

China Construction Machinery / HDT

2024 Outlook: Slowdown of overseas demand along with lack of growth in China; be selective

For Chinese machinery manufacturers, penetration overseas remains a long-term driver. That said, with growth trend reversing since mid-2023 after 2-3 years of extraordinary growth, the way to overseas expansion will likely be bumpy in 2024E, especially when the overseas competitors are recovering from the supply chain bottleneck. Geographically, we expect strong demand to continue in the US and the Middle East, but weakness in Europe and China. By segment, we expect an upcycle for heavy-duty trucks (HDTs) driven by replacement demand and on-track export growth. On the contrary, we expect the down-cycle to continue for concrete machinery, tower cranes and excavators, as the weak China property investment will remain a drag. Our top pick is **Weichai Power-H** (HDT growth proxy + market share gain on strong gas HDTs). We stay positive on **SANYI** (resilient demand for mining trucks overseas) and **Dingli** (on-track penetration into the US AWP market). Meanwhile, we **downgrade Zoomlion-A/H to HOLD** (weak property-related machinery) and revise down earnings forecast for our HOLD-rated **SANY Heavy** (peak of overseas sales).

- **Positive on HDTs: Expect 15% YoY growth in 2024E.** (1) The fleet size of HDTs is highly correlated with China's GDP growth. We expect moderate economic growth in 2024E (CMBI estimate: 4.8%) to boost the HDT fleet size by a similar rate. We estimate this, together with recovery of replacement demand, will translate to ~14% YoY increase in domestic sales volume; (2) We expect a solid export growth rate of 18% in 2024E. In terms of product mix, we expect natural gas HDTs to continue to account for 25-30% of total sales.
- **Neutral on AWP: Strong in the US; Slowdown in China in 2024E.** Following years of growth, we estimate China's AWP fleet size is now equivalent to >70% of the US fleet size, versus only ~12% in 2018. We expect a slowdown of fleet size growth as major AWP leasing companies such as **Horizon Construction (9930 HK, BUY)** and **Huatie (603300 CH, NR)** have reduced their capex on AWP and switched to the asset-light model. We forecast AWP sales in China market to drop ~5% YoY in 2024E. On the contrary, we expect AWP demand growth in the US to be strong on the back of mega projects and replacement demand.
- **Negative on excavators: Expect 5% YoY decline in 2024E.** In China, we forecast a stabilization of sales volume (+1% YoY), underpinned by infrastructure spending that should offset the decline in property investment. For overseas business, we expect the export volume to drop 10% YoY in 2024E due to high base effect (in particular in 1H24E).

Change in TP and rating

Company	Weichai Power		Zoomlion		SANY Heavy
Ticker	2338 HK	000338 CH	1157 HK	000157 CH	600031 CH
Rating					
New	BUY	BUY	HOLD	HOLD	HOLD
Old	BUY	BUY	BUY	BUY	HOLD
Currency	HK\$	RMB	HK\$	RMB	RMB
Current price	14.32	14.9	4.18	6.45	13.66
TP					
New	19.40	17.80	4.40	5.60	12.30
Old	16.10	14.70	6.35	7.30	14.20
Upside	35%	19%	5%	-13%	-10%

Source: CMBIGM estimates

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Figure 1: Peers comp table

Ticker	Company	Rating	Price	TP	Upside/	Market cap	PE (x)		PB (x)	
			(local currency)	(local currency)	(downside)	(US\$ mn)	FY23E	FY24E	FY23E	FY24E
Hong Kong										
631 HK Equity	SANY INTERNATIONAL	BUY	8.07	15.40	91%	3,305	10.2	8.0	2.0	1.7
1157 HK Equity	ZOOMLION HEAVY-H	HOLD	4.18	4.40	5%	7,289	9.1	9.6	0.6	0.6
2338 HK Equity	WEICHAI POWER-H	BUY	14.32	19.40	35%	17,794	13.4	11.3	1.4	1.3
3808 HK Equity	SINOTRUK HK LTD	BUY	16.14	19.30	20%	5,721	11.6	9.9	1.1	1.0
1839 HK Equity	CIMC VEHICLES -H	NR	6.87	-	-	2,758	4.7	5.7	0.9	0.8
564 HK Equity	ZHENGZHOU COAL-H	NR	7.63	-	-	2,802	4.0	3.3	0.7	0.5
HK listed average							8.8	8.0	1.1	1.0
A share										
000338 CH Equity	WEICHAI POWER-A	BUY	14.90	17.80	19%	17,674	15.1	12.8	1.6	1.5
601100 CH Equity	JIANGSU HENGLI-A	BUY	56.35	83.00	47%	10,559	28.7	24.0	5.2	4.5
603338 CH Equity	ZHEJIANG DINGLI -A	BUY	48.20	70.00	45%	3,411	14.4	12.4	2.9	2.4
600031 CH Equity	SANY HEAVY-A	HOLD	13.66	12.30	-10%	16,200	22.5	22.3	1.7	1.6
000157 CH Equity	ZOOMLION HEAVY-A	HOLD	6.45	5.60	-13%	7,240	15.4	16.1	1.0	1.0
000425 CH Equity	XCMG-A	NR	5.55	-	-	9,165	10.4	8.5	1.1	1.0
000528 CH Equity	GUANGXI LIUGONG-A	NR	6.25	-	-	1,704	12.0	9.0	0.7	0.7
603638 CH Equity	YANTAI EDDIE P	NR	16.46	-	-	1,929	46.4	39.4	4.1	3.8
600761 CH Equity	ANHUI HELI CO-A	NR	16.27	-	-	1,683	9.3	7.8	1.6	1.3
603298 CH Equity	HANGCHA GROUP-A	NR	22.22	-	-	2,905	13.3	11.5	2.6	2.2
000951 CH Equity	CNHTC JINAN T-A	NR	15.66	-	-	2,571	19.2	13.0	1.3	1.2
301039 CH Equity	CIMC VEHICLES -A	NR	11.05	-	-	2,739	8.4	9.9	1.5	1.4
601717 CH Equity	ZHENGZHOU COAL-A	NR	11.85	-	-	2,783	6.7	5.6	1.1	0.9
600582 CH Equity	TIAN DI -A	NR	5.13	-	-	2,967	9.3	7.9	1.0	0.9
A-share average							16.5	14.3	2.0	1.7
Overseas										
CAT US Equity	CATERPILLAR INC	NR	249.5	-	-	126,991	12.1	12.1	6.6	5.6
DE US Equity	DEERE & CO	NR	363.9	-	-	104,815	12.6	12.2	5.1	4.6
CMI US Equity	CUMMINS INC	NR	224.0	-	-	31,744	11.3	11.5	3.0	2.7
6305 JP Equity	HITACHI CONST	NR	3,835.0	-	-	5,538	7.9	7.8	1.1	1.0
6301 JP Equity	KOMATSU LTD	NR	3,772.0	-	-	24,657	9.5	9.5	1.3	1.2
042670 KS Equity	DOOSAN INFRACORE	NR	7,780.0	-	-	1,190	4.7	4.6	0.8	0.7
VOLVB SS Equity	VOLVO AB-B	NR	242.2	-	-	47,244	8.7	10.8	2.8	2.6
Average							9.5	9.8	3.0	2.6
Hydraulic components										
PH US Equity	PARKER HANNIFIN	NR	428.1	-	-	54,995	18.7	17.2	4.6	4.0
7012 JP Equity	KAWASAKI HVY IND	NR	3,363.0	-	-	3,791	13.0	8.7	0.9	0.9
7242 JP Equity	KYB CORP	NR	4,755.0	-	-	822	5.8	5.5	n/a	n/a
6474 JP Equity	NACHI-FUJIKOSHI	NR	3,785.0	-	-	633	7.9	7.1	0.6	0.5
6268 JP Equity	NABTESCO CORP	NR	2,767.5	-	-	2,249	19.6	19.4	1.3	1.3
Average							13.0	11.6	1.9	1.7
Aerial work platform										
TEX US Equity	TEREX CORP	NR	49.6	-	-	3,336	7.0	6.9	2.1	1.8
OSK US Equity	OSHKOSH CORP	NR	96.7	-	-	6,328	10.1	9.5	1.7	1.5
LNR CN Equity	LINAMAR CORP	NR	58.1	-	-	2,620	6.7	6.0	n/a	n/a
PIG FP Equity	HAULOTTE GROUP	NR	2.5	-	-	85	13.9	3.9	0.4	0.3
6345 JP Equity	AICHI CORP	NR	933.0	-	-	471	12.3	11.3	0.9	0.8
Average							10.0	7.5	1.3	1.1

Source: Bloomberg, company data, CMBIGM estimates

Note: For stocks under coverage, earnings estimates are from CMBIGM

Figure 2: Overseas revenue breakdown for major Chinese players

Company	Ticker	% of overseas revenue	
		2022	1H23
Zhejiang Dingli	603338 CH	65%	63%
SANY Heavy	600031 CH	47%	58%
Sinotruk	3808 HK	47%	52%
SANY International	631 HK	27%	30%
Zoomlion	1157 HK / 000157 CH	24%	35%
Jiangsu Hengli	601100 CH	21.5%*	-
Weichai Power	2338 HK / 000338 CH	54.3%**	52%

Source: Company data, CMBIGM estimates

* Certain domestic sales will become final products for export.

** Weichai owns 46.5% interest in KION (KGX GR), the major source of overseas revenue. Together with the direct and indirect exports, we estimate Weichai's attributable overseas revenue accounted for 30-40% of total revenue.

Global machinery demand: Strong in the US and the Middle East

In the post-results calls in Oct and Nov 2023, **Caterpillar (CAT US)** and **Komatsu (6301 JP)** provided clues about the global machinery outlook. In terms of regions, **the US** remains the most resilient market, driven by a strong pipeline of construction projects on the back of government-related infrastructure investment and the energy sector. **The Middle East** also has a strong growth outlook driven by large projects in Saudi Arabia and the UAE. **Europe** and **China** are expected to stay weak. In terms of machinery type, **mining equipment** remains strong driven by commodity demand. On pricing, **ASP hike is expected** but the magnitude will likely be less than before as supply chain constraint has been easing.

Figure 3: Latest comments on global machinery outlook by Caterpillar and Komatsu

Categories	Segments	Caterpillar	Komatsu
Market outlook	Overall	<ul style="list-style-type: none"> FY23 forecast: better than previous projection during 2Q23 FY24 forecast: another good year 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast (excl. China): -10% to -15% YoY (Jul projection: -5% to -10%; Apr projection: 0% to -5%)
	North America	<ul style="list-style-type: none"> Overall: continue to see positive momentum Non-residential: continue its growth driven by the government-related infrastructure investments and a healthy pipeline of construction projects Residential: remain healthy although it has moderated More benefit from government-led infrastructure investments to be seen in 2024 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: 0% to -5% YoY (unchanged) Residential construction: showed signs of a slowdown due to interest rate hikes Rental industry/ infrastructure/ energy-related sector: Demand remained strong
	APAC (excl. China)	<ul style="list-style-type: none"> To see growth driven by public infrastructure spending in support of commodity prices 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: -15% to -20% YoY (Apr projection: 0% to -5% YoY) Indonesia market: mining equipment demand highly correlated with coal price, with uncertainties include 1) new regulation on deposit related to coal export, and 2) declining import volume of China, especially among small and medium-sized users, (3) presidential election
	Japan	n/a	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: about flat YoY (unchanged) Public and private sector construction: strong demand
	China	<ul style="list-style-type: none"> Weakness to continue and expect China sales to remain well below typical range of 5% to 10% of total sales 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: -30% to -40% YoY (Jul projection: -20% to -30%; Apr projection: -5% to -15%) Chinese makers have abundant excess production capacity, which will be applied to export, esp. for Russia
	Europe, Africa, the Middle-East (EAME)	<ul style="list-style-type: none"> Overall: slightly decline Europe: weakness to continue Middle East: strong construction demand to continue 	<ul style="list-style-type: none"> Europe: <ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: -10% to -15% YoY (Jul projection: -5% to -10%; Apr projection: remain about flat) Economic downward pressure caused by tighter monetary policy and decline in demand Middle East: <ul style="list-style-type: none"> Business to remain robust Ongoing large projects in Saudi Arabia and the UAE
	Latin America	<ul style="list-style-type: none"> Construction activity to be about flat versus strong 2022 	n/a
Product outlook	Construction industries	<ul style="list-style-type: none"> Demand remains healthy in most of the end markets. 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: +3.3% YoY (Apr projection: -5% YoY), with the support of favourable FX rates and improved selling prices FY24 (year-end Mar 2025) sales forecast: will be tough due to the slowdown of economy and inflation of higher interest rates
	Mining	<ul style="list-style-type: none"> Positive outlook Seeing capital discipline by our customers but high level of quotation activity Energy transition will support increased commodity demand over time, coupled with the increasing customer acceptance of autonomous solutions 	<ul style="list-style-type: none"> FY23 (year-end Mar 2024) sales forecast: 0% to +10% YoY (unchanged) FY24 (year-end Mar 2025) sales forecast: will be robust
	Heavy Construction & Quarry	<ul style="list-style-type: none"> To maintain at healthy levels driven by major infrastructure and non-residential construction projects. 	n/a
	Oil & Gas	<ul style="list-style-type: none"> To continue its strong demand for CAT reciprocating engines and gas compression. North America: Well servicing is showing short-term moderation, but remain optimistic about future demand. New equipment and services for Solar turbines to remain robust. 	n/a
	Power Generation	<ul style="list-style-type: none"> Demand to remain strong, driven by data center growth New equipment and services for solar turbines to remain robust Industrial demand to soften slightly from recent high levels but remains well above historical average 	n/a
	Transportation	<ul style="list-style-type: none"> High-speed marine to continue its growth with the demand of upgrading aging fleet 	n/a
Price trend	-	<ul style="list-style-type: none"> Price realization to remain positive, yet the magnitude of the favorability to moderate. 	<ul style="list-style-type: none"> More difficult to raise product price due to the normalized supply chain and production capacity issues Price for parts will continue to increase (though not as much as FY23) given the high onsite utilization of equipment
Backlog	-	<ul style="list-style-type: none"> Backlog will come down to more normal levels with improved lead times due to better supply conditions. 	<ul style="list-style-type: none"> Mining equipment: backlog remains at very high level with no sign of a decline, particularly for dump trucks for North America, large hydraulic excavators for Germany, and dump trucks from Komatsu, etc. Construction equipment: hard to forecast FY24 given the short lead time, but have revised down FY23 forecast for Europe and SEA based on the current order situation
Supply Chain	-	<ul style="list-style-type: none"> Supply chain continues to improve. 	<ul style="list-style-type: none"> Supply chain is being normalized.
Cost trend	-	<ul style="list-style-type: none"> Lower level of manufacturing cost inflation 	<ul style="list-style-type: none"> No raw material price hike in 2H23 anymore. Inflation and wage hike are expected.

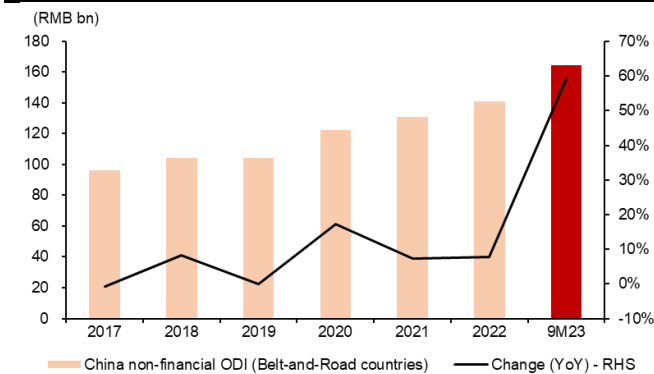
Source: Company data, CMBIGM

Belt-and-Road offers ongoing opportunities to Chinese players

China's non-financial overseas direct investment (ODI) in Belt-and-Road Initiative (BRI) countries increased from RMB96.3bn in 2017 to RMB141bn in 2022 (CAGR: 10%). The proportion of BRI countries/total ODI increased from 12% in 2017 to 18% in 2022. In 9M23, Non-financial ODI to BRI countries increased 59% YoY to RMB165bn, and the proportion further increased to 24%.

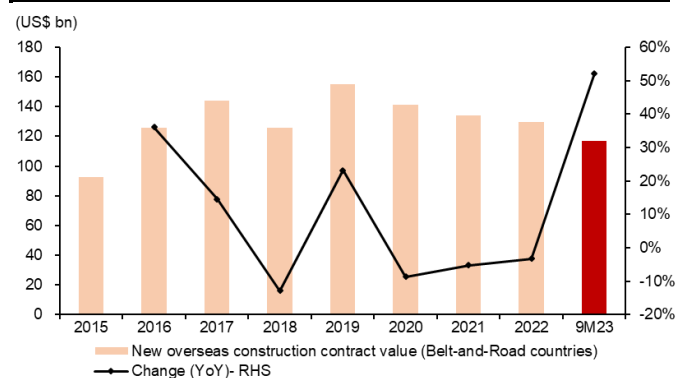
The BRI marks its tenth anniversary in 2023. In Oct, the Third Belt and Road Forum was held, while multiple cooperation projects with total contract amount of USD97.2bn were signed at the CEO Conference held during the Forum. Apart from that, a series of international summits, including the China-Central Asia Summit, BRICS Summit and ASEAN Summit, have also fostered infrastructure investment along the BRI countries. China machinery OEMs will continue to benefit from the rising Chinese investment in the BRI countries.

