane terminals).

Significant entry barriers to accelerate consolidation in the next few years. We expect PAX has distinct advantages in the following key entry barriers: 1. Substantial investment in technology innovations, global regulatory certifications and compliance, and continuous upgrade of security protocol, 2. Better scale advantage for improving cost structure and broader product offerings, 3. Established customer relationship to secure replacement orders from large merchants in developed countries, 4. Solid distribution network with strong sales/R&D teams to scale up local presence to become a global player.

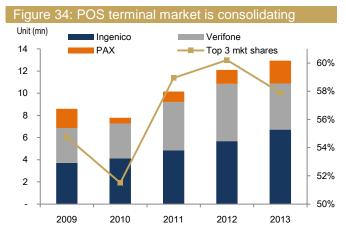


Figure 35: Mkt share of top 5 POS terminal players



Source: Nilson, CMS(HK)

Source: Nilson, CMS(HK)

Figure 36: PAX is growing faster than industry average with continued share gains globally

Ran 2013	king Cor 2012	npany	2013 Shipment	Market Share		Ranking 2013 201	Company	2013 Shipment	Market Share		Rankii 2013 2	ng Company	2013 Shipment	Market Share	YoY
		A	APAC				Latin	America				Middle E	East/Africa		
1	1 Inger	ico	2,440	23%	37%	1	1 Ingenico	1,307	43%	0%	1	1 Bitel	608	29%	25%
2	3 PAX		1,735	16%	79%	2	2 VeriFone	950	31%	-22%	2	2 VeriFone	395	13%	-17%
3	2 SZZ		1,640	15%	3%	3	3 Castles	221	7%	-10%	3	4 Castles	275	9%	77%
4	6 Newl	and	936	9%	44%	4	4 CyberNet	162	5%	5%	4	5 Ingenico	210	7%	43%
5	4 Xingi	odu	775	7%	4%	9	9 PAX	29	1%	35%	5	3 PAX	173	6%	4%
	Total		10,757		30%		Total	3,037		-15%		Total	2,130		24%
		Unite	ed States				E	urope				Ca	nada		
1	1 VeriF	one	936	51%	-17%	1	1 Ingenico	2,300	52%	9%	1	1 Ingenico	140	76%	16%
2	3 Inger	ico	317	17%	47%	2	2 VeriFone	1,209	27%	-27%	2	2 VeriFone	27	15%	-48%
3	2 Equir	ох	250	14%	4%	3	3 Spire	287	6%	29%	3	3 PAX	6	3%	25%
4	4 First	Data	104	6%	-5%	4	5 Worldline	120	3%	1%	4	- Yarus	4	2%	N/A
7	7 PAX		35	2%	25%	7	6 PAX	81	2%	23%	5	5 New POS	2	1%	24%
	Total		1,818		-3%	•	Total	4,414		-2%		Total	185		0%

Source: Nilson, CMS (HK),



#### 2. Strategic expansion beyond terminals towards payment services

We believe acquisitions are integral part of growth strategies in the payment industry. Globally, recent acquisitions in payment industry have shifted to focus on services rather than hardware. For instance, Ingenico has been building its Transaction division, including Easycash (2009), ROAM Data (2009), Ogone (2013) and GlobalCollect (2014); while VeriFone previously acquired a lot of companies involved in POS terminal hardware but recently moved towards the services market, such as acquisition of Point in Jan 2013.

We believe PAX's acquisition of Kashuo got off to a good start. In Dec 2014, PAX announced to acquire 51% of Nanchang-based payment value-added service provider, Kashuo, which provides data analytics and integrated sales & marketing services for bank cards with over 20 financial institutions and telecom operators in 7 cities in China. We believe it is the right move and right timing for PAX to diversify vertically from its historic core business in POS terminals services towards the high-margin high-growth services segment. We expect Kashuo's merchant customers to ramp up rapidly in FY15, but revenue contribution of Kashou will be limited in FY15/16E despite being able to break even in FY15E. For the longer term, PAX expects to generate 10%+ revenue mix from service business through M&A in the next 3-5 years.

#### What is Kashuo?

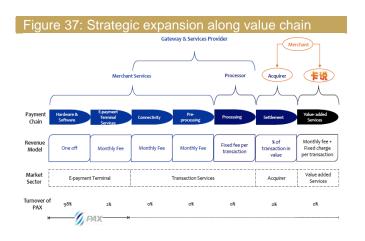
Kashuo was established in Nanchang in 2009, focusing on payment platform service for bank cards and related value-added payment services in 7 cities. Its revenue mainly comes from 1) bank card promotion activities and 2) an integrated platform (IMMA platform, Merchants Alliance) connecting merchants, acquirers and consumers to analyze sales data for target marketing.

#### Why did PAX buy Kashuo?

We believe potential cross synergies would come from 1) more comprehensive payment products/service offerings to PAX's existing acquirers/merchants customers, 2) replication of Kashuo's businesses into other cities leveraging on PAX's strong banks customer base, and 3) new business model to aggregate data generated to provide deeper insights for business development in the increasingly merchants-driven POS terminal market.

#### Expect more deals to come in FY15-16E

With a large pile of HK\$1.7bn cash, PAX is actively seeking M&A targets for vertical expansion along the payment value chain in China and potential investments in distribution partners overseas. We view Kashuo's deal as a great start to penetrate into value-added service to complement organic growth of hardware segment.



Source: Company, CMS(HK)



Source: Company, CMS(HK)



## **Competitive Landscape**

PAX is the only Chinese POS terminal maker competitive with top two global players including Ingenico (ING FP) and Verifone (PAY US) given its increasing presence in non-APAC region. PAX POS terminal shipment volume increased 65%YoY reaching 2m units in 2013, making it No.3 POS terminal maker worldwide. We expect PAX to continue capturing overseas market share, thanks to

- 1) Successfully penetrating into mature market including U.S. and Europe with replacement demand given its quality products and attractive pricing.
- 2) Partnering with top 5 acquirers when entering a new country, especially emerging markets like Brazil/ Argentina.
- 3) Expanding services/ software product offering by acquisition or partnership.

