

An APEC Air Transport Connectivity Agenda

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This report is prepared by Christopher Findlay (Australian National University) and Hein Roelfsema (Utrecht University and Saxion University).

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1. Management Summary

The next phase of air transport reform among APEC members should focus on converting existing and future rights into commercially usable connectivity for passengers and cargo. Across the region, the main policy problem is whether existing formal rights are translated into route entry, competitive access, secondary-city services and operationally reliable networks.

The evidence assembled in this Report points to five linked conclusions.

- First, APEC should be understood as a platform for phased and targeted reform rather than as the likely site of a single integrated aviation market.
- Second, the region already contains several liberal legal architectures, including MALIAT, ASEAN's internal arrangements, the ASEAN–New Zealand agreement and dense open-skies networks among some members, but their reach and use remain uneven.
- Third, recent policy activity has been substantial, but much of it has been offsetting rather than cumulative, so visible reform effort has not produced a comparably large fall in measured restrictiveness.
- Fourth, the strongest near-term gains are likely to come from reforms to capacity, cargo, secondary-airport access, airport usability and border facilitation rather than from ambitious ownership reform.
- Fifth, resilience has become a central policy objective: the 2020 Middle East disruption showed that heavy concentration of long-haul traffic in a narrow set of hubs and corridors can create systemic fragility, while diversified network options improve adaptation under stress.

The policy problem

The literature reviewed in Part 2 of this Report shows a clear evolution in thinking about aviation reform in the Asia-Pacific. Earlier work focused mainly on bilateral agreements, ownership rules and the legal structure of liberalisation, while more recent research examines implementation, market access in practice, network effects, cargo, airport geography and uneven post-pandemic recovery. The central lesson is that liberalisation should not be judged only by what agreements say on paper, because actual openness depends on whether rights can be exercised in commercially workable conditions.

This distinction matters because aviation in the APEC region remains shaped by fragmented bilateralism, selective regionalism and different starting points across economies. Some members already operate highly liberal systems with broad route rights and multiple international gateways, while others remain selective liberalisers, single-gateway hubs or constrained systems where infrastructure, safety or airport access are binding constraints. A practical reform agenda therefore must be modular, sequenced and adapted to differing market structures rather than framed as one uniform package for all members.

What the evidence shows

Part 3 shows that APEC air transport systems expanded strongly before the pandemic. Between 2005 and 2019 passenger traffic more than doubled, departures increased by about half, freight rose by just over two-fifths, and the composite connectivity index rose by 43.4 percent. The COVID-19 shock then broke this trajectory, with passenger traffic falling harder while freight proved more resilient, underlining that cargo should be treated as a distinct policy area rather than as a residual element of passenger reform.

By 2023 the region was recovering, but not on a common timetable. Passenger volumes in Mexico, Singapore, Indonesia, Viet Nam and the United States had already exceeded 2019 levels, while Hong Kong, China, Brunei Darussalam, Thailand, Malaysia and Papua New Guinea remained well below them, showing that economies face different immediate policy problems — some managing renewed demand, others rebuilding viable connectivity. This uneven recovery reinforces the case for sequencing reform according to economy conditions rather than assuming a single regional baseline.

Part 4 adds a second important finding: policy activity is not the same as policy progress. For the 17 APEC economies covered by the OECD-based analysis, the average air transport restrictiveness score was about the same in both 2014 and 2023, even though 859 reform events were recorded over 2014–2025, split almost evenly between 444 liberalisations and 415 tightenings. The implication is that reform has often been frequent but self-cancelling, with many changes too small, too offsetting or too concentrated in a few measures to transform the regional operating environment.

The Report therefore combines the STRI evidence with a second tool, the Capacity–Ownership–Secondary Airports (C–O–S) framework, to identify where the practical reform frontier lies. The C–O–S analysis finds that ownership and control is the least differentiating dimension among APEC members, while the biggest differences lie in capacity openness and in whether secondary airports are genuinely functioning as international nodes. The associated efficiency analysis also shows that connectivity efficiency is more clearly and positively associated with the capacity and secondary-airport dimensions than with ownership, suggesting that the policy margins that are politically easier to move are also the ones most closely linked to stronger network outcomes.

The Annex reinforces this reading. Australia, Canada and the United States stand out as open-market systems with mature multi-airport access; Singapore and Hong Kong, China are highly liberal but structurally single-gateway hubs; New Zealand, Chile, Peru, Mexico and Chinese Taipei are commercially open but geographically concentrated; Northeast and Southeast Asian members are mostly selective liberalisers with important secondary-city potential; and Papua New Guinea and Russia are constrained cases where treaty form is only one part of the problem. This clustering suggests that the most realistic deepening is corridor-specific and coalition-based, not region-wide in one step.