Figure 4: China non-financial overseas direct investment (Belt-and-Road countries)



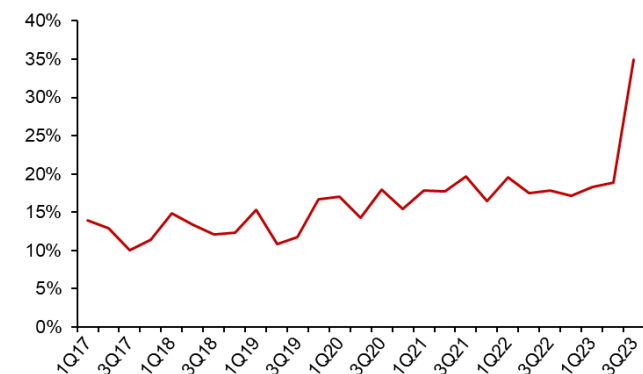
Source: Wind, Ministry of Commerce, CMBIGM

Figure 5: New contract value of China's overseas construction projects (Belt-and-Road countries)



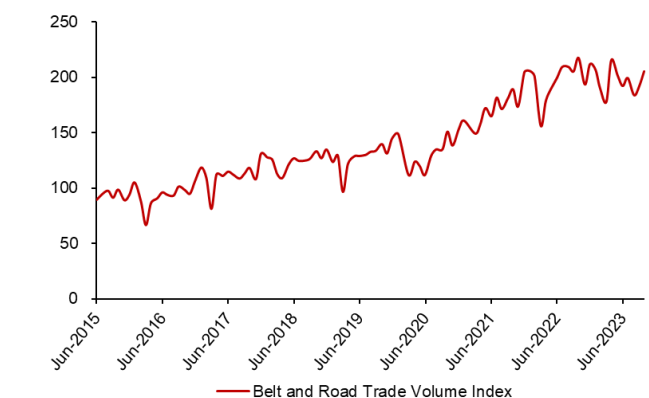
Source: Wind, Ministry of Commerce, CMBIGM

Figure 6: China's ODI to Belt-and-Road countries as % of total ODI (non-financial)



Source: Wind, NBS, CMBIGM

Figure 7: Belt and Road Trade Volume Index



Source: Wind, CMBIGM

Figure 8: Key construction projects signed in the Belt-and-Road related summits

Year	Summit	Key document(s) signed	Key projects
2017	The 1st Belt and Road Forum for International Cooperation	<p>"Vision and Actions on Energy Cooperation in Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road"</p> <p>"Belt and Road Digital Economy Cooperation"</p>	<p>1. A total of 76 major items and more than 270 specific achievements have been achieved. For example, the China-Laos Railway, the China-Thailand Railway, 22 key projects of the Jakarta-Bandung High-speed Railway, the Bejiu section of the Hungary-Serbia Railway in Serbia.</p> <p>2. Sign of "Agreement on Deepening China-Europe Railway Express Cooperation"</p> <p>1. Asia-Europe-Africa Submarine Cable</p> <p>2. China-ASEAN Information Harbor</p> <p>3. China-Arab Online Silk Road</p> <p>4. Digital Silk Road Program</p>
2018	The 2nd Ministerial Conference of the China-CELAC Cooperation Forum	"China-CELAC Special Statement on the Belt and Road Initiative"	
	The 8th Ministerial Conference of the China-CELAC Cooperation Forum	"China-CELAC Vision and Actions on Jointly Building Belt and Road"	
	Forum on China-Africa Cooperation	"Beijing Declaration—Toward an Even Stronger China-Africa Community with a Shared Future and the FOCAC Beijing Action Plan"	
	The 1st BRI Energy Ministers' Meeting	<p>"Joint Energy Ministers' Declaration on Building the Belt and Road Energy Partnership"</p> <p>- China & Russia: "Tianwan project units 7/8 Framework Contract", "Xudabao Nuclear Power Plant Framework Contract", "Fast-neutron Reactor Equipment Supplies and Service Procurement Framework Contract" in 2018</p> <p>- China & Switzerland: "Memorandum of Understanding (MOU) for Cooperation in Energy Cooperation", "China-Switzerland Roadmap on energy cooperation"</p>	<p>1. <u>Russia</u>: (1) 2018: Units 7 and 8 of Lianyungang Tianwan Nuclear Power Plant Units 7 and 8 / Units 3 and 4 of Xudabao Nuclear Power Plant; (2) 2019: Yamal LNG Project; (3) China-Russia East-Route Natural Gas Pipeline</p> <p>2. <u>Belarus</u>: China-Belarus Industrial Park</p> <p>3. <u>Kazakhstan</u>: SPIC Kazakhstan's Zhanatas Wind Power Plant (100MW)</p> <p>4. <u>Pakistan</u>: China-Pakistan Economic Corridor, Chashma Nuclear Power Plant, Hai Duong (Vietnam) Thermal Power Plant, Caculo Cabaça Hydroelectric Power Station</p> <p>5. <u>Brazil</u>: Belo Monte Hydropower Project</p> <p>6. <u>Africa</u>: Ethiopia-Djibouti Gas Pipeline, The Electricity IV Project (Mozambique)</p> <p>7. <u>Republic of Malta</u>: Montenegro Mozura Wind Farm, Solar Rooftops Program</p> <p>8. <u>Switzerland</u>: offshore floating wind farms</p> <p>9. <u>Myanmar</u>: China-Myanmar oil and gas pipeline</p> <p>10. <u>Others</u>: China-Central Asia Natural Gas Pipeline, China-Mongolia-Russia Natural Gas Pipeline</p>
2019	The 2nd Belt and Road Forum for International Cooperation	"Principles and Actions of the Belt and Road Energy Cooperation Partnership"	
2020	The 2nd Belt and Road Energy Partnership Forum		
2021	The 2nd BRI Energy Ministers' Meeting	<p>1. "Belt and Road" Energy Partnership Charter"</p> <p>2. "Belt and Road Green Energy Cooperation Qingdao Initiative"</p>	"Belt and Road" energy partnership cooperation network
2023	China-Central Asia Summit	"The Xi'an Declaration"	<p>1. To support for the construction of an international transport corridor across the Caspian Sea and the development of China-Europe freight train hubs</p> <p>2. To accelerate the construction of Line D of the China-Central Asia gas pipeline, increase oil and gas trade</p> <p>3. Development of multimodal transit and transport transportation along the trans-Caspian routes using the seaports of Aktau, Kuryk and Turkmenbashi, as well as the transit and transport capabilities of the city of Termez.</p> <p>4. Development of transport infrastructure, including construction of new and modernization of existing railways and roads from China to Central Asia.</p> <p>5. Development of energy cooperation along the entire production chain and intensify interactions in the field of new energy</p>
	The 3rd Belt and Road Forum for International Cooperation	<p>1. "Beijing Initiative for Deepening Cooperation on Connectivity"</p> <p>2. "Beijing Initiative for Belt and Road Green Development"</p> <p>3. "Beijing Initiative on the Belt and Road International Digital Economy Cooperation"</p> <p>4. "Global AI Governance Initiative"</p> <p>5. "Beijing Initiative on the Belt and Road International Digital Economy Cooperation"</p> <p>6. "Global AI Governance Initiative"</p>	<p>1. <u>Vietnam</u>: China Basa-Viet Nam Bat Xat Red River Boundary River Road Bridge</p> <p>2. <u>Kuwait</u>: Mubarak Al-Kabeer Port Project</p> <p>3. <u>Saudi Arabia</u>: Marine Facilities for King Salman International Complex for Maritime Industries and Services Project</p> <p>4. <u>Ethiopia / Uzbekistan</u>: Addis Ababa - Djibouti Railway Materials Project / China-Aid Project of Wind Power Plants</p> <p>5. <u>Senegal</u>: Loan for Credit Line of Senegal (improvement of the Niayes Road and improving the fluidity of roads in the Dakar region)</p> <p>6. <u>Cambodia</u>: the Loan agreements with Cambodia for road, bridge and reservoir projects</p> <p>7. Support the project finance for <u>Malaysia</u> East Coast Rail Link Project. Building the Nigerian Kaduna-Kano Railway Project in <u>Nigeria</u>, and the Gantsmod-Gashuunsukhait Port Cross-Border Railway Project in <u>Mongolia</u></p> <p>8. <u>Others</u>: China-aid New Gwadar International Airport Project in Pakistan / the Siem Reap Angkor International Airport on BOT Scheme in Cambodia, etc.</p>

Source: The State Council, National Energy Administration, CMBIGM

Chinese players ready to capture the opportunities in the Middle East

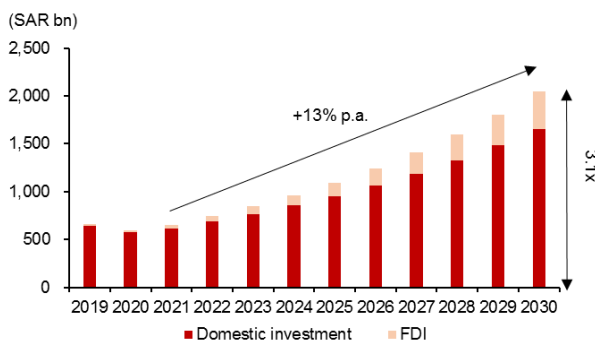
Saudi Arabia: Construction boom under Vision 2030

Since the introduction of “Vision 2030” in 2016, Saudi Arabia has made remarkable progress in the implementation of reforms in multiple non-oil strategic sectors, including renewable energy, technology, logistics, and tourism. To achieve Vision 2030’s goals, the National Investment Strategy (NIS), a US\$3.3tn (SAR12.4tn) investment scheme, was launched by the Saudi Arabian government in 2021, which aims to facilitate the investment from the private sector and foreign direct investments (FDI).

The NIS, together with the government spending of US\$2.6tn (SAR9.8tn) and the private consumption spending of US\$1.3tn (SAR4.9tn), will be equivalent to a total of US\$7.1tn investment (SAR27tn) into the national economy between 2021 and 2030, fostering a strong demand in infrastructure investment.

Saudi Arabia has announced over 255 infrastructure and mega projects, such as NEOM (the US\$500bn cognitive and smart city development in the Northwest region), Qiddiya (entertainment and sports projects), and Riyadh Metro (one of the world’s largest urban transport projects). The total estimated value of the projects amounts to US\$1.7tn, according to ABIQ Consultant. We expect construction spending to see high growth in Saudi Arabia in the upcoming five years.

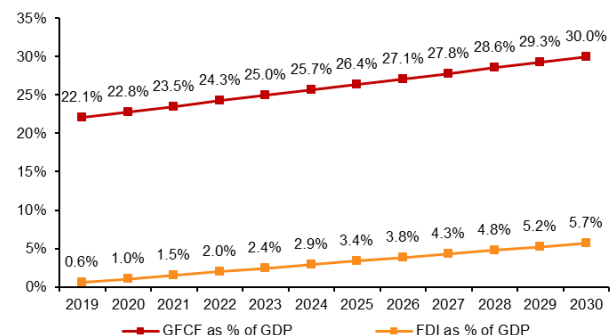
Figure 9: Saudi Arabia’s investment volume (gross fixed capital foundation) breakdown



Source: National Investment Strategy (NIS), CMBIGM

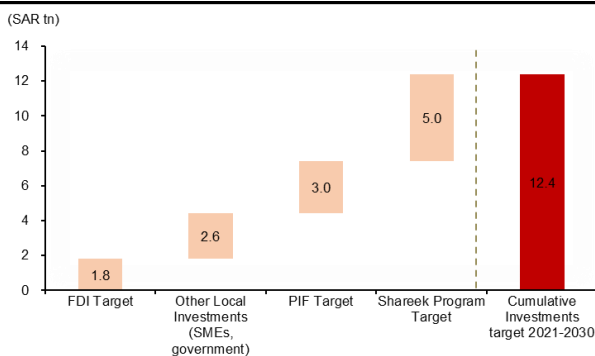
Note: The investment volume in 2030 is targeted to reach 3.1x that in 2021

Figure 10: Gross fixed capital foundation (GFCF) and FDI as % of Saudi Arabia’s GDP



Source: National Investment Strategy (NIS), CMBIGM

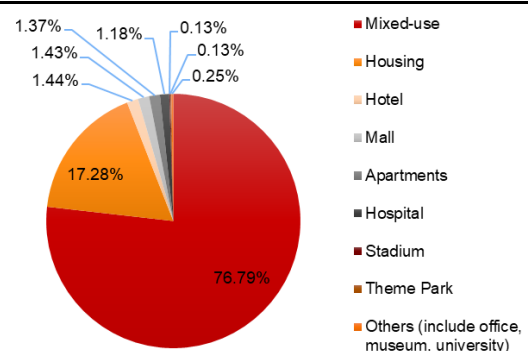
Figure 11: Cumulative gross fixed capital foundation target breakdown under NIS during 2021-2030



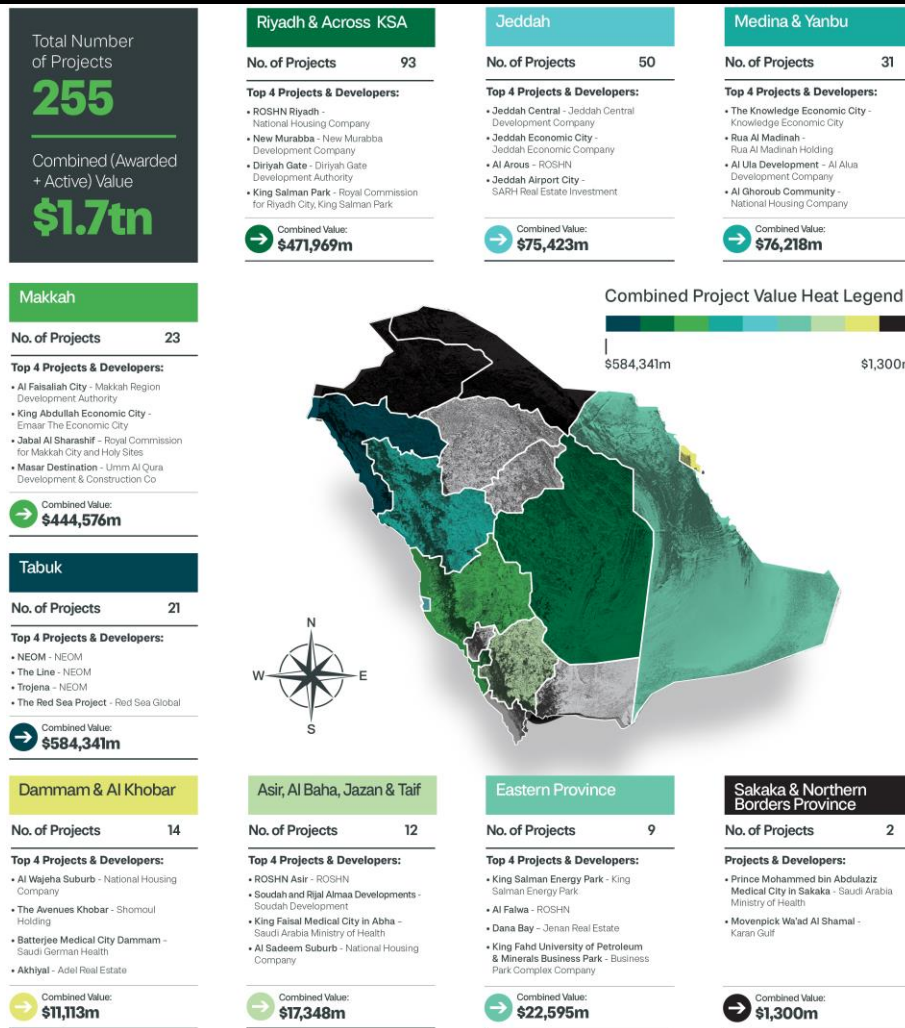
Source: National Investment Strategy (NIS), CMBIGM

Note: 1) Public Investment Fund (PIF), the largest SWFs of Saudi Arabia, led most of major infrastructure projects under Vision 2030. 2) Shareek Program is a program specifically designed to support large Saudi companies to enable the growth of private sector investments

Figure 12: Saudi Arabia’s mega project value breakdown by land use



Source: BIG 5 Construct Saudi, ABIQ, CMBIGM

Figure 13: Saudi Arabia's mega projects covering 15 provinces


Source: BIG 5 Construct Saudi, ABIQ, CMBIGM

UAE: Infrastructure demand boosted by transportation and energy sectors

Similar to Saudi Arabia, to facilitate economic diversification, the UAE launched “UAE Vision 2021” in 2010, with the focus on the investment in non-oil sectors including infrastructure, renewable energy and tourism sectors. On the foundation laid by Vision 2021, a series of reforms and plans has been propelled over the past decade. In 2021, the UAE announced the “Projects of the 50” initiatives, covering several key sectors such as railway (The UAE Railway Program), tourism (UAE Tourism Strategy 2031), and space (Emirati interplanetary mission 2028). Moreover, the “UAE Energy Strategy 2050” released in 2017 specified plans to invest over AED600bn (~US\$163bn) in the renewable energy sector to achieve net zero goals by 2050. The new ‘We the UAE 2031’ vision proposed in 2022 covers an even wider spectrum of development.

With a sizeable infrastructure and energy projects pipeline, the construction sector in the UAE is expected to deliver an annual growth of up to 4.7% in the next five years, according to the US Department of Commerce.

China construction machinery: Policy to help reduce the rate of decline, but lack of recovery in sight

China's legislature, the National People's Congress, approved a cabinet plan on 24 Oct to raise the general fiscal deficit ratio for 2023 from 3% to 3.8% of GDP. The legislature also renewed through 2027 an authorization for the cabinet to front-load at most 60% of the next year's local government bond quota. These policies indicate the policymakers' increased focus on restoring market confidence and shoring up the economy. Our macro team forecasts infrastructure spending growth of 7.8% YoY and a 7% YoY decline in property investment in 2024E.

