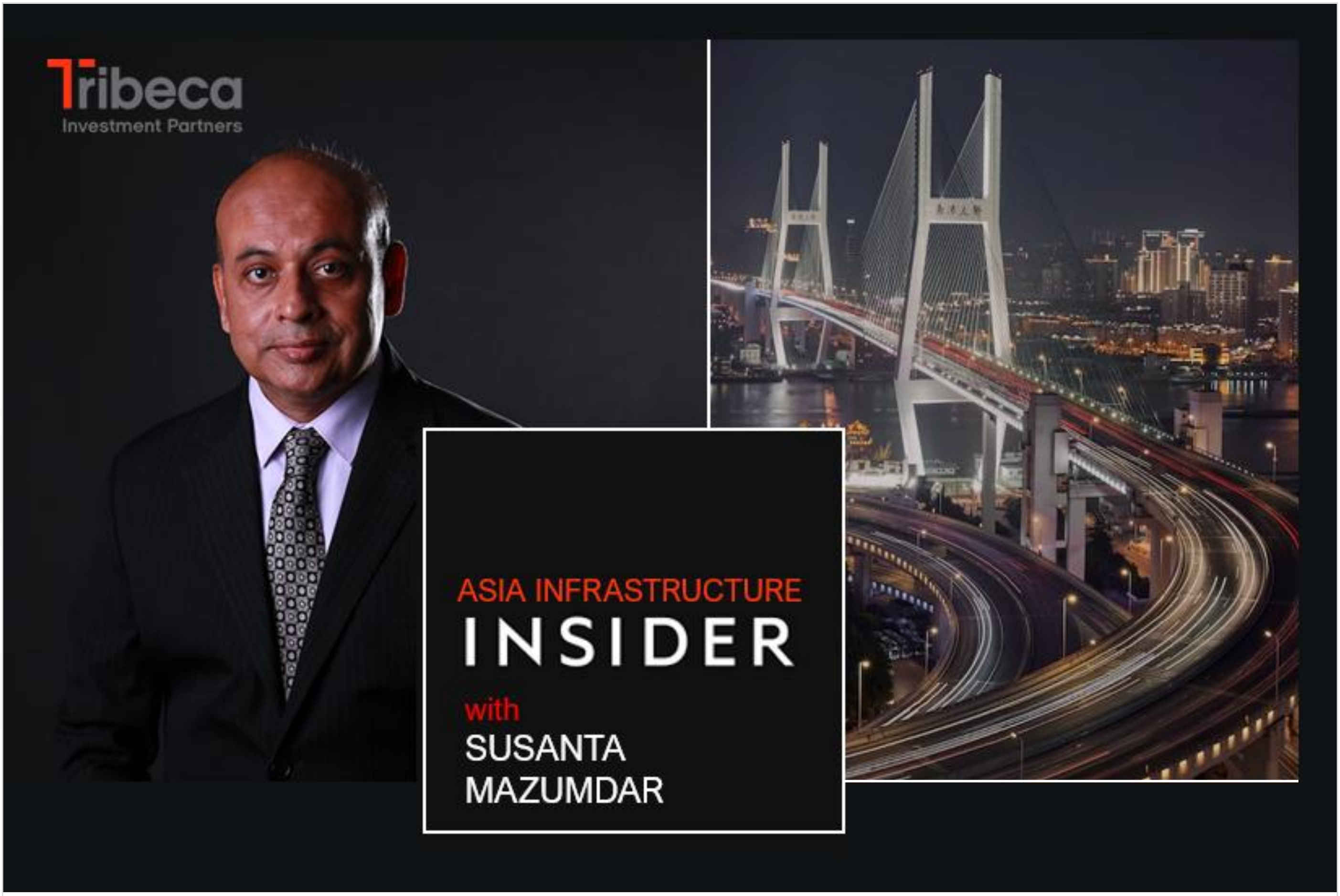
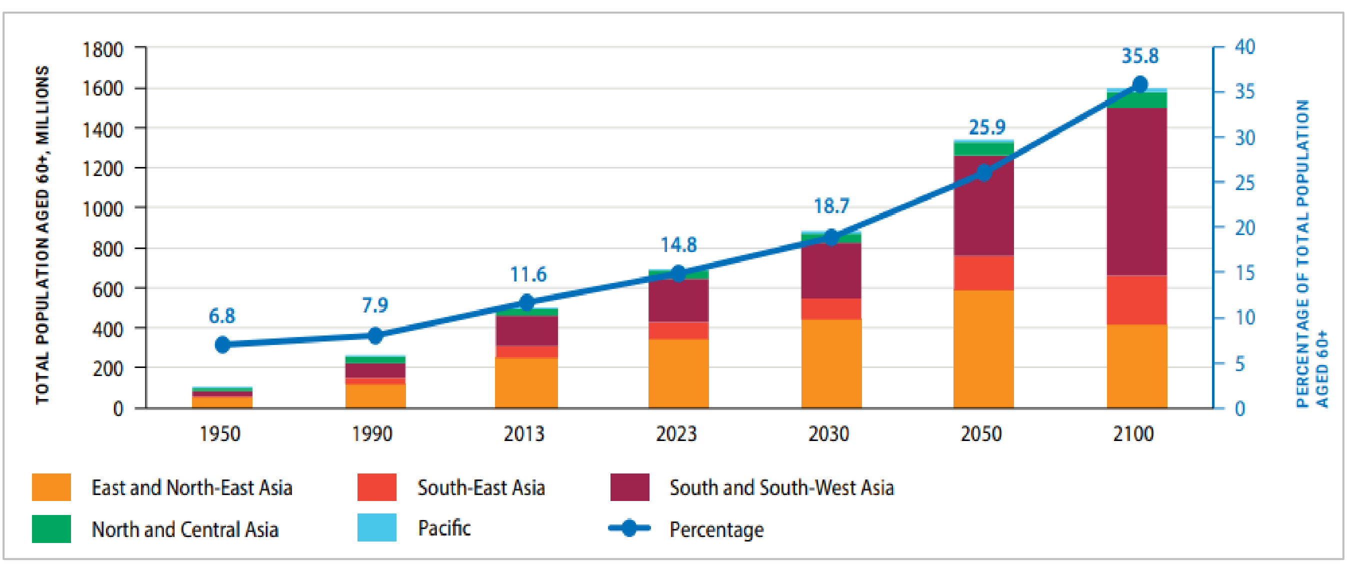


