

CTOS Digital CTOS.KL CTOS MK

EQUITY: SOFTWARE & SERVICES

Value creation from data and digitization

Increased customer needs meet enhanced product catalog; initiate coverage at Buy with TP of MYR1.45

Action: Initiating coverage at Buy with TP of MYR1.45 (32% implied upside)

We initiate coverage of CTOS Digital with the newly-listed shares to commence trading on 19 July. CTOS is a Malaysia-based private credit reporting agency (CRA), with a dominant market share of 71% (2020), along with exposure to Thailand through a 20% stake in BOL (BOL TB, NR), a leading Thai CRA. We believe CTOS should be on the cusp of a revenue and earnings acceleration, as increased customer needs meet an enhanced product catalog. We forecast a revenue CAGR of 18%, and a net income CAGR of 34% over FY21F-23F. From a top-down perspective, credit reporting revenue across ASEAN has scope to expand through growing coverage of the credit-active population, increased access to financing and higher unit CRA revenue. Specifically: **1)** CTOS' rapidly developing product suite in addition to its large credit database with new offerings, data sources, and value-added services (such as, eKYC, eTR, IDGuard and CAD) cater to all stages of a customer's credit offering lifecycle and is likely to see better take-up and use-cases; and **2)** CTOS' solutions should improve monetisation from its sticky existing customer base and new customers in a post-pandemic, digitised world. We are also likely to see new emerging verticals (e.g., tenant screening, used vehicles and digital banks), which CTOS could potentially be able to cater to owing to its wide database. According to management, it is also going to be closely scouting for inorganic growth opportunities across Asia in the credit reporting industry.

Valuation: TP of MYR1.45 (32% implied upside on IPO price) on 45x FY22F P/E

We derive our TP of MYR1.45 based on a 45x target P/E applied to FY22F EPS of 3.22 sen. This compares to a consensus median forward P/E of 35x each for CTOS' credit bureau peer group, 36x for the rating agencies and financial data provider peer group, and 35x for value-added services peer group. We believe CTOS' superior earnings growth (FY21F-23F earnings CAGR of 34%) vs. peers (mid-high teens), wide moat and strong FCF generation justify the higher valuation. Our TP implies a 32% upside, based on an IPO price of MYR1.10 (the IPO price implies a FY22F P/E of 34x).

Catalysts: Earnings acceleration in a post-pandemic environment and acquisitions

Share price catalysts should provide an earnings inflection on new product adoption, as COVID-19 cases subside and pick-up of lending activities and asset quality volatility once loan relief programmes wind down, increased adoption of value-added services from Key Accounts and Commercial segments, and any value-accretive acquisition. Main downside risks are: below-expected revenue growth, non-renewal of tax incentives and FX risks.

Year-end 31 Dec	FY20	FY21F		FY22F		FY23F	
Currency (MYR)	Actual	Old	New	Old	New	Old	New
Revenue (mn)	140		162		191		226
Reported net profit (mn)	39		48		71		87
Normalised net profit (mn)	39		48		71		87
FD normalised EPS	1.96c		2.30c		3.22c		3.95c
FD norm. EPS growth (%)	0.5		17.2		40.3		22.5
FD normalised P/E (x)	56.1	-	47.9	-	34.2	-	27.9
EV/EBITDA (x)	44.3	-	35.1	-	28.0	-	22.7
Price/book (x)	19.9	-	7.4	-	6.6	-	6.0
Dividend yield (%)	1.1	-	1.2	-	1.8	-	2.2
ROE (%)	41.3		22.0		20.5		22.5
Net debt/equity (%)	95.7		net cash		net cash		net cash

Source: Company data, Nomura estimates

Rating Starts at	Buy
Target price Starts at	MYR 1.45
IPO price 19 July 2021	MYR 1.10
Implied upside	+31.8%
Market Cap (USD mn)	575

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Key Data on CTOS Digital

Performance

(%)	1M	3M	12M		
Absolute (MYR)				M cap (USDmn)	575.0
Absolute (USD)				Free float (%)	50.0
Rel to FTSE Bursa Malaysia KLCI Index				3-mth ADT (USDmn)	

Income statement (MYRmn)

Year-end 31 Dec	FY19	FY20	FY21F	FY22F	FY23F
Revenue	129	140	162	191	226
Cost of goods sold	-22	-19	-22	-29	-34
Gross profit	108	121	140	162	192
SG&A	-66	-79	-89	-96	-110
Employee share expense					
Operating profit	42	43	51	67	82
EBITDA	48	50	59	74	92
Depreciation	-6	-7	-8	-7	-9
Amortisation	0	0	0	-1	-1
EBIT	42	43	51	67	82
Net interest expense	-1	-4	-6	0	0
Associates & JCEs	1	2	7	8	9
Other income					
Earnings before tax	41	40	52	75	92
Income tax	-2	-2	-4	-4	-5
Net profit after tax	39	38	48	71	87
Minority interests	0	1	1	0	0
Other items					
Preferred dividends					
Normalised NPAT	39	39	48	71	87
Extraordinary items	0	0	0	0	0
Reported NPAT	39	39	48	71	87
Dividends	-22	-25	-29	-43	-52
Transfer to reserves	17	14	19	28	35

Valuations and ratios

Reported P/E (x)	56.4	56.1	47.9	34.2	27.9
Normalised P/E (x)	56.4	56.1	47.9	34.2	27.9
FD normalised P/E (x)	56.4	56.1	47.9	34.2	27.9
Dividend yield (%)	1.0	1.1	1.2	1.8	2.2
Price/cashflow (x)	45.1	44.3	37.0	36.1	32.7
Price/book (x)	27.9	19.9	7.4	6.6	6.0
EV/EBITDA (x)	45.5	44.3	35.1	28.0	22.7
EV/EBIT (x)	52.3	51.7	40.3	31.0	25.1
Gross margin (%)	83.3	86.4	86.3	85.0	85.0
EBITDA margin (%)	37.2	35.8	36.7	39.0	40.7
EBIT margin (%)	32.3	30.4	31.4	34.9	36.4
Net margin (%)	30.2	27.9	29.7	37.1	38.4
Effective tax rate (%)	5.4	5.8	8.6	5.3	5.4
Dividend payout (%)	57.4	63.2	60.0	60.0	60.0
ROE (%)	56.1	41.3	22.0	20.5	22.5
ROA (pretax %)	39.6	23.1	21.5	25.1	29.1

Growth (%)

Revenue	16.9	8.8	15.4	17.7	18.5
EBITDA	36.1	4.7	18.3	25.2	23.5
Normalised EPS	31.5	0.5	17.2	40.3	22.5
Normalised FDEPS	31.5	0.5	17.2	40.3	22.5

Source: Company data, Nomura estimates

Cashflow statement (MYRmn)

Year-end 31 Dec	FY19	FY20	FY21F	FY22F	FY23F
EBITDA	48	50	59	74	92
Change in working capital	19	-13	-2	-3	-4
Other operating cashflow	-18	13	5	-4	-14
Cashflow from operations	49	50	62	67	74
Capital expenditure	-3	-7	-8	-9	-11
Free cashflow	46	43	55	58	63
Reduction in investments	0	0	0	0	0
Net acquisitions	-56	-97	-30	0	0
Dec in other LT assets					
Inc in other LT liabilities					
Adjustments	1	1	-1	0	0
CF after investing acts	-10	-54	23	58	63
Cash dividends	-22	-11	-49	-33	-46
Equity issue	0	0	214	0	0
Debt issue	16	107	-132	0	0
Convertible debt issue					
Others	11	-23	-6	0	0
CF from financial acts	5	74	27	-33	-46
Net cashflow	-4	20	50	24	17
Beginning cash	10	6	26	76	101
Ending cash	6	26	76	101	118
Ending net debt	22	106	-76	-101	-118

Balance sheet (MYRmn)

As at 31 Dec	FY19	FY20	FY21F	FY22F	FY23F
Cash & equivalents	6	26	76	101	118
Marketable securities					
Accounts receivable	21	28	33	38	45
Inventories					
Other current assets	0	0	0	0	0
Total current assets	28	55	109	139	163
LT investments	57	151	158	166	176
Fixed assets	20	19	19	21	23
Goodwill					
Other intangible assets	38	50	79	79	78
Other LT assets	0	2	2	2	2
Total assets	142	276	367	407	442
Short-term debt	18	132	0	0	0
Accounts payable	14	17	19	22	25
Other current liabilities	20	10	10	10	10
Total current liabilities	52	159	30	32	35
Long-term debt	9	0	0	0	0
Convertible debt					
Other LT liabilities	2	1	10	10	1
Total liabilities	63	160	40	42	36
Minority interest	0	5	0	0	0
Preferred stock					
Common stock	198	198	412	412	412
Retained earnings	72	106	109	146	187
Proposed dividends					
Other equity and reserves	-191	-193	-193	-193	-193
Total shareholders' equity	79	111	327	365	406
Total equity & liabilities	142	276	367	407	442

Liquidity (x)

Current ratio	0.53	0.34	3.69	4.37	4.64
Interest cover	34.4	10.1	8.5	-	-

Leverage

Net debt/EBITDA (x)	0.45	2.11	net cash	net cash	net cash
Net debt/equity (%)	27.3	95.7	net cash	net cash	net cash

Per share

Reported EPS (MYR)	1.95c	1.96c	2.30c	3.22c	3.95c
Norm EPS (MYR)	1.95c	1.96c	2.30c	3.22c	3.95c
FD norm EPS (MYR)	1.95c	1.96c	2.30c	3.22c	3.95c
BVPS (MYR)	0.04	0.06	0.15	0.17	0.18
DPS (MYR)	0.01	0.01	0.01	0.02	0.02

Activity (days)

Days receivable	55.6	64.7	68.4	67.8	67.6
Days inventory	0.0	0.0	0.0	0.0	0.0
Days payable	230.8	295.3	301.2	263.0	252.5
Cash cycle	-175.1	-230.6	-232.8	-195.2	-184.9

Source: Company data, Nomura estimates

Company profile

CTOS Digital is a Malaysian private credit reporting agency (CRA), with a dominant domestic market share of 71% (2020). It also has exposure to Thailand's credit reporting industry through a 20% stake in BOL (BOL TB, not rated), a leading Thai CRA. CTOS Digital and its subsidiaries are mainly involved in the business of credit reporting, digital software related services, software development, outsourcing and training services and investment holding. CTOS provides credit information and analytics digital solutions on companies, businesses and consumers for use by banks and businesses at various stages of the customer lifecycle and provide credit information and analysis to consumers. CTOS's databases contain profiles of approximately 15 million consumers and approximately 8 million companies and businesses. CTOS Digital caters to three segments of customers: Key Accounts, Commercial and Direct-to-Consumer.

Valuation Methodology

We value CTOS Digital at 45x FY22F EPS of 3.22sen to arrive at our TP of MYR1.45. Our 45x target multiple is at a premium to CTOS' peers in the global credit bureau, ratings agencies, financial data providers and value-added services peer groups, in view of CTOS' superior earnings growth expected compared to peers. The benchmark index for this stock is the FBKLCI Index.

Risks that may impede the achievement of the target price

Downside risks to our view are: 1) Slower than expected revenue or earnings growth from key segments; 2) Non-renewal of tax incentives; 3) FX risks due to exposure to Thailand; 4) Regulatory and data security risks; 5) Acquisitions not delivering expected returns.

Other notes

ESG

We ascribe a score of 4.5 (out of 5.0) for CTOS Digital's Environment-related (E) achievements and risks. As a digital business providing credit reporting data to customers, CTOS does not have any major adverse environment impacts. We ascribe a score of 4.0 (out of 5.0) for CTOS Digital's Social-related (E) achievements and risks. Due to the highly sensitive nature of data which CTOS collects, data protection and privacy are of prime importance to CTOS, and sufficient safeguards are needed to protect such data from any outside attempted intrusions, or data leaks. CTOS frequently promotes financial literacy to consumers and businesses. We ascribe a score of 3.5 (out of 5.0) for CTOS Digital's Governance-related (E) achievements and risks. The company's board composition, committee structure follows best practices. However, a history of acquisitions and an intent to use inorganic opportunities for future growth is a factor to monitor, due to the inherent risk of overpaying and lack of control over associate entities. The company qualifies for low tax rates due to pioneer incentives.

Investment thesis

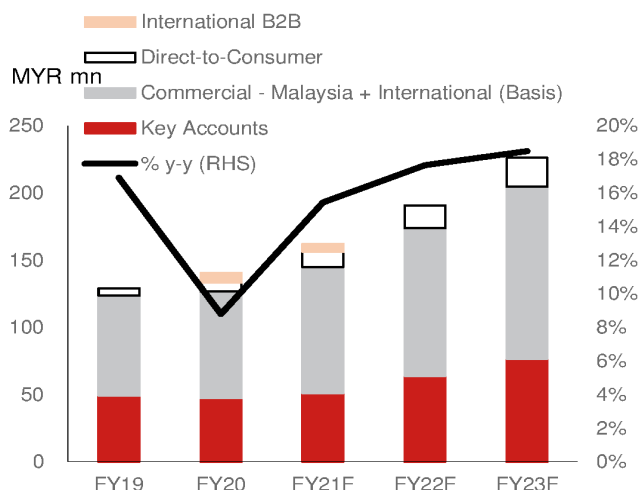
We initiate coverage of **CTOS Digital** (abbreviated as **CTOS** going forward) with a Buy rating and a target price of MYR1.45, implying an upside of 32% over the IPO price of MYR1.10. We believe CTOS is on the cusp of a revenue and earnings acceleration due to two factors coming together: **1)** increasing credit assessment needs from its main customers such as banks, telcos, insurers, SMEs and individual customers, especially in a post-pandemic environment where asset quality is likely to deteriorate as loan relief programmes wind down, and new lending activity is likely to pick up, and **2)** an enhanced product catalog to which CTOS has added several new innovations and offerings over the past few years, using new data sources, analytics and digitization, to be able to cater to customer needs and serve new industry verticals.