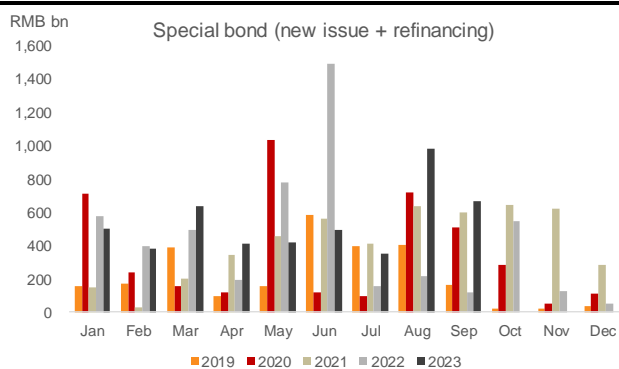
We expect the overall demand for construction machinery to remain sluggish as the infrastructure-driven demand will be offset by the decline in property-related demand. We expect property-driven machinery, such as tower crane and concrete machinery, to see a continuous decline in 2024E. Earth-moving machinery, such as excavator, will likely see a lack of growth due to structural declines in property starts (see segment analysis in the next section).

Figure 14: Downstream applications of construction machinery in China

Type of machinery	Infrastructure	Property	Mining	Manufacturing
Excavator	High	Medium	Low	Low
Wheel loader	Medium	Low	High	Low
Truck crane	High	Low	n/a	Low
Tower crane	n/a	High	n/a	n/a
Concrete machinery	Medium	High	n/a	Low
Coal mining equipment	n/a	n/a	High	n/a
Mining transport truck	n/a	n/a	High	n/a
Aerial work platform	Medium	Low	na	High

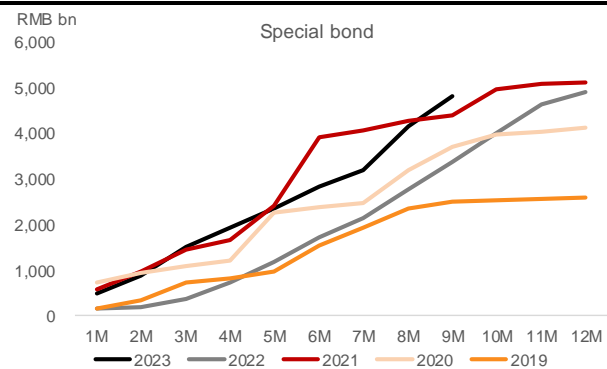
Source: CMBIGM estimates

Figure 15: Local gov't special bond issue amount (monthly)

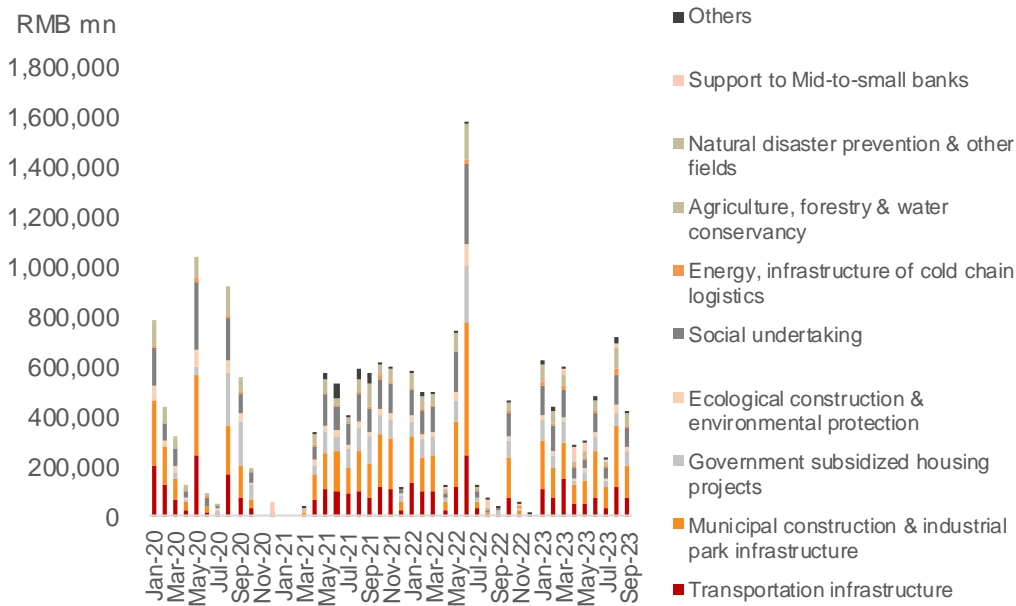


Source: Ministry of Finance, CMBIGM

Figure 16: Local gov't special bond issue amount (YTD new issue + refinancing)

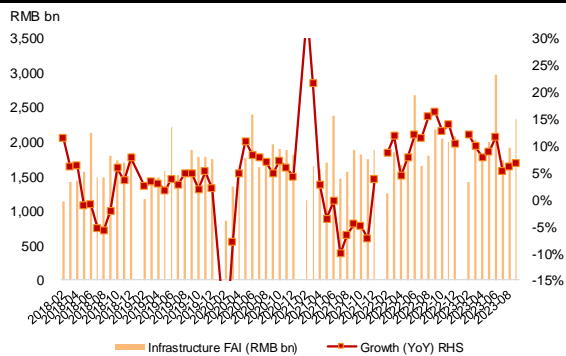


Source: Ministry of Finance, CMBIGM

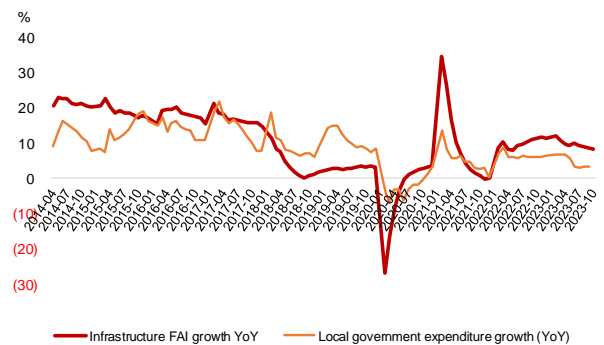
Figure 17: Use of proceeds from the issuance of local gov't bonds

Source: Ministry of Finance, CMBIGM

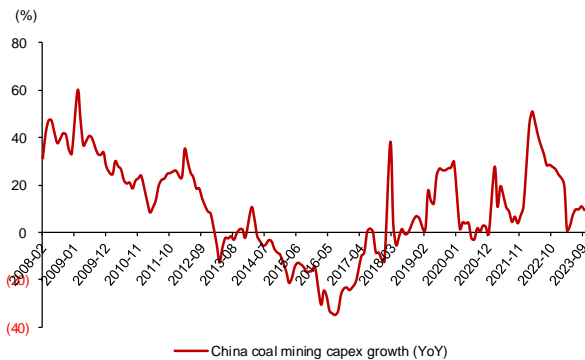
Note: There were no newly issued bonds in Nov 2020 and Jan-Feb 2021.

Figure 18: China infrastructure FAI

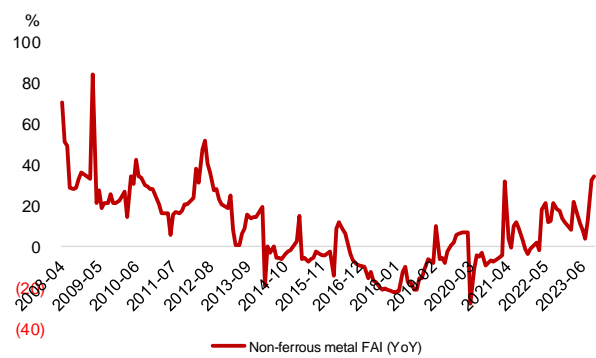
Source: Wind, NBS, CMBIGM

Figure 19: Infrastructure FAI growth vs local government expenditure growth (YTD)

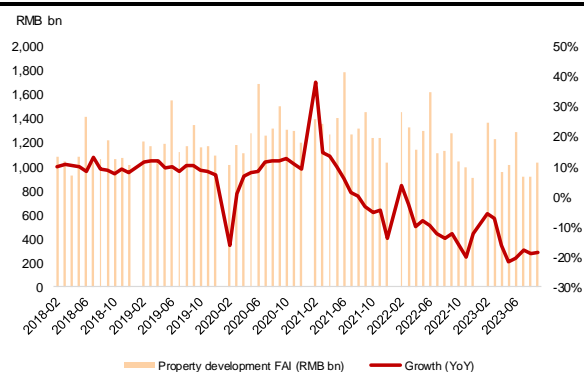
Source: Wind, NBS, Ministry of Finance, CMBIGM

Figure 20: China coal mining FAI growth (YTD)

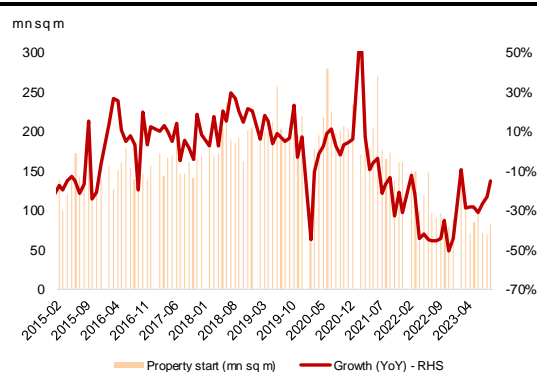
Source: Wind, NBS, CMBIGM

Figure 21: China non-ferrous metal FAI growth

Source: Wind, NBS, CMBIGM

Figure 22: Property development FAI

Source: Wind, CMBIGM

Figure 23: Property starts

Source: Wind, CMBIGM

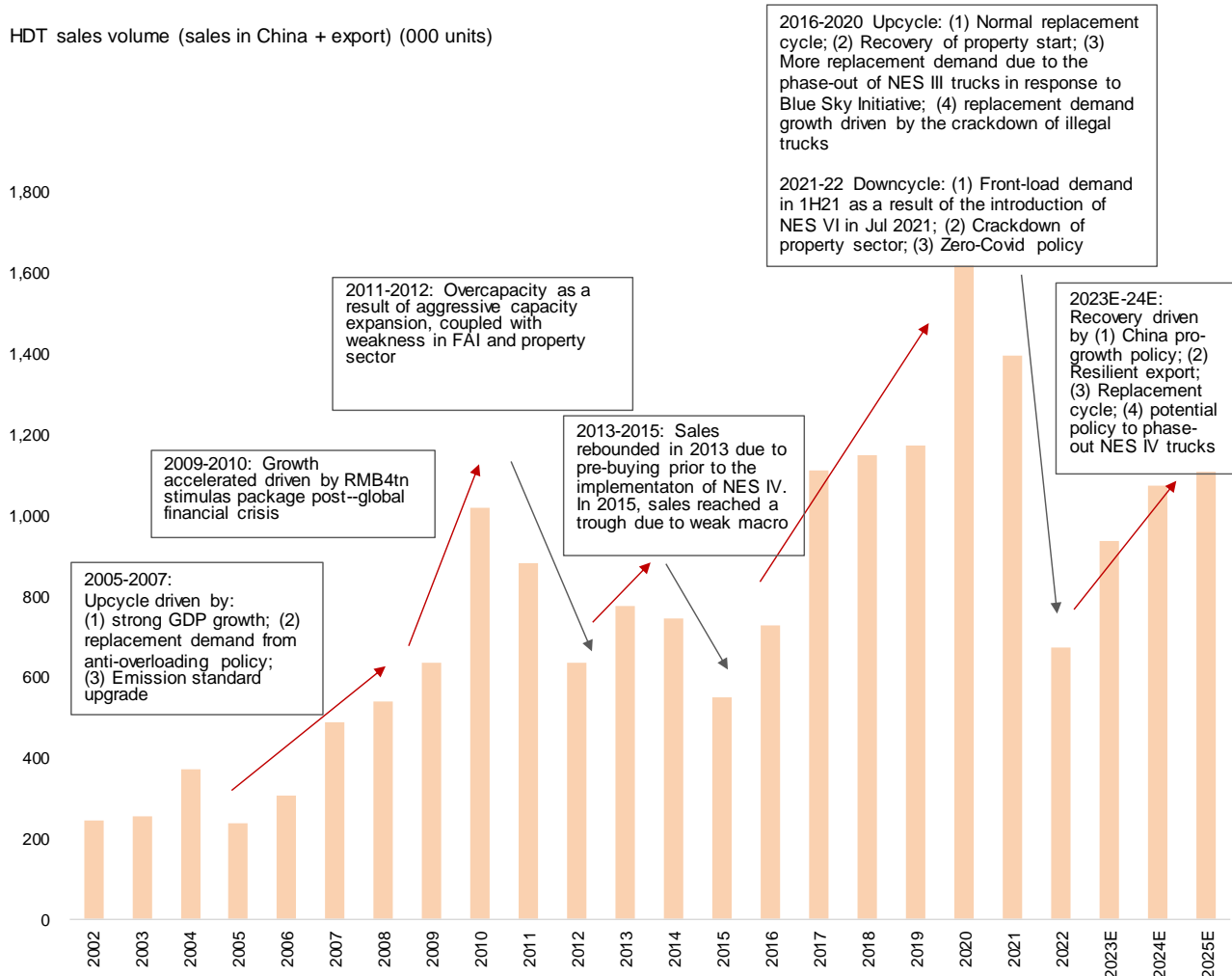
Heavy-duty truck: Expect 15% YoY growth in 2024E

On the back of an extremely low base and resilient export growth, China HDT sales volume (domestic sales + exports) saw a strong recovery in 10M23 (+38% YoY). We forecast full-year sales to grow 39% to 936k units in 2023E.

We expect 15% industry sales volume growth in 2024E:

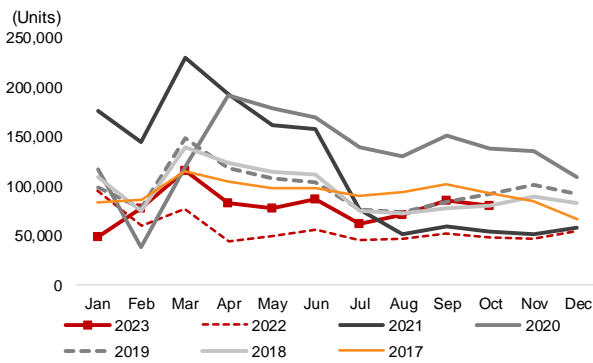
- Historically, the HDT fleet size has been highly correlated with the GDP growth. Our industry model suggests that each unit of operating HDT supports RMB12mn of GDP value. We estimate the fleet size to grow ~4.8% YoY, largely in-line with our GDP growth forecast.
- Given around 6-8 years of a HDT's useful life, we expect a relatively strong replacement demand in 2024E-25E. The replacement demand will be even higher in case of a potential speed-up of the elimination of NES IV trucks.
- We continue to expect solid export growth (18% YoY) in 2024E.
- We calculate that all these will translate to a 15% YoY increase in sales volume in 2024E.

Figure 24: Cycles of China HDT sales



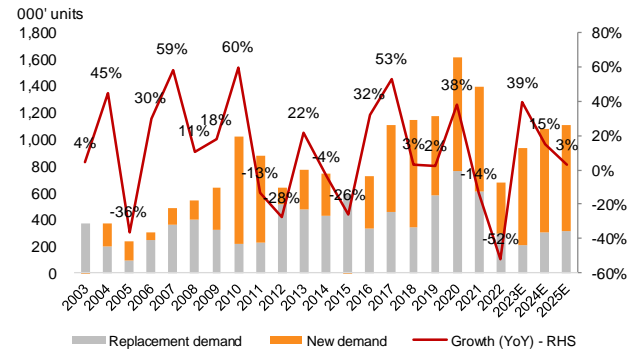
Source: Wind, CMBIGM estimates

Figure 25: China HDT monthly sales



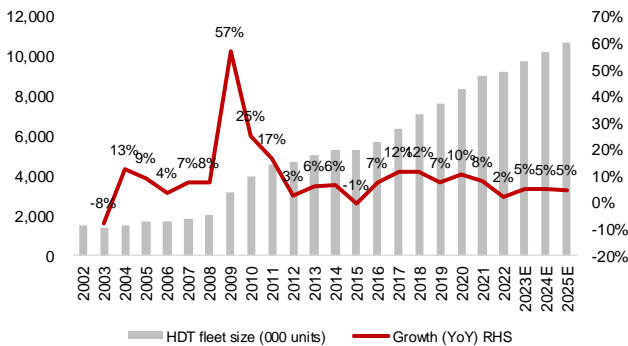
Source: Cvworl, CMBIGM
Note: Sales in China + exports

Figure 26: CMBIGM HDT sales projection



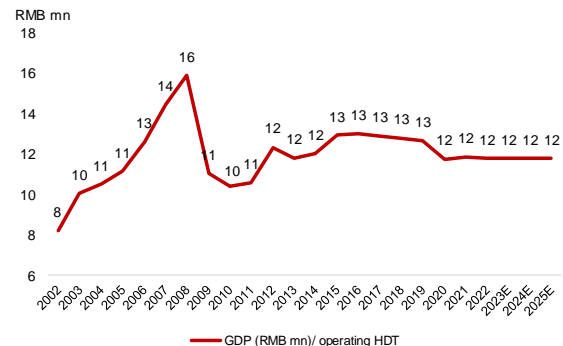
Source: Cvworl, Wind, CMBIGM estimates
Note: Sales in China + exports

Figure 27: China HDT fleet size



Source: Wind, CMBIGM estimates

Figure 28: GDP per unit of operating HDT



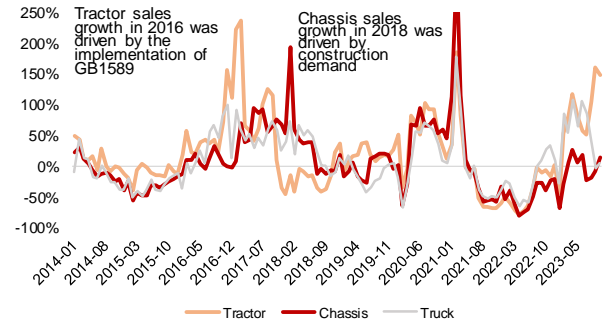
Source: Wind, CMBIGM estimates

Figure 29: Breakdown of HDT sales by region



Source: Wind, CMBIGM estimates

Figure 30: Growth rates of different types of HDTs



Source: Wind, CMBIGM

Figure 31: Timetable for the implementation of NES

Type of vehicles		Year																							
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Heavy duty vehicle	Diesel																								
	Gasoline																								
	Gas fueled																								
Light duty vehicle	Diesel																								
	Gasoline																								
	Gas fueled																								
Off road vehicle	Diesel																								

Source: Ministry of Ecology and Environment, CMBIGM

A shift to natural gas truck from diesel truck due to wide gas/diesel price spread

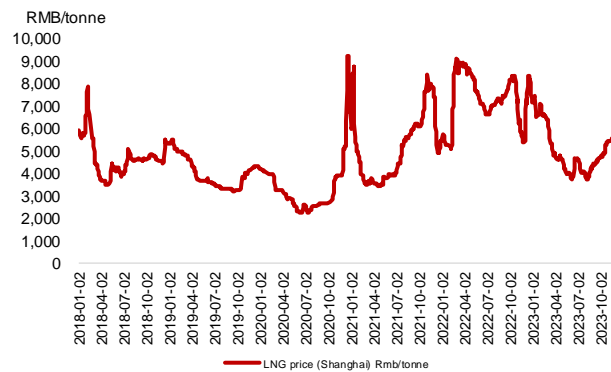
Driven by the wide price spread between LNG and diesel, industry sales volume of natural gas HDTs surged 5.6x/7.4x/14.8x YoY in Aug/Sep/Oct 2023, taking the percentage of total HDT sales to 27%/29%/29%. In 10M23, the sales volume of gas HDTs surged 3.1x YoY to ~130k units, accounting for ~17% of total HDTs sold.