Ageing Demography and Healthcare Infrastructure

In this Asia Infrastructure Insider, we discuss the trends in ageing demography and a rising middle class in Asia. This is set to have a profound impact on healthcare investments in the region. In addition to travel and tourism, in a post-COVID-19 world, healthcare spending will be another significant component of rising experiential consumption. Asian healthcare continues to be a prime beneficiary of these secular trends. Dive into this comprehensive analysis to discover the strategic opportunities in Asia's healthcare sector.

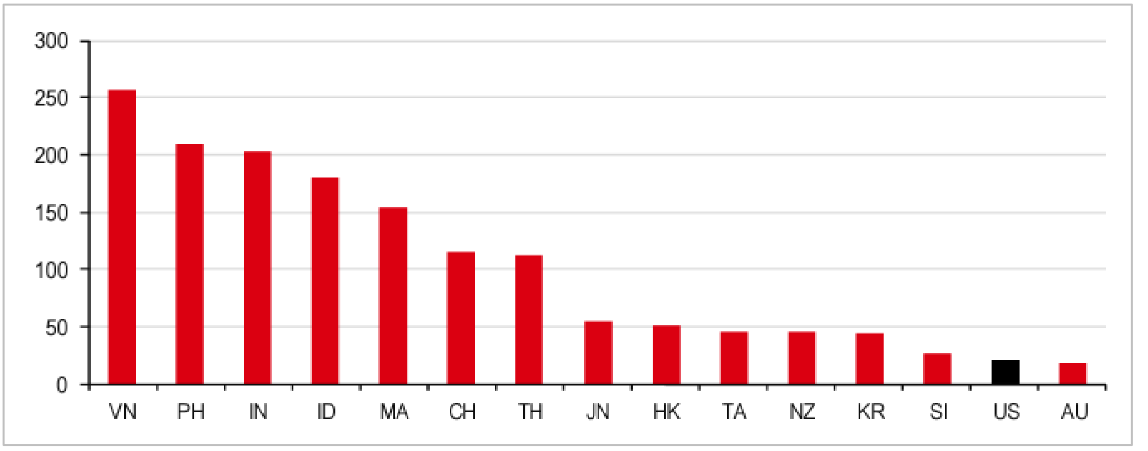
Chart 1: Number and share of people aged 60 years or older



Source: ESCAP calculation based on United Nations Department of Economic and Social Affairs, Population Division (2022) World Population Prospects 2022, Online Edition

The world is set to experience the largest and fastest rise in the population of people aged oved 60 years old in the next 25 years. Majority of the growth is coming from Asia and South Asia in particular. By 2100, over 1 in 3 people in Asia will be aged over 60 years old compared to 1 in 10 at the start of the century.

Chart 2: Rise of adults in APAC with >USD$250k in wealth, 2022-2030 (in %)



Source: UNU-WIDER, World Income Inequality Database, World Bank, IMF, United Nations Population Division, HSBC (16 Aug 2022)

Wealth accumulation in Asian households is set to continue growing apace. With the large population and growing wealth, total household wealth in Asia is set to surpass Europe over the next decade.

Although the effects of an ageing population and the rising income and wealth of Asia's middle class are gradual, several factors have recently accelerated their impact on healthcare spending:

1. Incidence of COVID-19, which increased the awareness of health monitoring and timely treatment.
2. Improvement in healthcare infrastructure across most markets including developing countries like India, Indonesia and the Philippines. As a result, there has been a substantial rise in per capita healthcare spending in Asian countries.
3. Per capita income moving over USD 3000, which has also increased demand for quality healthcare and in particular, tertiary healthcare.
4. Finally, the rising insurance penetration is assisting a larger proportion of the Asian population in accessing quality healthcare.

