The Cockpit View

Jet fuel price surge another spanner in the works

8-14 February | Week 6 Issue #2

- **Jet fuel trending higher; +93% from post-Covid bottom and just 15% off the pre-Covid level**
- **Fuel cost as total operating cost is rising, jeopardising the fragile recovery**
- **Negative for long-haul carriers. Short haul carriers and those with Embraer aircraft will do comparatively better**

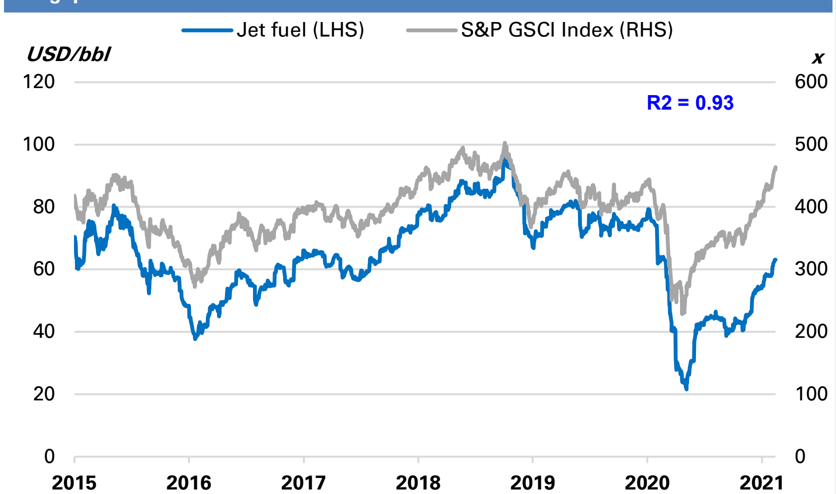
Commodity driven rally

Jet fuel price have soared by 55% since the first news of Covid-19 vaccine approval back in Nov 2020. The jet fuel market is not alone; the S&P GSCI Index[1], which tracks futures for 24 raw materials have risen by 34% in the same period as well.

The combination of significant growth in money supply, rock-bottom interest rates and fiscal stimulus have boosted inflation expectations; and this has seen lots of money flow into commodities by investors and speculators alike. The S&P GSCI Index is now just 8% off its 3-year high and based on current momentum, it is just a matter of a few short weeks before we hit and break that milestone.

Jet fuel is highly correlated with the S&P GSCI Index, with a R^2 of 0.93x as shown in the graph below. If the commodity index continues to rise, we can expect jet fuel to follow in tandem.

Singapore Jet Kerosene and S&PGSCI

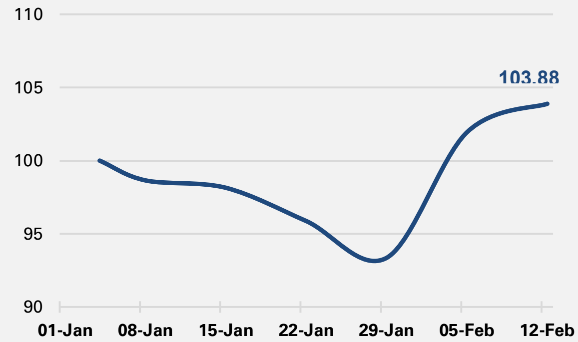


Source: Bloomberg

[1] The S&P GSCI serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time. The index was originally developed in 1991, by Goldman Sachs. In 2007, ownership transferred to Standard & Poor's, who currently own and publish it.