Figure 32: Shandong diesel price



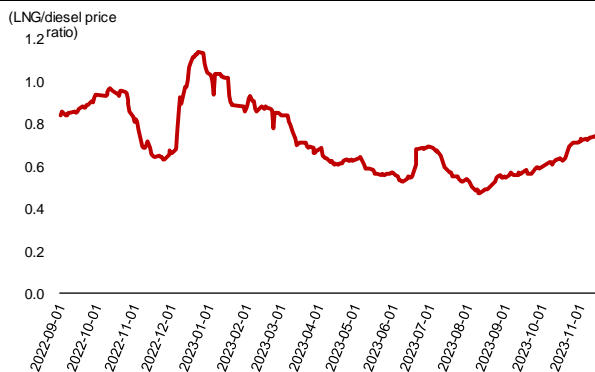
Source: Wind, CMBIGM

Figure 33: Shanghai LNG price



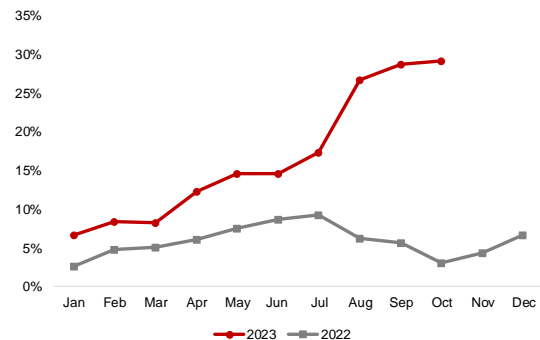
Source: Wind, CMBIGM

Figure 34: LNG/Diesel price ratio



Source: Wind, CMBIGM estimates

Figure 35: Natural gas HDTs as % of total HDTs sold



Source: Wind, Cvworl, CMBIGM

Payback period for gas HDTs is 3.1 years, versus 3.7 years for diesel HDTs

We conduct a detailed analysis on the return comparison between LNG trucks and diesel trucks. Our key assumptions include: (1) purchase price (VAT-included) of RMB468k for a LNG HDT and RMB374k for a diesel HDT; and (2) an average daily transportation distance of 500km. For truck buyers, based on the current price of LNG (RMB5.5/kg) and diesel (RMB7.4/litre), an annual net profit of RMB151k generated from the LNG truck is better than that from a diesel truck (RMB100k).

Despite an increase of the gas/diesel price ratio to 0.74x (mid-Nov) from 0.63x in mid-Oct, our payback period analysis suggests that gas HDT remains a better choice for truck buyers (LNG: 3.1 years, diesel: 3.7 years). We expect natural gas HDTs to continue to account for 25-30% of the total sales of HDTs in the foreseeable future.

Figure 36: Comparison of investment return between diesel and LNG trucks

Diesel		LNG	
Operating assumptions			
Transport service income (RMB / tonne km)	0.27	Transport service income (RMB / tonne km)	0.27
Capacity (tonne)	30	Capacity (tonne)	30
Operating days / month	20	Operating days / month	20
Daily transportation distance (km)	500	Daily transportation distance (km)	500
Diesel consumption (litre / 100 km)	30	Gas consumption (kg / 100 km)	30
Diesel price (RMB /litre)	7.4	Gas price (RMB/kg)	5.5
Urea expense (RMB / 100 km)	11.25	Urea expense (RMB / 100 km)	0
Maintenance expense (RMB / 100 km)	60	Maintenance expense (RMB / 100 km)	60
Toll fee per vehicle (RMB/km)	2.2	Toll fee per vehicle (RMB/km)	2.2
Monthly wage of a driver (RMB)	9,000	Monthly wage of a driver (RMB)	9,000
Tax rate (%)	25%	Tax rate (%)	25%
Capex			
Truck purchase price (RMB)	320,000	Truck purchase price (RMB)	400,000
Years of depreciation	5	Years of depreciation	5
VAT rate	17%	VAT rate	17%
VAT (RMB)	54,400	VAT (RMB)	68,000
Total purchase price (RMB)	374,400	Total purchase price (RMB)	468,000
Profitability			
	(RMB)		(RMB)
Revenue (annual)	931,500	Revenue (annual)	931,500
Expense:		Expense:	
Diesel	-267,084	Natural gas	-197,100
Urea	-13,500	Urea	0
Depreciation	-64,000	Depreciation	-80,000
Maintenance	-72,000	Maintenance	-72,000
Toll fee	-253,000	Toll fee	-253,000
Driver wage	-108,000	Driver wage	-108,000
Insurance and others	-20,000	Insurance and others	-20,000
Pre-tax profit	133,916	Pre-tax profit	201,400
Tax	-33,479	Tax	-50,350
Net profit	100,437	Net profit	151,050
Payback period (year)	3.7		3.1

Source: CMBIGM estimates

Figure 37: Sensitivity of payback period to diesel price

	Transport service income (RMB / tonne km)					
	0.243	0.2565	0.27	0.2835	0.297	
	5.9	5.3	3.5	2.7	2.1	1.8
	6.7	7.4	4.4	3.1	2.4	2.0
Diesel price	7.4	12.2	5.7	3.7	2.8	2.2
(RMB/litre)	8.2	35.5	8.2	4.7	3.2	2.5
	8.9	-39.5	14.7	6.2	3.9	2.9

Source: CMBIGM estimates

Note: For diesel trucks

Figure 38: Sensitivity of payback period to LNG price

	Transport service income (RMB / tonne km)					
	0.243	0.2565	0.27	0.2835	0.297	
	4.4	4.2	3.2	2.6	2.2	1.9
	4.9	4.9	3.6	2.8	2.3	2.0
LNG price	5.5	5.8	4.0	3.1	2.5	2.1
(RMB/kg)	6.0	7.0	4.6	3.4	2.7	2.3
	6.6	9.1	5.4	3.9	3.0	2.4

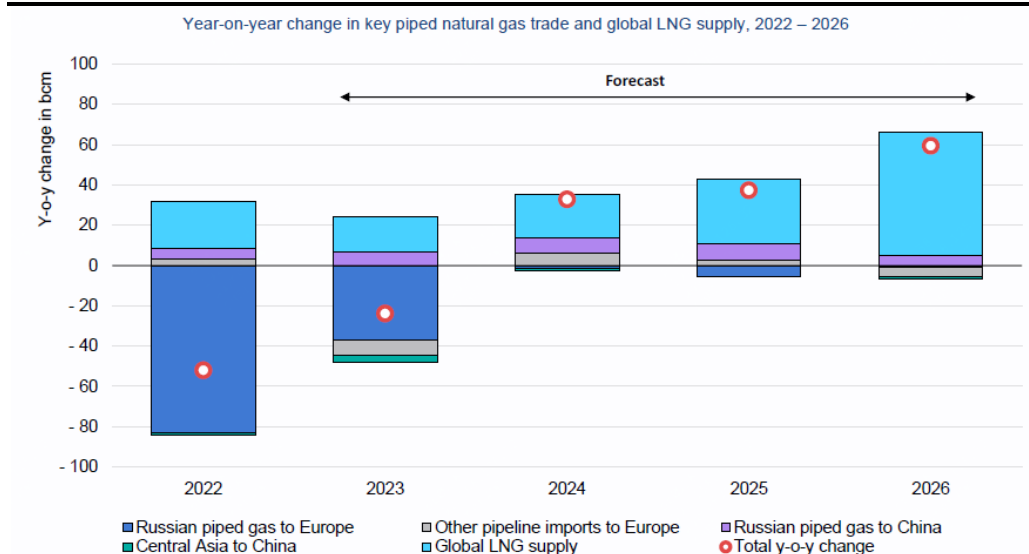
Source: CMBIGM estimates

Note: For LNG trucks

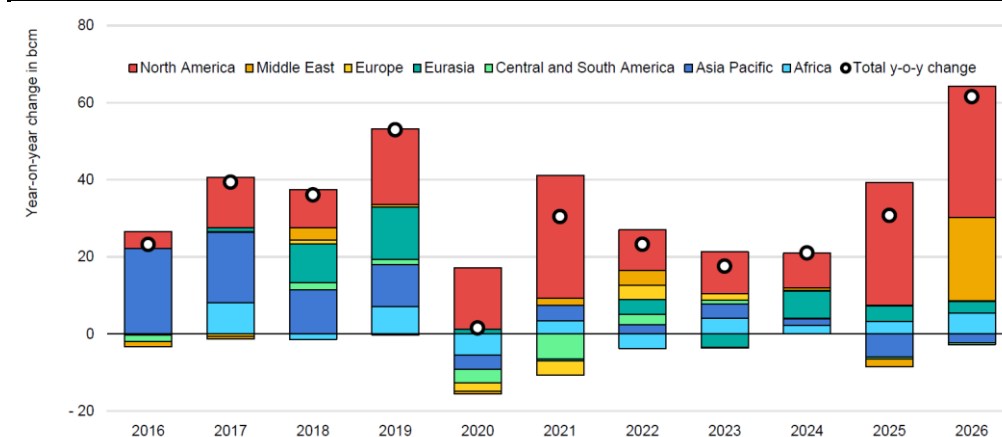
Abundant supply of LNG over the coming years

According to the International Energy Agency (IEA), global gas demand growth rate in 2022-26E is expected to slow to 1.6% p.a. from 2.5% p.a. in 2017-21. The future demand growth is expected to be driven by Asia Pacific and the Middle East, which offset the weakness in other regions.

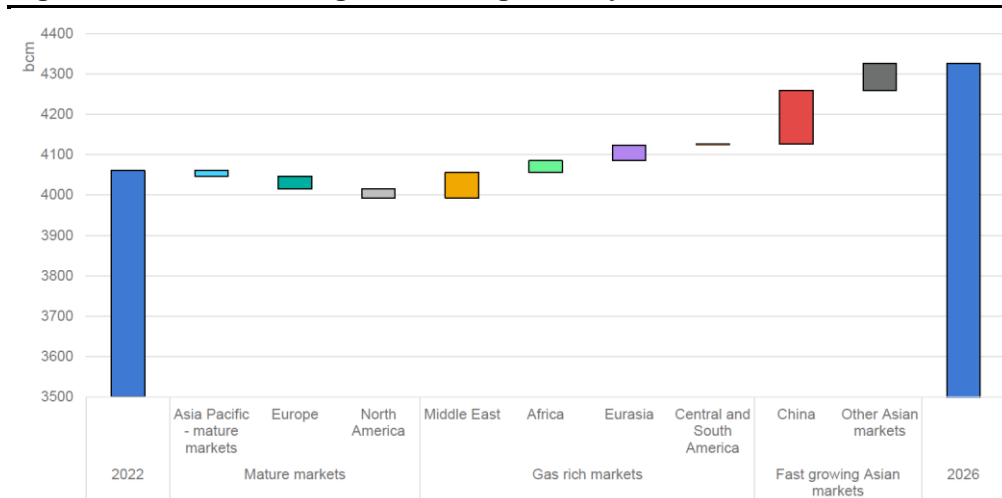
On the supply side, global gas supply will be driven by LNG. The global LNG supply is expected to expand by 25% between 2022 and 2026, with 70% of the new supply concentrated in 2025E-26E. This is expected to drive an increasingly interconnected and globalized gas market, according to IEA.

Figure 39: Global LNG supply to see continuous growth by 2026

Source: Medium-Term Gas Report 2023 by IEA, CMBIGM

Figure 40: YoY change in global LNG supply (North America and Qatar to account for 80% of incremental supply in 2023E-26E)

Source: Medium-Term Gas Report 2023 by IEA, CMBIGM

Figure 41: Global natural gas demand growth by 2026

Source: Medium-Term Gas Report 2023 by IEA, CMBIGM

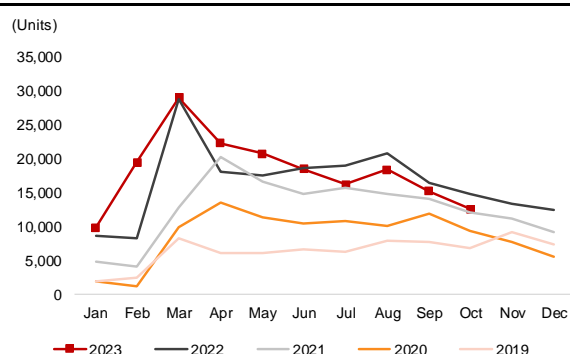
Aerial Work Platform: Strong in the US; Slowdown in China

China. Following years of growth, we estimate China's AWP fleet size is now equivalent to >70% of the US fleet size, versus only ~12% in 2018. Sales of AWP in China have been declining (YoY) since Aug 2023. We expect a slowdown of fleet size growth as major AWP leasing companies such as **Horizon Construction (9930 HK, BUY)** and **Huatie (603300 CH)** have reduced their capex on AWP and switched to the asset-light model. We forecast AWP sales in China market to drop ~5% YoY in 2024E.

The US. On the contrary, AWP demand growth in the US over the coming years is expected to be strong on the back of mega projects, such as government-led infrastructure spending, data centers, new energy, as well as AWP replacement demand. **United Rentals (URI US)**, the largest AWP leasing company in the US, guided that the replacement capex in 2024E is estimated at US\$2.8-3.0bn, up from US\$2.3-2.5bn in 2023E.

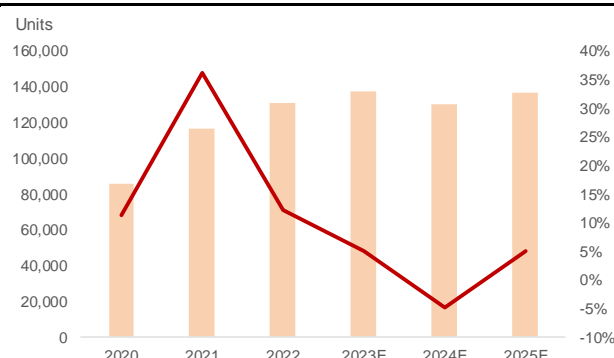
Europe. The European Commission announced in mid-Nov that it will initiate an anti-dumping proceeding concerning imports of mobile access equipment (MAE, or AWP) from China ([source](#)). While this looks negative to the Chinese AWP manufacturers at first glance, we think the estimated investigation time of 13-14 months will provide the Chinese manufacturers with time to take measures to mitigate the potential impact. For instance, they can localize their AWP production overseas to avoid the potential duties. Besides, given that different tariffs may be applied, manufacturers with more experience in dealing with the investigation will have the chance to fight for lower tariffs.