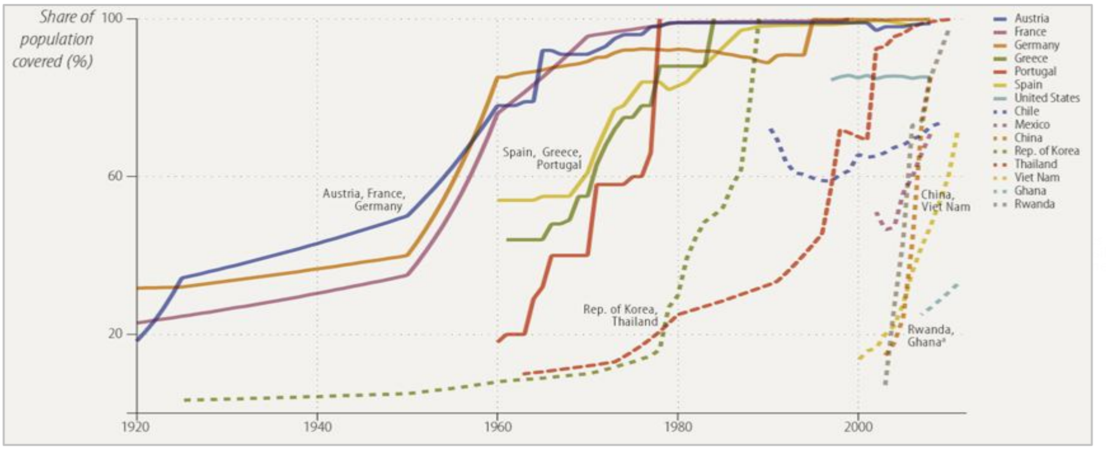
Unique Investment opportunity in Asian healthcare infrastructure

In most of the developed countries in the western world, healthcare treatment is largely provided by government owned hospitals and/or charitable trusts. Developed economies initially relied on government funded and owned hospitals prior to the development of privately funded healthcare infrastructure.

In Asia, government spending on healthcare has lagged societal needs. As a result, government owned healthcare has achieved sub-par health outcomes, combined with a paucity of beds, leading to long wait times. This has led to a growing number of private hospitals and healthcare infrastructure in Asia.

These private hospitals provide quality treatment including complex procedures without a long waiting period while charging a market rate. Historically, 'out of pocket' expense was the dominant way of paying for these treatments, but over time, insurance is becoming a dominant part of payment for such treatment as insurance penetration rises. As shown in figure below, historically all countries (excluding US) have seen the benefits of increasing insurance penetration and have accelerated coverage via policy measures.

Chart 3: Evolution of health protection coverage as % of total population



Source: ILO 2011b

As these private healthcare providers access the financial markets to expand their business, they have become an important and profitable avenue for deploying long term capital from infrastructure funds. While healthcare assets do not have properties like of “core” infrastructure, they have other “Core Plus” characteristics such as – a) long term secular demand in under-penetrated markets in Asia, b) pricing power at par or above inflation, c) large moat surrounding the business, d) a steady return, exceeding the cost of capital.

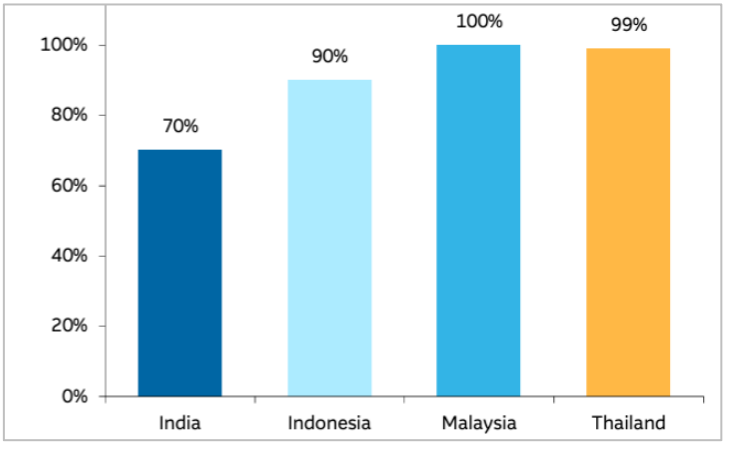
Tribeca Asian Infrastructure Fund (TAIF) Exposure to Healthcare Infrastructure

Healthcare Infrastructure is one of the largest components of TAIF’s portfolio. The following factors make the sector attractive for long term investors:

a) **Large business moat:** The entry barriers are considerable for a variety of reasons: securing land, approvals (including environmental), construction and operational licenses are complex and time consuming. The regulatory barriers are high as it takes a long time to get approvals (including environmental) for construction and operation licenses, besides finding the right location. The operational complexity is equally high. It requires an experienced management team to set up and run a profitable hospital. Greenfield hospitals take 5-7 years to breakeven. Lastly, it takes a long time to build strong reputation, attract and retain high quality medical professionals. The complexity and capital requirements make it challenging for new entrants.

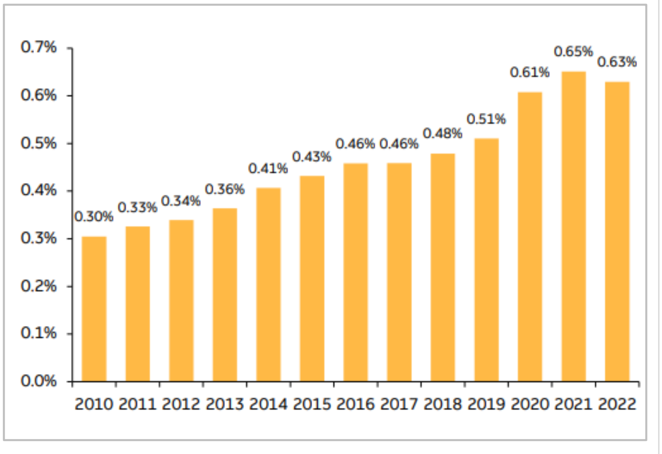
b) **Secular demand:** In Asia, healthcare penetration is low and has a long runaway for growth. This is a function of lower per capita income as well as a poor track record of the public healthcare system (in most of the emerging markets). In addition, as populations are ageing while getting wealthier, they are more prone to lifestyle diseases related to stress or modern life. This combined with continued advances in healthcare technology and rising insurance penetration will improve healthcare spending at an accelerated pace.