We forecast a revenue CAGR of 18% over FY21F-23F, led by all three main business segments: **1)** Key Accounts (35% of FY20 revenue ex-CIBI), **2)** Commercial (60% of FY20 revenue ex-CIBI) and **3)** Direct-to-consumer (5% of FY20 revenue ex-CIBI). We also forecast a net income CAGR of 34% over FY21-23F, helped by revenue growth, higher operating leverage as CTOS' sticky and growing customer base purchases more data and services from the company, the company starts to cater to new industry verticals, and its more optimized post-IPO balance sheet structure (such as full-year impact of recent acquisitions in Thailand and Malaysia, repayment of borrowings, and divestment of the unprofitable Philippines business before listing). CTOS is likely to also generate steady FCF post-listing of MYR 55-63mn over FY21F-23F annually (FCF yield = 2.3-2.7%), as there are no large capex needs, and generate ROE of 20-23% over the same period, on our estimates.

We believe CTOS' market share in Malaysia is set to strengthen over the medium-term. According to IDC Research estimates, CTOS' market share in Malaysia's credit reporting industry was ~71% in 2020 (pro-forma calculation including Basis, which was acquired by CTOS in early 2021). Experian Malaysia and Credit Bureau Malaysia, which are the next biggest competitors, have market share of 17.5% and 7%, respectively, which are much smaller than CTOS, in spite of them having been operating in Malaysia for 12-20 years. CTOS's main moats are company-specific factors such as being a proven and recognized brand built over 30 years, network-effects and a virtuous cycle of having the largest database of credit data which pushes prospective new customers to also choose CTOS as a one-stop shop for their credit assessment needs. Industry-specific factors such as strict licensing, data protection and credit reporting regulations are to be followed, and the constant threat of cyber-attacks necessitates investments in technology, raising entry barriers in the industry.

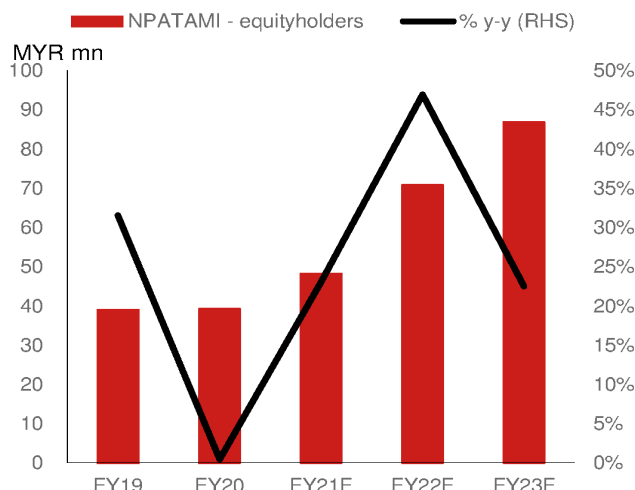
CTOS is also actively looking for acquisition opportunities in the broader Asia-Pacific credit bureau sector, including Malaysia. Management has earmarked MYR59mn of the IPO proceeds for future acquisition opportunities. A well-executed deal in the sector, similar to the past acquisitions of BOL in Thailand (20% stake) and Basis in Malaysia (100% stake) can be accretive to earnings and target price, in our view, and it will give CTOS a further foothold in the still-nascent credit reporting industry in Asia.

Fig. 1: CTOS: Revenue forecasts by segment



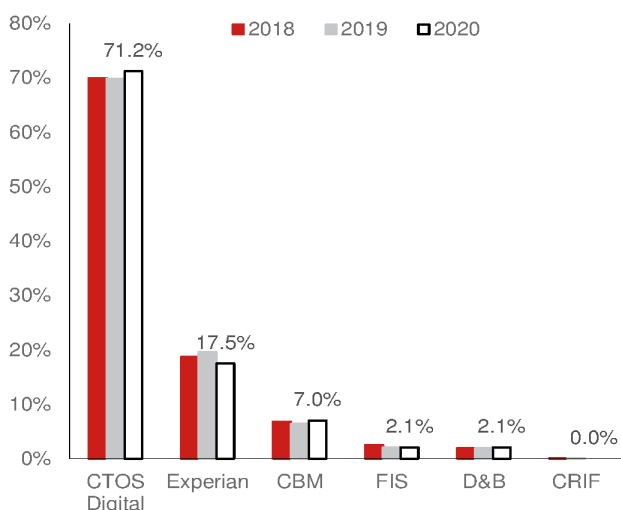
Source: Company data, Nomura estimates

Fig. 2: CTOS: Net income forecasts



Source: Company data, Nomura estimates

Fig. 3: Malaysia credit reporting market share based on revenue



Source: CTOS IPO prospectus, company websites, IDC Malaysia Analysis, Nomura research

Fig. 4: CTOS: Acquisitions since 2014

Company	Year of acquisition	Equity interest acquired
Intellidata Solutions	2016	100%
Experian	2019	26%
BOL	2020	20%
Basis	2021	100%

Source: Company data, Nomura research

Credit reporting industry has attractive growth ahead

The credit reporting industry in many Asian countries is still in a nascent stage, we believe. Specifically, we think that credit reporting revenues in ASEAN countries still have room to grow, and these markets have an upside to: 1) current level of credit bureau coverage of the credit-active population (both businesses and consumers), 2) access to financing for the under-banked population, as well as 3) unit revenues. CTOS currently has exposure to Malaysia and Thailand, the latter through an associate stake. For **Malaysia**, we believe CTOS is likely to remain the market leading credit bureau (2020 credit reporting market share of 71%, as per IDC Market Research Malaysia). The Malaysia credit reporting market has recorded a CAGR of 12.9% over 2016-20, and going forward, IDC forecasts the Malaysia credit reporting market to record a CAGR of 13.2% over 2021-25 (we use 2021F as the base year to exclude the favorable effect of a low starting base in 2020). As we detail further below, we expect CTOS's Malaysia operations to outpace this growth and increase its market share due to more traction with customers, new products, and entry into new segments.

CTOS has exposure to the **Thailand** market through its associate stake of 20% in BOL

(Business Online PCL, BOL TB, Not rated). For Thailand, the credit reporting market has recorded a CAGR of 7.6% over 2016-20, and is forecast by IDC to grow at 6.6% annually over 2021-25. BOL is a leading Thai credit bureau, mainly catering to the larger corporate accounts, and there are know-hows which CTOS and BOL can bring to each other to more effectively serve the large customers and SMEs, respectively. BOL also has a stake in the only Thai consumer credit bureau. Note that BOL's revenue/ANPATAMI have recorded CAGRs of 12%/27% over 2016-20.

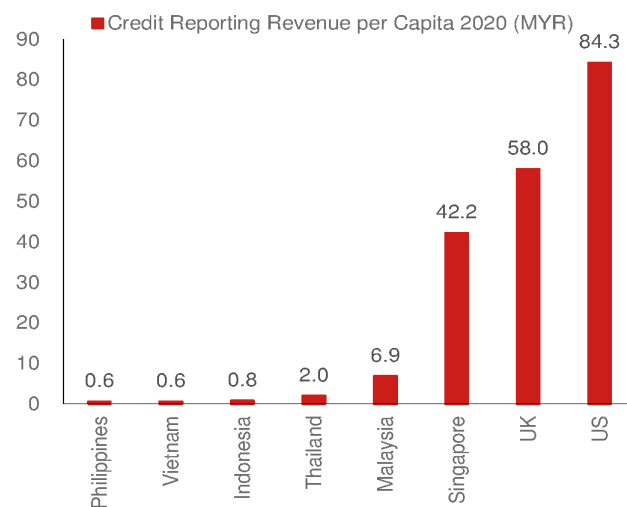
For the overall **ASEAN** market, IDC estimates an industry revenue CAGR of 10.8% over 2021-25. While Malaysia and Brunei are leaders in credit bureau coverage as a percentage of their adult population within ASEAN, other ASEAN markets are still less well-covered by credit bureaus, according to IDC data, along with several markets where banking penetration is also relatively low, such as the Philippines and Indonesia, offering runway for growth.

Fig. 5: ASEAN credit reporting industry market size 2016-2025E

MYR mn	2016	2020	2021E	2025E	CAGR (2016-20)	CAGR (2021E-25E)	CAGR (2016-25E)
Malaysia	139	225	247	406	12.9%	13.2%	12.7%
Thailand	104	139	146	188	7.6%	6.6%	6.8%
Singapore	181	241	257	314	7.3%	5.1%	6.3%
Indonesia	115	219	231	332	17.5%	9.5%	12.5%
Philippines	26	62	70	132	24.1%	17.2%	19.6%
Vietnam	25	58	68	138	23.9%	19.2%	21.1%
Other Markets	23	47	53	105	19.5%	18.5%	18.3%
ASEAN	613	991	1,071	1,614	12.8%	10.8%	11.4%

Source: CTOS IPO prospectus, company annual reports, IDC Malaysia Analysis, Nomura research

Fig. 6: Credit reporting revenue per capita, 2020 (MYR)



Source: CTOS IPO prospectus, Nomura research

Fig. 7: Key indicators across geographies

Indicator	Malaysia	Thailand	Singapore	Indonesia	Philippines	Vietnam	UK	US
GDP per Capita, 2020 (MYR)	44,054	31,515	252,780	17,455	14,577	15,117	169,554	272,521
GDP per Capita CAGR, 2021-2025E	5.5%	5.4%	3.4%	6.8%	6.3%	8.9%	4.9%	3.6%
Population, 2020 (million)	32.7	69.8	5.7	270.2	109.6	97.3	67.9	331.0
Credit Reporting Industry Market Size, 2020 (MYR mn)	225	139	241	219	62	58	3,939	27,887
Credit Reporting Industry CAGR, 2021-2025E	13.2%	6.6%	5.1%	9.5%	17.2%	19.3%	5.3%	7.5%
Population covered by a Credit Bureau, 2019	77%	57%	64%	36%	14%	40%	100%	100%
Credit Reporting Revenue per Capita 2020 (MYR)	6.87	1.99	42.19	0.81	0.57	0.59	58.01	84.25
Credit Card Penetration (% age 15+ reported having a credit card), 2017	21%	10%	49%	2%	2%	4%	65%	66%
Borrowed from a Financial Institution in the past 12 months (% age 15+), 2017	12%	15%	16%	17%	10%	21%	18%	29%
Banked Population (% age 15+ reported having an account at a bank or financial institution), 2017	85%	81%	98%	48%	32%	30%	96%	93%
Domestic Credit to Private Sector as % of GDP, 2019	121%	143%	121%	38%	N/A	138%	134%	192%

Source: CTOS IPO prospectus, CBA prospectus, IMF Data, World Bank, Asia Development Bank, IDC Malaysia Analysis, Nomura research

CTOS' growing product catalog caters to the entire credit value-chain

At its core, CTOS has aggregated a credit database of ~15mn consumers and ~8mn businesses. A lot of the foundational data is sourced from third-party sources such as the central bank (CCRIS), Companies Commission of Malaysia (CCM), public court records, newspapers and other media (previously collated manually, now digitally and other means), and the government (MDI or the department of insolvency, federal government gazettes and the national higher education fund, or PTPTN). Over time, CTOS has evolved to be the largest go-to source of the widest range of aggregated credit-related information on most Malaysian consumers and businesses from these diverse sources, thus developing a strong moat against its competitors.

Initially, CTOS was primarily a data-reseller to some of its largest customers such as banks, and helped SMEs manage their counterparts through its Credit Manager platform. More recently, however, CTOS has developed new product offerings and data sources that have given it a further edge over its competitors, in our view. Some key examples of this are the **eTR** (containing non-bank negative payment histories of Malaysian consumers and businesses, i.e. missed payment reports), **eTR Plus** (monthly payment information on loans, rentals, telcos and utilities bills, i.e. also including prompt payment records), and the **CED** (litigation and bankruptcy proceedings information shared by CTOS subscribers such as banks, non-bank lenders, telecommunication companies and law firms). CTOS also has partnerships with global players such as Fair Isaac Co (FICO, FICO US, Not rated) to develop **CTOS Scores** (launched 2016), Credisense to develop **CTOS Application and Decisioning (CAD)**, (launched 2018), and GBG Plc to develop **CTOS IDGuard fraud bureau** (2020). **CTOS Portfolio Analytics and Insights** was launched in 2020.

These proprietary databases, products and reports, in our view, benefit from network effects of a wide base of CTOS subscribers who create a positive feedback loop of also generating a large volume of such data for CTOS.

