





January 2024

Asian Airports

For Wholesale Investors Only

Airports As Consumer-Facing Infrastructure Investments

A combination of aging demography and a rising middle class in Asia will create a long term tailwind for experiential consumption.

As people get wealthier, they travel more than previous generations, as experiential consumption – holidays, medical tourism, events/concerts, and overseas study – gain share over goods accumulation. South Asia, in particular, is set to experience one of the largest increases in the population with wealth exceeding US\$250,000. Covid interrupted this long term trend, however as airline capacity improved, travel has bounced back in most countries.

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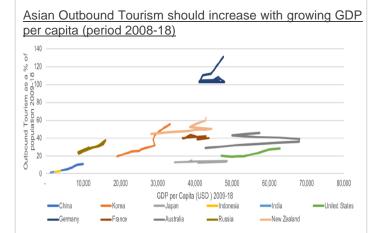
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Source: Analysis (based on World Bank Data)

Rise in % of adults in APAC with >US\$250,000 in wealth (%, 2022 to 2030)



Globally, populations are aging, and Asia is no different, however this is being accompanied by increased life expectancies combined with improved health outcomes. This is lengthening the number of years people can remain as active travellers.

IMF, United Nations Population Division, HSBC (16 Aug 2022)

The Tribeca Asian Infrastructure Fund (TAIF) has airports have the strongest moat among all the related infrastructure assets servicing the mobility consumption trend. This is due to their pricing power, predictable volume trend, and natural or regulatory monopoly status. Other industries exposed to travel such as airlines and hospitality are not only highly sensitive to cyclical and demand-supply factors but also retain limited barriers to entry.

While there are a few APAC listed airports today, we believe the space will expand. In countries like India, there is a well-planned privatization program, where many state/central government owned airport assets are being offered to the private sector. These will eventually be listed in coming years. Philippines has embarked on privatization of the flagship airport in Manila City, after a successful experience in privatization of Cebu airport a few years back. A number of state-owned airports in Australia are looking to privatize or divest part of their stakes to a mix of Infrastructure and PE funds.

almost 8% portfolio exposure in Airports, with another 4-5% exposure in other avenues of experiential consumption like medical tourism and student accommodation. We believe gateway

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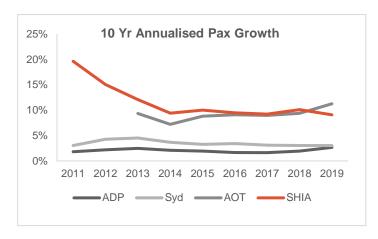
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Long Term Drivers Of Mobility In APAC



Over the long run, airport pax growth has been above nominal GDP growth in APAC, driven by:

- Rising per capita income: Asia's nominal GDP growth continues to trend higher than Western economies, aided by a higher per capita income growth combined with higher population growth. There is exponential growth in mobility as per capita incomes crosses US\$2000-3000.
- Population growth and aging: India, Indonesia and Philippines are seeing steady increase in young population entering working age and prioritizing experiential consumption. The rising wealth and per capita income will push their mobility trend higher. North Asia (Japan, China, Korea, Taiwan), along with Singapore and Thailand is aging, but is richer, healthier, and more mobile than previous generations.
- Immigration: Countries like Australia and New Zealand will continue to see superior population growth relative to OECD countries due to immigration, led by students from India, China and Vietnam, as well as healthcare workers from Philippines. Increasingly, family migration follows soon thereafter.
- Improvement in infrastructure: New airports in new destinations have increased travel options for travellers of all budgets. In

addition, the emergence of long-haul fuelefficient carriers has increased direct connections to distant places like Australia/ New Zealand for Asian travellers, without need for transits.

Why Do Airports Score So High Within Infrastructure Assets?

Airports are one of the most sought-after infrastructure asset classes for private infrastructure funds. Listed airports have similar characteristics, with occasions of macro/stock volatility that can be exploited to further enhance return. Below, we show the 10-year chart of GLIO Index (Global Listed Infrastructure Index) as well as its sub-index, GLIO Airports Index. Despite Covid, GLIO Airports (white) has markedly outperformed both the GLIO Index (orange) and MSCI World (blue).



Within Infrastructure Assets, why do airports score so well in terms of long term return?

 Long term growth profile: As discussed above, mobility is directly proportionate to economic growth and rising per capita income. Particularly as the per capital income crosses USD 2000-3000 level, there is exponential growth in mobility. The surface mobility is largely limited to available

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infrastructure, presence of public transport, etc.; air mobility is directly proportionate to the per capita GDP growth.

