

China VTM (893 HK)

Non-Rated

Upstream expansion is underway

Basic Materials/Greater China
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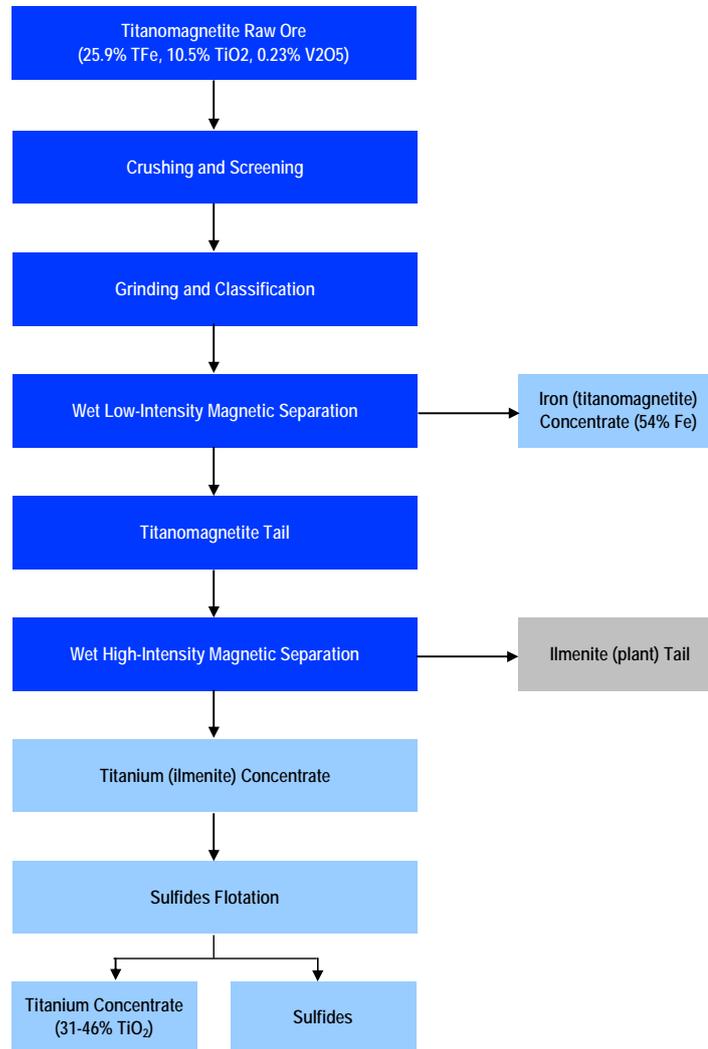
SP: HK\$3.15 (06 MAY)

Event

We arranged an investor meeting with the management of China Vanadium Titano-Magnetite (CVTM) last Friday (6 May). During the meetings, management indicated that the company will continue to position itself as an upstream iron ore player to capture growth opportunities in the Sichuan region. As such, the company has embarked on mining expansion (projecting growth of 79% between 2010 and 2015 on titanomagnetite reserve) and relevant processing capacity. In addition to those priorities, product mix enrichment and vertical integration are high on the agenda.

Analysis

- » **Leading iron ore play in Sichuan.** CVTM was the second-largest iron ore mining company (behind Panzhihua Iron & Steel) and the biggest private iron ore operator in Sichuan by raw output (25% TFe) in 2010. Principal products of the company include iron concentrates (55% Fe), iron pellets (58% Fe) and medium/high-grade titanium concentrates (31-46% TiO₂). In 2010, iron concentrates and pellets accounted for a combined 97% of total sales revenue.
- » **The whole value chain.** For CVTM, the primary minerals of economic interest are vanadium-bearing titanomagnetite and ilmenite. Despite magnetite's generally lower-grade iron deposit content than hematite, it is suitable for processing into iron ore pellets, which serve as feedstock for the production of premium quality and low impurity steel. The company's mineral resources, on average, have metal content of iron (25% TFe), titanium dioxide (10.5% TiO₂) and vanadium pentoxide (0.23% V₂O₅). The iron concentrate and titanium concentrate are recovered through a low-cost and environmentally friendly magnetic separation process. Other downstream products flowing along the value chain include vanadium slag and titanium slag. Vanadium slag is the by-product of iron concentrate and can be further processed into ferrovanadium, which is a key additive in the production of high-tensile steel products (e.g. 400Mps construction rebar). Titanium slag is processed from titanium concentrate and contains up to 85% titanium dioxide. It is traditionally a feedstock for the production of pigment. Meanwhile, titanium can be also alloyed with iron, aluminium, vanadium and molybdenum to produce strong lightweight alloys for aerospace thanks to two particular characteristics of the metal - its corrosion resistance and high strength-to-weight ratio.