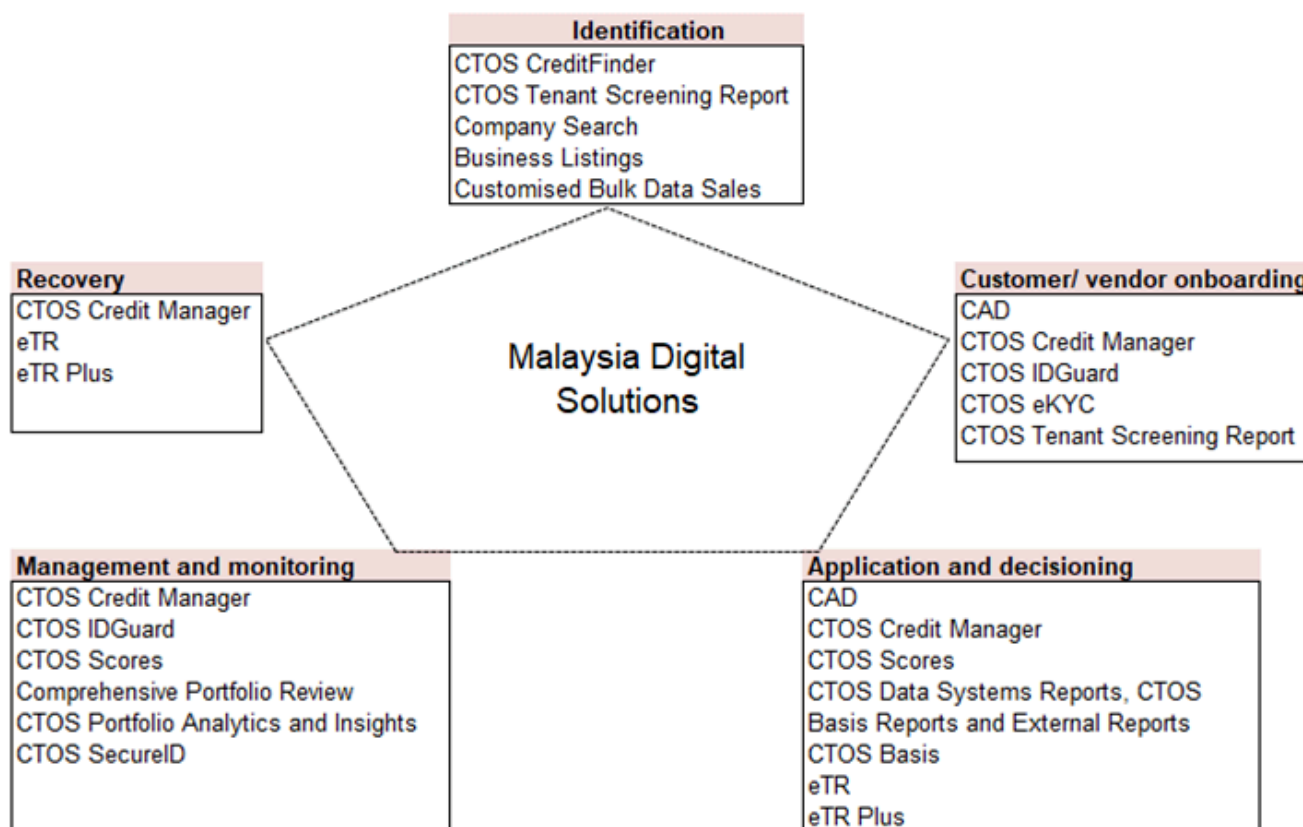
With its wide-ranging product suite, CTOS is able to cater to various stages of the credit decision value chain, ranging from identification of credit prospect, onboarding, application and decisioning, monitoring and recovery. As a result, it has evolved to be highly relevant to consumers and businesses in Malaysia over time. Furthermore, these products also are likely to be the source of incremental revenue growth for CTOS as its customers increasingly rely on CTOS' new products and enhancements for their growing digitisation needs. In the absence of a similar level of wide product offerings from competition, CTOS' competitive advantage is strengthened further, in our view.

Fig. 8: Solutions and services comparison

	CTOS Digital	Experian	CBM	CRIF	D&B	FIS
CORE SOLUTIONS	Access to CCRIS	✓	✓	✓		
	Credit Scoring	✓	✓	✓		
	Credit Rating	✓	✓	✓	✓	✓
	Consumer Credit Report	✓	✓	✓		✓
	Commercial Credit Report	✓	✓	✓	✓	✓
	- Business Information Report	✓	✓	✓	✓	✓
	- Credit Monitoring Service	✓	✓	✓		
	- International Reports	✓	✓		✓	✓
VALUE-ADDED SERVICES	Business Analytics	✓	✓	✓	✓	
	Fraud Prevention	✓				
	Fraud Monitoring	✓	✓			
	Scoring/Rating Validation Services	✓	✓	✓		
	Credit Decisioning & Analytics	✓	✓		✓	
	Digital Onboarding/eKYC	✓	✓		✓	
	Credit Risk Management	✓	✓			✓
	Credit Comparison Site	✓	✓			
	Identity Theft Protection	✓	✓			
	Tenant Screening	✓				

Source: CTOS IPO prospectus, company websites, IDC Malaysia Analysis, Nomura research

Fig. 9: CTOS: Key digital solutions



Source: Company data, Nomura research

CTOS' solutions should improve monetisation from its sticky existing customer base as well as open up new verticals

CTOS has mainly three types of customers: Key Accounts, Commercial and Direct-to-Consumer.

- **Key Accounts (35% of FY20 revenue ex-CIBI):** which comprises the ~430 highest-revenue-generating customers such as banks, as well as other corporates with complex requirements.
- **Commercial (60% of FY20 revenue ex-CIBI):** which comprises ~17,000 primarily in Malaysia, including SMEs in industries such as financial services, telecommunications, wholesale and retail trade, manufacturing, construction, professional services and insurance.
- **Direct-to-consumer (D2C, 5% of FY20 revenue ex-CIBI):** which comprises 1.3mn users registered for a CTOS ID account, allowing users to access and purchase their CTOS Consumer Scores and credit information and helps in consumer fraud protection and identity protection. CTOS provides to Malaysian consumers, credit scores and detailed information including CCRIS information, directorships and business interests, litigation cases and trade references which helps consumers understand and manage their credit health and improve their financial literacy.

The **Key Account** customer base of CTOS has reached a steady state as the company is used by most major credit players in Malaysia (one notable exception, based on our survey is, Public Bank [PBK MK, Buy]). However, growth in this segment is likely to come from growing the wallet from the existing customer base, as CTOS moves from mainly selling credit reports and scores to value-added solutions such as eKYC, IDGuard Fraud Bureau, Portfolio Analytics and Insights, and Application and Decisioning products. This segment for CTOS is well-diversified, with the top five customers (comprising four Malaysia-based banks and a South Korean household appliance firm's local unit), accounting for 14% of CTOS' FY20 revenue. The entire Key Account client base of CTOS is also sticky, and has seen a 100% retention rate since 2017, and 75% of Key Accounts

revenues is recurring in nature due to a subscription-based model, minimizing the downside in periods such as the COVID-19 pandemic, with only the remaining ~25% being one-time transactional revenues based on usage. The upcoming award of up to five digital bank licenses in Malaysia is likely to also be a catalyst as digital adoption grows further in the banking sector. Finally, we believe credit data will be more frequently accessed in a post-pandemic world, which is likely to see volatile asset quality once COVID-19 loan relief programmes wind down, and creditors would be facing warning signs of asset quality deterioration among borrowers.

CTOS also has a well-diversified base of 17,000 **Commercial** customers (mainly SMEs) which span diverse sectors. This segment is CTOS' main revenue engine, and management assesses a total addressable market of ~100,000 SMEs in Malaysia as potential subscribers. The core earnings generator for this segment is the Credit Manager subscription which all SMEs pay monthly, along with incremental usage charges above the free limit. Growth from this segment comes from the increasing needs of SMEs to keep track of their debtors and counterparts, and this is where the eTR and eTR Plus databases are highly relevant.

CTOS is also developing the **Direct-to-Customer** business, and has a registered user base of 1.3mn IDs, vs the credit-active population of 15mn in Malaysia. This business has upside due to increasing financial literacy and is growing at a high rate from a low base.

CTOS also intends to expand into new verticals from the current focus on financial services to also cover the automotive, real estate and insurance sectors. Developed market credit bureaus already provide such coverage, whereas these adjacencies are relatively underdeveloped in the Malaysia as well as ASEAN markets. Used Vehicle Check service and CTOS Tenant Screening Report (launched in 2021) are recent innovative products that CTOS has launched and intends to grow from a low base.

Fig. 10: CTOS: Recent product launches and investments

Recent product launches

CTOS eKYC
 CTOS SME Score
 CTOS IDGuard
 CAD
 CTOS Tenant Screening Report

Near-term

Invest in IT capabilities, and data and analytics
 Leverage on advanced technologies to provide:

- Deeper insights
- Faster decisioning
- Increased accuracy

Source: Company data, Nomura research

Fig. 11: CTOS: Expanding into new verticals

Continue to expand into new sectors with strong growth potential

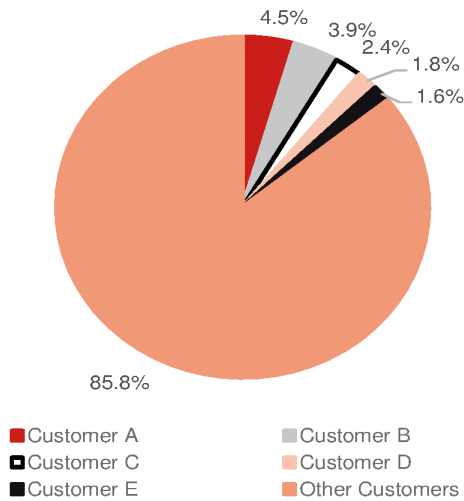
- Present in global credit bureaus
- Relatively nascent and unique to the Malaysian credit reporting industry

Expand digital solutions within new verticals/ sectors

- Automotive (Vehicle Check)
- Real estate (CTOS Tenant Screening Report)
- Insurance

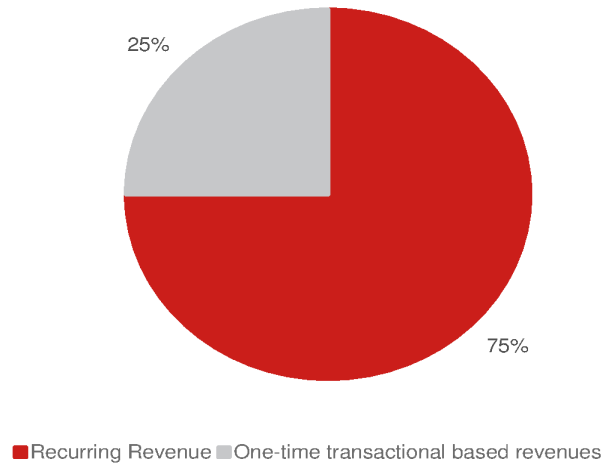
Source: Company data, Nomura research

Fig. 12: CTOS: five largest customers' share of revenue shows customer diversification



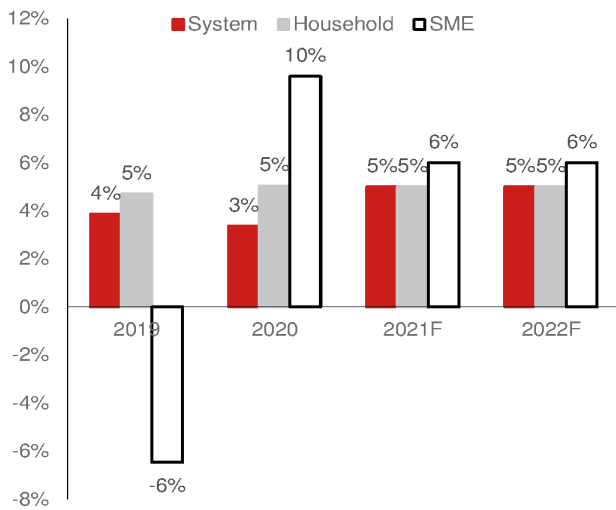
Source: Company data, Nomura research

Fig. 13: CTOS: Key account revenues are largely recurring in nature



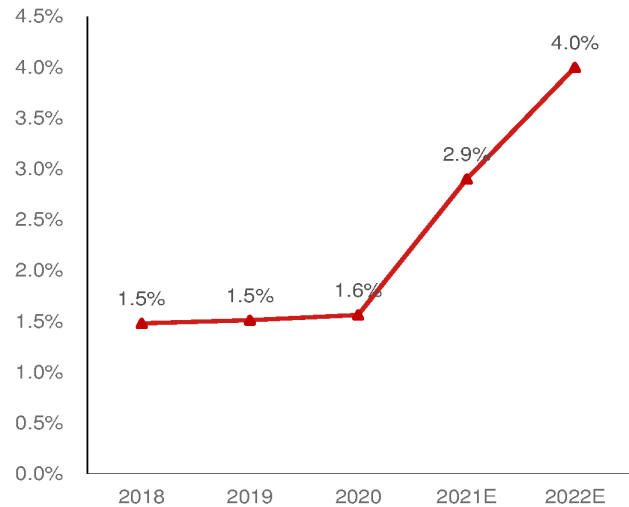
Source: Company data, Nomura research

Fig. 14: Malaysia system loans growth forecasts likely to remain resilient post COVID-19