- Inflation protected revenue: Most of the regulatory regime takes into account the prevailing inflation in the economy in deriving allowed return. In case of light-handed regulation, the B2B negotiation between airports and airlines takes this factor into account.
- Long term concessions: Most airports are perpetual assets which operators own (Chinese Airports, Auckland Airport, Airport of Thailand etc.). In other cases, concessions are very long 99 years for Sydney Airport, 50+ years for Malaysian Airport, 30+30 years concession in India. Both long term concession and underlying economic growth provide long term predictable revenue.
- Opportunity in non-aero revenue: An airport is considered the highest quality commercial real estate in any city. Most traffic through the airport retail area is captive. The duty-free status of airport retail is one main source of attractiveness. In addition, there are revenue channels like F&B, advertising, hotels, and car parking. Many airports have adjoining land to support other commercial activities like aviation fuelling, aero and multimodal logistics and industrial parks. Airports are typically supported by high quality transport infrastructure which is attractive to office tenants. Such commercial activities are carried out in an asset light manner, where the airport operator owns an equity stake and earns revenue share. In most cases, nonaero revenue falls outside the regulated aero return, improving overall attractiveness of the airport asset.
- Lower operating costs: A well-run mature airport asset can enjoy high EBITDA margins viz. 60-70% as the incremental operating cost is minimal. However, a good airport operator can reduce the operating costs and improve non-aero revenue, thus improving EBITDA margin closer to 80%.

- Lower level of greenfield risk: While a new airport typically takes 4-7 years to set up and involves large capex, greenfield risks are minimized:
 - a) the regulated mechanism takes into account the actual capex and provides adequate return on the investment,
 - b) the pent-up travel demand typically fills up the new airport thus ensuring higher level of capacity utilization,
 - c) in case of Brownfield expansion, traffic risk is minimal as demonstrated by overutilization of current airport infrastructure.

Stock Selection Process

While the top-down trend of mobility is strong within the APAC region, we are less likely to focus on the post-Covid travel boom, which we believe is largely over. The exception could be China, where the international travel is still 40-50% below the pre-Covid level, even without accounting for the income growth that was experienced during FY20-23 period. We focus on air travel as part of rising per capita income along with rising share of mobility within the consumption basket, which we believe is likely to grow further in post-Covid world.

At the same time, our stock selection within the sector remains a bottom-up driven approach, based on the underlying regulatory regime, quality of management and their capital allocation track record, the underlying demand drivers, and valuation. Based on that, our preference currently lies with Auckland Airport (AIA) and Shanghai International International Airport (SHIA). The investment case for both the stocks are highlighted below. We avoid airports with ambiguous regulatory regimes with direct interference from the government (viz. in Malaysia) or where the past capital allocation decisions by management has been questionable.







Auckland International Airport (AIA)

Our largest holding in this sector is Auckland International Airport (AIA), located 20km away from Auckland CBD, and the dominant gateway into New Zealand serving >75% of inbound international passengers.

AIA has multiple levers of growth in the long term. Besides the long-term traffic drivers like tourism and immigration, AIA's 1500ha land parcel is in the early stages of being enhanced and developed. The opening of the 5-star Pullman Hotel near the airport occurred in Dec 2023, followed by new retail precincts in 2024. These should help AIA see significant land value appreciation and rental earnings over time.

On traffic numbers, one particular growth area is India. In the August 2023 year, according to Stats NZ data, India was the 5th largest sources of international visits to New Zealand, behind Australia, the US, UK, and China. Despite the fact there is to date no non-stop flight between the India and New Zealand, India's ranking has steadily risen from 19th in 2003, 10th in 2013 and 9th in 2019. About 6 in 10 visitor arrivals from India came to visit friends and relatives, compared with 3 in 10 in 2003, reflecting the growing Indian population living in New Zealand. Almost 1/3 of Auckland's population identified with an Asian ethnicity and of this, those that identify as Indian is the fastest growing category. These trends make AIA a unique play on the growing wealth and travel aspirations of the Indian middle class.

We believe 2H23 was a good entry point for investment into AIA.

- In Aug '23, AIA's shareholder Auckland City Council did a well-flagged and well-managed placement of ~7% shares to fund its budget requirements.
- AIA pax numbers have not yet fully recovered from Covid. As of Sep '23, international extransit pax numbers are at ~90% of 2018 pre-Covid levels.

Singapore

 AIA has announced a large capex plan to be executed over the next 3-4 years, i.e. execution risks and concerns on gearing are already in the price. Based on our analysis and observation of the company over time, we believe this is part of the progress of negotiations with the regulator, and that AIA will likely undertake capital expenditure spending at a slower pace than initially guided.

Shanghai International Airport (SHIA)

Shanghai International Airport (SHIA), China's largest Gateway airport, is probably the highest quality airport asset in entire APAC.