#### **Operational comparison**

	PAX	SZZT Electronics	Fujian Newland	Shenzhen Xinguodu	Ingenico	Verifone
	(327 HK)	(002197 CH)	(000997 CH)	(300130 CH)	(ING FP)	(PAY US)
Origin	Hong Kong	China	China	China	France	U.S.
POS Terminals (2013)						
Ranking	# 3	# 4	# 5	# 8	# 1	l #2
Shipment (unit thousand)	2,058	1,682	964	777	6,714	4,162
YoY	64%	5%	46%	4%	18%	-20%
Global Market Share	9%	8%	4%	3%	30%	19%
Shipment by market (2013)						
APAC	84%	98%	97%	100%	30%	19%
Europe	4%	0%	1%	0%	34%	29%
Latin America	1%	0%	0%	0%	19%	23%
Middle East	8%	2%	2%	0%	3%	% 9%
U.S.	2%	0%	0%		5%	22%
Canada	0%	0%	0%	0%	2%	1%
Product offering						
Payment Hardware Sales as % of total (2013)  Hardware	99%	16%	41%	100%	67%	63%
Countertop terminals	✓	✓	✓	✓	✓	✓
Mobile & wireless terminals	✓	✓	✓	✓	✓	✓
Multi-lane terminals	✓			✓	✓	✓
Unattended terminals				✓	✓	✓
Contactless	✓	✓			✓	✓
PINpad	✓		✓	✓	✓	✓
Others		terminals, c Encrypting PIN s Pad, Printer I	nfo identification design, Mobile software, Expressway system	POS Software	POS Software, e-commerce services, mobile POS solutions	POS Software, e-commerce services, mobile POS solutions, Payment processing, Media solutions

Source: Company data, Nilson, CMS(HK)



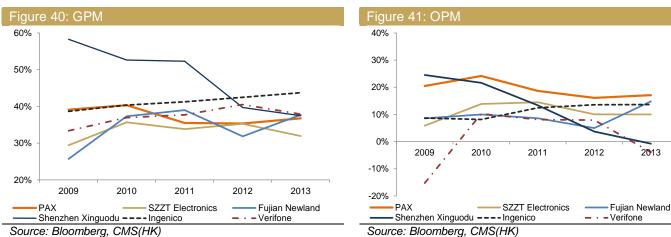
Figure 39: Growth strategies comparison

Global Ranking	Company	Description
1	Ingenico	<ul> <li>Solid leadership in EU/LATAM with comprehensive products/ services coverage</li> <li>FY15/16E growth from China (Landi), Brazil (mPOS), US (EMV)</li> </ul>
2	Verifone	<ul> <li>No. 1 in US</li> <li>Restructuring in process</li> <li>Less price competitive with Chinese players in emerging market</li> </ul>
3	PAX Global	<ul> <li>No. 2 in APAC with solid organic growth in China</li> <li>FY15/16E growth drivers: US (EMV/NFC), LATAM (Brazil/Argentina) and other emerging markets</li> </ul>
4	SZZT	<ul> <li>Shipment weakness in recent years due to limited overseas exposure</li> <li>Diversified businesses include ATM keypads and LED.</li> </ul>
5	Fujian Newland	FY15/16E growth drivers come from mPOS and QR-code payment solutions in China.
8	Shenzhen Xinguodu	<ul> <li>No. 3 market share in China, behind PAX and Landi (owned by Ingenico)</li> <li>Expanding e-payment services/ software offerings/ online games</li> </ul>

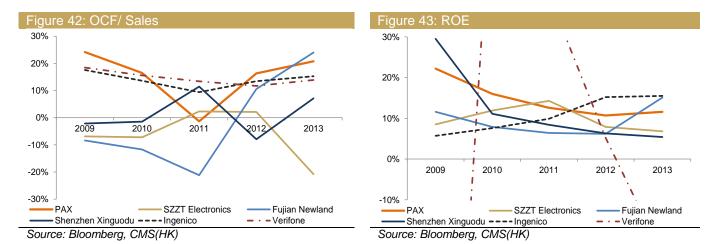
Source: Company, CMS (HK)

#### Financial comparison

**PAX** has the highest **OPM** among peers as it is focusing on a single business and enjoys scaling benefits while competitors have a wider product offering and hence harder to streamline and consolidate their production/supply chain process. We expect PAX GPM to increase gradually with expanding overseas shipment where products can be sold at a higher price.



**PAX has a high and stable OCF/Sales and ROE.** PAX has a higher operating cash flow / sales ratio compared to its Chinese peers having negative operating cash flow and unable to turn sales into cash. Despite lower than Ingenco, PAX is also able to maintain a higher-than-average double-digit ROE ratio.





## **Financial Analysis**

#### Our FY14E/15E/16E EPS are ahead of consensus by 2.5%/8.0%/9.3%, as we believe,

- 1. U.S. EMV/ Apple Pay adoption is faster than expected. Market has underestimated the POS terminal replacement/upgrade demand induced, evidenced by unexpectedly high (> 2 million) credit cards activation on Apply Pay in just 3 months.
- 2. Market is less familiar with the new product mPOS demand in emerging market especially in Brazil. Brazil, being the No.4 largest mobile market worldwide, has a stronger-than-average mobile payment demand with large number of micro-merchants.
- 3. Market concerns on QR-code cannibalization in China is overdone as we believe PAX will offer large merchants' favourable all-in-one POS terminal that is compatible to both QR-code/ NFC mobile payment.

Figure 49: PAX – CMS(HK) estimates vs. consensus

	C	MS (HK) Est.			Consensus			Diff (%)	
HK\$m, Dec-YE	2014E	2015E	2016E	2014E	2015E	2016E	2014E	2015E	2016E
Revenue	2,207	2,864	3,589	2,151	2,666	3,304	2.6%	7.4%	8.6%
Gross profit	840	1,109	1,398	811	1,022	1,274	3.6%	8.4%	9.7%
Net profit	405	530	677	395	491	619	2.5%	8.0%	9.3%
EPS (HKD)	0.37	0.49	0.63	0.37	0.45	0.57	2.5%	8.0%	9.3%
Gross margin	38.1%	38.7%	38.9%	37.7%	38.4%	38.6%			
Net margin	18.3%	18.5%	18.9%	18.3%	18.4%	18.7%			

Source: Bloomberg, CMS(HK) Estimates

Strong FY14E-16E Rev CAGR at 27%, capturing US and EM expansion opportunity

We expect revenue to grow at 50%/30%/25% during FY14E/15E/16E, thanks to

1) Increasing POS terminal shipment to the U.S. and emerging markets with 21% overseas shipment CAGR We expect PAX to capture POS terminal upgrade/ replacement demand arising from EMV/ NFC payment adoption and achieve FY15E overseas revenue growth at 40%YoY, particularly in the U.S. and emerging markets. Management expects shipment volume to double in FY15E. We forecast U.S. shipment will contribute 3% of total in FY15E vs. 15% in FY14E.

## 2) Started shipping mPOS device to capture the growing mobile payment trend

PAX has started shipping mPOS devices in FY14E and we expect revenue from mPOS shipments to account for 12%/17%/21% of FY14E/15E/16E revenue. We are conservative in the shipment estimates while we still expect traditional POS terminals to dominate total product shipment as most terminal models are compatible with mobile payment solution including NFC/ QR code technology.

### 3) Expect newly-acquired service company "Kashuo" to break even in FY15E

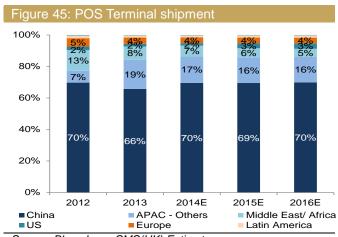
We expect revenue from services (including POS software and value added services) to grow at 13%YoY during FY14E-16E. In Dec 2014, PAX announced acquisition of "Nanchang Kashuo", an E-payment service provider that has direct relationship with 3,000+ merchants. As the present merchants coverage is still small, we expect minimal sales contribution from "Kashuo".