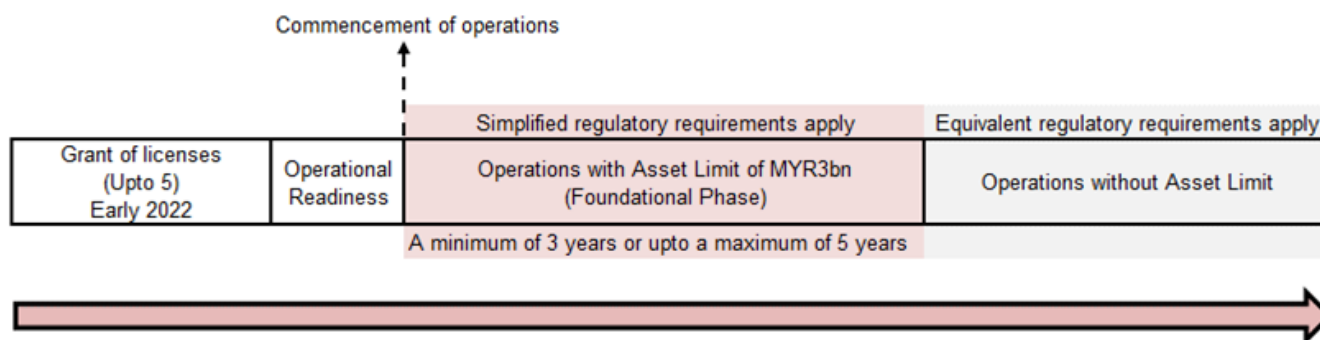
Source: Bank Negara Malaysia, Nomura estimates

Fig. 15: Bank Negara's stress test under Adverse Scenario 1 (AS1) projects gross impaired loans ratio to rise to 2.9%/4% for end-2021F/22F; we think importance of credit assessments will grow as a result



Source: Bank Negara Malaysia (BNM), Nomura research

Fig. 16: Upcoming award of digital bank licenses likely to boost industry adoption of digital solutions in our view



Source: Fintechnews.my, Nomura research

Inorganic expansion likely to be on the radar

CTOS’ past track record of acquisitions, the regulated nature of the industry with high entry barriers, as well as management’s own guidance on the use of IPO proceeds suggests that inorganic expansion in the credit reporting industry is likely to be on the radar for the company. CTOS is restricted by regulations from venturing into non-related businesses, which limits the scope of acquisition targets to those that which are related to the credit reporting industry. CTOS is also actively looking for acquisition opportunities in the broader Asia-Pacific credit bureau sector, including Malaysia. In the past, it acquired a 26% stake in Experian Malaysia in 2019, a 51% stake in CIBI Holdings in 2020 (CIBI is a Philippine credit bureau, but was later divested before the IPO due to weak financials, and is no longer a part of the CTOS listed entity), a 20% stake in BOL Pcl (a Thai credit bureau in 2020), and a 100% stake in Basis in 2021 (Basis is a Malaysian CRA).

Management has earmarked MYR 59mn of the IPO proceeds for future acquisition opportunities. Management in its IPO prospectus indicates that they have identified a target business in the Asia Pacific region, but this such acquisition plan is still in a preliminary discussion phase. A well-executed deal in the sector, similar to the past acquisitions of BOL and Basis can be accretive to earnings and target price, in our view, and it will give CTOS a further foothold in the still nascent credit reporting industry in Asia.

Fig. 17: CTOS: Acquisitions since 2014

Company	Year of acquisition	Equity interest acquired
Intellidata Solutions	2016	100%
Experian	2019	26%
BOL	2020	20%
Basis	2021	100%

Source: Company data, Nomura research

Initiating coverage at Buy; P/E-derived target price of MYR1.45 implies 32% upside, based on IPO price

We initiate coverage of CTOS Digital with a Buy rating, due to our positive stance on its market leadership in Malaysia, prospects of improved market share and wallet size growth for the credit reporting industry as new products meet increased customer needs, high regulatory and network-effect-related barriers to entry, and acquisitive potential from part of its IPO proceeds.

CTOS does not have a like-for-like peer Malaysia. CTOS' peer group consists of other credit bureaus in the world which operate in the similar industry globally, and also select stocks in the related value-added services segment, which provide tools and data related to identity and fraud protection, risk management and analysis, and automated decision technology for lenders. Additionally, a comparison could also be made to larger credit rating agencies, and other market data providers that deal with large customers in providing data and have similarly sticky customer relationships.

Our 31% EPS growth estimate for CTOS (34% net income CAGR) over FY21F-23F is higher than Bloomberg consensus growth estimates for most stocks in its credit bureau peer group, as well as stocks in the ratings agency and value-added services peer groups, which are mostly in the teens (see *Fig. 19*).

In view of its superior earnings growth and wide moat, we ascribe a 45x target P/E for the company. This compares to a median 2021F P/E of 35x each for credit bureau peer group, 36x for the ratings agencies and financial data provider peer group, and 35x for the value-added services peer group. As a sanity check we use the intrinsic P/E ratio formula, i.e. $P/E = \text{Dividend payout} / (\text{Cost of equity} - \text{Long term growth})$, wherein long-term growth = $(1 - \text{dividend payout}) * \text{sustainable ROE}$. Assuming dividend payout of 60%, cost of equity of 9.5%, and sustainable ROE of 20%, we arrive at an intrinsic P/E ratio of 40x, which is close to our 45x target multiple.

Our target price starts at MYR1.45, based on 45x target P/E applied to the FY22F EPS of 3.22sen. It implies a 32% upside, based on the IPO price of MYR1.10.

Catalysts for the share price will include an earnings inflection on new product adoption and resulting revenue growth from its three main segments, as the COVID-19 pandemic subsides and lending activities and asset quality volatility pick up once loan relief programmes taper off, increased adoption of value-added services from key accounts and commercial segments, and any value-accretive acquisition using IPO proceeds.

Fig. 18: CTOS: P/E based valuation

Fully diluted EPS (sen)	FY22F 3.22
TARGET P/E	45 x
Target Price (MYR / share)	1.45
Last price / reference price (MYR / share)	1.10
Upside / (downside)	31.8%

Source: Nomura estimates

Fig. 19: Peer valuation table

Name	Ticker	Country	Mcap (USD mn)	3MADTV (USD mn)	NMR Rating	P/E (CY20A)	P/E (CY21F)	P/E (CY22F)	P/E (CY23F)	P/B (CY21F)	P/B (CY22F)	Div Yield (CY21F)	Div Yield (CY22F)	EV/EBITDA (CY21F)	EV/EBITDA (CY22F)	EPS CAGR (%) 2021F-23F
Credit Bureau																
Experian Plc	EXPN LN	Ireland	39,035	50.4	NR	42.8	35.0	31.1	27.9	10.9	9.3	1.0	1.3	20.7	19.1	12.0%
Equifax Inc	EFX US	United States	30,511	149.8	NR	36.0	35.6	29.5	25.1	8.1	7.1	0.6	0.7	21.4	18.6	19.2%
Transunion	TRU US	United States	21,913	113.3	NR	38.2	32.3	28.9	25.3	7.2	6.1	0.3	0.3	21.1	19.2	12.9%
Fair Isaac Corp	FICO US	United States	14,945	87.6	NR	48.5	43.0	36.4	30.7	45.2	27.6			29.9	26.3	18.4%
Dun & Bradstreet Holdings In	DNB US	United States	8,878	44.4	NR	21.7	19.7	17.7	15.5	2.5	2.4	0.0	12.1	14.7	13.7	12.6%
Nice Information Service Co	030190 KS	South Korea	1,281	2.7	NR	30.5	25.0	21.7	18.2	4.9	4.3	1.4	1.6	14.4	13.4	17.1%
Boa Vista Servicos Sa	BOAS3 BZ	Brazil	1,186	2.1	NR	130.8	46.4	24.8	17.6	3.5	3.2	0.3	0.7	13.2	9.3	62.2%
CTOS Digital	CTOS MK	Malaysia	575		Buy	56.1	47.9	34.2	27.9	7.4	6.6	1.2	1.7	35.5	28.5	31.1%
Business Online Pcl	BOL TB	Thailand	247	0.5	NR	45.3										
Credit Bureau Asia Ltd	CBA SP	Singapore	218	0.2	NR	36.6										
Median						40.5	35.3	29.2	25.2	7.3	6.4	0.6	1.3	20.9	18.8	17.8%
Ratings agencies and other financial data providers																
S&P Global Inc	SPGI US	United States	99,135	499.3	NR	35.2	32.2	29.4	26.6	37.0	27.5	0.7	0.8	23.1	21.5	10.0%
Moody'S Corp	MCO US	United States	70,153	221.2	NR	36.9	32.6	30.6	27.4	36.5	31.7	0.7	0.7	24.4	23.1	9.0%
Thomson Reuters Corp	TRI CN	Canada	50,113	51.4	NR	54.7	53.2	42.1	31.1	3.4	3.3	1.6	1.7	27.0	23.4	30.8%
Msci Inc	MSCI US	United States	46,144	164.6	NR	71.5	58.2	51.8	45.4			0.6	0.6	41.8	37.3	13.2%
Ihs Markit Ltd	INFO US	Britain	45,171	251.0	NR	39.7	35.4	32.3	29.0	4.9	4.7	1.0	0.5	24.6	22.6	10.4%
Verisk Analytics Inc	VRSK US	United States	29,948	156.3	NR	36.7	36.2	31.5	28.4	10.0	9.7	0.6	0.7	22.9	21.2	12.9%
Wolters Kluwer	WKL NA	Netherlands	28,417	45.6	NR	28.8	28.2	26.6	24.3	10.3	9.5	1.6	1.7	18.1	17.4	7.6%
Factset Research Systems Inc	FDS US	United States	12,801	73.1	NR	30.2	30.4	27.9	25.8	11.8	10.9	1.0	1.0	23.2	21.7	8.4%
Allfunds Group Plc	ALLFG NA	Britain	10,502	9.1	NR		39.1	33.4	28.9	3.9	3.8	0.4	0.9	22.5	18.8	16.3%
Crisil Ltd	CRISIL IN	India	2,682	1.9	NR	56.2	52.0	44.1	37.3	14.0	12.7	1.2	1.3	34.3	30.1	18.1%
Icra Ltd	ICRA IN	India	464	1.3	NR	56.3	39.7	35.3	33.5	4.4	4.1	0.9	1.3	35.6	31.5	8.9%
Care Ratings Ltd	CARE IN	India	279	3.7	NR	23.3	24.2	22.4	19.2	3.5	3.4	2.1	2.9	17.2	15.5	12.3%
Median						36.9	35.8	31.9	28.6	10.0	9.5	0.9	1.0	23.8	22.1	11.4%
Related Value Added Services																
Open Lending Corp - CI A	LPRO US	United States	5,035	44.2	NR		54.1	34.5	26.1	41.8	18.8			35.0	24.6	43.8%
Gb Group Plc	GBG LN	Britain	2,258	2.6	NR	33.7	34.6	46.5	34.1			0.5	0.5	29.2	27.3	0.6%
Cerved Group Spa	CERV IM	Italy	2,316	6.3	NR	21.2	18.5	16.4	15.8	3.6	3.4	2.7	3.0	11.6	10.8	8.1%
Median						27.4	34.6	34.5	26.1	22.7	11.1	1.6	1.7	29.2	24.6	8.1%

Source: Bloomberg, Nomura estimates for rates stocks. Note: Bloomberg consensus for NR stocks; prices as of 16 July closing for Asia stocks, 15 July for others and IPO price for CTOS

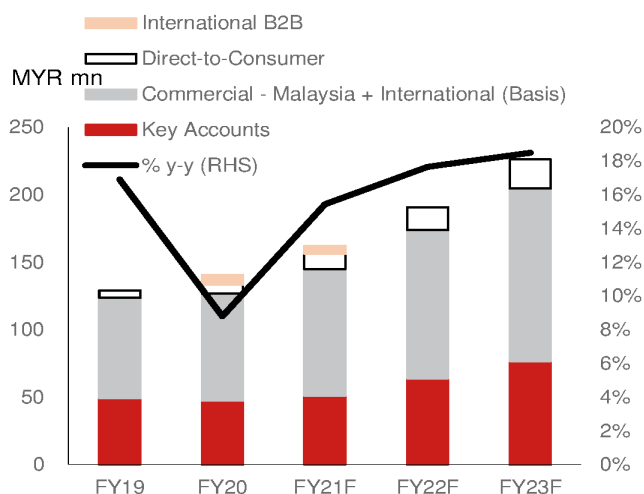
Financial analysis and forecasts

We forecast revenue growth of 15%/18%/18% in FY21F/22F/23F, driven by all three key segments – key accounts, commercial and direct-to-consumer. We expect revenue growth of 25%/20% from the key accounts business as demand for CTOS’ new product catalog leads to increased usage from its larger customers. We forecast a 17%/16% revenue growth from commercial business in FY22F/23F respectively as more and more SMEs sign up with CTOS and drive the uptake of databases. We expect revenue contribution from direct-to-consumer business to increase from 7% in FY21F to 9% of revenues in FY23F, the key accounts to grow from 32% in FY21F to 34% in FY23F, and commercial to fall from 58% in FY21F to 57% in FY23F. Overall, we forecast revenue CAGR of 18% over FY21F-23F.

On costs, we expect selling and marketing expenses to remain at 22% of revenues over FY21F-23F. We expect admin expenses to range between 33%-27% between FY21F-23F.