CVTM – Titanomagnetite production process

Source: The Company, MF Global

» **Mineral expansion underway.** In 2010, CVTM completed the acquisition of two iron ore mines. This resulted in a 196% increase in its mineral resources, up from 113.5m tonnes in 2009 to 335.9m tonnes. In 2011, with the help of upcoming acquisition of Aba Mining (Maoling Mine and Yanglongshan Mine) in May 2011, the company's mineral resources will expand further to 346m tonnes. Longer term, management projects its mineral resources will expand to 600m tonnes by 2015, mainly through acquisition and exploration activities.

CVTM principal mining assets

Mine	Date of acquisition	Mineral resource (2010) (mt)	Unit acquisition cost (RMB/t)	Metal grade			Remarks
				TFe (%)	TiO ₂ (%)	V ₂ O ₅ (%)	
Baicao Mine	2005	113.5	2.5	25.1	10.5	0.21	
Xiushuihe Mine	2005	97.3	2.5	25.6	9.8	0.22	Potential resources are 78.2mt
Yangqueqing Mine	Jan-10	17.9	11.2	23.0		0.17	Will merge with Baicao Mine, permitted mining area will expand to neighbouring iron ore resources, estimated up 81.6mt. no production in 2010
Cizhuqing Mine	Feb-10	25.6	12.1	21.4	9.0		No production in 2010
Aba Mining	1H2011	78.2					
Maoling Mine		44.6		34.5			Potential additional resources are 34.2mt, with new mining permit granted in 2H12
Yanglongshan Mine		33.6					Mining permit granted in 2H12
Total		332.5					

Source: The Company

» **Processing capacity expansion and product optimisation.** By the end of 2011, CVTM expects its capacity in iron concentrate, titanium concentrate and pellet to grow 20%, 56% and 278%, respectively, from the end of last year. As most of these additional capacities will come on stream in the middle of 2011, the company expects that full-year contributions from these capacities will be from 2012 onwards. With ongoing product optimisation, the company plans to significantly lift the proportion of high-grade titanium concentrate output (instead of the medium-grade titanium concentrate) in the future. The company will also enhance its vertical integration following the commencement of 1m tonnes of new pellet capacity starting from May 2011. The feedstock (iron concentrate) will be mainly sourced from the CVTM-owned Xiushuihe Mine (5.5km road distance).

» **An in-depth look at iron ore prices in Sichuan.** In 2010, CVTM's average realised price on iron concentrates and iron pellets in Sichuan reached RMB665/t and RMB875/t, respectively, up 19% and 13%. The present price of iron pellets in Sichuan is about RMB880/t. This is lower than the spot price of RMB1,300/t quoted in China's east-coast region. Management attributed the price discrepancy to two reasons: 1) An iron ore supply surplus in Sichuan – the region is reported as having abundant low-grade magnetite ore reserves, but it also has low road density with limited access to highway networks. This means it is usually not economically viable to transport iron concentrate from Sichuan to other provinces due to higher unit transportation cost. 2) The lower grade of iron pellets sold in Sichuan (average 58% Fe versus +63% Fe in the east-coast region). By accounting for the 5ppt grade discrepancy between these two regions, the price of iron pellet in east-coast regions if based on 58% Fe would be equivalent to RMB990/t $(=(1/0.58 - 1/0.63) * RMB1,300/t)$. Hence, total price discrepancy if based on equal % Fe would narrow to RMB110/t.