Figure 42: China AWP monthly sales (domestic + exports)

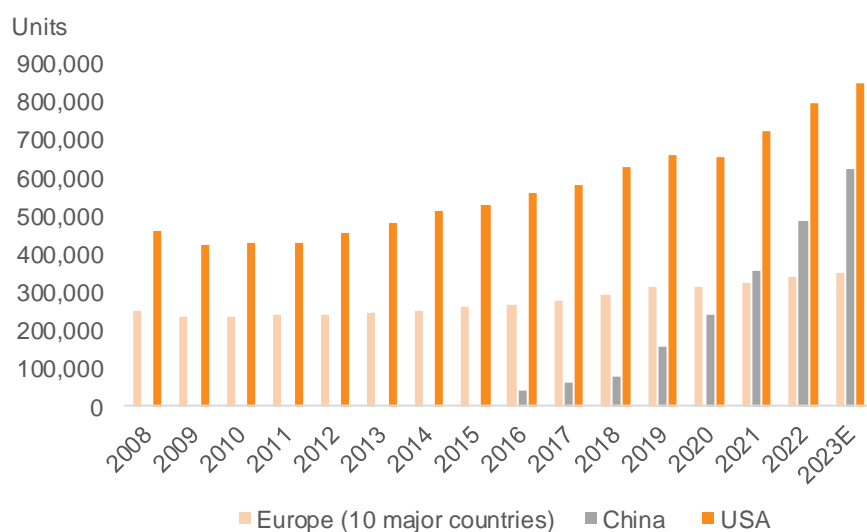


Source: China Construction Machinery Association (CCMA), CMBIGM

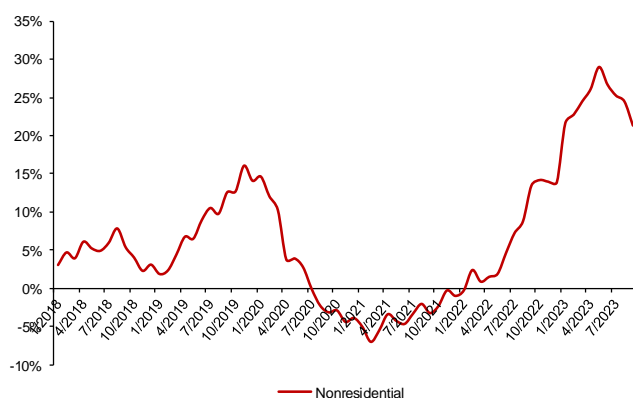
Figure 43: CMBIGM China AWP sales projection



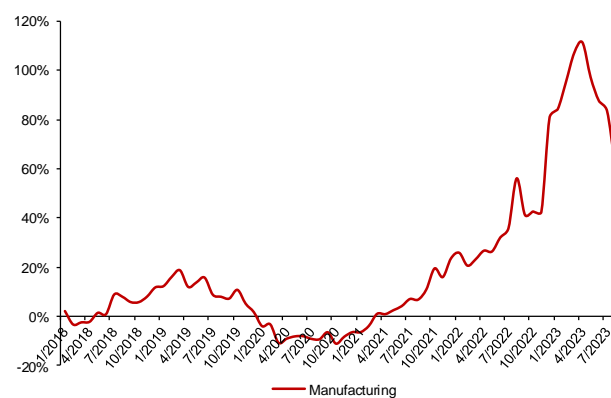
Source: CCMA, CMBIGM estimates

Figure 44: AWP fleet size breakdown by region

Source: The International Powered Access Federation (IPAF), CCMA, CMBIGM estimates

Figure 45: US non-residential spending growth

Source: Bloomberg, CMBIGM

Figure 46: US manufacturing spending growth

Source: Bloomberg, CMBIGM

Excavator: Expect 5% YoY decline in 2024E as the stabilization of China market to be offset by weak exports

China market:

In China market, infrastructure, property and mining investment (namely construction-related FAI) are the key demand drivers in terms of downstream application. We therefore have been applying the respective FAI figures and excavator sales to evaluate the demand and supply of the machinery. Our industry model suggests that the construction-related FAI per unit of operating excavator (note: higher amount means tighter supply of the machinery) reduced from the peak of ~RMB24mn in 2019 to RMB22mn in 2022 (Figure 48).

The domestic sales of excavators dropped 43% YoY in 10M23 (after a decline of 45% in 2022), hit hard by the weak construction activities as the decline in property investment offset the growth of infrastructure spending. This, on the positive side, results in a slowdown of the fleet size growth. We estimate the per-unit FAI of operating excavators to rebound to RMB22.6mn, which should pave the way for a stabilization of excavator sales in 2024E.

Overseas market:

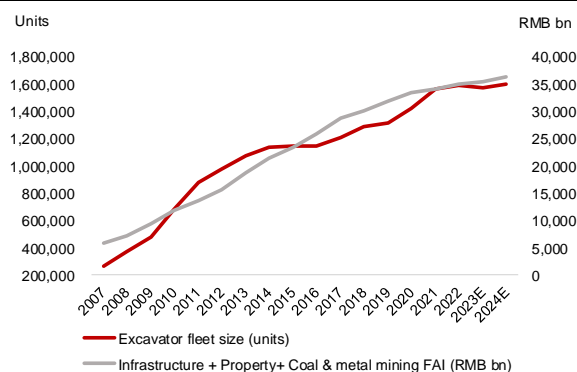
Exports of excavators, for the first time, exceed domestic sales this year (54% in 10M23). While the momentum was relatively strong in 1H23 (+11% YoY), it turned into negative territory in Jul-Oct which resulted in a 1% decrease in sales in 10M23. The decline in exports was due to several factors: (1) high inflation and interest rate affecting demand in some regions, such as Europe; (2) weakness in construction activities (despite resilient mining activities), and (3) easing supply chain constraints boosting the supply of machinery overseas. We expect the weakness of China excavator exports to continue in 2024E.

Our projection:

We forecast the excavator sales volume (domestics sales + exports) to drop 26%/ 5% YoY in 2023E/2024E. Our sales growth forecast in 2024E is based on the following assumptions:

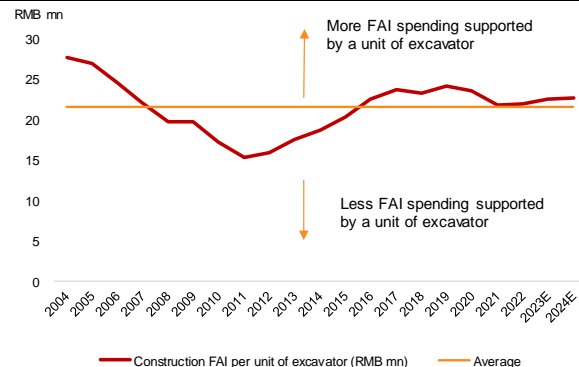
- **China market:** We forecast a stabilization of sales volume in 2024E (+1% YoY), supported by 7.8% infrastructure spending growth but offset by a 7% decline in property investment.
- **Export:** We expect the export volume to decline 10% YoY in 2024E due to the high base effect (in particular in 1H24E).

Figure 47: Excavator fleet size versus construction-related FAI



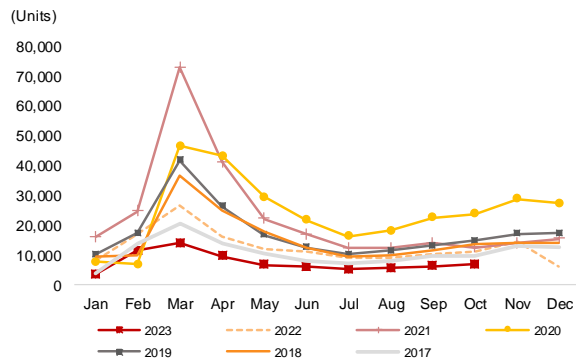
Source: CCMA, Wind, CMBIGM estimates

Figure 48: Construction FAI per unit of excavator in operation

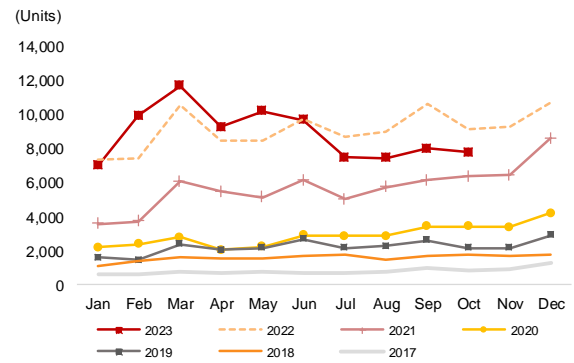


Source: CCMA, Wind, CMBIGM estimates

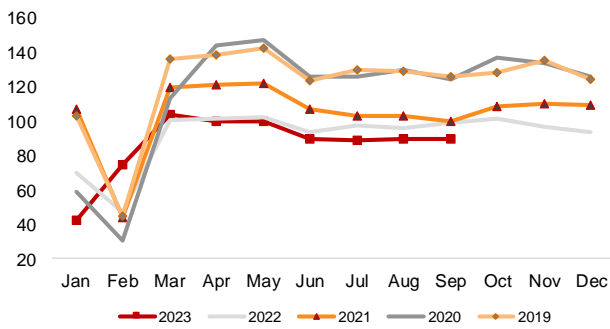
Note: Construction FAI = infrastructure + property + mining

Figure 49: Monthly excavator sales in China

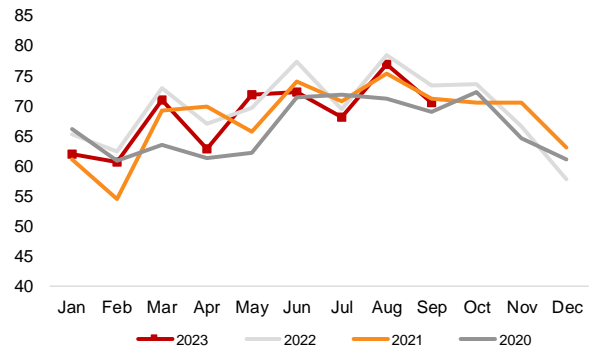
Source: CCMA, CMBIGM

Figure 50: Monthly excavator export volume

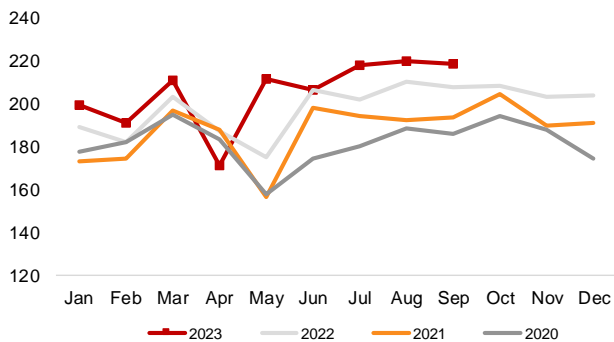
Source: CCMA, CMBIGM

Figure 51: Komatsu excavator monthly utilisation hours in China

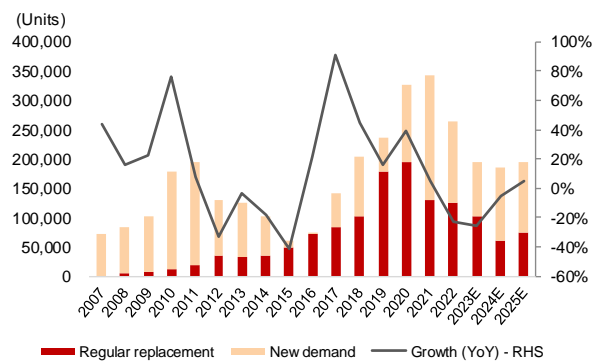
Source: Komatsu, CMBIGM

Figure 52: Komatsu excavator monthly utilisation hours in North America

Source: Komatsu, CMBIGM

Figure 53: Komatsu excavator monthly utilisation hours in Indonesia

Source: Komatsu, CMBIGM

Figure 54: CMBIGM excavator sales projection

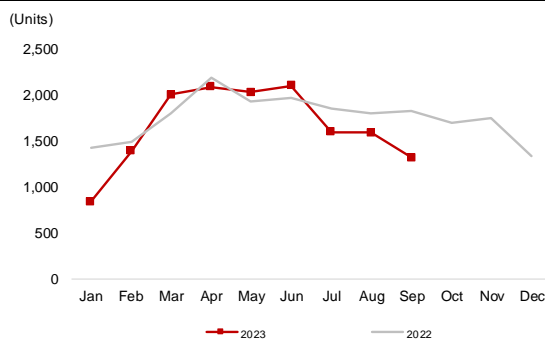
Source: CCMA, Wind, CMBIGM estimates

Tower crane and concrete machinery: Still subject to property construction decline

Visibility on the demand for tower cranes and concrete machinery remains low due to their high exposure to property investment which is subject to change in government policies. Tower crane sales (almost 100% related to property) dropped only 3% YoY in 1H23 as a result of robust exports that partially offset the weak domestic sales, but the sales decline accelerated to 8% in 10M23 as domestic sales further declined. In 2024E, we forecast the sales of tower cranes (China sales + exports) to drop 20% YoY as we expect the domestic property investment to stay weak and export momentum to lose steam.

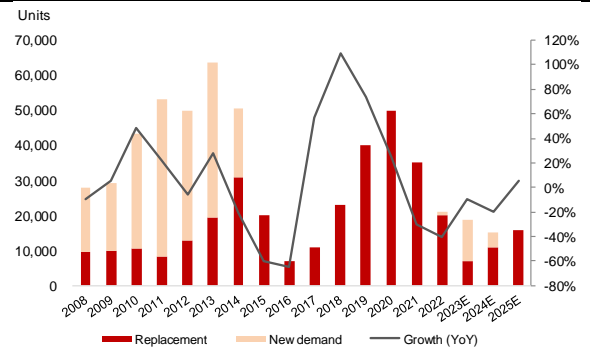
For concrete mixers and pump trucks (2/3 related to property), we expect the demand to see a single-digit decline in 2024E.

Figure 55: Tower crane monthly sales volume



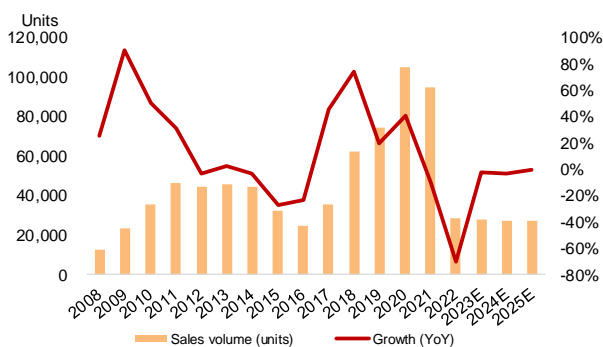
Source: CCMA, CMBIGM
Note: Domestic sales + exports

Figure 56: CMBIGM tower crane sales projection



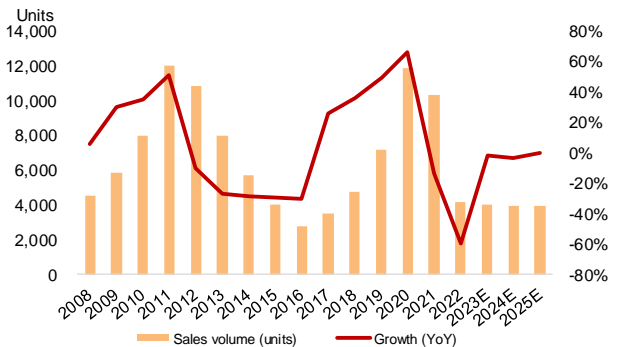
Source: CCMA, CMBIGM estimates

Figure 57: CMBIGM concrete mixer sales projection



Source: CCMA, CMBIGM estimates

Figure 58: CMBIGM concrete pump truck sales projection



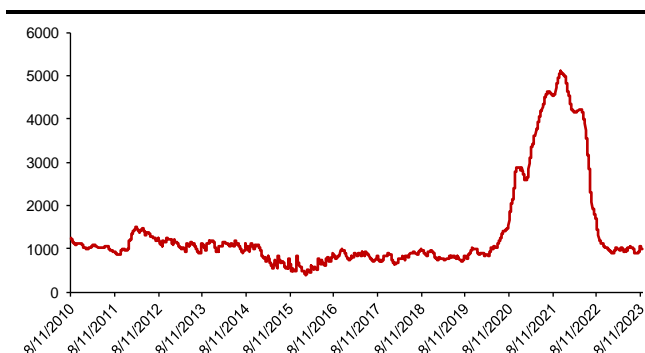
Source: CCMA, CMBIGM estimates

Margin improvement on lower freight rate and steel price

The freight rate (Shanghai Containerized freight index as reference) has significantly declined and returned to the pre-pandemic level since early this year. Since exports are now an important revenue driver for most of the Chinese machinery manufacturers, the normalization of freight rate has helped boost gross margin expansion this year. Given the easing bottleneck, we do not expect a sharp increase in the freight rate in 2024E.

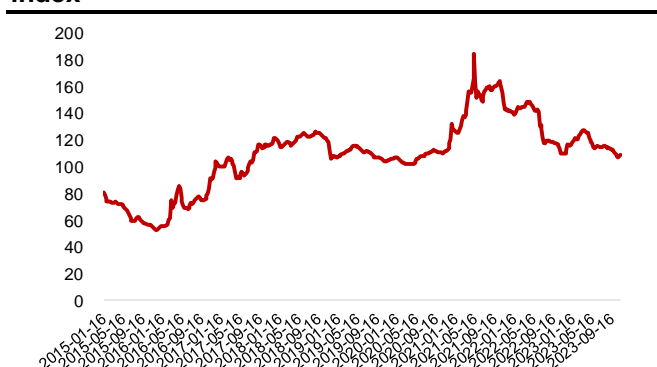
Steel generally accounts for 15-20% of construction machinery production cost. The weakness of steel price should also help drive cost reduction.

Figure 59: Shanghai Containerized freight index



Source: Bloomberg, CMBIGM

Figure 60: China medium-thick steel plate price index



Source: Wind, CMBIGM

Weichai Power (2338 HK, TP: HK\$19.4 / 000338 CH, TP: RMB17.8, BUY)

Weichai is a major beneficiary of the HDT upcycle given its >30% market share in the HDT engine sector. Most importantly, Weichai is well positioned to capture the rising demand for gas HDTs given its >60% market share in the HDT gas engine segment.