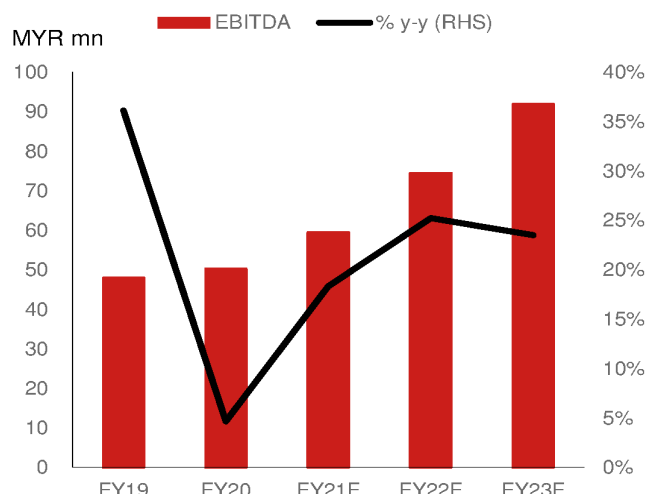
Due to the growth in revenue, higher operating leverage as CTOS’ sticky and growing customer base purchases more data and services from the company, and more optimised post-IPO balance sheet structure (such as full-year impact of recent acquisitions in Thailand and Malaysia, repayment of borrowings, and divestment of the unprofitable Philippines business before listing), we forecast 24%/ 34% CAGR in EBITDA/ net income over FY21F-23F.

Fig. 20: CTOS: Revenue forecasts by segment



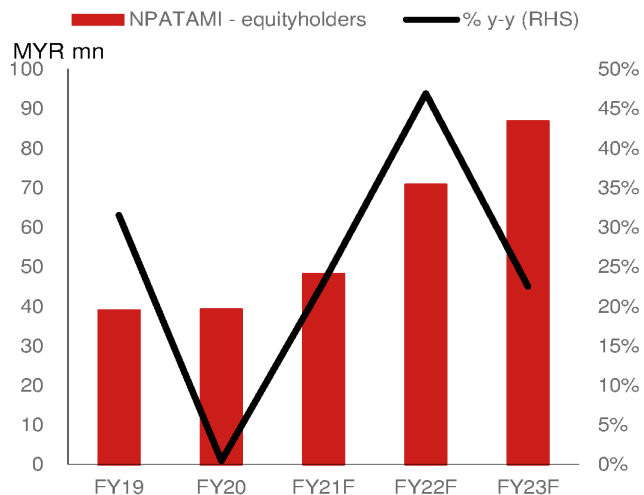
Source: Company data, Nomura estimates

Fig. 21: CTOS: EBITDA forecasts



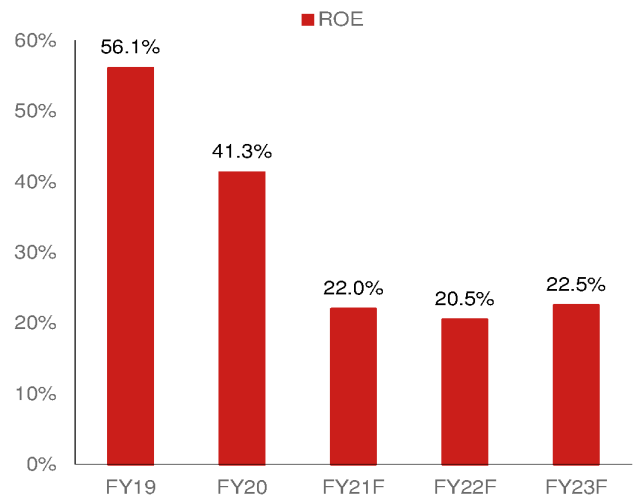
Source: Company data, Nomura estimates

Fig. 22: CTOS: net income forecasts



Source: Company data, Nomura estimates

Fig. 23: CTOS: ROE forecasts



Source: Company data, Nomura estimates

Fig. 24: CTOS: Key forecasts

	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
MYR mn	FY19	FY20	FY21F	FY22F	FY23F
Revenue breakdown					
Key Accounts	49	47	51	64	77
Commercial - Malaysia + International (Basis)	74	80	94	110	128
Direct-to-Consumer	5	6	11	17	21
International B2B	0	7	6	0	0
Total Revenue	129	140	162	191	226
% y-y	16.9%	8.8%	15.4%	17.7%	18.5%
% breakdown					
Key Accounts	38%	34%	32%	33%	34%
Commercial - Malaysia + International (Basis)	58%	57%	58%	58%	57%
Direct-to-Consumer	4%	4%	7%	9%	9%
International B2B	0%	5%	4%	0%	0%
Costs as % of revenue					
Selling and marketing expenses	21.5%	24.1%	22.0%	22.0%	22.0%
Admin expenses	29.5%	32.0%	33.1%	28.2%	26.6%
PBT					
PBT	41	40	52	75	92
PBT margins	31.9%	28.7%	32.1%	39.2%	40.6%
NPATAMI - equityholders					
Net profit margins	39	39	48	71	87
	30.2%	27.9%	29.7%	37.1%	38.4%

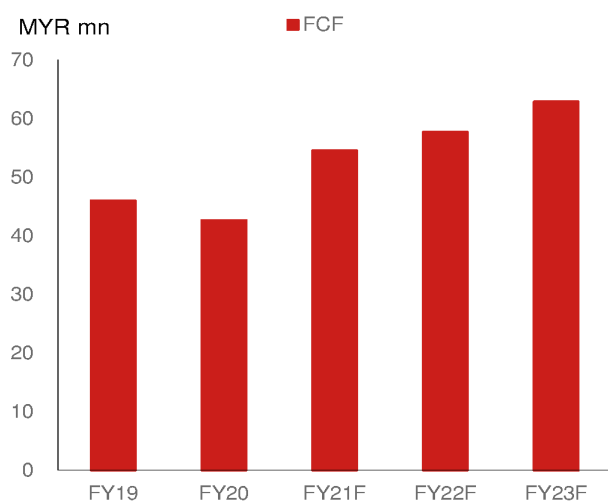
Source: Company data, Nomura estimates

Balance sheet and cash flow analysis

CTOS will have a net cash balance sheet post equity raising and debt repayment of the three term loans drawn down over the last 18 months (USD22.1mn term loan 1 for BOL acquisition, MYR45.6mn term loan 2 for refinancing old borrowings related to Experian acquisition, and MYR 32mn term loan 3 for the acquisition of Basis). As a result, after the IPO, and from end-FY21F onwards, we forecast CTOS to be in a net cash position. Annual capex needs are ~MYR 8mn, and till such time as an acquisition presents itself, we estimate CTOS will generate an annual FCF of MYR 55-63mn (FCF yield of 2.3-2.7%) over FY21F-23F.

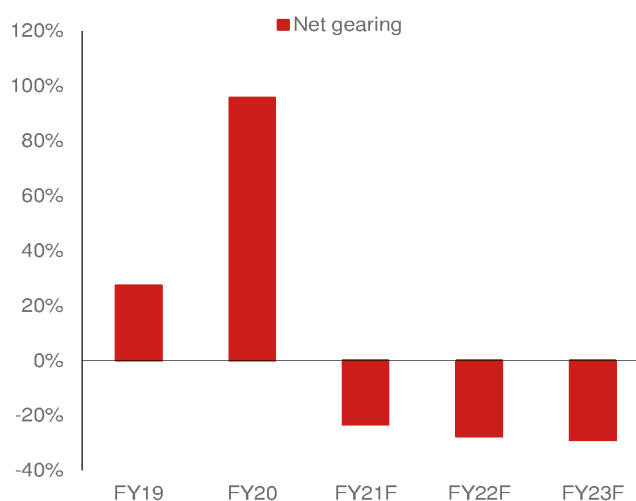
CTOS management has indicated that it intends to pay a dividend of 60% of net profits, which we factor into our estimates – however, the yield from the company is unlikely to be significant at the listing price and our target price.

Fig. 25: Steady free cashflow ...



Source: Company data, Nomura estimates

Fig. 26: ... likely to turn net cash post IPO



Source: Company data, Nomura estimates

Associate 1: BOL, a high-growth credit bureau in Thailand

CTOS owns a 20% stake in BOL Pcl, a credit bureau listed in Thailand. BOL was incorporated in Thailand in 2003 as a private company. BOL's principal activities are a service provider and developer of local and global financial information system and an online and offline business information service provider as well as a provider of consulting service, debt collection service and database management. Note that whereas in Malaysia, a mixture of different licensed bureaux, consisting of both government-related and private bureaux can provide credit checks, in Thailand (and the Philippines), a national credit bureau centralises credit reporting functions, which private CRAs such as BOL can then draw from to provide their own services to their clients.

BOL has been present in Thailand for over 20 years and is among the largest credit and company information bureaux in its local market, based on revenue. In 2020, BOL market share for Thailand was 59.0% based on revenue. BOL's main offerings include Corpus, a comprehensive Thailand and international business information online platform that assists customers in evaluating the credit worthiness of their customers and ENLITE, a loan origination system widely used by Thai banks. BOL primarily caters to the large corporate market, as opposed to CTOS, which generates 57% of its revenues from the SMEs.

As of February 2021, other select large remaining shareholders of BOL are Advanced Research Group Co., Ltd. (16.4%), Min Intanate (10.9%), Dun & Bradstreet International, Ltd. (8.7%).

We forecast CTOS' share of BOL profits to be MYR 6-8mn over FY21F-23F.

Fig. 27: BOL: Earnings forecasts

BOL Pcl	Dec-20	Dec-21	Dec-22	Dec-23
	FY20	FY21F	FY22F	FY23F
Stake	20.0%	20.0%	20.0%	20.0%
Share of total comprehensive income of associate (MYR mn)	1	6	7	8
BOL Pcl (in THB mn)				
Current assets	493			
Non-current assets	507			
Current liabilities	(213)			
Non-current liabilities	(77)			
Net assets	711			
Revenue	626			
Profit	179			
Other comprehensive income	9			
TOTAL CI	188	216	248	285
% y-y	30.8%	15.0%	15.0%	15.0%
1 MYR: THB	7.5	7.5	7.5	7.5

Source: Company data, Nomura estimates

Fig. 28: BOL: Share price



Source: Bloomberg, Nomura research

Associate 2: Experian Malaysia, which is also a competitor

CTOS acquired a 26% stake in Experian Information Services Malaysia (previously called RAM Credit Information) in 2019, but was not successful in gaining full control of the company, because the remaining 74% was bought by Experian at a significantly higher valuation than CTOS' budget. As such, in a somewhat unusual scenario, CTOS is now a 26% shareholder in its largest Malaysian competitor. That said, as a minority shareholder, CTOS' rights are limited to its board nominee and it has limited information rights in Experian, such as overall financials for the purpose of equity accounting earnings. The businesses are run independently, and the two firms in fact compete on a day-to-day basis, and there is no information exchange between the two entities.

CTOS has also filed, in June 2020, an oppression suit to seek for reliefs arising from oppressive conduct by the majority shareholders of Experian. The oppressive conduct which forms the basis of this action includes, among others, the approval of Experian's

directors' resolutions on 13 May 2020 for payment of management recharges and brand recharges by Experian to select defendants named in the suit for the FYEs 31 March 2020 and 31 March 2021.

We forecast CTOS' share of Experian profits to be MYR 1-2mn over FY21F-23F.

Fig. 29: Experian earnings forecasts

MYR mn

Experian Information Services	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
	FY19	FY20	FY21F	FY22F	FY23F
Stake	26.0%	26.0%	26.0%	26.0%	26.0%
Current assets	25	30			
Non-current assets	4	3			
Current liabilities	(8)	(9)			
Non-current liabilities	(0)	(0)			
Net assets	20	24			
Group's share of net assets	5	6			
Goodwill	52	52			
Carrying amount at end of FY	57	58			
Revenue	17	34			
PAT / total comprehensive income	3	5	6	6	7
Share of total comprehensive income of associate	1	1	1	2	2
PAT margin	16.9%	15.0%			

Source: Company data, Nomura estimates

2Q21 result review

- In 2Q21, revenue was up 23% y-y driven by 19%/ 20%/ >100% y-y growth in key segments/ commercial and Direct-to-Consumer businesses. This, along with net margin improvement of 7ppt y-y led to 58% y-y growth in reported net income.
- Sequentially, revenues were stable (excluding International B2B revenues, as CIBI was no longer captured in revenues). However, even though revenues were flat, net income grew by 54% q-q due to lower selling, marketing and admin expenses, as 1Q21 had some one-off items.