Chart 4: Health insurance penetration as % of total population



Source: Govt websites, Macquarie research, Nov 2023

Chart 5: Health insurance premium as % of GDP

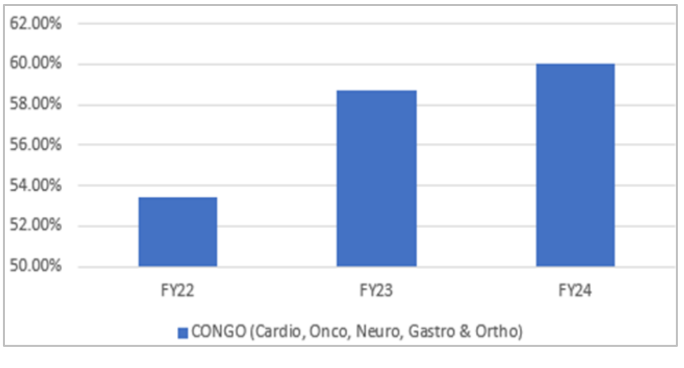


Source: Thailand Office of Insurance Commission, Macquarie research, Aug 2023

c) **Consolidation of market and pricing power:** The top players in most markets in Asia, have substantial market share, particularly in the high-end segment. This drives their pricing power as well as superior return on capital (15-25% ROIC) in a sustainable manner. As such, the pricing of healthcare services tracks or exceeds CPI and with rising care complexity, the ARPOB (Average Revenue Per Occupied Bed) keeps exceeding inflation.

Over a period, most of the multi-specialty hospitals aim to raise contribution from CONGO (Cardiology, Oncology, Neurology, Gastro, Orthopaedic). This increases case complexity, revenue intensity and thus profitability.

Chart 6: CONGO Contribution for Max Healthcare (India)



Source: Max Healthcare, TAIF

Chart 7: ARPOB CAGR has been ~10%; @2x inflation

Source: Max Healthcare, Siloam, TAIF

d) **Long duration assets:** Healthcare infrastructure assets are perpetual assets with no finite life or risk of re-licensing the operation. In addition, their long-term revenue visibility proves to be attractive for long term investors.