A market-shaping agenda

The long-term objective remains a more open regional regime, and open skies in the traditional sense is still the benchmark. It refers to a specific treaty package: unrestricted third and fourth freedom rights, open route schedules, no capacity or frequency controls, multiple designation, liberal

fifth freedom access and — in the most ambitious versions such as MALIAT — seventh freedom cargo rights and a shift away from traditional ownership tests.

The agenda set out in this Report is deliberately different in the short to medium term. Its six principles and the work program they support are not aimed at getting every APEC economy to sign open skies agreements with every other as an immediate step. They are aimed at making connectivity more usable, more competitive and more resilient — which is a broader and, in some ways, more demanding objective, and which is intended to move the region towards more open skies over time by making existing and future rights commercially workable.

Several features of the recommendations make this distinction clear. On ownership, the Report recommends incremental movement — broader designation clauses, more flexible treatment of foreign minority investment and template provisions that reassure regulators — rather than a rapid push to full cross-border ownership liberalisation. On implementation, the Report devotes at least as much attention to what happens after an agreement is signed as to the terms of the agreement itself: slot transparency, ground-handling contestability, airport readiness, border facilitation and interoperable systems for processing passenger and booking data. None of those are “open skies” issues in the traditional treaty sense, but all of them determine whether open skies-type rights can be used.

Cargo is treated as a separate and faster reform track, not just as part of a general package. Secondary-airport integration is made a core principle, recognising that many nominally open skies agreements contain city-specific or airport-specific carve-outs that protect hub incumbents and leave a large share of connectivity potential untapped. Network resilience — deliberately reducing dependence on a small number of hubs and corridors — is an explicit new objective with no equivalent in the older open skies tradition, reflecting what the pandemic and the 2026 Middle East disruption revealed about structural fragility.

The report’s agenda is therefore best understood as a market-shaping program that prepares the ground for deeper openness. Deep multilateral open skies remains the goal, but it is hard to scale beyond coalitions of the willing: MALIAT has plateaued in its membership, and even economies with formal open skies agreements often fail to deliver the connectivity those agreements imply. The immediate goal is commercially usable connectivity — and the report’s position is that, in APEC, not enough time has been spent asking whether airlines can fly the routes, use the airports, obtain the slots and recover their costs. Getting those conditions right is the practical pathway along which more ambitious open skies outcomes will eventually become both feasible and even more valuable.

Strategic implications

Taken together, Parts 2–4 imply that the next reform gains will come less from negotiating entirely new headline architectures and more from improving the use of those already available. MALIAT, ASEAN’s internal agreements, the ASEAN–New Zealand arrangement and the open-skies portfolios of several members already provide templates for more liberal access, but implementation is held back by airport carve-outs, slot constraints, ground-handling limits, customs and immigration practices, weak digital interoperability and underdeveloped secondary-airport readiness.

The Report therefore identifies a practical two-track reform logic. The broad track should focus on capacity and secondary airports: more usable third-, fourth- and selected fifth-freedom rights, fewer city-specific exclusions, broader all-cargo access, improved slot transparency, neutral airport access, better border processes and stronger digital facilitation. A narrower ownership track should still exist but should concentrate on politically workable changes such as more flexible designation clauses, principal-place-of-business concepts where acceptable, wet-leasing flexibility, cargo designations and related commercial arrangements.

This approach also aligns with the literature on low-cost carriers, cargo and airport geography. Demand growth alone does not produce deeper connectivity when rights, slots, airport readiness and competitive neutrality remain misaligned, and Asia-Pacific's weaker emergence of very large low-cost carriers despite strong demand is one sign of that constraint. The evidence further suggests that opening cargo markets and making secondary and regional airports more usable can produce earlier and more visible gains than pushing immediately on the most politically difficult ownership issues.

Resilience and the 2026 disruption

Part 5 broadens the case for reform by showing that connectivity policy must now incorporate resilience more explicitly. The early-2026 Middle East disruption abruptly weakened a major transfer bridge between Europe and Asia, causing cancellations, rerouting, substitution to other hubs and an increase in direct services, while also raising operating costs through longer routings and higher fuel burns. The key lesson is not that hub-and-spoke aviation has failed, but that excessive concentration in a narrow set of hubs and corridors creates avoidable fragility.

For APEC members, this matters in two ways. First, diversified networks with more viable secondary airports, multiple hubs and different operating models are better able to absorb shocks. Second, reforms that make rights and airports usable in practice — rather than merely more liberal on paper — are what allow traffic to be redistributed when a corridor is disrupted.

The Report therefore treats resilience as part of connectivity policy rather than as a separate emergency agenda. Secondary-city access, flexible cargo systems, practical facilitation, contingency-minded treaty design and competition among different network structures all contribute to a more robust regional system. This is especially important in a region where some economies operate mature multi-airport systems while others can still unlock significant gains from activating second- and third-tier gateways.

Recommended agenda for APEC

Part 6 translates this analysis into a Leaders-level agenda. The central recommendation is that APEC processes should focus on commercially usable connectivity for people and cargo and should pursue a phased implementation program rather than an all-at-once push for maximum liberalisation.