Fig. 30: CTOS: 2Q21 results review

MYR mn, except per share items	1Q20	2Q20	1Q21	2Q21	% y-y	% q-q
Revenue	34.1	30.7	42.3	37.8	23.5%	(10.5%)
Key Accounts	12.8	10.8	12.5	12.8	18.7%	2.0%
Commercial - Malaysia + International (Basis)	19.8	18.7	22.9	22.5	19.8%	(2.0%)
Direct-to-Consumer	1.6	1.2	2.5	2.6	127.5%	3.6%
International B2B	0.0		4.3		NM	NM
Cost of sales	(5.5)	(4.3)	(5.4)	(4.8)	13.2%	(11.1%)
Gross Profit	28.6	26.4	36.9	33.0	25.1%	(10.4%)
Selling and marketing expenses	(9.1)	(7.0)	(8.9)	(7.9)	13.1%	(10.9%)
Admin expenses	(10.3)	(10.8)	(16.1)	(10.7)	(1.1%)	(33.7%)
Finance costs	(0.7)	(0.9)	(3.6)	(1.6)	83.5%	(54.9%)
Share of profits of associates	0.1	0.3	1.7	1.8	413.0%	7.3%
PBT	8.7	8.1	9.9	14.5	78.1%	45.9%
Tax	(0.6)	(0.6)	(2.6)	(2.5)	293.6%	(6.0%)
Effective tax rate	7%	8%	32%	19%		
Minority interest	0.0	0.0	0.4	0.2	NM	(55.0%)
Reported NPATAMI - equityholders	8.1	7.5	7.7	11.8	57.8%	54.1%
One-offs included in reported NPATAMI						
Discontinued operations / losses from CIBI and CIBI Holdings	0.0	(0.0)	(0.4)	(0.2)		
Costs related to acquisition of CIBO and Basis	(0.1)	0.0	(0.1)	0.0		
Share-based payment expense	(0.6)	(0.6)	0.0	0.0		
Interest expense on borrowings	(0.6)	(0.8)	(3.6)	(1.6)		
Unrealised foreign exchange gain / (loss)	0.0	0.0	(3.1)	0.2		
Impact of higher tax rate	0.0	0.0	(1.5)	(1.5)		
Total one-offs included in reported NPATAMI	(1.4)	(1.5)	(8.7)	(3.1)		
Gross profit margins	84.0%	86.1%	87.2%	87.3%	1.2 ppt	0.1 ppt
PBT margins	25.6%	26.5%	23.5%	38.3%	11.7 ppt	14.8 ppt
Net margins	23.8%	24.5%	18.2%	31.3%	6.8 ppt	13.1 ppt

Source: Company data, Nomura research

IPO details and use of funds

CTOS Digital was one of Malaysia’s largest IPO in the last few years, raising MYR1.21bn by selling 1.1bn shares for an IPO price of MYR1.10/sh. Of these 1.1bn shares, promoter and selling shareholder Inodes Limited (which is backed by Creador, a Malaysian mid-market private equity firm) along with other selling shareholders Chung Tze Keong, Chung Tze Wen and Ng Gaik Lin @ June Ng collectively offered 900mn shares, and the MYR990mn raised from sale of such shares, net of fees, has accrued to them.

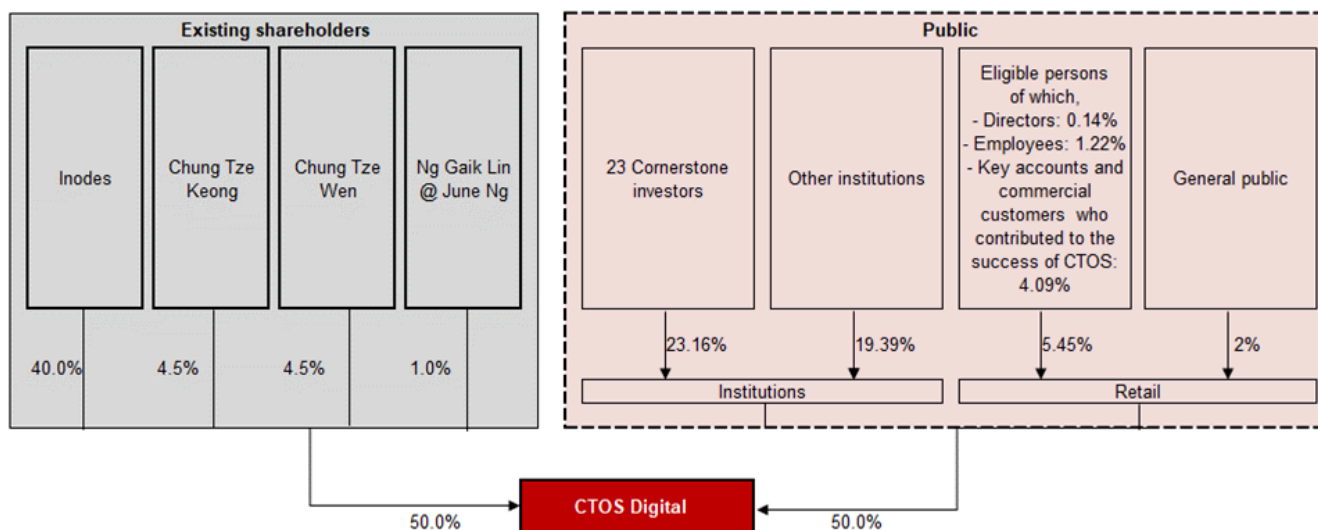
From the remaining issuance of 200mn in new shares, the company will raise approx MYR214mn in new share capital. Of these, management has earmarked:

1. MYR155mn (~71% of the fund raised by company) to repay borrowings within three months of listing,
2. MYR59mn for acquisitions (27% of the funds raised by the company) over the next three years; as per management, targeted acquisitions will be companies with digital solutions or data which are complementary to CTOS, either in Malaysia or APAC. Management has indicated that while they might consider future re-investment in CIBI, they will not use IPO proceeds for this. They might use IPO proceeds for follow-up investments in BOL. Should acquisitions cost more than MYR59mn, management intends to use internal cash accruals or new borrowings.
3. MYR6mn for listing expenses.

Post-IPO, Inodes will own 40% of CTOS, Chung TK will own 4.5%, Chung TW will own 4.5% and Ng Gaik Lin @ June Ng will own 1% respectively. Inodes is subject to a lock-up of 6 months and the remaining sellers are subject to a lock-up of 3 months post-listing.

Of the 50% free-float, 42.55% was earmarked for institutional investors and 7.45% for retail. The further breakdown of public float as earmarked for allocation during the listing is highlighted below:

Fig. 31: CTOS: Post IPO pro-forma shareholding structure



Source: Company data, Nomura research

Downside risks to our view

- 1. Slower than expected revenue / earnings growth from key segments:** The COVID-19 pandemic has also affected cash flows of consumers and SMEs, and should such subscribers or users of CTOS data reduce using CTOS services, this can result in lower than expected revenue and earnings growth. Lending activities are also slow during the pandemic. Prolonged lockdowns also make it hard for CTOS' sales and marketing staff to reach and add new customers. Lukewarm response to CTOS's new products might also pose downside risks to our estimates. Based on our sensitivity analysis () should FY22F revenue fall 5%/10% below our current estimates, our FY22F earnings and TP will be down by 7%.
- 2. Non-renewal of tax incentives:** CTOS Data Systems, which accounted for almost all of CTOS' earnings, has been awarded pioneer status incentives under the PIA 1986 for MSC Malaysia Qualifying Activities. CTOS Data Systems' statutory income is its income derived from MSC Malaysia Qualifying Activities, and hence its effective tax rate at mid-single digits is much lower than Malaysia's statutory tax rate of 24%. The tax relief period under CTOS Data Systems's MSC Pioneer Certificate is from 9 November 2016 to 8 November 2021, but due to the Grandfathering and Transitional Guidelines, it is to be till June 2021. CTOS has applied to MDEC for continuation of these incentives till November, and thereafter intends to seek MDEC's renewal of CTOS Data Systems' pioneer status in the third quarter of 2021 for an extended relief period of five years until November 2026. We assume that CTOS will be able to get a renewal of the pioneer status till 2026, but if this does not materialise, our earnings and target price estimates face a downside risk due to higher tax rate. Based on our sensitivity analysis should FY22F effective tax rate be 24%, our FY22F earnings and TP will be down by 17%.
- 3. FX risk:** There is a small downside risk should the THB depreciate vs the MYR, due to CTOS' stake in BOL.
- 4. Regulatory and data security risks:** Any loss of MSC Malaysia Status, change or tightening of credit reporting or data protection regulations in Malaysia and/or Thailand, or measures to reduce dominance of large CRAs can be negative for fundamentals and sentiment. Note that three of the seven CRA Certificates issued under the CRA Act in Malaysia are held by CTOS Data Systems, CTOS Basis, and CTOS' associate, Experian. CTOS is also subject to annual license renewals in Malaysia.
- 5. Acquisitions not delivering expected returns:** CTOS' management intends to use acquisitions to expand in Malaysia and APAC. Paying higher valuations for inorganic opportunities, or if such acquisitions do not generate expected earnings or returns can be negative for share price.

Fig. 32: CTOS: Sensitivity table

1 FY22F revenue lower than our forecasts		
a	FY22F revenue	(5%)
	Impact on FY22F Net income	(7%)
	Impact on Target price	(7%)
b	FY22F revenue	(10%)
	Impact on FY22F Net income	(14%)
	Impact on Target price	(14%)
2 Higher tax rate of 24% in FY22F		
	Impact on FY22F revenue	0%
	Impact on FY22F Net income	(17%)
	Impact on Target price	(17%)

Source: Nomura estimates

ESG analysis

In the below section, we highlight the company's key Environment, Social and Governance risks and achievements, as well as our scoring (out of a maximum of 5.0 points) on the three pillars:

Fig. 33: CTOS: Nomura ESG Score

NOMURA ESG SCORE	
Environment (out of 5)	4.5
Social (out of 5)	4.0
Governance (out of 5)	3.5
BLENDDED SCORE	4.0

Source: Nomura research

Environment-related achievements and issues

- As a digital business providing credit reporting data to customers, CTOS does not have any significant environment footprint. While it uses two data centres in Malaysia, this is needed for business continuity planning and redundancy, given the critical nature of CTOS' businesses.

Social-related achievements and issues

- CTOS promotes financial literacy by running an all-year-round, integrated CTOS Financial Education programme, both online and offline, to drive financial education and inclusion, with CTOS content being carried in newspapers, magazines, e-news and e-magazine platforms, as well as television, radio, YouTube, and other social media channels.
- The Knowledge Centre on the company's website hosts a variety of educational content related to credit health and scoring, finances, budgeting, and more. Over 700,000 consumers visit the CTOS website every month. Between 1 July 2016 and 31 December 2020, CTOS provided approximately 8.7 million free MyCTOS Basic Reports.
- As at May 2021, CTOS has provided over a million MyCTOS Score Reports to consumers.
- CTOS has conducted over 200 financial education roadshows for consumers across the country in partnership with BNM, and other agencies.
- For SMEs, CTOS participates in various talks and seminars on the different types of financing access for businesses, sponsors various SME awards, and in 2020, ran a COVID-19 relief campaign for consumers and SMEs, giving away free CTOS Consumer Scores and free CTOS SecureID subscriptions, as well as free listings on CTOS CreditFinder to SMEs, to help consumers and businesses become digital and navigate the uncertain business environment.
- Due to the highly sensitive nature of data which CTOS collects, data protection and privacy are of prime importance to CTOS, and sufficient safeguards are needed to protect such data from any outside attempted intrusions, or data leaks. So far CTOS has not been affected by any cyber attacks. This is a key Social-related risk area for

the company.

- Another area which can be an ESG risk is to avoid the undeserved exclusion of consumers for access to financing on the back of CTOS data. While the credit decision is not made by CTOS but by credit providers, such decisions will be increasingly made using CTOS data as inputs as the CTOS increases in depth and breadth.

Governance-related achievements and issues

Fig. 34: CTOS: Governance-related achievements and issues

	Number	%
Number of directors in board	8	
... of which number of independent non-exec directors	6	75%
... of which number of women directors	3	38%
... of which, number of directors aged > 55 years	4	50%
Are Chairman and Chief Executive Officer roles separated	Yes	
Is there a "Code of conduct and ethics" for employees?	Yes	
Is there a "Whistleblower policy"?	Yes	
Director's compensation	FY20	
Total directors compensation	2 MYR mn	
Revenue	140 MYR mn	
Directors' compensation as % of revenue	1.3%	

Source: Company data, Nomura research

- CTOS' board composition follows industry recommended governance standards, as seen in table above.
- Management has indicated that it will follow a 60% dividend payout policy.
- History of acquisitions and an intent to use inorganic opportunities for future growth is a governance risk area, given the inherent possibility of overpaying and lack of control over associate entities. Acquisitions in the past, such as CIBI (which was divested prior to listing) and Experian (due to sub-optimal stake / degree of control), did not achieve the intended outcomes.
- Tax paid by the company is significantly lower than the statutory tax rate, owing to the pioneer incentives the company gets. The long-term sustainability of such tax incentives is a risk factor for the company.

Company description

Description of main businesses

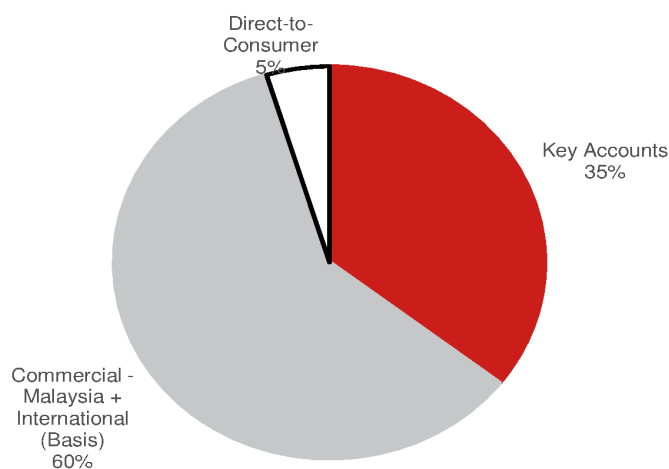
CTOS and its subsidiaries are mainly involved in the business of credit reporting, digital software related services, software development, outsourcing and training services and investment holding. Its associates (BOL and Experian Malaysia) are involved in the business of credit reporting, information services, development of local and global financial information system, online and offline business information service provider, consulting services, debt collection service and database management.