- SHIA is a beachhead airport for international traffic in China, and a destination city with 25mn population. Virtually all international and domestic airlines fly to Shanghai. Among all Chinese airports, SHIA has the highest proportion of international pax (50%) and hence was the slowest to recover to full pre-Covid level, but at the same time, has the highest leverage to profitability with recovery in pax traffic.
- SHIA possesses tremendous infrastructure flexibility with 3 runaways, 3 terminals with 80mn pax capacity, and an airport connected with the city through high-speed rail.
- SHIA is one of the few airports globally with ownership in city airport assets (Hongqiao airport), which gives them the ability to extract synergy between international and city airports. SHIA has leverage to integrate Pudong and Hongqiao airport assets catering to two different streams of traffic to maximize asset efficiency. It should be able to maximize retail space utilization in both the airports through a calibrated mix of product and service offering.







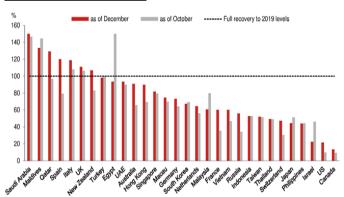
- Like all airports, SHIA has captive pax traffic which passes through its retail space. Given that Shanghai city represents almost half of China's luxury consumption, SHIA has unique advantage to cater to this traffic unique advantage to cater to this traffic through its captive retail footprint.
- SHIA has additional revenue streams like aviation fuel infrastructure, aero logistics, etc. Its net cash balance sheet gives a lot of flexibility to fund any future expansion program. Given that the third terminal and third runaway were completed just before Covid, the near-term capex need should be quite minimal.

Nonetheless, SHIA has been one of the large underperformers within Asia Pacific Airports space. These are the key stock overhangs.

- International pax is not recovering as fast as initially anticipated at the beginning of 2023.
 As of Oct '23, SHIA's international pax volume has recovered to 60% of 2019 levels.
 A combination of slower issuance of new passports, visas etc., internal travel restrictions within many Chinese SOEs, along with China's increasing Geopolitical tension, has impacted travel recovery.
- Duty-free (DFS) accounted for almost half of non-aero revenue pre-Covid, but post-Covid DFS revenue became difficult to forecast as the formula was not transparent and subject to contract renegotiation with the operator China Tourism Group Duty Free (CTGDF). SHIA's overall retail revenues have been slower to recover than other regional airports.
- The weak recovery in DFS and retail spending led to speculation that SHIA might allow CTGDF to reduce SHIA's revenue share for DFS (pre-Covid was 37%) before the current contract ends in 2025. There was also fear that rising ecommerce penetration and city based DFS may erode retail revenue from airports like SHIA.

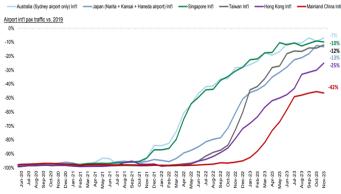
We believe these factors are transient. First, we see a gradual recovery of international traffic helped by increasing flight frequency between China and the Western world. While many Asian countries have waived visa requirement for Chinese traffic, China has added 6 countries to 15-day visa-free program in late Nov '23. According to CAAC and Flight Master, in the upcoming Winter/Spring (Oct-Mar) flight schedule, China's international pax volume could return to 73% of 2019 levels. This recovery has certainly been delayed compared to initial expectations, SHIA remains in a strong position to benefit from the long-term trends in travel.

<u>Destination-specific recovery rates of international flights to</u> and from Mainland China



Source: Data as at 10 Dec 2023 from VariFlight, Nomura Global Economics

China international pax traffic recovery has lagged other nations', but we believe recovery will continue



Source: CEIC, Nomura

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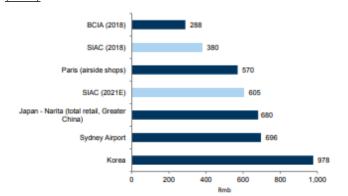




On 26 Dec '23, SHIA released supplemental dutyfree agreement details, providing long awaited clarity till 2025. The new agreement with CTGDF removes any upper ceiling for SHIA as retail spending improves, while reducing the minimum annual revenue to a lower and sustainable level, with transparent revenue share of 18-36%, which will translate into an overall revenue share of 25-30% vs. 20% or lower as feared by the market. The revised revenue sharing agreement stays valid till 2025, thus giving SHIA flexibility to negotiate new terms for 2026 onwards depending on the recovery of international traffic and retail spending thereon. A pre-Covid level of international pax traffic and per pax retail spending will give substantial bargaining power to the Airports when the next round negotiation arises in 2025.