Besides, we also like Weichai's on-track diversification of product portfolio, including (1) fast-growing large-bore engines; (2) the consolidation of LOVOL Heavy and the increase in installation of CVT engines for LOVOL, and (3) continuous investment in hydrogen fuel cell.

We revise up our earnings forecast in 2023E/24E/25E by 2%/13%/11%, as we revise up both the engine sales and segment margin assumptions. We roll over our valuation base to 2024E and raise our SOTP-based TP for H/A to HK\$19.4/RMB17.8 (from HK\$10.1/RMB14.7). Reiterate **BUY**. Weichai-H is our sector top pick.

Figure 61: Financial summary – Weichai-H

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	203,548	175,158	206,901	228,433	242,376
YoY growth (%)	3.1	(13.9)	18.1	10.4	6.1
Core net profit (RMB mn)	9,255	4,906	8,595	10,172	10,908
Core EPS (RMB)	1.06	0.56	0.98	1.17	1.25
YoY growth (%)	(8.6)	(47.0)	75.2	18.4	7.2
Consensus EPS (RMB)	n/a	n/a	1.00	1.21	1.34
P/E (x)	11.7	22.2	13.3	11.3	10.5
EV/EBITDA (x)	4.9	7.2	5.1	4.5	4.3
P/B (x)	1.5	1.5	1.4	1.3	1.2
Yield (%)	2.8	2.0	2.6	3.1	3.3
ROE (%)	15.2	6.8	11.3	12.2	12.1
Net gearing (%)	Net cash	Net cash	Net cash	Net cash	Net cash

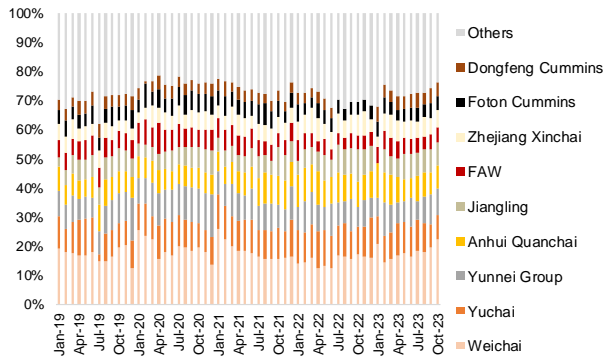
Source: Company data, CMBIGM estimates

Figure 62: Financial summary – Weichai-A

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	203,548	175,158	206,901	228,433	242,376
YoY growth (%)	3.1	(13.9)	18.1	10.4	6.1
Core net profit (RMB mn)	9,255	4,906	8,595	10,172	10,908
Core EPS (RMB)	1.06	0.56	0.98	1.17	1.25
YoY growth (%)	(8.6)	(47.0)	75.2	18.4	7.2
Consensus EPS (RMB)	n/a	n/a	1.00	1.21	1.34
P/E (x)	13.3	25.1	15.1	12.8	11.9
EV/EBITDA (x)	5.6	8.1	5.7	5.1	4.8
P/B (x)	1.7	1.7	1.6	1.5	1.4
Yield (%)	2.5	1.8	2.3	2.7	2.9
ROE (%)	15.2	6.8	11.3	12.2	12.1
Net gearing (%)	Net cash	Net cash	Net cash	Net cash	Net cash

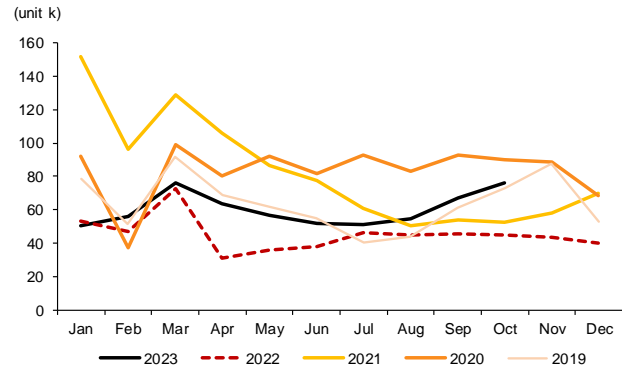
Source: Company data, CMBIGM estimates

Figure 63: China multi-cylinder engine market share



Source: China Internal Combustion Engine Industry Association (CICEIA), CMBIGM

Figure 64: Weichai's multi-cylinder engine monthly sales volume



Source: CICEIA, CMBIGM

Figure 65: Change in key operating assumptions

	2023E			2024E			2025E		
	Old	New	Change	Old	New	Change	Old	New	Change
Sales volume (unit)									
Engine total	844,481	853,569	1.1%	941,134	987,647	4.9%	1,005,504	1,051,911	4.6%
HDT (Shaanxi Heavy-duty Motor)	116,000	116,000	0.0%	124,120	134,560	8.4%	130,326	142,634	9.4%
Gear box (Shaanxi Fast Gear Company)	737,500	737,500	0.0%	781,750	781,750	0.0%	813,020	813,020	0.0%
(RMB mn)									
Revenue									
Diesel engines	57,763	58,384	1.1%	64,374	67,654	5.1%	68,776	72,056	4.8%
Automobiles and major components	59,745	59,745	0.0%	63,411	64,142	1.2%	66,034	66,896	1.3%
Forklift trucks & supply chain solution	82,171	82,171	0.0%	87,101	87,101	0.0%	92,327	92,327	0.0%
Agricultural machinery	19,860	18,619	-6.3%	21,846	20,481	-6.3%	22,939	21,505	-6.2%
Intersegment sales	-8,986	-12,018	33.7%	-9,670	-10,945	13.2%	-10,221	-10,408	1.8%
Total revenue	210,553	206,901	-1.7%	227,062	228,433	0.6%	239,855	242,376	1.1%
Segment profit									
Diesel engines	5,776	6,597	14.2%	5,794	7,780	34.3%	6,190	8,142	31.5%
Automobiles and major components	119	119	0.0%	824	834	1.2%	924	937	1.3%
Forklift trucks & supply chain solution	2,876	3,369	17.1%	3,049	3,658	20.0%	3,231	3,878	20.0%
Agricultural machinery	874	875	0.1%	983	942	-4.2%	1,032	968	-6.3%
Intersegment sales	-90	-120	33.7%	-97	-109	13.2%	-102	-104	1.8%
Total segment profit	9,556	10,841	13.4%	10,553	13,105	24.2%	11,276	13,820	22.6%
Segment margin			Chg (ppt)			Chg (ppt)			Chg (ppt)
Diesel engines	10.0%	11.3%	1.3	9.0%	11.5%	2.5	9.0%	11.3%	2.3
Automobiles and major components	0.2%	0.2%	0.0	1.3%	1.3%	0.0	1.4%	1.4%	0.0
Forklift trucks & supply chain solution	3.5%	4.1%	0.6	3.5%	4.2%	0.7	3.5%	4.2%	0.7
Agricultural machinery	4.4%	4.7%	0.3	4.5%	4.6%	0.1	4.5%	4.5%	0.0
Average	4.5%	5.2%	0.7	4.6%	5.7%	1.1	4.7%	5.7%	1.0
Net profit	8,416	8,595	2.1%	9,039	10,172	12.5%	9,798	10,908	11.3%

Source: Company data, CMBIGM estimates

Figure 66: KION's latest guidance for 2023E

	2020	2021	2022	2023E guidance	
(EUR mn)				Old	New
Order intake	9,443	12,482	11,708	-	-
Growth (YoY)	4%	32%	-6%	-	-
Revenue	8,342	10,294	11,136	11,400	11,200
Growth (YoY)	-5%	23%	8%	2%	1%
Adjusted EBIT	547	842	292	680	780
Growth (YoY)	-36%	54%	-65%	133%	167%
Adjusted EBIT margin	6.6%	8.2%	2.6%	6.0%	7.0%
Net income	211	568	106	-	-
Growth (YoY)	-53%	169%	-81%	-	-

Source: Company data, CMBIGM

Figure 67: KION's quarterly financials

	3Q22	4Q22	1Q23	2Q23	3Q23
(EUR mn)					
Order intake	2,517	2,536	2,444	2,864	2,621
Growth (YoY)	-19%	-27%	-16%	-24%	4%
Revenue	2,706	2,893	2,781	2,836	2,730
Growth (YoY)	5%	5%	2%	1%	1%
Adjusted EBIT	-101	82	156	192	224
Growth (YoY)	n/a	-46%	-8%	36%	n/a
Adjusted EBIT margin	-3.7%	2.8%	5.6%	6.8%	8.2%
Net income	-93	39	74	73	82
Growth (YoY)	n/a	-72%	-8%	-9%	n/a

Source: Company data, CMBIGM

Figure 68: SOTP valuation (new)

SOTP valuation	Valuation methodology	Target multiple (x)	EBITDA 2024E (RMB mn)	Estimated EV (RMB mn)	Net cash / (Net debt)	Equity value (RMB mn)	Equity value breakdown
Weichai core business	EV/EBITDA	7.0	13,076	91,533	43,838	135,371	87.3%
KION Group	Proportionate market value	-	-	-	-	15,524	10.0%
Ballard Power Systems	Proportionate market value	-	-	-	-	1,377	0.9%
Ceres Power	Proportionate market value	-	-	-	-	694	0.4%
Share of JV/associates	P/B	1.4	-	-	-	7,590	4.9%
Minority interest in core business						-5,486	-3.5%
Total NAV						155,070	100.0%
NAV per share (RMB)						17.8	
NAV per share (HK\$)						19.4	

Source: Company data, CMBIGM estimates

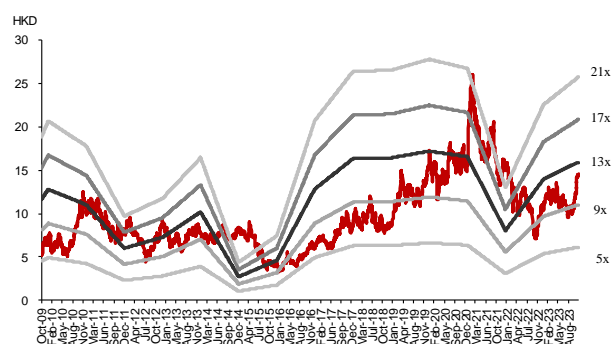
Note 1: Weichai owns 46.5% interest in KION, 20% interest in Ballard Power and 20% interest in Ceres Power.

Note 2: Share of JV / associates excludes Ballard Power and Ceres Power

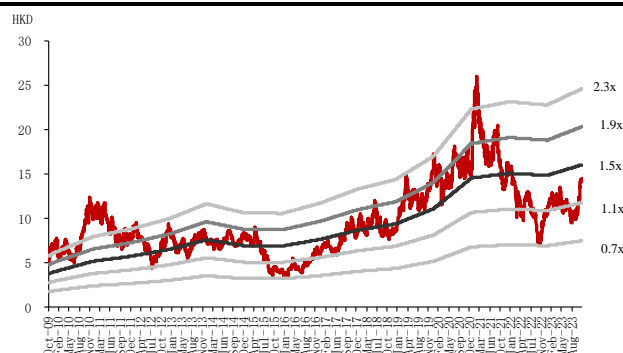
Figure 69: SOTP valuation (previous)

SOTP valuation	Valuation methodology	Target multiple (x)	EBITDA 2023E (RMB mn)	Estimated EV (RMB mn)	Net cash / (Net debt)	Equity value (RMB mn)	Equity value breakdown
Weichai core business	EV/EBITDA	7.0	9,056	63,390	43,838	107,228	83.4%
KION Group	Proportionate market value	-	-	-	-	15,820	12.3%
Ballard Power Systems	Proportionate market value	-	-	-	-	1,486	1.2%
Ceres Power	Proportionate market value	-	-	-	-	829	0.6%
Share of JV/associates	P/B	1.2	-	-	-	6,409	5.0%
Minority interest in core business						-3,168	-2.5%
Total NAV						128,604	100.0%
NAV per share (RMB)						14.7	
NAV per share (HK\$)						16.1	

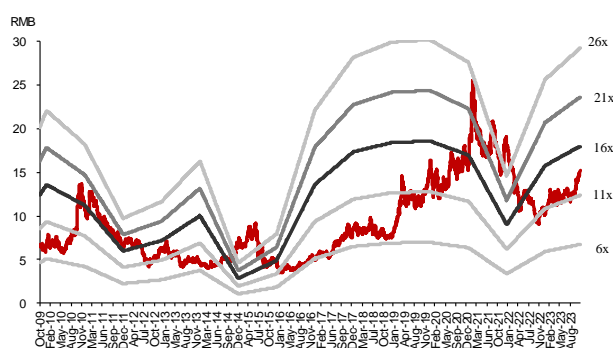
Source: Company data, CMBIGM estimates

Figure 70: Weichai Power-H P/E band

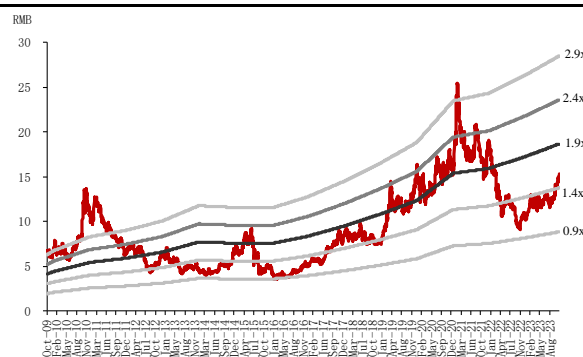
Source: Bloomberg, company data, CMBIGM estimates

Figure 71: Weichai Power-H P/B band

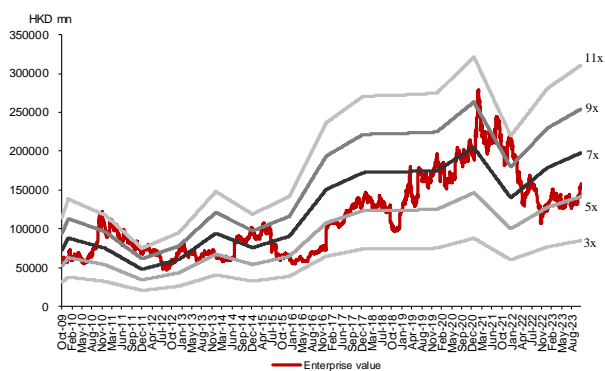
Source: Bloomberg, company data, CMBIGM estimates

Figure 72: Weichai Power-A P/E band

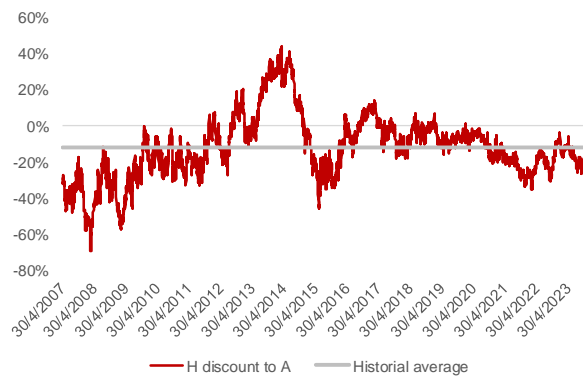
Source: Bloomberg, company data, CMBIGM estimates

Figure 73: Weichai Power-A P/B band

Source: Bloomberg, company data, CMBIGM estimates

Figure 74: Weichai Power EV/EBITDA band

Source: Bloomberg, company data, CMBIGM estimates

Figure 75: Weichai Power H discount to A

Source: Bloomberg, CMBIGM

Financial Summary – Weichai Power

Income statement

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue	203,548	175,158	206,901	228,433	242,376
Cost of sales	-163,947	-144,011	-164,693	-182,289	-193,416
Gross profit	39,601	31,147	42,208	46,143	48,960
Operating expenses	-26,038	-25,664	-29,855	-31,510	-33,587
EBIT	13,563	5,482	12,352	14,634	15,373
Other expenses	-145	-162	-248	-274	-291
Net finance cost	450	909	337	578	963
Finance income and others	1,724	2,359	2,058	2,315	2,704
Finance expenses	-1,274	-1,450	-1,721	-1,737	-1,741
profit of JV & associates	187	-144	188	191	177
Pretax profit	14,055	6,086	12,630	15,129	16,223
Income tax	-2,493	-403	-2,084	-2,723	-2,920
After tax profit	11,562	5,683	10,546	12,405	13,303
MI	-2,307	-778	-1,951	-2,233	-2,394
Net profit	9,255	4,906	8,595	10,172	10,908
D&A	10,597	11,148	11,279	11,902	12,533
EBITDA	24,160	16,630	23,632	26,535	27,906

Cash flow summary

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Pretax profit	14,055	6,086	12,630	15,129	16,223
Finance cost	1,274	1,450	1,721	1,737	1,741
Interest income	-1,724	-2,359	-2,058	-2,315	-2,704
Share of profit or loss of associates	-187	144	-188	-191	-177
Depreciation	8,473	8,950	8,719	9,324	9,984
Amortization of intangible assets	2,065	2,114	2,475	2,493	2,464
Income tax paid	-2,493	-403	-2,084	-2,723	-2,920
Change in working capital	-8,767	-20,324	-6,590	-1,455	-566
Others	1,963	1,992	2,143	2,400	2,789
Cash flow from operation	14,658	-2,350	16,768	24,398	26,834
Net capex on PP&E	-3,610	-5,242	-8,400	-6,900	-6,900
Investment in JV/associates	-3,082	-150	0	0	0
Investment in subsidiaries	-496	-159	0	0	0
Dividend received	143	160	107	109	101
Others	1,636	-3,155	0	0	0
Cash flow from investing	-5,409	-8,545	-8,293	-6,791	-6,799
Proceeds from equity financing	14,050	1,676	0	0	0
Net bank borrowings	-5,913	12,842	800	100	100
Dividend paid	-4,715	-3,930	-2,203	-3,008	-3,560
Interest paid	0	0	-1,721	-1,737	-1,741
Others	-298	-5,736	0	0	0
Cash flow from financing	3,123	4,852	-3,124	-4,645	-5,201
Change in cash	12,372	-6,043	5,351	12,962	14,834
Cash at beginning of the year	62,216	75,043	70,842	76,193	89,155
Exchange gains/(losses) and others	455	1,841	0	0	0
Cash at the end of the year	75,043	70,842	76,193	89,155	103,989