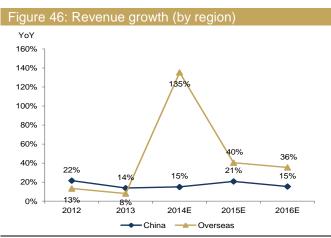
Figure 44: PAX revenue breakdown

HK\$m, Dec-YE	2012	2013	2014E	2015E	2016E
Sales of electronic payment products	1,287	1,431	2,161	2,812	3,530
YoY	19.1%	11.2%	50.9%	30.1%	25.6%
POS terminals	1,169	1,367	1,841	2,260	2,711
mPOS	-	-	250	478	740
Consumer activated devices (PIN pads)	104	48	51	53	56
Contactless devices	14	16	19	21	23
Services	18	21	24	27	31
YoY	34.3%	12.1%	15.0%	15.0%	15.0%
Others	8	20	23	25	27
YoY	-6.9%	167.6%	10.0%	10.0%	10.0%
Total revenue	1,313	1,472	2,207	2,864	3,589
YoY	19%	12%	50%	30%	25%

Source: Company, CMS(HK) Estimates







Source: Bloomberg, CMS(HK) Estimates

Source: Bloomberg, CMS(HK) Estimates

Solid bottom line growth at 29% FY14E-16E CAGR with improving margin

We expect NP growth to be 78%/31%/28% during FY14E/15E/16E with NP margin improvement, given

#### 1) Expanding GPM with increasing overseas revenue contribution

We expect GPM to expand 1.4%/0.6%/0.2% during FY14E/15E/16E with increasing overseas shipment. POS terminal ASP shipped to overseas market is 1.5 times higher than that of in China. However, GPM improvement will be partly offset by the lower-ASP mPOS shipment ramp up in FY15E/16E. We expect slower POS terminal shipment growth to China at 23%YoY in FY15E vs. 38% in FY14E

#### 2) Better operating cost control from scaling benefits

We expect SG&A cost ratio to reduce 2.3% in FY14E and remain at a stable level. The reduction is mainly because of lower R&D expense ratio to 5.4% in FY14E vs. 6.4% in FY13. Although PAX is hiring more R&D staff in U.S. office to develop technologically advanced "Multilane POS terminal", strong sales growth offsets the increasing R&D expense and reduces the overall R&D ratio.

#### 3) Interest income related to large cash balances

PAX has over HKD1bn cash on hand which results in a large amount of interest income. We expect PAX to receive HKD17m/17m/25m interest income in FY14E/15E/16E. Present forecast does not factor in M&A activities to be made in FY15E/16E.

Figure 47: PAX profit and loss analysis

HK\$m, Dec-YE	2012	2013	2014E	2015E	2016E
Revenues	1,313	1,472	2,207	2,864	3,589
Cost of sales	(849)	(931)	(1,367)	(1,755)	(2,191)
Gross profit	464	541	840	1,109	1,398
Gross Margin	35.3%	36.7%	38.1%	38.7%	38.9%
YoY	18.5%	16.6%	55.2%	32.0%	26.1%
SGA	271	325	436	559	698
SGA ratio	20.6%	22.1%	19.8%	19.5%	19.4%
R&D expenses	83	94	118	151	188
R&D ratio	6.3%	6.4%	5.4%	5.3%	5.2%
R&D yoy	57.1%	14.1%	25.1%	27.4%	24.6%
Operating Profit	193	216	403	549	700
Operating Margin	14.7%	14.7%	18.3%	19.2%	19.5%
YoY	16.5%	11.7%	87.0%	36.2%	27.4%
Net profit	183	227	405	530	677
NP margin	13.9%	15.4%	18.3%	18.5%	18.9%
YoY	0.6%	23.8%	78.6%	31.1%	27.6%

Source: Company, CMS(HK) Estimates



#### Ample cash reserves to finance potential M&A

## 1) Temporary pressure on reducing free cash flow in FY14E

PAX may have lower operating cash flow in FY14E despite strong NP growth, given the increasing working capital investment. Free cash flow is thus deteriorated in FY14E but we expect this to be temporary with improving cash conversion cycle, thanks to lower inventory turnover days. As PAX is expanding overseas market with the local market leading acquirers (particularly in U.S., Brazil and Argentina market) being its major customers, we expect sales forecast to become more visible and hence better inventory management.

#### 2) Strong cash position brings M&A opportunities

We expect investing cash outflow of HKD19m in FY15E as PAX will complete the acquisition of Kashuo with a consideration of HKD34m. PAX is having an ample cash reserve and financing need is minimal. We expect the strong cash position to facilitate M&A opportunity, both vertically and horizontally.

Figure 48: PAX's cash flow and working capital analysis

HK\$m, Dec-YE	2012	2013	2014E	2015E	2016E
Cash flow					
Operating cash flow	202	292	19	742	99
Capex	(3)	(1)	(2)	(2)	(2)
Acquisition of subsidiary	0	0	0	(34)	(2)
Others	4	25	17	17	25
Investing cash flow	1	23	15	(19)	21
Financing cash flow	0	8	0	0	0
Cash at period end	1,358	1,698	1,733	2,456	2,576
Free cash flow	314	489	36	1,236	176
Working capital turnover					
Inventory days	118	139	135	125	130
Trade receivables days	146	147	145	145	143
Trade payables days	102	131	125	128	130
Cash conversion cycle	162	154	155	142	143

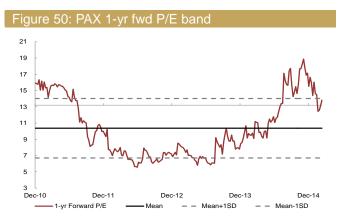
Source: Company, CMS(HK) Estimates



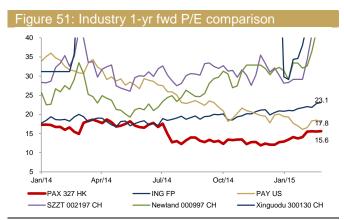
#### Valuation and risks

We initiate coverage of PAX Global with BUY rating and TP of HK\$9.8 (36% upside). Our 12-month target price of HK\$9.8 is based on a 20x FY15E P/E multiple, in-line with global peers and 15% discount to global No.1 player, Ingenico (23.3x FY15E P/E). We assign a lower target P/E multiple than Ingenico given 1. Ingenico's revenue scale is 8 times larger than PAX's, 2. Ingenico's higher revenue mix from recurring services segment (33% vs PAX's 2%), and 3. Ingenico's diversified geographical coverage on payment value chain.