While the current weak consumption in Chinese economy gives rise to uncertainty on whether SHIA will regain pre-Covid level of DFS revenues, particularly in beauty and cosmetics segment (50% of DFS revenue), it's worthwhile to note that even prior to Covid, SHIA's per pax retail spending was below that of Sydney Airport or Changi Airport. It is equally important to note that most gateway airports globally have regained their pre-Covid level of retail sending, driven by both Chinese and non-Chinese tourists. Thus, we do not believe that the current level of weak DFS spending in Chinese airports is a permanent trend.

International airports spend per Chinese passengers, 2018, (Rmb)



Source: Goldman Sachs estimates based on company disclosures

While there is a potential retail revenue diversion for SHIA from city based DFS shops or e-commerce, we believe the kind of customers or kind of shopping environment which airports provide are quite different. For instance, both South Korea and Thailand have had large city based DFS for some time, without impacting DFS revenues at Incheon or Bangkok Airport. Importantly, for SHIA, the DFS at the airport has same revenue share formula as city based DFS and e-commerce.

Lastly, an increase in international traffic will help SHIA to earn higher revenues from F&B, Aviation Fuel, Advertising, etc. This will also reduce SHIA's operating costs (per pax), as it completed its 3rd terminal and purchased 3rd runaway just as the pandemic commenced.

The current stock price factors in a below 20% revenue share for SHIA to perpetuity and recovery in international traffic only in 2026 with pre-Covid retail spending reaching by then.

Risk Factors For Airport Asset Classes

Besides the risks like slowdown in economic growth etc., there are a few airport-specific risks, which we would like to highlight below.

- Regulatory regime: This is probably the most critical risk factor we need to consider. Typically, Airports are regulated under 3 regimes:
 - Dual till: Where the Aero revenues are regulated in light handed manner and the non-Aero revenues are unregulated.
 - Single till: Where the entire revenues from non-aero revenues are combined to aero revenue to calculate regulated return under single consolidated asset base.

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Asia Infrastructure Insider

 Hybrid till: Only a part of non-aero revenues is considered part of Aero revenue to calculated regulated return, thus leaving enough scope to airport operators to develop non-aero revenues.

While the dual till provides the most attractive return, the single till carries the least amount of risk from commercial revenues and provides the least amount of revenue volatility. However, there are instances where the airports are not regulated by any government appointed regulator, but returns are capped by the government directly. Malaysia and Thailand airports fall under this category.

% of 2019 Revenue	Aero-	Non-
	nautical	Aeronautical
Airports of Thailand	56	44
MAHB Malaysia +	53	47
Istanbul		
Airport Corporation	80	20
of Vietnam	00	20
Beijing	38	62
Guangzhou	82	18
Shanghai	37	63
Shenzhen	83	17
Sydney	51	49
Auckland	44	56

- Another Pandemic: Pandemics will always create a temporary obstacle to travel demand and specifically air travel. Nonetheless, as we have seen in the last 20 years with events such as SARS, Swine flu and finally Covid-19, travel demand bounces back quickly.
- Competing airports: Many large cities end up having multiple airports as the existing hub airport gets filled up. However, experience shows that the hub airport continues to serve large long-distance international carriers, with a steady growth in business. Many regional and low-cost airlines shift to new airports. In some cases, the existing airports have the first right of refusal to manage the upcoming airport and in some cases, the parent

- company owns both assets thus drives maximum synergy between the two airports.
- ESG related risks: Air travel is one of the largest generators of carbon footprint globally (~10-15% of emissions). Many European countries have started discouraging air travel particularly over short distances, where the rail travel option is available. However, Asia is still lacking in rail or road infrastructure, and countries are geographically distinct rather than linked by common visa. We do not foresee any curtailment of air travel demand in APAC because of ESG related factors in the near future.

Conclusion

For investors in the Asia Travel theme, what is heartening to note is that all the growth we are seeing represents just the tip of the iceberg, as only ~10% of Indian and Chinese citizens today own a passport. TAIF's preferred way to invest in the secular growth of travel is via gateway airports, which are rare and possess valuable infrastructure assets with secure moats. Gateway airports are typically monopolistic, supported by both local and national governments, and generate returns on capital in excess of the cost of capital. Other plays on Travel theme such as airlines and hospitality are more sensitive to cyclical and demand-supply factors.

TAIF's preferred gateway airports are those with clear regulatory regime, strong balance sheet and reasonable valuations. We use discounted cashflow analysis (DCF) as the valuation tool at this stage of the cycle, given that Asia Pacific airports are still recovering from Covid. On conservative DCF assumptions, while Auckland International Airport (AIA) is trading at a reasonable discount to our fair value, Shanghai International Airport (SHIA) is substantially undervalued compared to its long-term earnings potential.