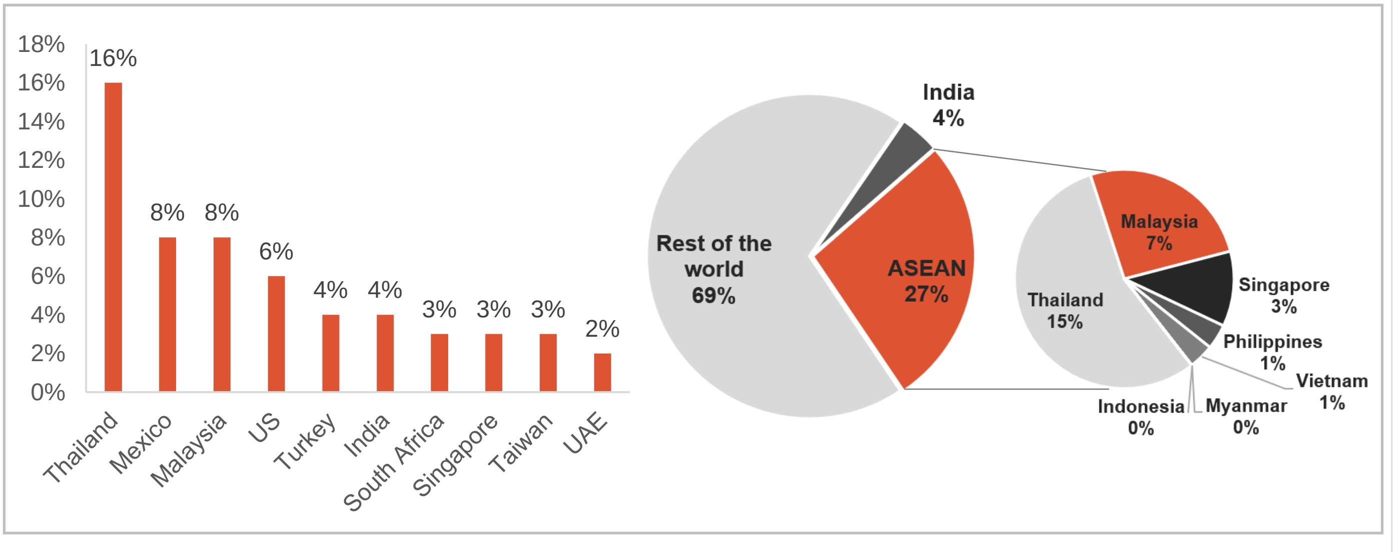
Risk factors

1. **Rising costs:** In post-COVID-19 period, the healthcare industry continues to face challenges particularly in the nursing and care segment. A combination of factors like exhaustion from COVID related stress, migration of nurses to developed countries where remunerations are much higher, led to lower availability and higher costs to medical and non-medical staffs. Higher prices of consumables and PPEs led to additional cost challenges to the sector. While doctors' availability in general is not a bottleneck, Indonesia is one market where availability of medical professionals has been an impediment to growth particularly in tertiary care segment.
2. **Health insurance capping pricing freedom:** While rising healthcare penetration in emerging markets is a tailwind to increase in healthcare coverage, this also led to pricing distortion of insurance premiums and misuse. A number of insurance companies underwrote policy which were loss-making due to wrong pricing and/or overclaim by policy holders. Of late, the insurers are clawing back on their coverage and insisting on co-payments in most of outpatient cases as well as in low-intensity medical procedures. While this could be a near term headwind for the healthcare pricing, in medium term this will make the sector stronger and healthier.
3. **Government regulation to standardise pricing:** In countries like India and Thailand, the government made attempts to standardise pricing for various medical procedures. While the objective was to make healthcare affordable to a large section of the society, in reality it did not work out as there is no cookie cutter approach to medical treatment. While we do not see this as a major risk factor for the premium healthcare companies, for the mid-end segment, the companies should have provision for cheaper treatment options for their patients.

Rise in Medical Tourism

Another key aspect of investing in Asian healthcare infrastructure is the rise in medical tourism. Initially this was limited to Thailand and Singapore. However, as the quality of clinical treatment and post-operation care improved in other markets, India and Malaysia are emerging as strong contenders for medical tourism. Asian countries are able to provide a significantly cheaper cost of treatment vs. the developed markets. In addition, the recent improvement in tertiary care including complex operations, has made Asia an attractive destination for medical tourism. ASEAN and India are now top 10 markets globally as medical tourism destinations.

Chart 8: ASEAN and India are four of the world's top 10 medical tourism markets



Source: JP Morgan Report (Oct 2024)

The rise in medical tourism makes the high-end healthcare infrastructure assets attractive, since the revenue intensity of international patients is 2-3x that of domestic patients and in some cases, it is as high as 5x-10x more revenue intensive. While the initial flow of overseas patients depends on agents' network, over the years, many hospitals have set up their own referral networks and created strong brand equity in the key markets like Middle East, China, Bangladesh, Sub-Saharan Africa, etc.

Chart 9: Comparison of countries in ASEAN and India

	Thailand	Malaysia	Singapore	India	Indonesia
Strengths / Opportunity	First mover advantage, Hospitality ecosystem	Good value for money, Proximity to Indonesia, Penang opportunity	Leading, world-class clinical expertise	Cost competitive, strong clinical outcome	Ongoing health reform
Weakness / Risk	Middle-East's policy shift	Mandated doctor fee	High healthcare cost	Potential adverse regulatory actions	Capacity constraint
Medical tourism volume (2019)	2,500,000	1,200,000	450,000	700,000	60,000
Global volume share (2019)	15%	7%	3%	4%	0%
Numbers of JCI hospitals	62	17	13	55	24
Top nationality (% contribution)	Middle-East (40%) CMLV (20%)	Indonesia (70-80%)	Diversified	Bangladesh (69%) Iraq (7%)	N/A
Treatment cost of selected procedures ($) - Heart Bypass	15,000	12,100	17,200	7,900	N/A
- Knee replacement	14,000	7,700	16,000	6,600	N/A
- IVF	4,100	6,900	14,900	2,500	N/A

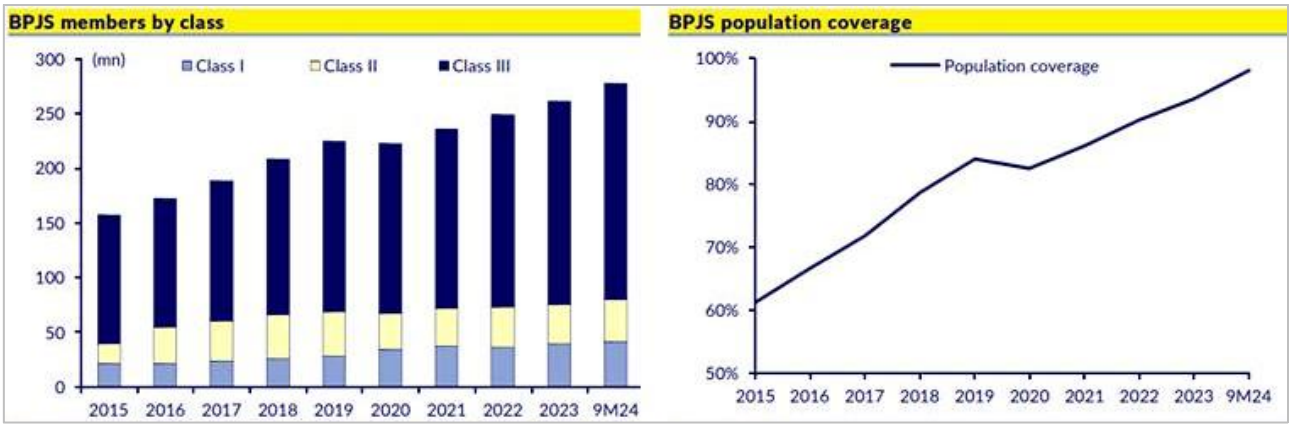
Source: JP Morgan (Oct 24), JCI, GHA, Medical Tourism

Two Key Markets for TAIF's Portfolio – Indonesia and India

Indonesia – BPJS Increases Healthcare Penetration

Indonesia launched a universal healthcare scheme (BPJS) in 2014, which has improved healthcare penetration among masses substantially. Even though the system is still evolving in terms of coverage and appropriate premium to be charged, it has widened the target market for the hospitals catering to mid and lower segment of the population.