PAX is currently trading at 14.7x our FY15 EPS estimates, 33% below its historic high-end (19.4x P/E) and 1-SD above 5-year historical average (10.4x P/E). We believe our target multiple of 20x FY15 P/E is justified, given 1. stronger revenue and EPS growth (27%/29% FY14E-16E CAGR) vs history (26%/16% FY10-13 CAGR), 2. global No.3 position with 9% market share vs smaller domestic player in the past, 3. increasing overseas exposure towards higher margin mature markets (US, UK, Italy, Germany) and fast-growing emerging countries (Brazil, Argentina, Turkey), and 4. higher mix in services segment with higher recurring revenues (mgmt guidance 10% mix in 3-5 years). We also expect further room for multiple expansion given PAX's improving growth profile, continued margin expansion and global market share gains.



Source: Bloomberg, CMS(HK) Estimates



Source: Bloomberg, CMS(HK) Estimates



Source: Bloomberg, CMS(HK) Estimates



Source: Bloomberg, CMS(HK) Estimates



#### Peers comparison

0		Detien	Market	Current	TP	I located a	P/E	(x)	P/B	(x)	ROE	(%)
Company	Ticker	Rating	Cap (US\$ mn)	Price (LC\$)	(LC\$)	Upside	FY14E	FY15E	FY14E	FY15E	FY14E	FY15E
PAX Global	327 HK	BUY	1,024	7.21	9.82	36%	19.3	14.7	3.1	2.6	16%	18%
China												
SZZT Electronics	002197 CH	NR	1,026	23.81	N/A	N/A	58.5	44.3	4.0	4.3	7%	10%
Fujian Newland	000997 CH	NR	3,170	37.89	N/A	N/A	60.7	43.3	10.3	8.7	16%	20%
Xinguodu	300130 CH	NR	805	43.80	N/A	N/A	109.5	54.1	N/A	N/A	N/A	N/A
Simple Avg							48.3	30.9	5.6	4.8	15%	18%
Overseas												
Ingenico	ING FP	NR	6,920	98.73	N/A	N/A	28.6	23.3	6.1	4.7	21%	21%
VeriFone	PAY US	NR	4,024	35.42	N/A	N/A	23.7	18.5	3.6	3.6	15%	20%
Simple Avg							48.3	30.9	5.6	4.8	15%	18%

Source: Bloomberg, CMS(HK) Estimates

#### **Risks**

#### **Product concentration risk**

PAX generates 98% of its revenue from e-payment terminal products and 2% from services. Any major product failure or security breach will lead to adverse impact to PAX's reputation and customer losses, and subsequently PAX's business would be impacted.

#### Complexity of business transition and M&A execution risk

To further diversify revenue from hardware business to recurring services segment, PAX is actively seeking M&A targets to enhance its industry leadership and boost revenue growth. Any delays/failures in integration and execution of the deals may result in earnings downside.

#### Threats from new entrants and technologies

Companies along the payment value chain may expand their businesses into POS terminal business. New payment technologies and evolutions of security standards may require PAX to invest substantially in upgrading/updating their products. Higher-than-expected investment will lead to negative financial impact to PAX.

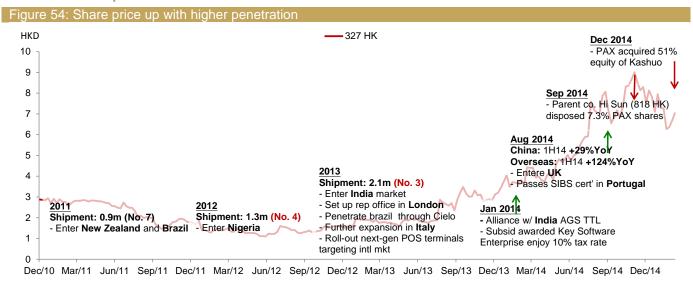
#### Overseas expansion risks

Global payment market is highly competitive, which could lead to pricing/margin pressure, especially in emerging markets where competition could be intensified given local players' aggressive pricing strategy, leading to ASP/margin erosion.



## **Appendix 1: Company profile**

**PAX latest development** 



Source: Bloomberg, Company, CMS(HK)

- Top 3 POS terminal manufacturer worldwide. Founded in 2000, PAX Global Technology Limited ("PAX") is the No. 3 POS terminal player globally with over 2.1 million shipment made in 2013 to 80+ countires. We expect PAX to deliver a 20% shipment CAGR during FY14E-16E and the company targets to be No.2 player in 2015 amid Verifone weakness (shipment -20%YoY in 2013).
- The only Chinese company comparable to top 2 overseas players. PAX is the only Chinese POS terminal manufacturer that is penetrating into overseas market with share gain from top 2 players given its low cost product offerings. PAX has only 66% of shipment made to China vs. > 90% for other Chinese players including SZZT Electronics (002197 CH), Fujian Newland (000997 CH) and Shenzhen Xinguodu (300130 CH). We expect China to account for 68% of total shipment in FY15E vs. 70% in FY14E given 1. stronger overseas exposure by partnering with top 3 local acquriers and 2. China POS terminal market growth peaked at 40%YoY in 2014.
- Strong R&D and sales network to penetrate into overseas market. While having its headquarters in Hong Kong, PAX also operates an R&D center in Shenzhen, a US subsidiary in Florida and a representative office in London, allowing PAX to be a global player with products sold to 80+ countries. We believe R&D investment to increase gradually (FY15E R&D ratio: 5.3%) and catch up with overseas players' R&D ratio (ING/PAY: 7.5%/10.2%) as to expand product offerings that are compatible to the latest mobile/online payment technology.



#### **Product description**

#### S800 CounterTop Terminal

#### S900 Mobile Payment Terminal

#### D180 mPOS Device



NFC-enabled with open operating system that supports customized secure software application



NFC-enabled and supports GPRS or 3G connectivity



Wireless mPOS terminal connects with smart phones and tablets; supports Bluetooth and USB communications

#### MT30 Multilane Terminal

#### S300 Integrated Retail PINPad

#### R50 Contactless Card Reader



Customer-facing, multimedia POS device which offers retailers branding channel; Supports magnetic stripe and smart card payments; Features touch screen and electrostatic pen to enable electronic signature



Integrated retail payment solution for Multilane merchants



Processes small-value payment transactions; Supports contactless MSD and EMB program specifications from MasterCard and Visa

Source: Company, CMS(HK)

#### **SWOT Analysis**

#### Strengths

- No.3 global player in POS terminal market with >2m shipment
- Revenue mix improvement reduces margin reduction pressure from China sales
- Partnering with top-3 merchant acquirers in different regions
- Strong R&D to comprise latest technological advancement including NFC/QR codes-enabled features and new product Multilane terminal
- Chinese-based company with lower entry barrier in emerging market vs. US players

#### Weaknesses

- Position in mature market is still substantially lagging behind top 2 players, Ingenico and Verifone
- Gross margin is lower as 1. 55% 1H14 rev is from price-sensitive China market 2. PAX penetrated mature market with low-cost strategy
- Product offering is not as diverse as peers with most of its revenue being generated through POS terminal sales instead of providing value-added services

#### **Opportunities**

- Supporting policy including EMV migration and encouraging adoption of mobile payment
- Mobile payment shortened replacement cycle
- · Penetrating into new emerging markets
- Strong cash position to support M&A activities
- · mPOS shipment in emerging market