Week in Numbers

Pangolin Aviation Recovery Fund NAV (USD)



** 12 Feb 2021 NAV is preliminary figure*

Performance relative to other benchmarks

Price change	1-week	1-month	YTD
Pangolin Aviation Recovery Fund	**1.8%**	**0.6%**	**3.9%**
Bloomberg World Airline Index	1.8%	4.2%	2.7%
US Global JETS Index	2.3%	5.8%	5.3%
VIX Index	-4.3%	-18.0%	-12.2%
Singapore Jet Kerosene	1.9%	7.9%	15.5%

Aviation UNIVERSE** performance

Price change	1-week	1-month	YTD
Aviation UNIVERSE**	**1.7%**	**1.6%**	**1.6%**
Sub-sectors			
Airlines	1.7%	2.5%	3.2%
Airports	-1.4%	-5.2%	-7.6%
Cargo & logistics	4.0%	4.8%	7.0%
Terminal services	1.6%	-6.2%	-8.8%
Terminal retail	0.3%	1.3%	-1.2%
Online travel agents	1.8%	-0.3%	-0.6%
Aircraft lessors	0.7%	-1.5%	-0.8%
Manufacturers	0.2%	-1.7%	-1.8%

*** consists of 165 aviation related companies across the world*

Share price movement	1-week	1-month	YTD
Up	98	75	76
Down	67	87	88
Unchanged	0	3	1

Pangolin Aviation Recovery Fund is a Cayman-Island open-ended fund with a mandate to invest in aviation related companies. The fund invests globally via listed equities.

Contact us:
Pangolin Investment Management Pte. Ltd.
50 Raffles Place,
34-03A, Singapore Land Tower,
Singapore 048623

Email: pangolin@pangolinfund.com

The Cockpit View

Jet fuel price surge another spanner in the works

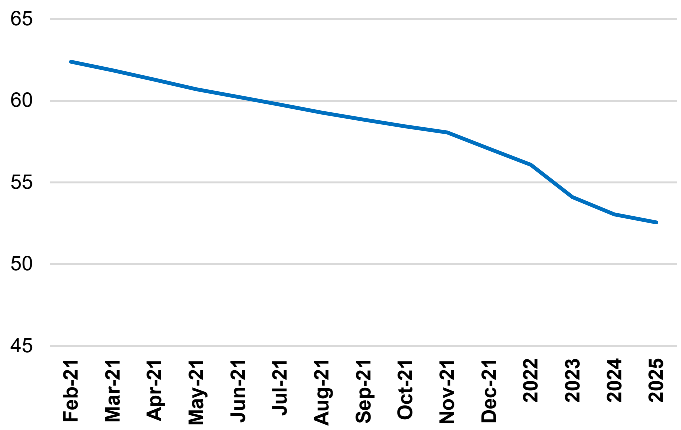
PANGOLIN

8-14 February | Week 6 Issue #2

Futures curve pointing lower

The futures curve for Brent crude oil is pointing lower, indicating that investors do not expect this price surge is sustainable going forward. If this is indeed true, it would be comforting news for the airline industry. We caution that the futures curve is dynamic and changes all the time.

Brent futures price curve (USD/bbl) @12 Feb 2021



Source: Bloomberg

+1 USD/bbl jet fuel equates to USD1.5b in cost

IATA's latest Global Airline Industry Economic Performance back in Nov 2020 forecast the global airline industry's fuel bill of USD78b. This is assuming a total fuel consumption of 1.5b barrels at an average price of USD49.1/bbl.

Year-to-date, the jet fuel price average is at USD58.50, which is 19% above IATA's budget. Assuming the current fuel price remains till the end of the year, this will add USD37.2b in fuel bill to the industry, and potentially doubling IATA's 2021's total industry net loss forecast of USD38b.

Impact of higher fuel cost varies

Fuel cost as a percentage of total cost for airlines in a typical year is 20-50%. The wide range is due to various factors. (1) Flight mission profile greatly influences fuel cost, with long-haul flight consuming significantly more fuel compared to a short-haul flight; (2) Narrow-body aircraft has a much lower fuel burn profile compared to its wide-bodied counterpart; and (3) some countries tax on fuel, for example, India and China.

Our thoughts

Short-haul carriers are less affected: Carriers that have a high reliance on short-haul flight utilizing narrow-body aircraft are less susceptible to fuel price surge. Almost all low-cost carriers (LCC) globally tend to have a fuel-efficient and all narrow-body fleet. Furthermore, their services are short haul, averaging 1-2 hours flight time. Therefore, on a comparative basis, LCCs should fare better relative to their full-service carrier counterparts.