Chart 10: Coverage of JKN Program (in millions)

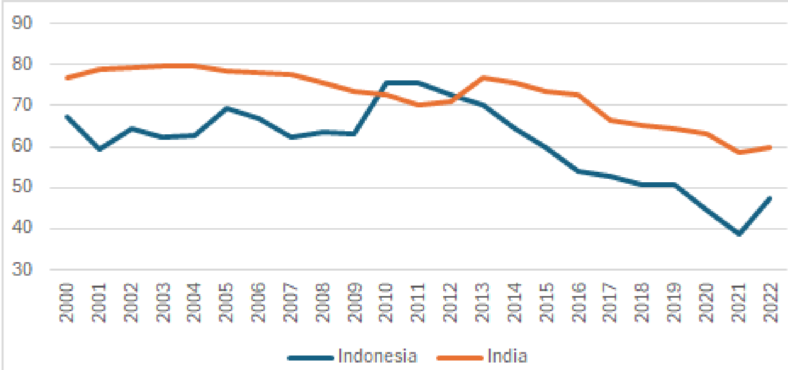


Source: BPJS, CLSA

While BPJS improves affordability of the healthcare, it does not solve the problem of shortage of specialist doctors. To address this, the government has passed Omnibus reform in late 2023, which should get implemented by the new government. This should improve supply of specialists through higher enrolment of medical professionals in domestic market as well as allowing foreign doctors to practice in Indonesia selectively. This should address Indonesia's low Specialist:GP ratio of 0.15:0.4 to 0.3:1.0. Millions of wealthy Indonesia travel abroad each year to seek medical care. This is potential target segment for the local hospitals, which are focusing on complex cases through upgrading their facilities and attracting specialist in CONGO segment.

The Indonesian healthcare sector is trading at half the EV/EBITDA multiples vs. India, despite having similar long term growth outlook and with lower degree of competition in CONGO segment. The private sector also represents a much smaller proportion of total healthcare spending compared to India. In fact, the share is even lower in CONGO segment, a large part of which get treated abroad.

Chart 11: Domestic private healthcare spending as a % of total healthcare spending



Source: WHO

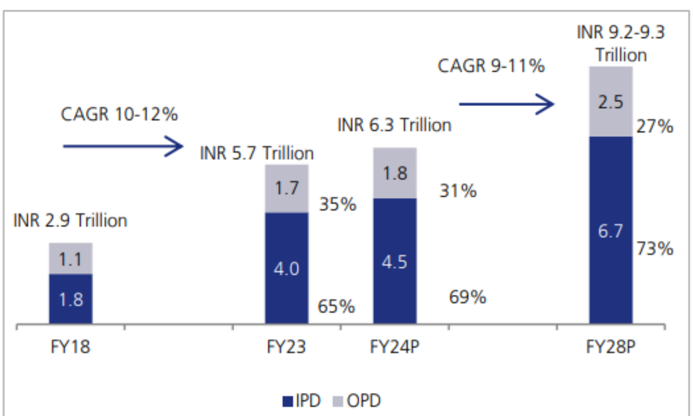
The chart above shows that the BPJS program in Indonesia has resulted in higher share of public sector in healthcare spending, leading to a drop in private share. In contrast, the private share in healthcare spending in India has moved down gradually.

India – Rising Private Healthcare

Compared to Indonesia, the Indian healthcare market has rapidly evolved with greater private sector participation in past 10 years. Even after that growth, the private hospital chains account for only 11-23% of beds across key cities, e.g., small format hospitals account for 50% of hospital beds in Mumbai. As the private hospitals move up the value curve, and start focusing on complex procedures, they have grown their venue at 15% CAGR in past 5 years, of which 10% comes from ARPOB growth and the balance by capacity addition. In addition, the international patients have been an additional growth driver with a swift recovery in the post-COVID period. International patients have 2-3x higher revenue intensity than that of the domestic patients.

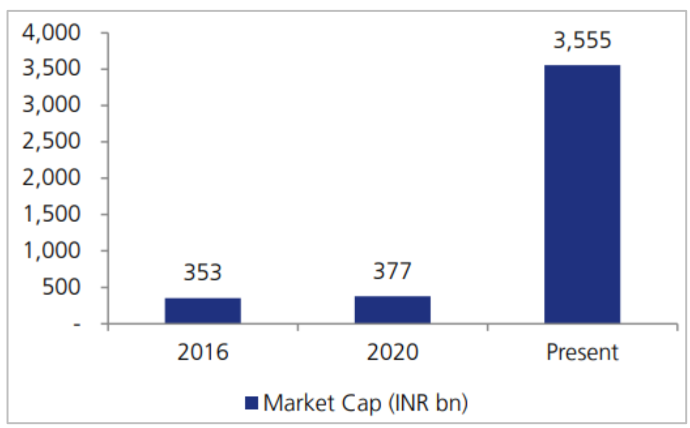
Looking forward, the private sector is expected to grow at 9-11% CAGR for next few years; a large part of that growth will be driven by bed expansion and to smaller extent by the ARPOB growth. Driven by both growth in earnings and multiple expansion, Indian hospitals trade expensively vs. the peer groups in Asia, hence TAIF is solely invested in the top-quality players in this space.