#### Threats

- Uncertain business development regarding newly acquried Kashuo.
- Potential economic slowdown hurting consumption.
- Increasing adoption of online payment and virtual money(e.g. Alipay, PayPal).
- Intense competition from other Chinese POS terminal makers

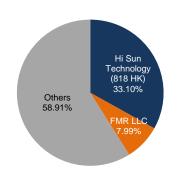


## Management background

Name	Position Background
Mr. Nie Guoming	<ul> <li>Chairman</li> <li>2010-Present: Appointed as Chairman</li> <li>(Co-founder)</li> <li>2001-2010: President of PAX</li> <li>1996-1999: Prior to joining PAX in 2000, Mr. Nie worked as an engineer in China Merchants Bank</li> <li>1991: Obtained Master degree in Radio Electronic Engineering from Southeast University</li> </ul>
Mr. Lu Jie	<ul> <li>CEO</li></ul>
Mr. Lee Chris Curl	<ul> <li>CFO</li> <li>2011-Present: Appointed as CFO and Joint Company Secretary</li> <li>Prior to joining PAX, Mr. Lee was a Group Finance Manager of a financial institution</li> <li>Member of Chartered Accountant in Australia, Certified Public Accountant in Hong Kong and Chartered holder of Financial Risk Manager in the United States</li> </ul>

Source: Company, CMS(HK)

Figure 55: Shareholding structure



Source: CMS(HK)

Assembly service
8%
CPU
15%
PCB, power supply, antenna, pinpad, secure protection module 40%

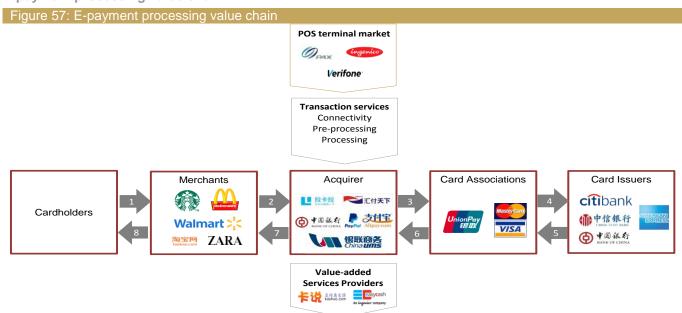
Other electronics component 15%
Plastics & packing 13%

Source: CMS(HK)



## **Appendix 2: Global payment industry**

E-payment processing value chain



Source: CMS(HK)

#### **E-payment transaction process**

- 1. Cardholder purchases at a merchant through an EFT-POS terminal
- 2. EFT-POS terminal sends transaction data to acquirer
- 3/4. Acquirer send authorization request and verifies with card issuer through the card association network
- 5/6. Card issuer verifies cardholder's creditability and grants authorization
- 7. Acquirer receives response and relays to merchant
- 8. Transaction completed

#### **Major acquisitions**

Date	Acquirer	Target	Country/ Region	Business	Implications
Apr-01	Ingenico	IVI Checkmate	U.S.	POS terminal vendor	Became the largest terminal provider in the world
Apr-05	Ingenico	Ingetec	China	POS terminal vendor	Entered China market
Apr-06	VeriFone	Lipman	Israel	POS terminal vendor	
Jun-06	Ingenico	MoneyLine	France	E-payment software	
Aug-06	VeriFone	Trintech	Ireland	E-payment software	
Mar-08	Ingenico	Sagem Monetel	France	E-payment software	Aimed to develop a secure identification terminals
Jun-08	Ingenico	Landi	China	POS terminal vendor	Became No. 1 market share leader in China
Sep-09	Ingenico	EasyCash	U.S.	Value-added service	
Jan-10	VeriFone	Clear Channel Outdoor	U.S.	Value-added service	
Dec-10	VeriFone	Gemalto	Europe, Asia	POS terminal vendor	
Jun-11	VeriFone	Destiny Elec. Commerce	South Africa	Value-added service	
Aug-11	VeriFone	Hypercom	UK, US, Spain	POS terminal vendor	
Nov-11	VeriFone	Point International	Sweden	E-payment processor	
May-12	Ingenico	Xiring	France	POS terminal vendor	
Jul-12	Ingenico	Arcom	Russia	POS terminal vendor	
Sep-12	Ingenico	ROAM Data Inc	US	E-payment processor	Mobile payment processor
Nov-12	Ingenico	PT Integra	Indonesia	POS terminal vendor	
May-13	Ingenico	Orgone	Europe, Asia	Value-added service	Focusing on online payment services
Jun-14	Ingenico	GlobalCollect	Netherlands	Value-added service	Focusing on online payment services

Source: Company, CMS (HK)



## **Worldwide POS shipments 2013**

	APAC				Latin America		
Company	Shipments	% of total	YoY	Company	Shipments	% of total	YoY
Ingenico	2,440,000	23%	37%	Ingenico	1,307,000	43%	0%
PAX Technology	1,734,614	16%	79%	VeriFone	950,000	31%	-22%
SZZT Electronics	1,640,000	15%	3%	Castles Tech.	221,400	7%	-10%
Fujian Newland	936,000	9%	44%	CyberNet	162,000	5%	5%
Shenzhen Xinguodu	775,430	7%	4%	Yarus	130,000	4%	44%
VeriFone	645,000	6%	-2%	Spectra Tech.	86,600	3%	-31%
CyberNet	418,000	4%	10%	Bitel	66,220	2%	18%
New POS Tech.	391,976	4%	240%	Shenzhen Justtide	30,000	1%	14%
Vanstone Electronic	223,672	2%	-23%	PAX Technology	28,858	1%	35%
Shenzhen Justtide	220,000	2%	836%	New POS Tech.	11,200	0%	-14%
Others	1,332,747	12%	24%	Others	43,278	1%	-86%
Total	10.757.439		30%	Total	3.036.556	•	-15%

	United States			Middle East/ Africa		
Company	Shipments	% of total	YoY Com	pany Shipments	% of total	YoY
VeriFone	936,000	51%	-17%Bitel	607,700	29%	25%
Ingenico	317,000	17%	47% VeriFone	395,000	13%	-17%
Equinox Pymts.	250,014	14%	4% Castles Tech.	275,000	9%	77%
First Data	104,000	6%	-5% Ingenico	210,000	7%	43%
UIC	53,618	3%	N/A PAX Techno	logy 172,670	6%	4%
USA Tech.	43,487	2%	0% CyberNet	165,000	5%	13%
PAX Technology	35,453	2%	25%Shenzhen Ju	sttide 75,000	2%	424%
Castles Tech.	20,000	1%	34% Shenzhen Ka	ifa 33,900	1%	N/A
Yarus	17,000	1%	21% SZZT Electro	nics 30,000	1%	100%
New POS Tech.	6,337	0%	23% New POS Te	ch. 25,646	1%	12%
Others	34,931	2%	-40% Others	140,124	5%	58%
Total	1,817,840		-3% Total	2,130,040		24%