CTOS provides credit information and analytics digital solutions on companies, businesses and consumers for use by banks and businesses at various stages of the customer lifecycle and provide credit information and analysis to consumers. CTOS' databases contain profiles of approximately 15mn consumers and approximately 8mn companies and businesses.

CTOS Digital has mainly three types of customers: Key Accounts, Commercial and Direct-to-Consumer.

1. **Key Accounts:** This customer type consists of the company's highest revenue-generating customers as well as other selected customers, such as those with complex requirements. These are the highest revenue generating customers. As of 31 May, there are approximately 430 Key Accounts customers in Malaysia, including Malaysian banks and corporates.
2. **Commercial:** This customer type consists of Malaysian commercial customers other than Key Accounts customers including the SMEs. As of 31 May, there are approximately 17,000 Commercial customers, primarily in Malaysia, including SMEs in industries such as financial services, telecommunications, wholesale and retail trade, manufacturing, construction, professional services and insurance.
3. **Direct-to-consumer segment:** CTOS provides to Malaysian consumers, credit scores and detailed information including CCRIS information, directorships and business interests, litigation cases and trade references, which helps consumers understand and manage their credit health and improve their financial literacy. As on 31 May, CTOS Data Systems has approximately 1.3 million users registered for a CTOS ID account, which allows users to access and purchase their CTOS Consumer Scores and credit information. It also helps in consumer fraud protection and identity protection.

Fig. 35: CTOS: FY20 revenue by segment (ex CIBI)



Source: Company data, Nomura research

Company background and history

Early history: In 1990, the co-founders (Chung Tze Keong and Chung Tze Wen) started their credit reporting business under CTOS Sdn Bhd, which was incorporated to provide fax-based enquiries services for banks in Malaysia. CTOS Data Systems was incorporated in 1992 to directly integrate its database with the systems of some of the financial institutions which had subscribed to its credit reporting services. In 1994, CTOS-EMR was incorporated to serve commercial companies. In 2001, Automated Mail Responder was incorporated to provide e-mail hosting, web hosting and internet services. In 2004, CTOS Business was incorporated to provide software development and other related services.

Entry of Creador Group: In August 2014, Inodes, which is part of Creador, a Malaysian mid-market private equity group, invested in CTOS Digital by acquiring a 70% equity interest in the company for MYR 215mn. Following the investment by Inodes, CTOS Data Systems, CTOS Business and Automated Mail Responder became wholly-owned subsidiaries of CTOS Digital. Inodes further increased its stake over the next four years to 80%.

Regulatory developments: In 2014, the CRA Act came into force in Malaysia, and CTOS Data Systems was registered as a licensed CRA. CTOS Data Systems obtained its MSC Malaysia Status from MDEC in November 2016 and the pioneer status from MITI in December 2017. The pioneer status is effective from 9 November 2016, to 8 November 2021.

In March 2016, the company acquired the entire equity interest of Intellidata Solutions. In July 2019, it acquired the entire equity interest of two investment holding companies, namely Enfo and CTOS Insights, which resulted in CTOS owning a 26.0% equity interest in Experian, a competing CRA in Malaysia.

International diversification: In June 2020, CTOS acquired a 51% equity interest in CIBI, a credit bureau incorporated in the Philippines, which was assigned to CIBI Holdings (formerly known as CTOS SG Pte Ltd) as its subsidiary. In October 2020, CTOS acquired a 20.0% equity interest in BOL, a public listed company incorporated in Thailand. In January 2021, CTOS acquired the entire equity interest of Basis.

However, the COVID-19 pandemic negatively impacted CIBI's Philippines business. CIBI was primarily involved in businesses such as pre-employment checks, and was only starting to make inroads into credit reporting products, and hence the COVID-19 pandemic disrupted its development plans in its early stages. As a result, CTOS management decided to carve out and exclude CIBI from the group's IPO exercise, and distribute CIBI shares to CTOS' pre-IPO shareholders in June 2021. As per management, CIBI needs further investment and management focus, and would have been a drag on CTOS's management team's expansion plans in Malaysia, justifying its decision to exclude it from the listing.

On 6 October 2020, the company changed its name to CTOS Digital Sdn Bhd and on 26 March 2021, it was converted into a public company.

Fig. 36: CTOS: History and key milestones

Year	Milestone
1990	Founders started their credit reporting business under CTOS Sdn Bhd, which was incorporated to provide fax-based enquiries services for banks in Malaysia
1992	CTOS Data Systems incorporated with the goal to better serve banks and finance institutions in Malaysia by enabling direct intergration of its database with the banks' own systems
1994	CTOS-EMR Sdn Bhd incorporated to serve commercial companies
2007	CTOS Credit Manager launched
2010	Malaysia enacted the CRA Act
2011	CTOS ID launched
2013	CTOS Mobile Application launched
2014	CRA Act came into force CTOS Data Systems was registered as a licensed CRA Inodes, which is backed by the Creador Group invested in the business with a 70% equity interest
2015	CTOS Data Systems first obtained access to CCRIS data
2016	CTOS Customer Score launched in collaboration with FICO Launched CTOS FREE Score campaign
2018	CTOS SecureID and CAD launched
2019	Acquired a 26% equity interest in Experian Malaysia Launched CTOS SME Score and CTOS eKYC
2020	Acquired a 51% equity interest in CIBI (held by CIBI Holdings) and a 20% equity interest in BOL allowing CTOS Digital to provide complementary solutions to clients Launched CTOS Portfolio Analytics and Insights and CTOS ID Guard
2021	Acquired 100% of equity interest in Basis - expanded range of international business reports Undertook Distribution, where CIBI Holdings and CIBI are no longer part of the Group post-Distribution

Source: Company data, Nomura research

Directors

- **Tan Sri Izzuddin Bin Dali**, a Malaysian aged 72 years, is an Independent Non-Executive Chairman. He was appointed to CTOS Board on 15 August 2014.
- **Dato' Noorazman Bin Abd Aziz**, a Malaysian aged 65 years, is an Independent Non-Executive Director and was appointed to the Board on 24 February 2020. He is also a member of the company's Audit and Risk Committee and the Nomination and Remuneration Committee.
- **Datuk Azizan Bin Haji Abd Rahman**, a Malaysian aged 65 years, is an Independent Non-Executive Director and was appointed to the Board on 1 October 2014. He is also the Chairman of the Audit and Risk Committee.
- **Dennis Colin Martin**, a New Zealand citizen aged 57 years, is a Non-Independent Executive Director and Group Chief Executive Officer. He joined CTOS in March 2017 as Group Chief Executive Officer and was appointed to the Board on 1 November 2020.
- **Loh Kok Leong**, a Malaysian aged 50 years, is a Non-Independent Non-Executive

Director. He was appointed to the Board on 15 August 2014. He is also a member of the Nomination and Remuneration Committee.

- **Lynette Yeow Su-Yin**, a Malaysian aged 51 years, is an Independent Non-Executive Director and was appointed to the Board on 1 October 2020. She is also the Chairman of the Nomination and Remuneration Committee.
- **Nirmala A/P Doraisamy**, a Malaysian aged 54 years, is an Independent Non-Executive Director. She was appointed to the Board on 1 April 2021. She is also a member of the Audit and Risk Committee.
- **Su Puay Leng**, a Malaysian aged 51 years, is an Independent Non-Executive Director. She was appointed to the Board on 27 May 2021.
- **Wong Pau Min**, a Malaysian aged 39 years, is the Alternate Director to Loh Kok Leong and was appointed on 15 February 2021. He currently serves as an Executive Director of Creador and a non-executive director of CIBI. He was appointed as a director of CIBI Holdings in April 2021.

Key senior management

- **Dennis Colin Martin**, a New Zealand citizen aged 57 years, is a Non-Independent Executive Director and Group Chief Executive Officer. He joined CTOS in March 2017 as Group Chief Executive Officer and was appointed to the Board on 1 November 2020.
- **Chin Kuan Weng**, a Malaysian aged 50 years, is the Chief Executive Officer of CTOS Data Systems. He joined CTOS Group in November 2014 and since joining he has been involved in the management of the company's Key Accounts customers and acting as the key liaison with regulators in respect of the business.
- **Chen Thai Foong**, a Malaysian aged 58 years, is the Group Chief Financial Officer. She joined the Group in April 2016 as the Chief Financial Officer of CTOS Data Systems and since joining she has been overseeing all finance related matters of the Group. In May 2021, she was designated as the Group Chief Financial Officer.
- **Tracy Gan Jo Lin**, a Malaysian aged 44 years, is the Chief Operating Officer of CTOS Data Systems. She joined the Group in May 2017 as the General Manager in Customer Experience before being promoted to the Chief Operating Officer of CTOS Data Systems in January 2019. Since joining in 2017, she has been overseeing the strategic operations and customer experience, customer and operations management and business operations improvement as well as Commercial customers.
- **Lim Sue Ling**, a Malaysian aged 38 years, is the Group Senior Head of Risk and Business Compliance. She has over 15 years of experience in regulatory compliance and risk management of the credit bureau business and oversees all compliance related matters of the Group.
- **Benjamin Lau Chi Meng**, a Malaysian aged 37 years, is the Group General Manager of IT. He joined the Group in January 2010 as the Head of IT. He has been overseeing the management and development of IT infrastructure and security since joining. He was designated as the General Manager of IT of CTOS Data Systems in December 2017. In May 2021, he was designated as the Group General Manager of IT.

Appendix – 1

Credit reporting industry landscape in Malaysia

Public Credit Bureau (“PCB”) and Private CRA

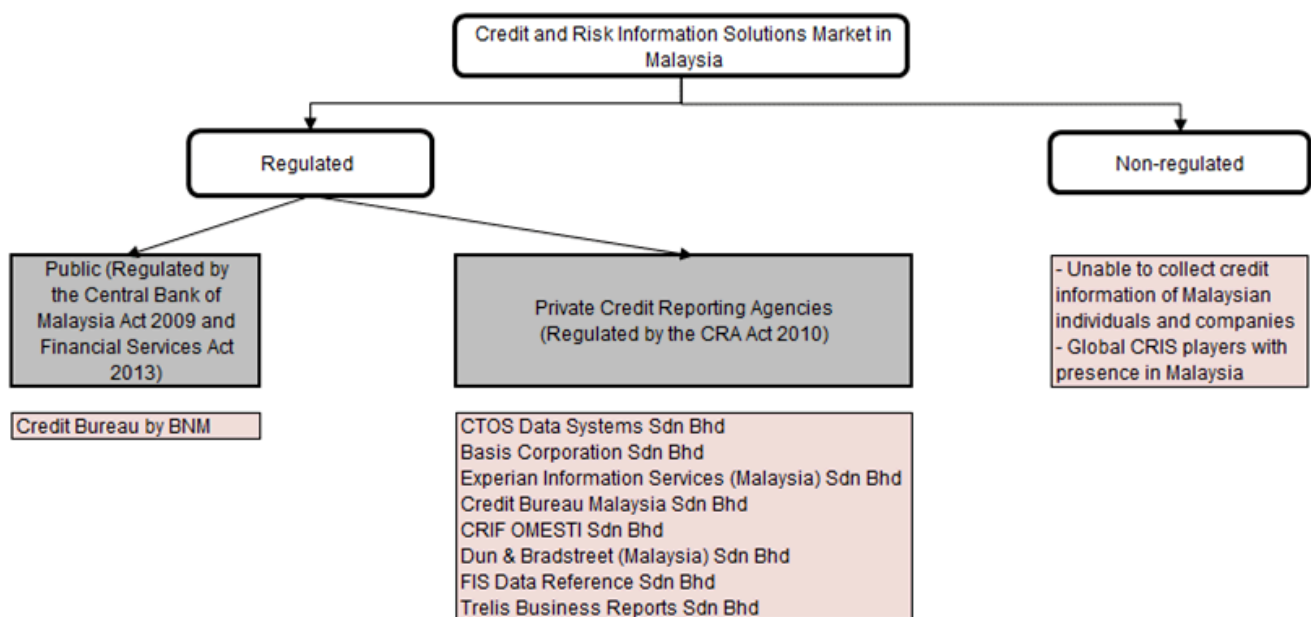
PCB: BNM’s credit bureau was established in 1982 and operates under the Central Bank of Malaysia Act 2009. The Central Credit Reference Information System (CCRIS) is a centralised database that provides standardised credit reports. CCRIS collects credit-related information on borrowers from participating financial institutions in Malaysia, such as banks, insurance providers, development financial institutions, payment instrument issuers, rehabilitation companies, building societies, credit leasing companies and government agencies.

Private CRA: The first private CRA was incorporated in 1985 and while the PCB focuses on sourcing information on borrowings from financial institutions, private CRAs offer additional credit and business information collected from a wider variety of financial and non-financial entities to facilitate accurate credit decision-making. Private CRAs typically have credit scoring capabilities derived from their internal analytical models as a value-added offering, unlike CCRIS, which does not produce a score. Private CRAs charge for reports, while CCRIS charges for access to the database. CCRIS is temporarily free to access till the end of 2021. BNM has also introduced eCCRIS in 2018; is free of charge and available nationwide.