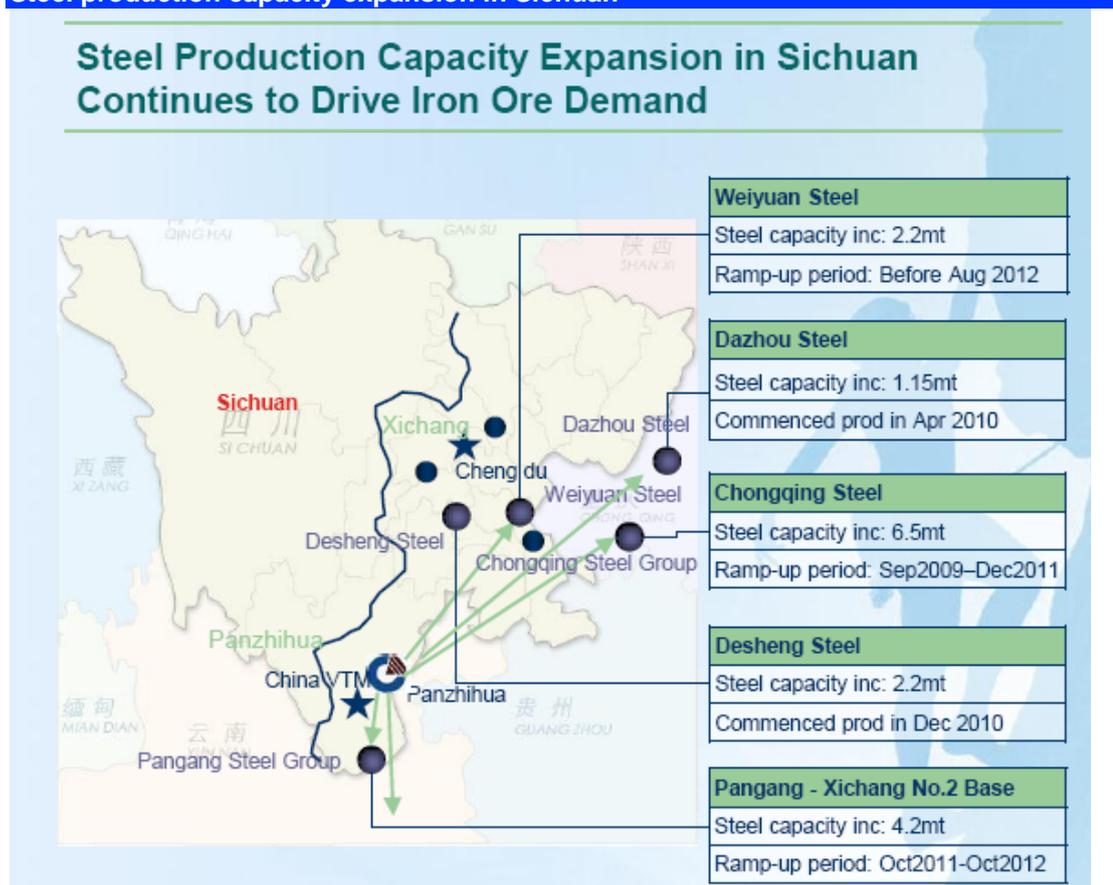
» **The supply surplus in Sichuan may decrease after 2013.** In 2010, Sichuan reported crude steel output of 15.8m tonnes. This translated into demand for iron concentrate (63% Fe) of 25.1m tonnes in the region. Meanwhile, output of iron concentrate (63% Fe) reached 39.7m tonnes, leading to a supply surplus of 14.6m tonnes in Sichuan in 2010. Management, however, guides that in the next two years, around 20m tonnes of new steel capacity (approved by the NDRC) will gradually commence operation in Sichuan with a full-year contribution anticipated from 2013 onwards. Should this materialise, the supply surplus of iron ore will decrease in the region.

Iron concentrate supply and demand in Sichuan

(mn tonne)	2005	2006	2007	2008	2009	2010
Crude steel output	10.9	12.3	13.9	13.7	15.1	15.8
Demand for iron concentrate (63% Fe)	17.4	19.5	22.1	21.7	24.0	25.1
Output of iron concentrate (63% Fe)	6.8	11.3	18.0	22.7	33.0	39.7
Supply (deficit)/ surplus	(10.6)	(8.1)	(4.1)	0.9	9.0	14.6