	Europe				Canada		
Company	Shipments	% of total	YoY	Company	Shipments	% of total	YoY
Ingenico	2,300,000	52%	9%	Ingenico	140,000	76%	16%
VeriFone	1,209,000	27%	-27%	VeriFone	27,000	15%	-48%
Spire Payments	286,700	6%	29%	PAX Technology	5,650	3%	25%
Worldline	119,740	3%	1%	Yarus	4,000	2%	N/A
CyberNet	118,000	3%	-6%	New POS Tech.	2,230	1%	24%
Yarus	94,000	2%	57%	Castles Tech.	1,500	1%	50%
PAX Technology	81,063	2%	23%	Hangzhou Sunyard	1,000	1%	-33%
Castles Tech.	39,000	1%	0%	USA Tech.	882	0%	1%
CCV	27,000	1%	17%	SZZT Electronics	600	0%	100%
New POS Tech.	22,620	1%	267%	LinkFlex	500	0%	N/A
Others	116,791	3%	12%	Others	1,745	1%	1%
Total	4,413,914		-2%	Total	185,107		0%

Source: Nilson report, CMS(HK)



## **Appendix 3: China payment industry key events**

$\wedge$		Event	Implications/ Beneficiaries
> 2015	Jan	<ul> <li>China Citic Bank collaborated with UnionPay to install mini-POS terminal in Beijin taxis</li> <li>First prepaid card company (Chang-go Card 上海暢购) facing bankruptcy risk</li> </ul>	POS terminal players and value-added services providers will benefit from increasing adoption on public transport  CBRC may impose tighter regulation on third-party acquiring business
	Dec	<ul> <li>CCTV reported third-party acquirers illegal activities</li> <li>First time to include card issuing banks in the illegal transaction activities monitoring list</li> <li>Alipay Wallet started to compete with UnionPay by offering 50% offline shopping discounts during "Double Ten Day"</li> </ul>	<ul> <li>CBRC may impose tighter regulation on third-party acquiring business</li> <li>Instead of just punishing acquirers, issuing banks is subject to penalty as well. UnionPay has opened a wexin platform (银联晒单平台) for public to upload fraudulent transaction</li> <li>UnionPay is losing ground with increasing use of Alipay that bypasses UnionPay transaction network</li> </ul>
	Nov	UnionPay, collaborating with handsets manufacturers, plans to launch android-based payments app in 2015     UnionPay released regulations to require members moving all transaction that previously bypassed the association back onto the system	UnionPay is developing payment system that use NFC technology     The regulation aimed at cutting direct links between banks and third party online payment platforms such as Alipay. UnionPay has issued several similar regulations
2014	Oct	China to open up bank-card payments clearing market	Introducing qualified domestic and foreign card associations to China will ease UnionPay monopoly
	Apr	China Mobile plans to offer RMB30 subsidy to each NFC-enabled handsets and required all 4G phones to pre-install NFC chips  UnionPay supports NFC payment development by providing POS terminal upgrading subsidy  CBRC tightened regulation related to third-party acquirers connection with banks to minimize fraudulent transactions	China Mobile/ UnionPay subsidy will increase POS terminal upgrade demand     Part of the transaction fee has to be shared with UnionPay as transaction cannot bypass UnionPay clearing system
	Mar	Banned E-payments made via QR codes due to security concern      PBOC punishes 8 third-party acquirers as criminals cashed in by taking advantages of pre-authorization	QR code ban is expected to be temporarily affecting mobile O2O payment     Payment industry will be more regulated going forward and third-party acquiring market may have higher entry
> 2012	Dec	PBOC released technical standards for mobile payment	UnionPay/Telco speeded up the POS terminal transformation/ IC cards upgrade to meet the standard.
	May	PBOC granted 27 third party payment licenses	Third party acquirer market is opened up



## Appendix 4: New technologies to promote innovation

What is mPOS?

mPOS allows a mobile device to be used as a merchant point-of-sale terminal. There are mainly two types of mPOS devices, including 1. Mobile POS card reader accessories (Dongles) that are attached to smartphones/tablets and 2. Standalone purpose-built mobile devices with integrated operating system. Despite a relatively low adoption rate now, IHS expects mPOS shipment to reach 88m in 2018 vs. 8.4m in 2013. mPOS is attractive to merchants lacking indoors network connectivity for payment transactions as well as small merchants as mPOS solution is more portable and cheaper than traditional commercial POS.

Two groups of players have emerged to meet different demand as the mPOS market is growing with increasing competition. Underpenetrated small merchants market attracts start-ups including Square, ShopKeep and Roam to provide low-cost dongles and inventory control software system. Key existing POS terminal providers including Ingenico, Verifone and PAX are shipping purpose-built mobile devices to large merchants with traditional POs terminals installed.

Implications to traditional POS terminal providers

Minimal direct competition with mPOS players as they targets smaller retailers mPOS market. It is cost-inefficient in terms of number of salespersons and support staff needed to maintain the thin-margin dongle business. VeriFone has thus discontinued dongle sales in 2012. We believe as mPOS targets small to medium-zied merchants, up-to-date software services and low-cost are critical. Some smaller mPOS providers even provide the dongles for free and rely on recurring software services as revenue source. It poses challenges to large POS players in terms of software upgrade and integration with handful of POS models.

mPOS provided by key POS players enhances large merchant retail experience. Instead of focusing solely on mPOS devices, Ingenico, the largest terminal provider worldwide, has announced an "integrated payment" strategy by deploying value added soultions in store, including mPOS devices, to large merchants. Also, fueled by EMV migration, traditional POS terminal players can provide integrated solution which are EMV capable and NFC/ bluetooth enabled.

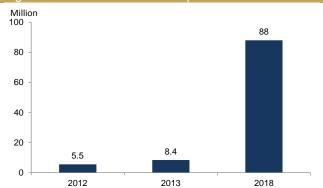
Figure 58: mPOS: Dongles and purpose-built mPOS





Source: Company, CMS(HK)

Figure 59: mPOS hardware shipment forecast



Source: IHS, CMS(HK)



What is the difference between NFC and QR code payment?

NFC (Near-field communication) allows two devices to exchange data through NFC chip within a short distance. Payment is done by 1. Tapping your NFC-payment enabaled smartphone to the POS terminal, 2. Authorizing the transaction by scanning your finger or enter a passcode, 3. Sending authorization back to NFC modem through separate chip "Secure element (SE) and 4. Validating the transaction.

QR code payment allows users to purchase in a quick and simple way through storing banking account information into your phone. Payment made using QR code is simpler than NFC payment as the banking account information is already stored in your phone. Transaction is made either by scanning 1. Active QR codes which consumers scan the codes generated from merchants or 2. Passive 2D codes which consumers QR code are being scanned by the merchants.

What are the concerns of NFC and QR code payment?

NFC is safer to use than QR code payment. An SE is a physical chip installed in the phone, the SE will generate a random, one-off code to transmit user's card information in each transaction. No card information is stored in the phone and thus it is safer to user NFC-based payment as hackers have to both attack hardware (SE chip) and software in order to steal your banking information.