Balance sheet

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Non-current assets	116,406	125,182	122,468	117,634	112,162
PP&E	33,188	37,892	36,173	32,349	27,865
Investment in JV/associates	6,713	5,341	5,422	5,504	5,580
Goodwill	22,847	24,019	24,019	24,019	24,019
Long term receivables	9,522	10,173	10,173	10,173	10,173
Intangible assets	20,908	22,760	21,684	20,592	19,527
Others	23,228	24,998	24,998	24,998	24,998
Current assets	160,638	168,484	186,683	204,087	222,853
Prepayments	1,570	1,473	1,388	1,303	1,218
Inventories	31,585	33,374	41,528	43,374	46,710
Trade receivables	18,191	21,419	26,197	28,877	29,559
Notes receivables	16,562	16,575	16,575	16,575	16,575
Others	17,688	24,803	24,803	24,803	24,803
Cash	75,043	70,842	76,193	89,155	103,989
Current liabilities	115,382	119,743	126,885	130,057	133,609
Trade and bills payables	39,596	45,560	51,902	54,974	58,426
Notes payable	27,797	22,025	22,025	22,025	22,025
Bank borrowings	12,982	15,824	16,624	16,724	16,824
Others	35,006	36,334	36,334	36,334	36,334
Non-current liabilities	58,700	69,813	69,813	69,813	69,813
Bank borrowings	18,839	28,839	28,839	28,839	28,839
Long term payables	18,427	14,879	14,879	14,879	14,879
Others	21,435	26,094	26,094	26,094	26,094
Equity	102,962	104,111	112,454	121,851	131,593
Shareholders' equity	70,907	73,184	79,576	86,741	94,089
MI	32,055	30,926	32,877	35,110	37,505

Key ratios

YE 31 Dec	FY21A	FY22A	FY23E	FY24E	FY25E
Sales mix (%)					
Diesel engines	31.7	22.4	28.2	29.6	29.7
Automobiles and major components	36.5	26.7	28.9	28.1	27.6
Forklift trucks & supply chain solution	38.6	45.1	39.7	38.1	38.1
Agricultural machinery	-	10.1	9.0	9.0	8.9
Intersegment sales	(6.8)	(4.3)	(5.8)	(4.8)	(4.3)
Total	100.0	100.0	100.0	100.0	100.0
Profit & loss ratio (%)					
Gross margin	19.5	17.8	20.4	20.2	20.2
EBIT margin	6.7	3.1	6.0	6.4	6.3
After tax profit margin	5.7	3.2	5.1	5.4	5.5
Growth (%)					
Revenue	3.1	(13.9)	18.1	10.4	6.1
Gross profit	3.8	(21.3)	35.5	9.3	6.1
EBIT	5.5	(59.6)	125.3	18.5	5.1
Net profit	0.5	(47.0)	75.2	18.4	7.2
Balance sheet ratio					
Current ratio (x)	1.4	1.4	1.5	1.6	1.7
Receivable turnover days	30	41	42	44	44
Inventory turnover days	70	82	83	85	85
Payable turnover days	95	108	108	107	107
Net debt / total equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Profitability (%)					
ROA	4.2	2.0	3.5	3.9	4.1
ROE	15.2	6.8	11.3	12.2	12.1
Per share data					
EPS (RMB)	1.06	0.56	0.98	1.17	1.25
BVPS (RMB)	8.13	8.39	9.12	9.94	10.78
DPS (RMB)	0.35	0.25	0.34	0.41	0.44

Source: Company data, CMBIGM estimates

Zoomlion (1157 HK, TP: HK\$4.4 / 000157 CH, TP: RMB5.6, HOLD)

While Zoomlion has continued to diversify its product offerings (AWPs, excavators, materials) and expand overseas aggressively, it remains vulnerable to the structural weakness of property spending (tower cranes, concrete machinery).

We revise down by our earnings forecast in 2024E/25E by 21%/27%, after incorporating our new industry sales forecast. Our earnings forecast in 2022E/23E/24E is now 23%/36% below Bloomberg consensus.

Downgrade to **HOLD** from Buy. We roll over our valuation base to 2024E. Our TP for Zoomlion-A is revised down from RMB7.3 to RMB5.6, based on 14x 2024E P/E (average multiple since the upcycle starting 2019). Our TP for Zoomlion-H is revised down from HK\$6.35 to HK\$4.4, based on 10x 2024E P/E (average multiple since the upcycle starting 2019).

Figure 76: Financial summary – Zoomlion-H

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	67,131	41,631	46,535	46,770	49,479
YoY growth (%)	3.1	-38.0	11.8	0.5	5.8
Core net profit (RMB mn)	6,303	2,347	3,678	3,494	3,476
Core EPS (RMB)	0.76	0.28	0.42	0.40	0.40
YoY growth (%)	-21.6	-63.3	52.5	-5.0	-0.5
Consensus EPS (RMB)	n/a	n/a	0.43	0.52	0.63
EV/EBITDA (x)	4.1	10.6	6.6	6.5	6.4
P/E (x)	4.6	13.2	9.1	9.5	9.6
P/B (x)	0.5	0.6	0.6	0.6	0.6
Yield (%)	9.3	8.5	5.5	5.2	5.2
ROE (%)	12.2	4.2	6.7	6.2	6.0
Net gearing (%)	Net cash	7.1	11.0	12.8	13.6

Source: Company data, CMBIGM estimates

Figure 77: Financial summary – Zoomlion-A

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	67,131	41,631	46,535	46,770	49,479
YoY growth (%)	3.1	-38.0	11.8	0.5	5.8
Core net profit (RMB mn)	6,303	2,347	3,678	3,494	3,476
Core EPS (RMB)	0.76	0.28	0.42	0.40	0.40
YoY growth (%)	-21.6	-63.3	52.5	-5.0	-0.5
Consensus EPS (RMB)	n/a	n/a	0.43	0.52	0.63
EV/EBITDA (x)	6.4	16.6	10.3	10.2	10.0
P/E (x)	7.7	22.2	15.4	16.0	16.1
P/B (x)	0.9	1.0	1.0	1.0	0.9
Yield (%)	5.5	5.0	3.3	3.1	3.1
ROE (%)	12.2	4.2	6.7	6.2	6.0
Net gearing (%)	Net cash	7.1	11.0	12.8	13.6

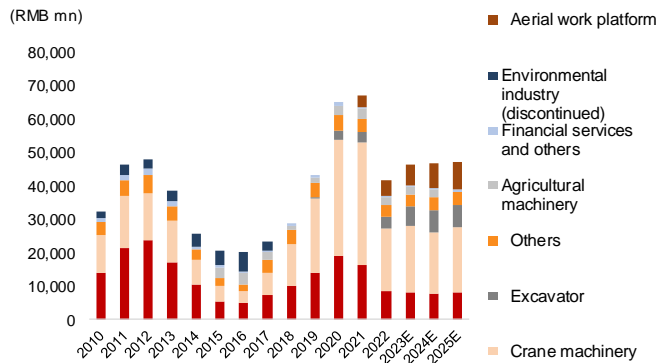
Source: Company data, CMBIGM estimates

Figure 78: Change in key assumptions and earnings forecast

	Old			New			Change		
	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E
(RMB mn)									
Revenue									
Construction machinery	43,236	48,249	53,017	43,879	43,912	46,478	1%	-9%	-12%
Concrete machinery	8,375	9,045	9,498	8,122	7,797	8,187	-3%	-14%	-14%
Crane machinery	20,877	22,756	24,576	19,738	18,356	19,274	-5%	-19%	-22%
Aerial work platform	6,436	8,367	10,458	6,436	7,401	8,141	0%	-12%	-22%
Excavator	3,897	4,248	4,460	5,898	6,488	6,813	51%	53%	53%
Others	3,651	3,833	4,025	3,685	3,869	4,063	1%	1%	1%
Agricultural machinery	2,605	2,995	3,355	2,149	2,321	2,437	-18%	-23%	-27%
Financial services and others	522	553	581	507	537	564	-3%	-3%	-3%
Total revenue	46,363	51,798	56,953	46,535	46,770	49,479	0%	-10%	-13%
Gross margin									
							Change in ppt		
Construction machinery	22.7%	23.4%	23.4%	27.5%	26.9%	26.6%	4.70	3.44	3.15
Concrete machinery	22.5%	23.0%	23.0%	23.5%	23.2%	23.2%	1.00	0.20	0.20
Crane machinery	23.5%	23.8%	23.8%	29.0%	28.5%	28.2%	5.50	4.70	4.40
Aerial work platform	22.0%	23.5%	23.5%	25.5%	25.0%	24.8%	3.50	1.50	1.30
Excavator	24.0%	24.5%	24.5%	29.5%	28.5%	28.0%	5.50	4.00	3.50
Others	19.0%	21.0%	21.0%	28.0%	27.5%	27.0%	9.00	6.50	6.00
Agricultural machinery	11.0%	13.0%	13.0%	8.0%	8.0%	8.0%	-3.00	-5.00	-5.00
Financial services	97.0%	97.0%	97.0%	96.0%	96.0%	96.0%	-1.00	-1.00	-1.00
Average gross margin	22.9%	23.6%	23.6%	27.3%	26.7%	26.5%	4.38	3.12	2.89
S&D expense ratio	5.9%	5.6%	5.5%	7.2%	7.0%	7.0%	1.3	1.4	1.5
Administrative expense ratio	4.8%	4.7%	4.7%	6.5%	6.5%	6.4%	1.7	1.8	1.7
R&D expense ratio	5.7%	5.7%	5.7%	7.0%	7.0%	7.0%	1.3	1.3	1.3
Net profit	3,719	4,404	4,748	3,678	3,494	3,476	-1%	-21%	-27%

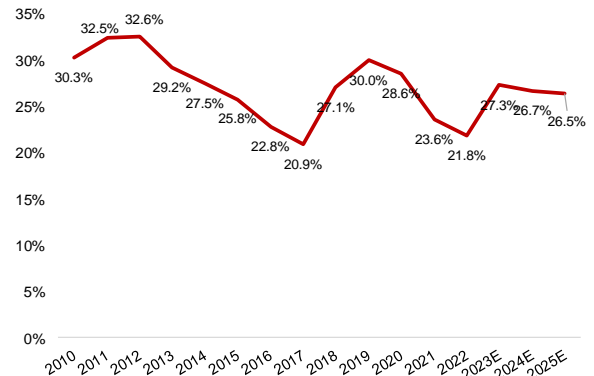
Source: Company data, CMBIGM estimates

Figure 79: Zoomlion revenue breakdown



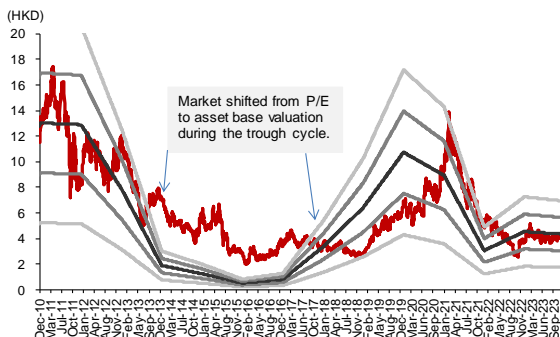
Source: Company data, CMBIGM estimates

Figure 80: Zoomlion blended gross margin trend



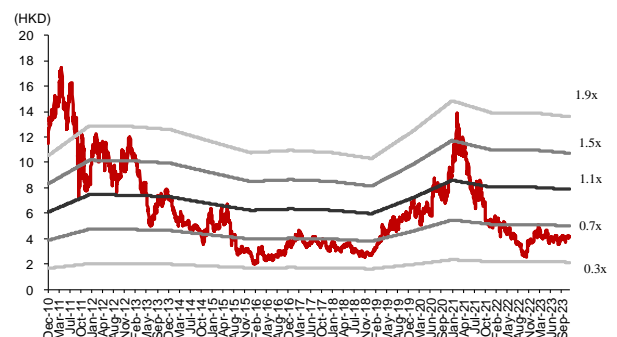
Source: Company data, CMBIGM estimates

Figure 81: Zoomlion - H 12M forward P/E band



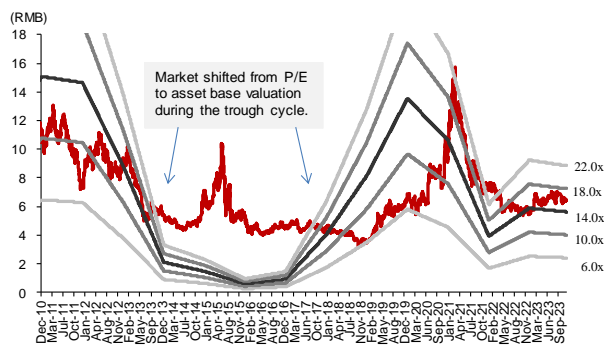
Source: Bloomberg, company data, CMBIGM estimates

Figure 82: Zoomlion - H 12M forward P/B band



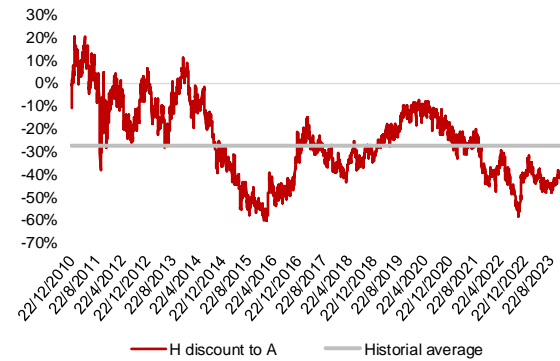
Source: Bloomberg, company data, CMBIGM estimates

Figure 83: Zoomlion - A 12M forward P/E band



Source: Bloomberg, company data, CMBIGM estimates

Figure 84: Zoomlion H discount to A share



Source: Bloomberg, CMBIGM estimates

Financial Summary – Zoomlion

Income statement

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Total revenue	67,131	41,631	46,535	46,770	49,479
Cost of sales	-51,280	-32,543	-33,831	-34,265	-36,384
Gross profit	15,851	9,088	12,704	12,506	13,095
Other income	1,413	982	814	1,014	1,014
S&D expenses	-3,473	-2,635	-3,327	-3,274	-3,464
Administrative expenses	-2,729	-2,846	-3,025	-3,040	-3,167
R&D expenses	-3,865	-2,507	-3,257	-3,274	-3,464
EBIT	7,197	2,082	3,909	3,931	4,015
Net finance income/(cost)	6	300	184	51	-18
Finance income	970	989	1,239	1,096	1,031
Finance expenses	-964	-689	-1,054	-1,045	-1,049
Other gains/(losses)	0	0	0	0	0
Profit of JV and associates	154	130	230	241	254
Pretax profit	7,357	2,512	4,322	4,224	4,251
Income tax	-938	-86	-389	-507	-553
After tax profit	6,419	2,426	3,933	3,717	3,698
MI/discontinued operation	-116	-79	-256	-223	-222
Net profit	6,303	2,347	3,678	3,494	3,476
D&A	899	1,034	1,102	1,138	1,173
EBITDA	8,096	3,116	5,011	5,069	5,188

Cash flow summary

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Pretax profit	7,357	2,512	4,322	4,224	4,251
Finance cost	964	689	1,054	1,045	1,049
Interest income	-970	-989	-1,239	-1,096	-1,031
Profit or loss of associates	-154	-130	-230	-241	-254
Disposal of PP&E/business	0	0	0	0	0
Depreciation and amortization	899	1,034	1,102	1,138	1,173
Income tax paid	-1,361	-436	-389	-507	-553
Change in working capital	-4,602	-1,411	-2,889	-2,971	-2,517
Others	56	682	0	0	0
Cash flow from operation	2,189	1,951	1,732	1,592	2,119
Net capex on PP&E	-1,401	-1,027	-1,500	-1,000	-1,000
Investment in JV/associates	0	0	0	0	0
Investment in subsidiaries	0	-191	0	0	0
Investment in intangible assets	-159	-28	-100	-100	-100
Dividend received	0	0	0	0	0
Interest received	436	474	1,239	1,096	1,031
Others	-273	1,813	0	0	0
Cash flow from investing	-1,397	1,041	-361	-4	-69
Equity financing/(repurchase)	6,088	-1,556	0	0	0
Net bank borrowings	76	2,751	-500	100	100
Dividend paid	-3,041	-2,777	-2,694	-1,839	-1,747
Interest paid	-907	0	-1,054	-1,045	-1,049
Others	204	-912	0	0	0
Cash flow from financing	2,420	-2,494	-4,248	-2,784	-2,696
Change in cash	3,212	498	-2,877	-1,196	-646
Cash at beginning of the year	10,086	13,190	13,791	10,914	9,717
Exchange and others	-108	103	0	0	0
Cash at the end of the year	13,190	13,791	10,914	9,717	9,071