Source: Bloomberg, MF Global

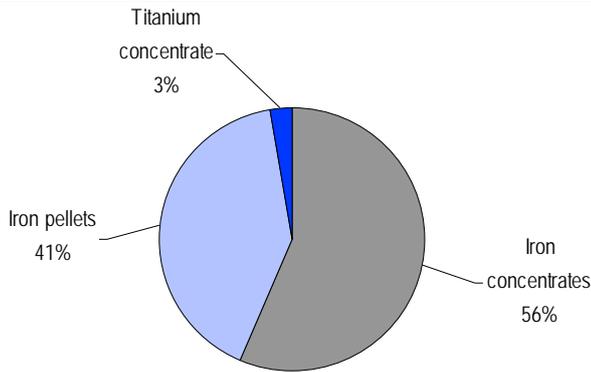
Steel production capacity expansion in Sichuan



Source: The Company

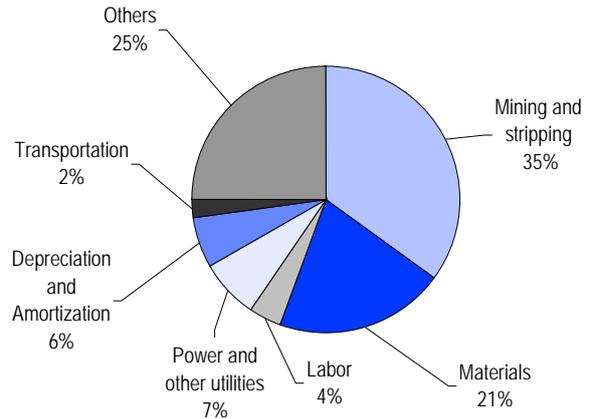
» **High sustainable margin?** In 2010, CVTM reported a higher gross margin of 53.4%, up from 46.3% in 2009, thanks to metal price increases and volume expansion. While management guides that its unit production cost of iron ore will increase by 4-5% in 2011 on rising labour/energy costs, it expects improved efficiency through better economies of scale to help cushion the negative impact.

CVTM - Revenue breakdown (2010)



Source: The Company

CVTM – COGS breakdown

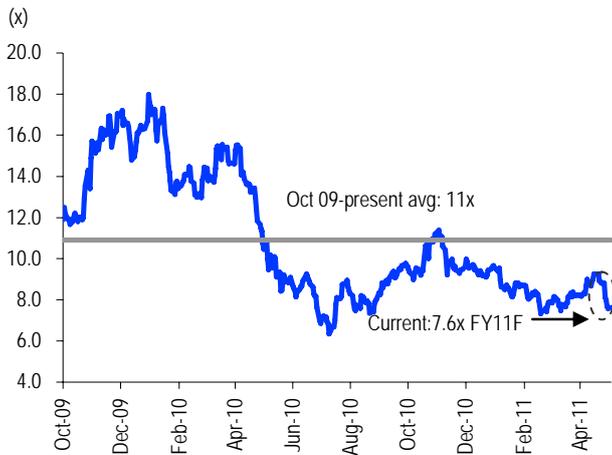


Source: The Company

» **Financial position.** The company is in a net cash position. At the end of 2010, CVTM had total cash of RMB1.1bn on hand and total debt of RMB300m. Moving to 2011, management expects the strong top-line growth to continue to fuel the operating cash flow, with estimated EBITDA of not less than RMB900m in 2011. The company will use its own cash and internal reserves to finance expansion projects.

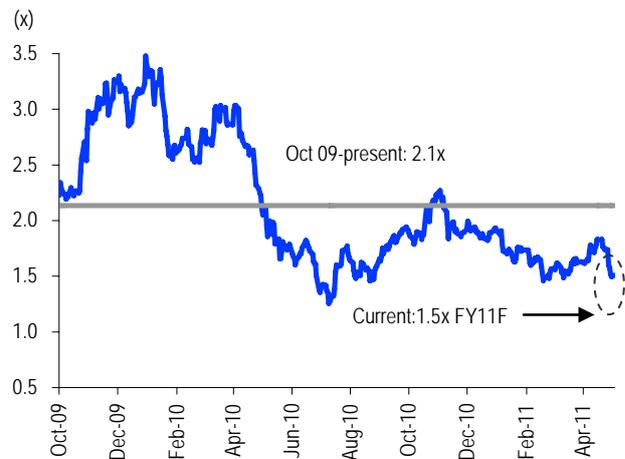
» **Valuation.** CVTM is presently trading at 7.6x P/E and 1.5x P/B on the FY11F Bloomberg consensus. The valuations are at approximate 28-30% discounts to the stock's historical P/E and P/B trading averages.