Embraer smelling like a rose: The pandemic has caused significant changes in the operations and decision-making process. Previously, fleet planning was conducted with a forward view of 5-18 months horizon. This has been replaced to a much shorter timespan and cost-per-trip has replaced cost-per-seat as a key metric in aircraft deployment decisions.

Embraer aircraft are made for thin (70-140 seats) and short-haul routes. This ensures that it has the lowest cost per trip and ease to fill up the aircraft for any given flight. Therefore, Embraer is proven to be the most suitable aircraft for the current crisis. According to Embraer's publication, its aircraft are enjoying relatively high dispatch rate, 70-80% of pre-Covid levels, and there has been no cancellation of firm orders by its customers.

Long-haul carriers suffer the most: Carriers that relies heavily on long-haul services, such as Cathay Pacific, Singapore Airlines, AirAsia X suffers the most due to the flight mission profile and choice of widebody aircraft. Network carriers such as Lufthansa, IAG, Air France-KLM, Delta, United-Continental suffers too, but to a lesser extend because they have a high composition of widebody aircraft in its fleet.

Contact us:
Pangolin Investment Management Pte. Ltd.
50 Raffles Place,
34-03A, Singapore Land Tower,
Singapore 048623

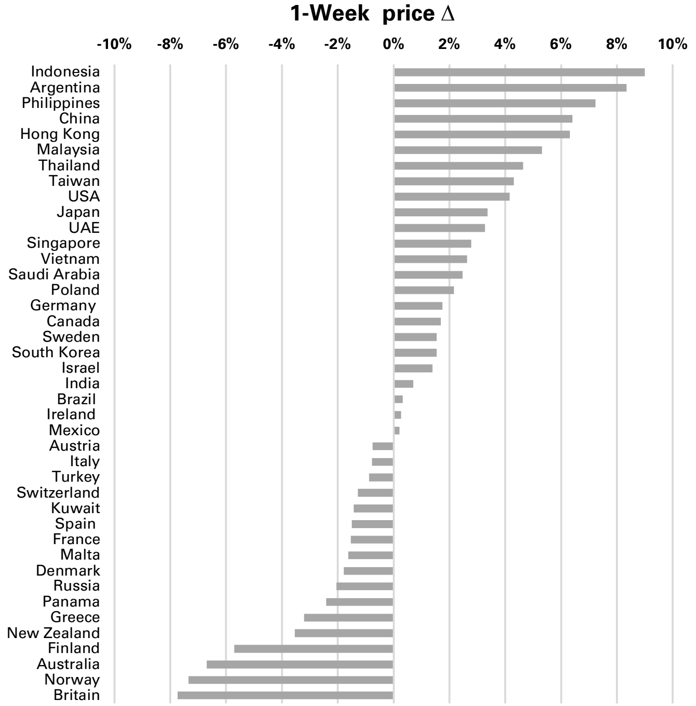
Email: pangolin@pangolinfund.com

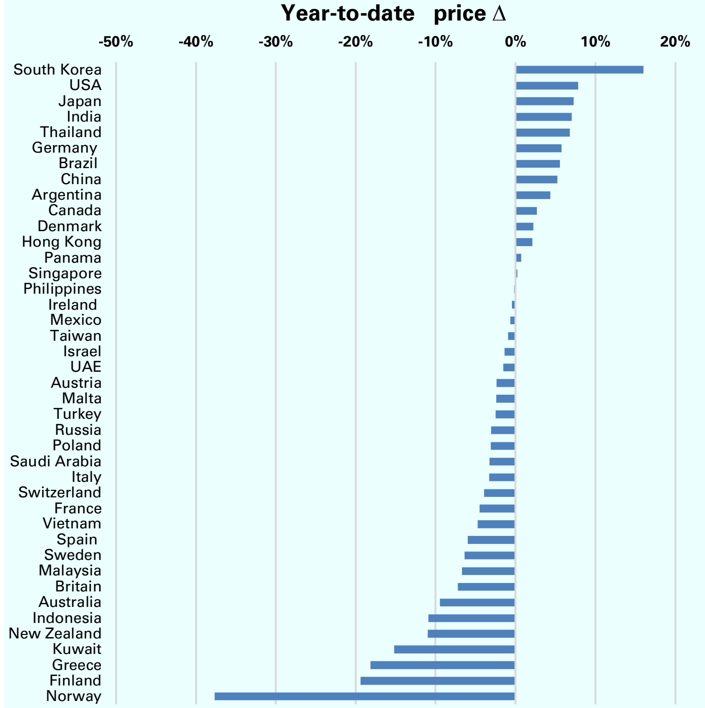
The Cockpit View

Aviation Universe share price performance

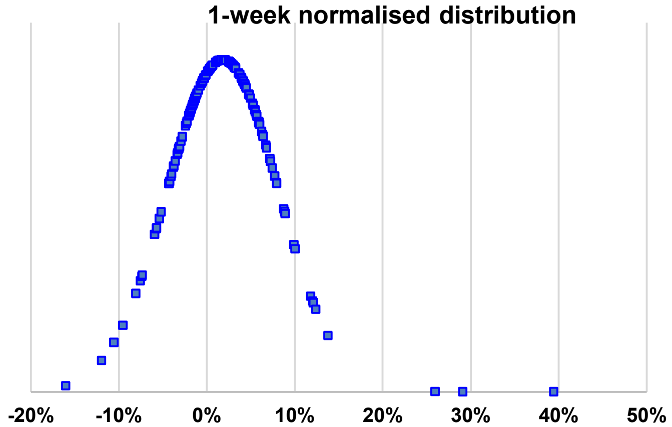