QR code payment allows a transaction to bypass some value chain players. For transaction made using QR code, card association (i.e. UnionPay/Visa/MasterCard) can be bypassed as the money is drawn from prepaid account which is separate from users' bank account, thus no authentication from card association is needed.

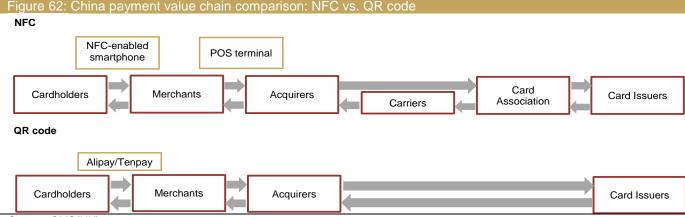
Implications to traditional POS terminal providers

NFC-based contactless terminal is required for the NFC transaction while it is unnecessary for QR code payment. An NFC-enabled terminal is required in order to exchange user data with smartphones. However, for QR code payment, only a low-cost QR code scanner is needed. If QR code payment dominates, demand for NFC enabled terminals may decrease.



Figure 61: QR code payment Omegaline 05-5 12v 62ah y Duty Car Battery Source: Company, CMS(HK)

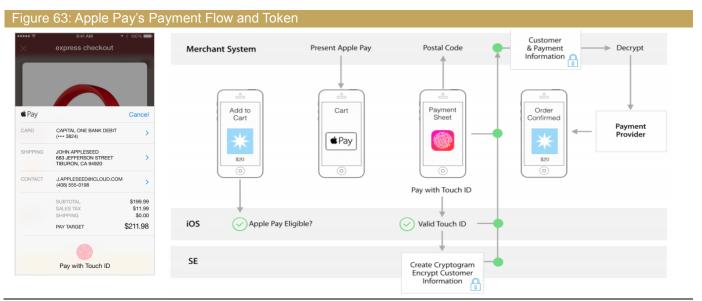
Source: Company, CMS(HK)



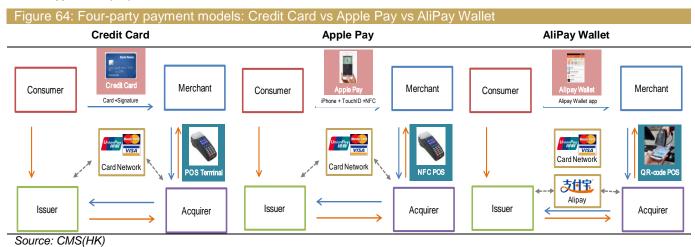
Source: CMS(HK)



### Apple Pay vs. Alipay



Source: Apple, CMS(HK)





# **Financial Summary**

Balance Sheet					
HKD million	2012	2013	2014E	2015E	2016E
Current assets	2,183	2,824	3,433	4,317	5,225
Cash & equivalents	1,358	1,698	1,733	2,456	2,576
Account receivables	544	638	1,115	1,160	1,692
Inventories	244	465	546	656	905
Restricted cash	16	17	17	17	17
Other current assets	20	6	22	29	36
Non-current assets	10	8	6	4	2
Property, plant and equipment	10	8	6	4	1
Leasehold land	0	0	0	0	0
Other non-current assets	0	0	0	0	0
Total assets	2,194	2,833	3,439	4,321	5,227
Current liabilities	383	746	948	1,333	1,564
ST borrowings	0	0	0	0	0
Account payables	225	446	491	740	821
Other payables	131	275	419	544	682
Tax payables	27	25	38	49	61
Other current liabilities	0	0	0	0	0
Non-current liabilities	0	0	0	0	0
LT borrowings	0	0	0	0	0
Other non-current liabilities	0	0	0	0	0
Total liabilities	383	746	948	1,333	1,564
Share capital	104	104	104	104	104
Reserves	1,707	1,983	2,387	2,918	3,595
Minority interest	0	0	0	0	0
Shareholders' equity	1,811	2,087	2,492	3,022	3,699
Total equity and liabilities	2,194	2,833	3,439	4,355	5,263
		-			

HKD million	2012	2013	2014E	2015E	2016E
Operating cashflow	202	292	19	742	99
Net income before tax	223	266	466	624	796
Depreciation and amortisation	3	4	4	4	5
Share-based payments	20	14	0	0	0
Interest income	(11)	(15)	(17)	(17)	(25)
Provision of obsolete inventories	0	11	0	0	0
Other operating cash flow	(4)	(0)	0	0	0
Change in working capital	(31)	12	(434)	131	(677)
Investing cashflow	1	23	15	(19)	21
Capital expenditure	(3)	(1)	(2)	(2)	(2)
Financial assets (net)	(8)	10	0	0	0

Interest income	12	15	17	17	2
Other investments	0	0	0	(34)	(2
Financing cashflow	0	8	0	0	(
Net proceeds from borrowings	0	0	0	0	(
Net proceeds from share issue	0	0	0	0	(
Dividend paid	0	0	0	0	(
Other financing cashflow	0	8	0	0	(
Net change in cash	203	323	34	723	120
Cash and year end	1.358	1.698	1.733	2.456	2.57

Source: Company data, CMS (HK) estimates

**Cashflow Statement** 

<b>Profit</b>	& I	OSS	State	ement

2012	2013	2014E	2015E	2016E
1,313	1,472	2,207	2,864	3,589
(849)	(931)	(1,367)	(1,755)	(2,191)
464	541	840	1,109	1,398
(114)	(131)	(179)	(232)	(291)
(83)	(94)	(118)	(151)	(188)
(75)	(100)	(139)	(176)	(219)
193	216	403	549	700
11	15	17	17	25
0	0	0	0	0
12	4	19	33	41
223	266	466	624	796
(40)	(40)	(61)	(94)	(119)
183	227	405	530	677
0	0	0	0	0
183	227	405	530	677
0.18	0.22	0.37	0.49	0.63
0.00	0.00	0.00	0.00	0.00
	1,313 (849) 464 (114) (83) (75) 193 11 0 12 223 (40) 183 0.18	1,313         1,472           (849)         (931)           464         541           (114)         (131)           (83)         (94)           (75)         (100)           193         216           11         15           0         0           12         4           223         266           (40)         (40)           183         227           0         0           183         227           0.18         0.22	1,313         1,472         2,207           (849)         (931)         (1,367)           464         541         840           (114)         (131)         (179)           (83)         (94)         (118)           (75)         (100)         (139)           193         216         403           11         15         17           0         0         0           12         4         19           223         266         466           (40)         (40)         (61)           183         227         405           0         0         0           183         227         405           0.18         0.22         0.37	1,313         1,472         2,207         2,864           (849)         (931)         (1,367)         (1,755)           464         541         840         1,109           (114)         (131)         (179)         (232)           (83)         (94)         (118)         (151)           (75)         (100)         (139)         (176)           193         216         403         549           11         15         17         17           0         0         0         0           12         4         19         33           223         266         466         624           (40)         (40)         (61)         (94)           183         227         405         530           0         0         0         0           183         227         405         530           0.18         0.22         0.37         0.49