Chart 12: Indian Hospital sector is expected to grow 9-11% CAGR



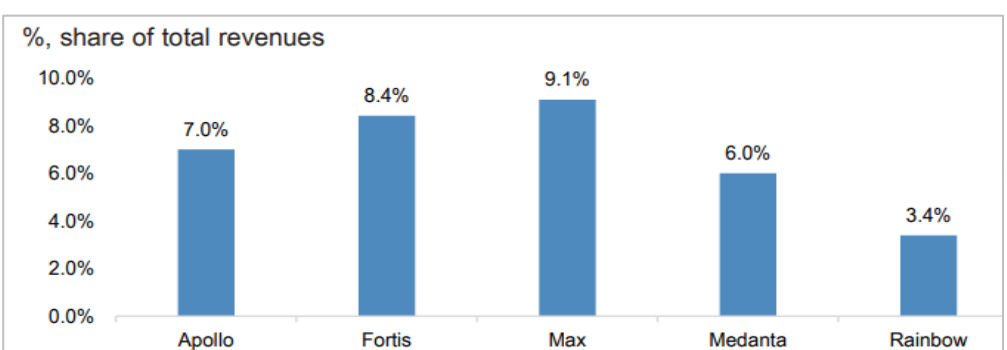
Source: Industry, Bloomberg, JM Financial report (July 24)

Chart 13: Listed sector has expanded 10x in market cap over 8 yrs



Source: Bloomberg, TAIF

Chart 14: International patients account for 6-9% of revenues



Source: Company

Healthcare Opportunities in Developed Markets

The investment opportunities in developed markets like Australia and New Zealand lie less in multi-specialty hospitals, but more in diagnostic facilities and retirement villages. Besides having a robust public healthcare system, the developed markets have a higher healthcare penetration. The private hospitals also face pricing pressure from large health insurance companies. Thus, both volume and pricing have been headwinds for the private hospitals. Post-COVID, they are experiencing rising cost pressures from both medical and non-medical professionals.

The diagnostic market (both pathology and radio-imaging) however, is dominated by the private sector players, which are seeing strong secular demand for their services. Within the diagnostic space, the pathology market has matured with slower growth and limited barriers to entry. Radio imaging in contrast provides significantly superior market dynamics.

1. **Improves clinical efficiency and effectiveness:** A rapid advance in clinical radiology technology, has dramatically improved the diagnosis and treatment of illness and injury. Imaging can assist in avoiding unnecessary procedures and decrease overall healthcare costs.

2. **Australia has relatively lower penetration** of high-end radio imaging like MRI or PET scan among OECD countries, thus giving a long runaway for the diagnostic companies. As the population ages, the need for complex procedures will warrant more high-end imaging to improve the clinical outcome. Interestingly, while Australia's population growth has been 1.5-2% p.a. for past 10 years, the diagnostic industry has been growing at ~7% p.a. This is driven by both volume growth and pricing, which is higher than CPI due to adoption of more complex imaging procedures. There is also an acceptance by policy makers that increasing diagnostic imaging will result in overall lower costs for the healthcare sector.

Chart 15: Diagnostic services – services, benefits growth FY09-19

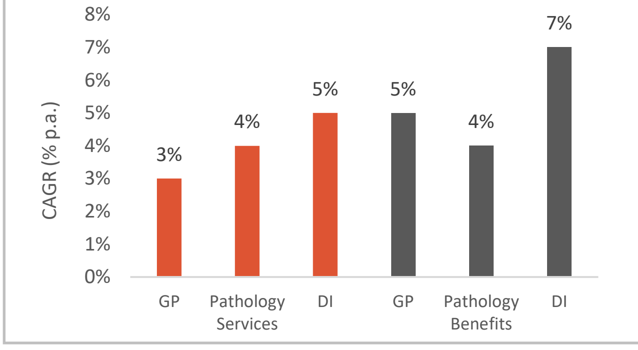
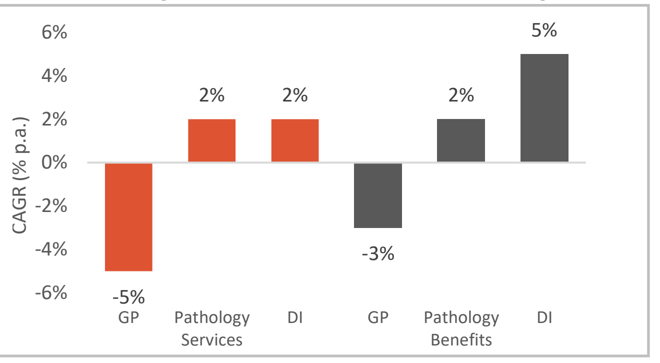
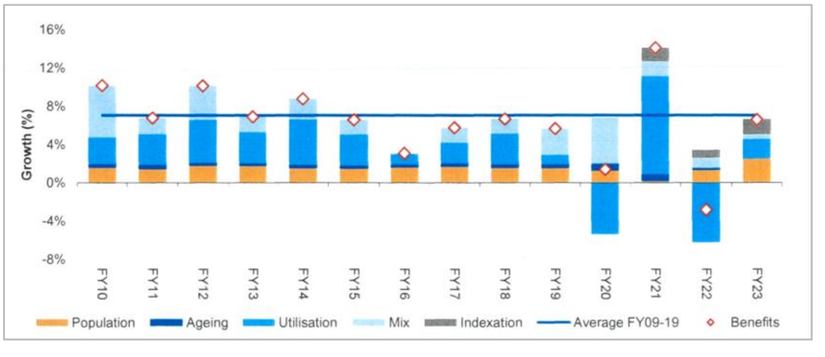