8-14 February | Week 6 Issue #2

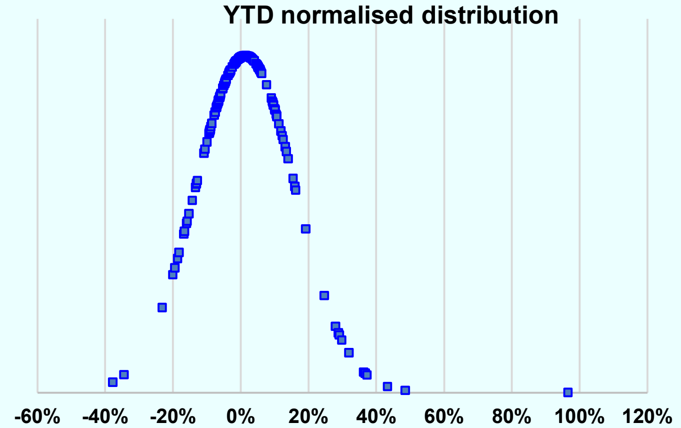
Average share price movement by country





Share price movement of aviation companies





Bottom 5	**Top 5**	**Bottom 5**	**Top 5**
On the Beach	Mesa Air	Norwegian Air Shuttle	Tuniu
SSPG Group	Tuniu	Caissa Tosun	Mesa Air
Saga	Trivago	Shanghai Airport	Korean Airlines
Webjet	China Tourism Group	On the Beach	China Tourism Group
HelloWorld	Cardig Aero Services	Finnish Air	Yatra

Contact us:
Pangolin Investment Management Pte. Ltd.
50 Raffles Place,
34-03A, Singapore Land Tower,
Singapore 048623

Email: pangolin@pangolinfund.com

Sell-side analysts are positive on the aviation sector. 71% of the companies in the Pangolin Aviation UNIVERSE have a target-price that is higher than the current market share price by an average of 6.4%. Sell-side analysts are particularly bullish with aircraft lessors and followed by air cargo.

The graph below shows the list of aviation companies' current market share price, clustered by their respective sub-sector, and mapped against the average target price gap by the sell-side analysts.

How to read this chart?

First step, relax. The intention of this chart is to give you an idea what are the share price gain/decline potential based on sell-side analyst recommendations. For example, there are 61 public listed airlines globally, each black box in the graph below represents each airline. Some airline share price has upside potential, and others have downside potential, so says the analyst. We do not reveal the company names, as the graph would be unreadable.