CVTM – 1-year forward P/E chart



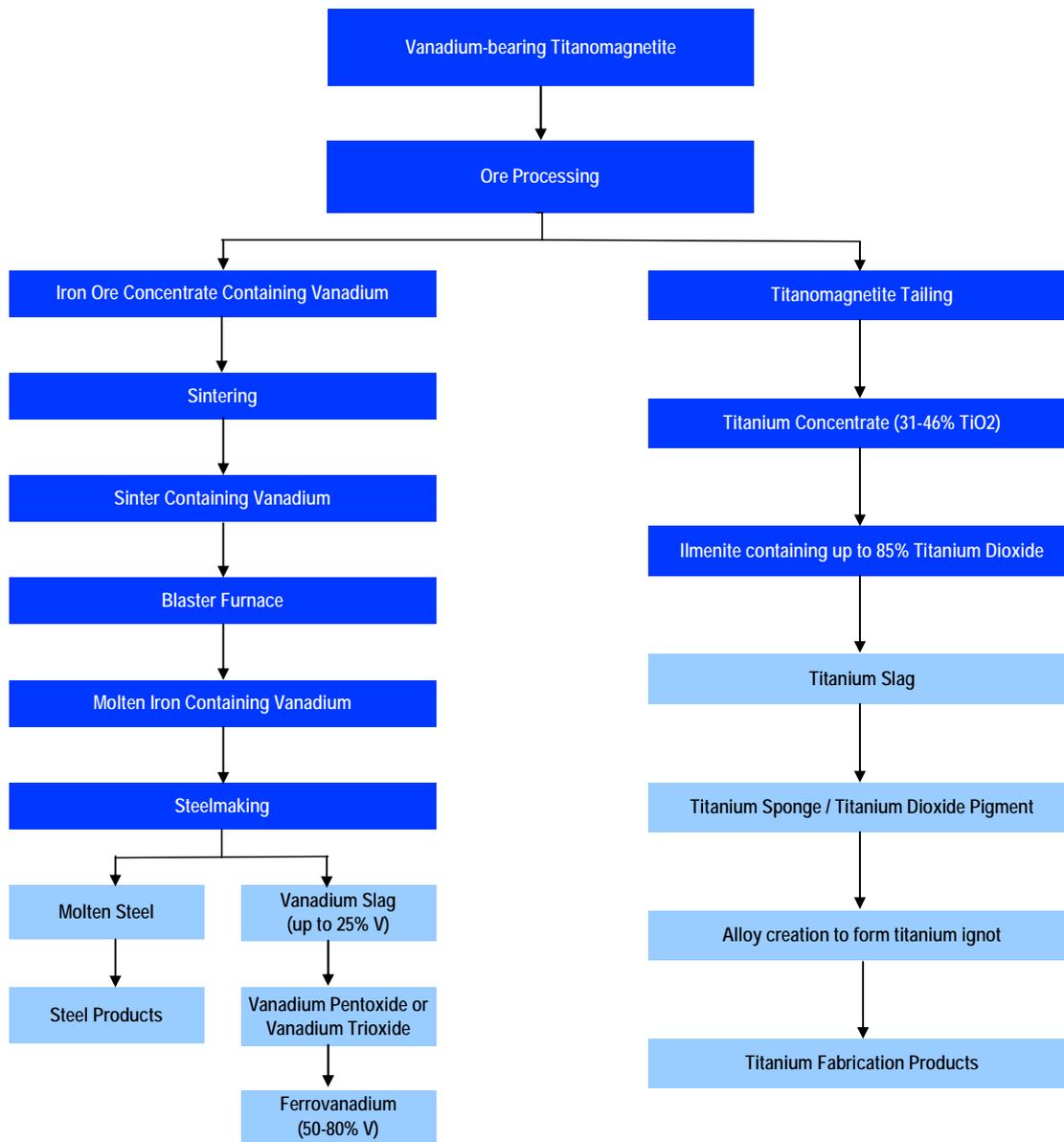
Source: Bloomberg

CVTM – 1-year forward P/B chart



Source: Bloomberg

Industry Value Chain – Vanadium-bearing Titanomagnetite



Source: MF Global, The Company

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