## Financial Ratios

YoY growth rate           Revenue         19%         12%         50%         30%         25%           Operating profit         17%         12%         87%         36%         27%           Net profit         1%         24%         79%         31%         28%           Profitability           Operating margin         15%         15%         18%         19%         20%           Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.7         1.7           Operating efficiency         3.48         2.00		2012	2013	2014E	2015E	2016E
Operating profit         17%         12%         87%         36%         27%           Net profit         1%         24%         79%         31%         28%           Profitability           Operating margin         15%         15%         18%         19%         20%           Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48 <td< td=""><td>YoY growth rate</td><td></td><td></td><td></td><td></td><td></td></td<>	YoY growth rate					
Net profit         1%         24%         79%         31%         28%           Profitability         Operating margin         15%         15%         18%         19%         20%           Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AP turnover         3.78	Revenue	19%	12%	50%	30%	25%
Profitability           Operating margin         15%         15%         18%         19%         20%           Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78	Operating profit	17%	12%	87%	36%	27%
Operating margin         15%         15%         18%         19%         20%           Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2	Net profit	1%	24%	79%	31%	28%
Net margin         14%         15%         18%         19%         19%           ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity           D/A         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)           EPS	Profitability					
ROE         10%         11%         16%         18%         18%           ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)         EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19	Operating margin	15%	15%	18%	19%	20%
ROA         8%         8%         12%         12%         13%           ROIC         19%         23%         46%         84%         85%           Liquidity           D/A         0         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)           EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09	Net margin	14%	15%	18%	19%	19%
ROIC         19%         23%         46%         84%         85%           Liquidity         D/A         0 <td>ROE</td> <td>10%</td> <td>11%</td> <td>16%</td> <td>18%</td> <td>18%</td>	ROE	10%	11%	16%	18%	18%
Liquidity         D/A         0 <th< td=""><td>ROA</td><td>8%</td><td>8%</td><td>12%</td><td>12%</td><td>13%</td></th<>	ROA	8%	8%	12%	12%	13%
D/A         0         0         0         0         0         0           ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)           EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios <td>ROIC</td> <td>19%</td> <td>23%</td> <td>46%</td> <td>84%</td> <td>85%</td>	ROIC	19%	23%	46%	84%	85%
ND/A         -62%         -60%         -50%         -57%         -49%           Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)           EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios	Liquidity					
Current ratio         5.7         3.8         3.6         3.2         3.3           Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)           EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	D/A	0	0	0	0	0
Quick ratio         3.6         2.3         1.9         1.9         1.7           Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)         EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios         Valuation ratios         41.0         33.1         19.3         14.7         11.5	ND/A	-62%	-60%	-50%	-57%	-49%
Operating efficiency           Asset turnover         0.60         0.52         0.64         0.66         0.69           Inventory turnover         3.48         2.00         2.50         2.68         2.42           AR turnover         2.41         2.31         1.98         2.47         2.12           AP turnover         3.78         2.09         2.79         2.37         2.67           Per share ratios (HKD)         EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios         Valuation         41.0         33.1         19.3         14.7         11.5	Current ratio	5.7	3.8	3.6	3.2	3.3
Asset turnover 0.60 0.52 0.64 0.66 0.69 Inventory turnover 3.48 2.00 2.50 2.68 2.42 AR turnover 2.41 2.31 1.98 2.47 2.12 AP turnover 3.78 2.09 2.79 2.37 2.67 Per share ratios (HKD)  EPS 0.18 0.22 0.37 0.49 0.63 CFPS 0.19 0.28 0.02 0.69 0.09 BPS 1.74 2.01 2.31 2.80 3.42 DPS 0 0 0 0 0 0 0 Valuation ratios PE 41.0 33.1 19.3 14.7 11.5	Quick ratio	3.6	2.3	1.9	1.9	1.7
Inventory turnover   3.48   2.00   2.50   2.68   2.42     AR turnover   2.41   2.31   1.98   2.47   2.12     AP turnover   3.78   2.09   2.79   2.37   2.67     Per share ratios (HKD)     EPS   0.18   0.22   0.37   0.49   0.63     CFPS   0.19   0.28   0.02   0.69   0.09     BPS   1.74   2.01   2.31   2.80   3.42     DPS   0   0   0   0   0     Valuation ratios     PE   41.0   33.1   19.3   14.7   11.5	Operating efficiency					
AR turnover 2.41 2.31 1.98 2.47 2.12 AP turnover 3.78 2.09 2.79 2.37 2.67  Per share ratios (HKD)  EPS 0.18 0.22 0.37 0.49 0.63  CFPS 0.19 0.28 0.02 0.69 0.09  BPS 1.74 2.01 2.31 2.80 3.42  DPS 0 0 0 0 0 0 0  Valuation ratios  PE 41.0 33.1 19.3 14.7 11.5	Asset turnover	0.60	0.52	0.64	0.66	0.69
AP turnover     3.78     2.09     2.79     2.37     2.67       Per share ratios (HKD)       EPS     0.18     0.22     0.37     0.49     0.63       CFPS     0.19     0.28     0.02     0.69     0.09       BPS     1.74     2.01     2.31     2.80     3.42       DPS     0     0     0     0     0       Valuation ratios       PE     41.0     33.1     19.3     14.7     11.5	Inventory turnover	3.48	2.00	2.50	2.68	2.42
Per share ratios (HKD)           EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	AR turnover	2.41	2.31	1.98	2.47	2.12
EPS         0.18         0.22         0.37         0.49         0.63           CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	AP turnover	3.78	2.09	2.79	2.37	2.67
CFPS         0.19         0.28         0.02         0.69         0.09           BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	Per share ratios (HKD)					
BPS         1.74         2.01         2.31         2.80         3.42           DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	EPS	0.18	0.22	0.37	0.49	0.63
DPS         0         0         0         0         0           Valuation ratios           PE         41.0         33.1         19.3         14.7         11.5	CFPS	0.19	0.28	0.02	0.69	0.09
Valuation ratios           PE         41.0 33.1 19.3 14.7 11.5	BPS	1.74	2.01	2.31	2.80	3.42
PE 41.0 33.1 19.3 14.7 11.5	DPS	0	0	0	0	0
	Valuation ratios					
DD // 26 21 26 24	PE	41.0	33.1	19.3	14.7	11.5
<u> </u>	PB	4.1	3.6	3.1	2.6	2.1
EV/EBITDA 31.2 26.4 14.9 9.6 7.4	EV/EBITDA	31.2	26.4	14.9	9.6	7.4



## **Investment Ratings**

Rating	Definition
BUY	Expected to outperform the market index by >10% over the next 12 months
NEUTRAL	Expected to outperform or underperform the market index by 10% or less over the next 12 months
SELL	Expected to underperform the market index by >10% over the next 12 months

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