Balance sheet

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Non-current assets	49,268	49,915	56,655	53,368	59,652
PP&E	9,740	13,903	14,564	14,695	14,796
Lease prepayment	4,113	3,995	3,945	3,895	3,845
JV/associates	4,190	4,476	4,706	4,947	5,201
Finance lease receivables	7,206	6,456	7,823	6,528	8,654
Goodwill	1,908	2,562	2,562	2,562	2,562
Trade receivables	16,353	11,829	16,474	14,279	18,255
Intangible assets	1,850	1,926	1,813	1,694	1,570
Financial assets	2,418	2,263	2,263	2,263	2,263
Others	140	438	438	438	438
Deferred tax assets	1,148	1,907	1,907	1,907	1,907
Deposits	202	160	160	160	160
Current assets	72,714	73,602	69,008	73,414	73,726
Inventories	13,501	14,203	11,564	16,411	13,493
Trade & other receivables	32,108	33,962	34,119	35,588	38,156
Finance lease receivables	4,496	4,717	5,482	4,769	6,076
Financial assets at FVPL	6,408	4,011	4,011	4,011	4,011
Others	1,236	1,210	1,210	1,210	1,210
Pledged deposits	1,775	1,708	1,708	1,708	1,708
Cash	13,190	13,791	10,914	9,717	9,071
Current liabilities	49,675	48,393	49,300	48,540	53,185
Trade and other payables	36,600	35,259	36,666	35,806	40,351
Bank borrowings	11,011	11,018	10,518	10,618	10,718
Tax payable	97	101	101	101	101
Contract liabilities	1,874	1,892	1,892	1,892	1,892
Others	93	123	123	123	123
Non-current liabilities	14,047	18,185	18,185	18,185	18,185
Bank borrowings	7,894	10,962	10,962	10,962	10,962
Deferred tax liabilities	405	842	842	842	842
Others	5,748	6,381	6,381	6,381	6,381
Equity	58,260	56,939	58,178	60,057	62,008
Shareholders' equity	56,831	54,705	55,689	57,344	59,073
MI	1,429	2,234	2,490	2,713	2,935

Key ratios

YE 31 Dec	FY21A	FY22A	FY23E	FY24E	FY25E
Sales mix (%)					
Concrete machinery	24%	20%	17%	17%	17%
Crane machinery	54%	46%	42%	39%	39%
Aerial work platform	5%	11%	14%	16%	16%
Excavator	5%	8%	13%	14%	14%
Others machinery	6%	8%	8%	8%	8%
Agricultural machinery	4%	5%	5%	5%	5%
Financial services	1%	1%	1%	1%	1%
Environmental (discontinued)	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%
Profit & loss ratio (%)					
Gross margin	23.6	21.8	27.3	26.7	26.5
EBIT margin	10.7	5.0	8.4	8.4	8.1
Net profit margin	9.6	5.8	8.5	7.9	7.5
Growth (%)					
Revenue	3.1	(38.0)	11.8	0.5	5.8
Gross profit	(14.9)	(42.7)	39.8	(1.6)	4.7
EBIT	(16.7)	(71.1)	87.7	0.6	2.1
Net profit	(13.6)	(62.8)	56.7	(5.0)	(0.5)
Balance sheet ratio					
Current ratio (x)	1.5	1.5	1.4	1.5	1.4
Trade receivable turnover days	235	413	378	392	392
Finance lease receivable turnover days	95	100	96	96	96
Inventory turnover days	100	155	139	149	150
Payable turnover days	274	403	388	386	382
Net debt / total equity (%)	Net cash	7.1	11.0	12.8	13.6
Profitability (%)					
ROA	5.3	1.9	3.0	2.8	2.7
ROE	12.2	4.2	6.7	6.2	6.0
Per share data					
EPS (RMB)	0.76	0.28	0.42	0.40	0.40
BVPS (RMB)	6.55	6.30	6.42	6.61	6.81
DPS (RMB)	0.32	0.31	0.21	0.20	0.20

Source: Company data, CMBIGM estimates

SANY Heavy (600031 CH, HOLD, TP: RMB12.3)

We expect the weak demand in China market to continue to drag SANY's domestic sales. Besides, we expect the overseas sales growth to slow substantially starting 2024E given the high base and easing supply chain bottleneck overseas.

We revise down our 2023E/24E/25E earnings forecast by 4%/17%/12% after revising down our sales volume assumptions. Our earnings forecast in 2023E/24E is 14%/34% below Bloomberg consensus.

Our TP is lowered to RMB12.3 based on 19x (average multiple since 2017) after rolling over our base year to 2024E (our previous TP was RMB14.2, based on 22.5x 2023E). Maintain **HOLD**.

Figure 85: Financial summary

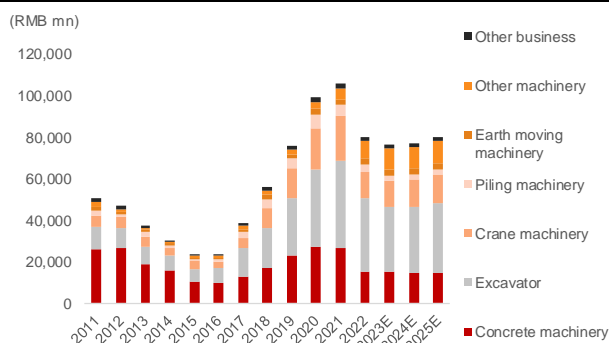
(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (RMB mn)	106,874	80,822	77,063	77,809	80,918
YoY growth (%)	7	-24	-5	1	4
Net income (RMB mn)	12,034	4,273	5,152	5,208	5,756
EPS (RMB)	1.42	0.50	0.61	0.61	0.68
YoY growth (%)	-22.3	-64.5	20.6	1.1	10.5
Consensus EPS (RMB)	n/a	n/a	0.71	0.93	1.17
EV/EBITDA (x)	8.2	21.5	14.8	12.8	11.7
P/E (x)	9.6	27.2	22.5	22.3	20.2
P/B (x)	1.8	1.8	1.7	1.6	1.5
Yield (%)	3.3	1.2	1.4	1.4	1.6
ROE (%)	20.0	6.6	7.7	7.4	7.7
Net debt / equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash

Source: Company data, CMBIGM estimates

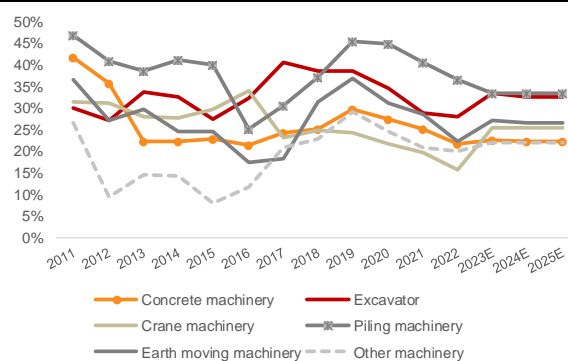
Figure 86: Change in key operating assumptions

(RMB mn)	Old			New			Change		
	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E
Revenue									
Concrete machinery	15,241	15,652	15,893	14,940	14,448	14,671	-2.0%	-7.7%	-7.7%
Excavator	31,473	33,104	33,766	31,473	32,149	33,756	0.0%	-2.9%	0.0%
Crane machinery	12,760	13,291	13,832	12,760	12,789	13,310	0.0%	-3.8%	-3.8%
Piling machinery	2,346	2,463	2,586	2,346	2,416	2,537	0.0%	-1.9%	-1.9%
Earth moving machinery	3,148	3,190	3,285	3,148	3,127	3,221	0.0%	-2.0%	-2.0%
Other machinery	9,716	10,104	10,509	9,716	10,104	10,509	0.0%	0.0%	0.0%
Revenue (construction machinery)	74,684	77,803	79,871	74,382	75,034	78,003	-0.4%	-3.6%	-2.3%
Interest income from financing	744	781	820	744	781	820	0.0%	0.0%	0.0%
Other business	1,937	1,995	2,095	1,937	1,995	2,095	0.0%	0.0%	0.0%
Total revenue	77,364	80,579	82,785	77,063	77,809	80,918	-0.4%	-3.4%	-2.3%
Gross margin									
Concrete machinery	22.4%	22.4%	22.3%	22.5%	22.3%	22.3%	0.1	(0.1)	0.0
Excavator	33.1%	33.1%	33.0%	33.5%	32.6%	32.7%	0.4	(0.5)	(0.3)
Crane machinery	21.5%	21.5%	21.5%	25.5%	25.3%	25.5%	4.0	3.8	4.0
Piling machinery	34.0%	33.7%	33.5%	33.5%	33.4%	33.5%	(0.5)	(0.3)	0.0
Earth moving machinery	23.0%	23.0%	23.0%	27.0%	26.5%	26.5%	4.0	3.5	3.5
Other machinery	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	0.0	0.0	0.0
Gross margin (construction machinery)	27.1%	27.1%	27.0%	28.1%	27.7%	27.8%	1.0	0.6	0.8
Interest income from financing	52.0%	52.0%	52.0%	52.0%	52.0%	52.0%	0.0	0.0	0.0
Other business	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	0.0	0.0	0.0
Blended gross margin	27.3%	27.3%	27.3%	28.3%	27.9%	28.0%	1.0	0.6	0.8
S&D expense ratio	8.0%	8.0%	8.0%	8.3%	8.4%	8.4%	0.4	0.4	0.4
Administrative expense ratio	3.3%	3.2%	3.2%	3.5%	3.5%	3.5%	0.3	0.3	0.3
R&D expense ratio	8.0%	7.7%	7.6%	8.5%	8.5%	8.5%	0.5	0.8	0.9
Net profit	5,351	6,265	6,542	5,152	5,208	5,756	-3.7%	-16.9%	-12.0%

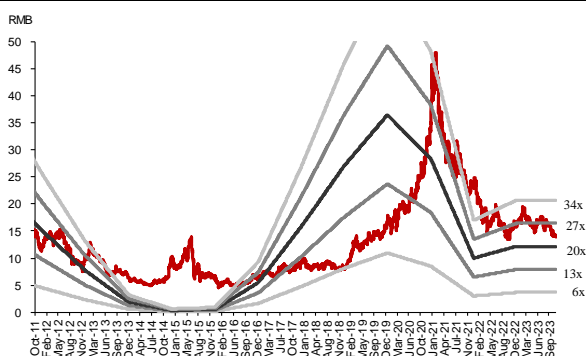
Source: Company data, CMBIGM estimates

Figure 87: SANY Heavy revenue breakdown

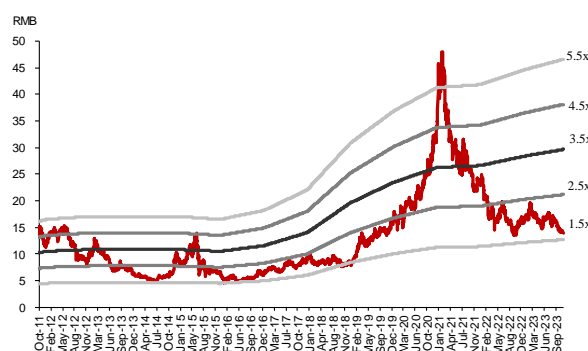
Source: Company data, CMBIGM estimates

Figure 88: SANY Heavy gross margin trend

Source: Company data, CMBIGM estimates

Figure 89: SANY Heavy's P/E band

Source: Bloomberg, company data, CMBIGM estimates

Figure 90: SANY Heavy's P/B band

Source: Bloomberg, company data, CMBIGM estimates

Financial Summary – SANY Heavy

Income statement

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Total revenue	106,874	80,822	77,063	77,809	80,918
Cost of sales	-78,978	-61,164	-55,240	-56,088	-58,228
Gross profit	27,896	19,658	21,822	21,721	22,689
Surcharge	-422	-368	-231	-233	-243
S&D expenses	-6,699	-6,302	-6,396	-6,536	-6,797
Administrative expenses	-2,771	-2,639	-2,697	-2,723	-2,832
R&D Expense	-6,509	-6,923	-6,550	-6,614	-6,878
Fair value change	54	-250	-800	50	50
Asset impairment	-710	-665	-925	-778	-566
EBIT	10,839	2,512	4,223	4,887	5,423
Net finance income/(cost)	125	294	569	-77	35
Finance income	664	696	1,554	914	1,030
Finance expenses	-539	-403	-985	-991	-994
Other gains/(losses)	2,910	2,000	1,300	1,300	1,300
Profit of JV and associates	-17	27	46	95	99
Pretax profit	13,857	4,832	6,138	6,205	6,858
Income tax	-1,530	-428	-859	-869	-960
After tax profit	12,326	4,405	5,278	5,336	5,898
MI	-292	-132	-127	-128	-142
Net profit	12,034	4,273	5,152	5,208	5,756
D&A	2,022	2,394	2,893	3,347	3,597
EBITDA	12,861	4,906	7,115	8,234	9,020

Cash flow summary

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Pretax profit	13,857	4,832	6,138	6,205	6,858
Finance cost	539	403	985	991	994
Interest income	-664	-696	-1,554	-914	-1,030
Profit or loss of associates	17	-27	-46	-95	-99
Fair value change	-1,198	-518	0	0	0
Provision for assets	134	433	0	0	0
Depreciation and amortization	2,022	2,394	2,893	3,347	3,597
Income tax paid	-1,530	-428	-859	-869	-960
Change in working capital	-1,222	-2,264	-609	-575	-1,210
Others	-49	-31	0	0	0
Cash flow from operation	11,904	4,099	6,947	8,090	8,150
Net capex on PP&E	-9,977	-5,538	-4,500	-4,500	-2,500
Investment in JV/associates	812	-20	-50	0	0
Investment in subsidiaries	0	0	0	0	0
Dividend received	475	88	0	0	0
Interest received	664	696	1,554	914	1,030
Others	-1,263	2,936	-180	0	0
Cash flow from investing	-9,288	-1,838	-3,176	-3,586	-1,470
Equity financing/(repurchase)	0	0	0	0	0
Net bank borrowings	4,180	7,779	300	100	100
Dividend paid	-5,057	-3,822	-1,359	-1,649	-1,667
Interest paid	-552	-439	-985	-991	-994
Others	114	1,309	0	0	0
Cash flow from financing	-1,315	4,826	-2,044	-2,540	-2,561
Change in cash	1,301	7,087	1,728	1,965	4,119
Cash at beginning of the year	12,596	14,812	21,343	23,071	25,035
Exchange and others	915	-556	0	0	0
Cash at the end of the year	14,812	21,343	23,071	25,035	29,154

Balance sheet

YE 31 Dec (RMB mn)	FY21A	FY22A	FY23E	FY24E	FY25E
Non-current assets	44,838	52,993	50,059	56,406	51,484
PP&E	13,340	19,681	21,669	23,207	22,495
JV/associates	2,333	2,239	2,335	2,430	2,529
Goodwill	46	48	48	48	48
LT trade receivables	7,966	11,869	7,133	12,053	7,899
Intangible assets	3,960	4,519	4,318	3,933	3,547
AFS investments	0	0	0	0	0
Others	10,294	7,030	7,030	7,030	7,030
Deferred tax assets	1,599	2,499	2,499	2,499	2,499
Current assets	93,719	105,762	106,557	109,609	115,824
Inventories	18,463	19,738	17,795	19,392	18,895
Trade and bills receivables	19,655	25,022	25,650	25,513	27,694
Other receivables	738	294	677	304	716
Others	12,817	11,790	11,790	11,790	11,790
Cash	14,812	21,343	23,071	25,035	29,154
Current liabilities	61,432	67,630	61,072	66,783	63,845
Trade and bills payables	28,560	28,908	22,549	28,160	25,123
Bank borrowings	8,244	11,064	10,864	10,964	11,064
Tax payable	1,081	1,191	1,191	1,191	1,191
Others	12,742	12,972	12,972	12,972	12,972
Non-current liabilities	12,029	25,116	25,616	25,616	25,616
Bank borrowings	9,603	21,625	22,125	22,125	22,125
Deferred tax liabilities	577	735	735	735	735
Others	1,842	2,755	2,755	2,755	2,755
Equity	65,095	66,009	69,928	73,616	77,847
Shareholders' equity	63,691	64,966	68,758	72,318	76,407
MI	1,404	1,043	1,170	1,298	1,439

Key ratios

YE 31 Dec	FY21A	FY22A	FY23E	FY24E	FY25E
Sales mix (%)					
Concrete machinery	25%	19%	19%	19%	18%
Excavator	39%	44%	41%	41%	42%
Crane machinery	20%	16%	17%	16%	16%
Piling machinery	5%	4%	3%	3%	3%
Earth moving machinery	3%	4%	4%	4%	4%
Other machinery	5%	10%	13%	13%	13%
Interest income	1%	1%	1%	1%	1%
Other business	2%	2%	3%	3%	3%
Total	100%	100%	100%	100%	100%
Profit & loss ratio (%)					
Gross margin	26.1	24.3	28.3	27.9	28.0
EBIT margin	10.1	3.1	5.5	6.3	6.7
Net profit margin	11.5	5.4	6.8	6.9	7.3
Growth (%)					
Revenue	6.8	(24.4)	(4.7)	1.0	4.0
Gross profit	(7.1)	(29.5)	11.0	(0.5)	4.5
EBIT	(35.7)	(76.8)	68.1	15.7	11.0
Net profit	(22.0)	(64.5)	20.6	1.1	10.5
Balance sheet ratio					
Current ratio (x)	1.5	1.6	1.7	1.6	1.8
Receivable turnover days	93	146	165	165	165
Inventory turnover days	87	114	124	121	120
Payable turnover days	140	171	170	165	167
Net debt / total equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Profitability (%)					
ROA	9.1	2.9	3.3	3.2	3.5
ROE	20.0	6.6	7.7	7.4	7.7
Per share data					
EPS (RMB)	1.42	0.50	0.61	0.61	0.68
BVPS (RMB)	7.50	7.65	8.10	8.51	9.00
DPS (RMB)	0.45	0.16	0.19	0.20	0.22

Source: Company data, CMBIGM estimates

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