Chart 16: Diagnostic services – services, benefits growth FY19-23



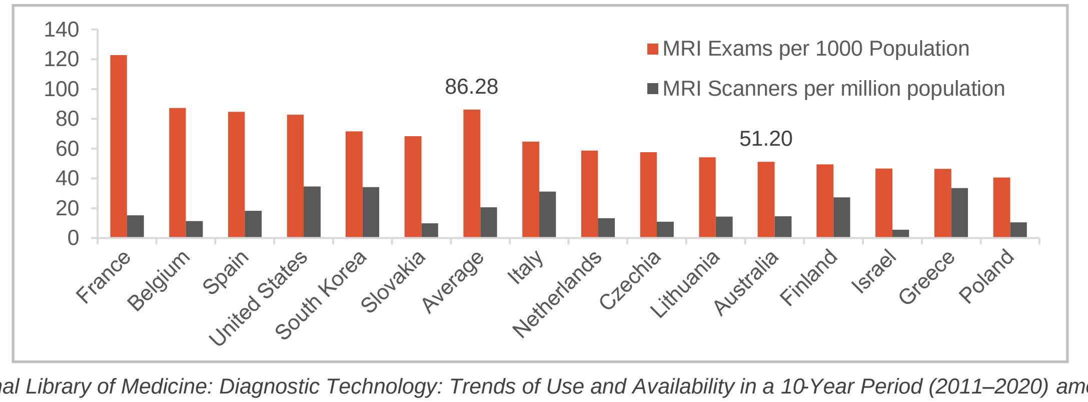
Source: Medicare, Macquarie Research, July 2024

Chart 17: Diagnostic Imaging Benefits Growth Disaggregated by Factor



Source: Medicare, Macquarie Research, July 2024

Chart 18: Australia's Use of Medical Imaging Lags OECD averages



Source: National Library of Medicine: Diagnostic Technology: Trends of Use and Availability in a 10-Year Period (2011–2020) among Sixteen OECD Countries

3. **Opportunity from de-licensing of MRI machines:** A part of the reason for lower penetration has been strict licensing of MRI machines and inadequate insurance coverage for MRI procedures. As the government enhances the coverage of high-end imaging procedures and de-license the MRI machines (from 2026), the revenue opportunity set is likely to rise meaningfully. E.g. at present, a licensed MRI machine earns revenue two times that of an unlicensed MRI machine.

4. **High entry barriers:** While the absolute amount of capital required to set up a radio-imaging centre is not prohibitively high; one needs to set up a cluster of imaging centres in a particular micro-market to gain visibility and network effect. Also, it takes a long time to build relationship with hospitals and get their referrals, which get renewed every 3 to 5 years. Australia is a radiologist constrained market, where the number of new radiologists is well below the population growth. Thus, attracting the relevant talents, retaining them while managing costs, need a credible experienced management team. Post-COVID, the cost structure has been challenging, in particular managing expenses of radiologists and sonographers.

5. **Market consolidation:** Australia's radio-imaging market is going through a consolidation process, which is driven by the industry players as well as the private infrastructure funds. The factors like long term secular demand, rising entry barriers, and a substantial scope of cost saving, are driving this consolidation process. Most of these transactions are happening at 9x-17x EV/EBITDA multiples, which are higher than multiples of the publicly traded imaging stocks.

Chart 19: Private Diagnostic Transactions in Australia

Date	Target Company	Acquirer	Purchase Price ($AUD)	Est EV/EBITDA Multiple
Jan 18	I-MED Radiology	Permira	$1,260	12-13x
Jun 20	PRP Diagnostics	Crescent Capital Partners	$440	8-9x
Oct 20	Qscan	Morrison	$735	13-15x
Apr 21	Pacific Radiology	Morrison	$802	13-14x
Oct 22	PRP Diagnostics	IFM/Unisuper	$800	13-14x
Sept 24	Lumus Imaging	Affinity Equity Partners	$965	16-17x

Source: AFR, Bloomberg, Company reports

To conclude, Asian healthcare infrastructure assets are attractive investment opportunities driven by structural demand forces and relatively independent of macro vagaries such as rates. At Tribeca Asia Infrastructure Fund, we have around 25% of our portfolio exposed to Asian healthcare infrastructure, with a focus on quality, sustainable growth, dividends and ESG.

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