Relationship between PCB and Private CRA: Subject to the approval of BNM, CRAs registered under the Credit Reporting Agencies Act 2010 (CRA Act) can access the credit information of borrowers in CCRIS with prior consent obtained from the borrower. Only three CRAs currently has obtained such approval from BNM. These are Credit Bureau Malaysia Sdn Bhd (CBM), CTOS Data Systems Sdn Bhd, a subsidiary of CTOS Digital and Experian Information Services (Malaysia) Sdn. Bhd. (Experian), an associate of CTOS Digital. Collaboration between public and private entities has improved the depth of credit market transactions and broadened access to finance, particularly individuals and SMEs.

As of 2020, seven CRAs have been registered under the Registrar Office of Credit Reporting Agencies. These are CTOS Basis Sdn Bhd (Basis) (formerly known as Basis Corporation Sdn Bhd), CBM, CRIF OMESTI Sdn Bhd (CRIF), CTOS Data Systems, Dun & Bradstreet (Malaysia) Sdn Bhd (D&B), Experian and FIS Data Reference Sdn Bhd (FIS).

Fig. 37: Credit Reporting Agency Landscape in Malaysia, June 2020



Source: CBA Prospectus, Bank Negara Malaysia (“BNM”); Registrar Office of Credit Reporting Agencies; Frost & Sullivan, Nomura research

Fig. 38: Profile of the key CRIS industry players in Malaysia, June 2020

Note: Basis Corporation is now part of CTOS Digital; Experian is an associate company of CTOS Digital

Company	Year of establishment	Report Info and Delivery Mode to Malaysian Customers	Focus
CTOS Data Systems Sdn Bhd ("CTOS")	1990	International and local (Instant and offline)	Mix of FI-Data Non-FI Data – main information from FIs, law firms and telcos
Basis Corporation Sdn Bhd ("Basis")	1985	International and local (Instant and offline)	Mainly Non-FI Data – Credit and risk information to financial institution, stock broking companies and legal firms
Experian Information Services (Malaysia) Sdn Bhd ("Experian Malaysia")	2000	International and local (Instant and offline)	Mix of FI-Data Non-FI Data – mostly serves SMEs and large corporates
Credit Bureau Malaysia Sdn Bhd ("CBM")	2008	Mostly local (Instant and offline)	Mainly FI Data = Credit reports for both individuals and companies
CRIF OMESTI Sdn Bhd	2019	International and local	Mainly Non-FI Data
Dun & Bradstreet (D&B) Malaysia Sdn Bhd ("D&B Malaysia")	2000	International and local (Instant and offline)	Mainly Non-FI Data – Credit and risk information about companies and services (eg. risks monitoring, sales and marketing)
FIS Data Reference Sdn Bhd ("FIS")	1986	Local (instant)	Collects and circulates vehicle financing information among association members
Trelis Business Reports Sdn Bhd ("Trelis")	2010	International and local (offline)	Mainly Non-FI Data – reports on companies

Source: CBA Prospectus, Registrar Office of Credit Reporting Agencies; Frost & Sullivan, Nomura research

Appendix – 2

Glossary of CTOS Digital's products

- **CTOS Score:** CTOS Scores are three-digit numbers that represent CTOS Data Systems' assessment of the credit health of a consumer or business. Comprises the CTOS Consumer Score and CTOS SME Score.
- **CTOS Consumer Score:** A credit rating standard applicable to individuals i.e. a three-digit number ranging from 300 (poor) to 850 (excellent) that features in CTOS Score Reports and MyCTOS Score Reports as well as subscription to CTOS SecureID.
- **CTOS Credit Manager:** CTOS Data Systems' subscription-based online credit risk management platform for customers to search, store, monitor and manage their own customers' and/or related business parties' credit and other information.
- **CTOS Basis:** Provides access to International Reports, litigation check, credit monitoring services and Company Search.
- **Basis Comprehensive Portfolio Review:** A comprehensive review of customer's portfolios of end-customer data to provide CTOS Data Systems' customers with more information about their own customer bases.
- **CTOS Portfolio Analytics and Insights:** CTOS Data Systems' customised analytics and insights to customers based on a combination of a customer's portfolio data and CTOS Data Systems' own comprehensive databases.
- **CAD:** CTOS Application and Decisioning, an automated digital solution that enables users to make credit decisions instantly based on CRA information and the business or credit policies of the customer.
- **CTOS eKYC:** CTOS Electronic Know-Your-Customer, a digital identity verification solution with a four-layer authentication process.
- **Trade Reference:** Non-banking information related to trades used as a means to verify the creditworthiness of a customer to a third-party, considering the extension of credit.
- **CTOS IDGuard:** CTOS Data Systems' credit application fraud prevention solution with the ability to detect ID theft and impersonation, false and synthetic identities, data or documentation manipulation, organised fraud rings and syndicates.
- **CTOS SecureID:** CTOS Data Systems' subscription-based service for fraud protection and credit monitoring which give subscribers alerts on any missed payments, changes in credit history, litigation status, bankruptcy and eTR records.
- **CTOS CreditFinder:** Loan matching and referral platform for the listings of financial products targeted at consumers which are offered based on CTOS Consumer Score.
- **Customised Bulk Data Sales:** This refers to the sale of bulk data sets to a customer. The customer is able to specify the particular subset of information from Basis' database that it wishes to purchase in bulk, including information from Business Listings.
- **Company Search:** A Malaysian company directory search service offered through CTOS.
- **eTR:** CTOS Electronic Trade Reference, non-bank trade references voluntarily submitted by CTOS Data Systems' subscribers.
- **eTR Plus:** CTOS Electronic Trade Reference Plus, non-bank trade references of positive information about a customer's payment history voluntarily submitted by CTOS Data Systems' subscribers.
- **CTOS data sources and information databases**
 - **Business Listings:** Basis directory of Malaysian businesses containing basic information such as business description, contact details and hours of operation for prospecting purposes.
 - **CED:** CTOS Enhanced Database, contains litigation and bankruptcy proceedings information shared by CTOS Data Systems subscribers such as banks, non-bank lenders, telecommunication companies and law firms.
 - **CTOS BizFinder:** Digital SME directory with business descriptions and contact information.
- **Malaysia reports**
 - **CTOS Reports**

- **CTOS Report:** A report containing basic identification, financial, litigation and trade reference information about a business or individual but does not include CTOS Scores.
- **CTOS Lite Report:** CTOS Report excluding banking payment history, dishonoured cheques, CCRIS supplementary information, litigation, bankruptcy and eTR information.
- **CTOS Score Report:** Comprises the CTOS Report and a CTOS Consumer Score that is usually purchased via CTOS Credit Manager.
- **CTOS SME Report:** Comprises the CTOS Report and CTOS SME Score
- **CTOS SME Score:** A credit rating standard applicable to SMEs i.e. a three-digit number ranging from 100 (poor) to 400 (excellent) that features in CTOS SME Reports
- **MyCTOS Basic Report:** A free consumer credit report available with basic consumer identification, as well as directorship and business interest information, excluding the CTOS Consumer Score.
- **MyCTOS Score Report:** Comprises the CTOS Report and CTOS Consumer Score that is usually purchased via CTOS Data Systems' website.
- **Basis Credit Report:** Contains Basis Overseas Report information on Malaysian companies.
- **Basis Business Report:** Contains detailed information about the business entity including its history, directors, corporate registry information, banking relationships and encumbrances as well as potential legal suits related to the business entity, and forms part of the Basis Overseas Report and Basis Credit Report or can be purchased separately.
- **Basis Trade Report:** Contains Basis Business Report information and the latest three years' financial statements, comparative financial analysis and financial comments on Malaysian companies.
- **CTOS Tenant Screening Report:** Comprises identification verification, Know-Your-Customer screening, financial checks, income estimation and historical legal cases or bankruptcies, which allows landlords or agents to screen prospective tenants.
- **External Reports:**
 - **ROB Report:** Registered business report.
 - **ROC Report:** Registered company report.
 - **LLP Report:** Limited liability partnership report.
 - **Idaman Report:** A detailed company information and financial report from CCM, including corporate documents, annual return and company charges.
 - **MDI Report:** Contains bankruptcy and insolvency information of individuals and Businesses.
 - **E-Court Search Report:** Contains information on legal proceedings in Malaysia from public court listings and legal notices.
 - **Land Title Report:** Contains official property ownership information from land offices in Malaysia.
- **International Reports:**
 - **Basis Overseas Report:** Contains information such as registration information, date of incorporation, legal status, capital structure, encumbrances and legal actions, as well as more extensive information on payment records, clientele, operations, recent developments, industry outlook, Basis' comments and Basis' credit risk evaluation on companies outside of Malaysia.
 - **Singapore Comprehensive Report:** Contains ACRA registry related information, company financials, comparative ratios and industry outlook on Singaporean companies.

Appendix A-1

Analyst Certification

I, Tushar Mohata, hereby certify (1) that the views expressed in this Research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of my compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

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Materially mentioned issuers

Issuer	Ticker	Price	Price date	Stock rating	Sector rating	Disclosures
CTOS Digital	CTOS MK	MYR 1.10	19-Jul-2021	Buy	N/A	
Public Bank	PBK MK	MYR 4.06	16-Jul-2021	Buy	N/A	

CTOS Digital (CTOS MK)

MYR 1.10 (19-Jul-2021) Buy (Sector rating: N/A)

Chart Not Available

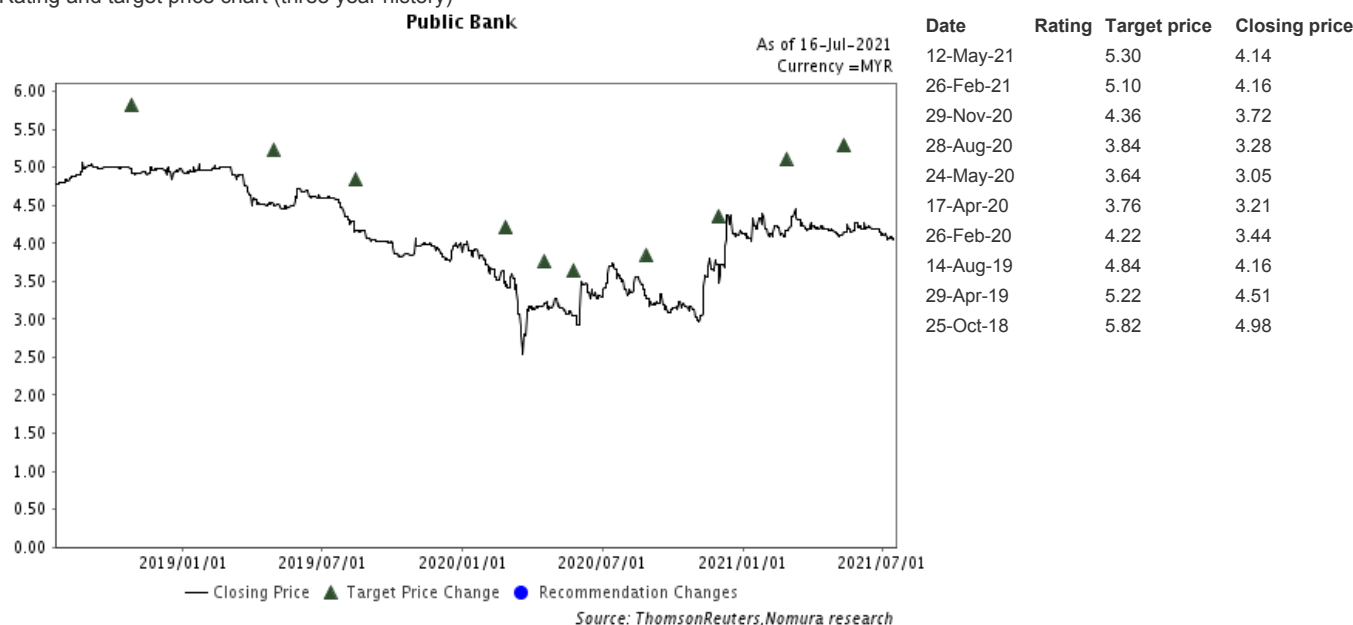
Valuation Methodology We value CTOS Digital at 45x FY22F EPS of 3.22sen to arrive at our TP of MYR1.45. Our 45x target multiple is at a premium to CTOS' peers in the global credit bureau, ratings agencies, financial data providers and value-added services peer groups, in view of CTOS' superior earnings growth expected compared to peers. The benchmark index for this stock is the FBMKLCI Index.

Risks that may impede the achievement of the target price Downside risks to our view are: 1) Slower than expected revenue or earnings growth from key segments; 2) Non-renewal of tax incentives; 3) FX risks due to exposure to Thailand; 4) Regulatory and data security risks; 5) Acquisitions not delivering expected returns.

Public Bank (PBK MK)

MYR 4.06 (16-Jul-2021) Buy (Sector rating: N/A)

Rating and target price chart (three year history)



For explanation of ratings refer to the stock rating keys located after chart(s)

Valuation Methodology We value Public Bank on Gordon Growth model using cost of equity of 7.5%, long term growth rate of 3% and average ROE (2022-23F) of 12.5% to arrive at our target price of MYR5.30. The benchmark index for this stock is FTSE Bursa Malaysia KLCI Index.

Risks that may impede the achievement of the target price 1) prolonged slow loans growth and asset quality shocks due to COVID-19; 2) a continuous slowdown in loans and deposits growth; 3) steep NIM compression; 4) negative surprises on asset quality issues; and 5) any overhang arising out of future Malaysian bank consolidation attempts, especially if valuations are lower than that expected by the market.

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As at 30 June 2021.

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STOCKS

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