Six principles follow from the report's evidence base.

1. Put better connections for people and cargo at the centre, and judge policy by the quality and usability of the connectivity it produces.

2. Deepen openness where gains are most tangible, beginning with reforms that can unlock extra services quickly and visibly.
3. Tackle recurring bottlenecks first, especially licensing, slots, ground handling, key-staff restrictions, border coordination and secondary-airport readiness.
4. Use cargo as a fast-moving pathfinder, since cargo markets can often be liberalised more quickly and can generate early gains in trade, resilience and institutional learning.
5. Build a more diversified and resilient network by reducing dependence on a small number of hubs and corridors and by making alternative gateways and operating models more viable.
6. Use shared indicators, pilots and scorecards to distinguish between liberalisation on paper and liberalisation that changes actual connectivity.

In practical terms, this means a work program organised around passenger market access, cargo market access, secondary-city connectivity, ownership and competition, digital facilitation, and sustainability and regulatory capacity. It also means route- and corridor-specific pilots among willing economies, using shared templates and monitoring arrangements, rather than waiting for unanimous convergence across all 21 members.

Several pathfinder groupings emerge from the comparative analysis. These include Australia and New Zealand with ASEAN growth markets on secondary-city rights and seasonal access; the United States with Thailand and Viet Nam on cargo-first liberalisation and competition-sensitive implementation; Chile, Peru, Australia and the United States on Pacific tourism-cargo corridors; and China with Singapore, Malaysia, Thailand and Australia on selected high-value passenger and cargo corridors. Such groupings are attractive not because they erase regional diversity, but because they work with it.

Overall conclusion

The overall message of the Report is that the case for reform is established, but the form of reform now matters more than the slogan. The region does not mainly lack liberal ideas or legal templates; it lacks consistent implementation depth, commercially usable secondary-airport access, cargo-first pragmatism, competition-neutral operating conditions and resilience-aware network design. The long-term goal remains open skies as traditionally defined. The immediate target is to build connectivity that works — for passengers, for shippers, and for economies that need reliable air links to sustain trade, investment and growth.

A practical APEC agenda should therefore move from general endorsement to monitored application. Leaders can add value by endorsing a phased program, instructing Ministers and officials to focus on the most usable reforms first, and requiring a follow-up report to the next APEC Economic Leaders Meeting on barriers removed, pilots undertaken and measurable progress in connectivity, diversification and resilience. If pursued in that way, APEC processes can help members move from a fragmented set of bilateral arrangements toward a more coherent and more robust pathway of negotiated openness.

2. Literature Survey

Literature relevant to an APEC air transport connectivity agenda is reviewed in this part of the Report. Key findings include the following:

- Research has shifted from law and institutions to practical issues of market access, networks, competition and recovery.
- The key challenge is turning legal liberalisation into real, usable market access, not just agreeing that openness is good.
- The terms of bilateral agreements alone are not the only determinants of outcomes; studies separate legal rights, reform events, other constraints and conditions such as institutions, and actual connectivity.
- Liberalisation interacts with market size, hub structure, geography and strategy, producing different connectivity patterns.
- Liberalisation now proceeds via overlapping regional and inter-regional deals (e.g. ASEAN–EU, China–ASEAN), not one uniform regime.
- Incremental, bilateral decisions tend to reinforce existing hubs, increasing network concentration and creating challenges for resilience.
- Openness, reform activity and connectivity are linked but distinct, justifying attention to separate metrics for each.

Recent research on air transport liberalisation in the Asia-Pacific has moved from a legal and institutional focus to a more practical examination of market access, network effects, competition, and recovery after the pandemic. Earlier APEC-focussed studies described the region as a collection of bilateral agreements, with fragmented rights and ownership rules that made broad reform difficult, even when the economic benefits were clear. More recent work focuses on ASEAN, China–ASEAN, and specific bilateral or regional arrangements, showing that policy changes involve gradual and uneven steps rather than a movement to a new comprehensive agreement. In that context, APEC should be seen as a platform for the development of phased and targeted reforms, rather than offering the scope for an integrated market (Findlay, 1997; Elek et al., 1999; Zuan et al., 2021; Tan, 2025).

The literature consistently finds that the main policy challenge is not whether a more open regime is desirable, but whether changes to formal agreements lead to real changes in market access. Early APEC-related research showed that bilateral agreements and 'open club' proposals could reduce barriers gradually while allowing economies to keep control over sensitive areas like ownership and designation. Recent studies confirm that this tension remains: legal commitments may expand rights on paper, but actual openness depends on how agreements are put into practice and measured. As a result, many recent studies question whether bilateral agreements alone provide an accurate picture of liberalisation. This distinction is important for the later chapters, which separate legal openness, reform activity, and actual connectivity outcomes (Findlay, 1997; Elek et al., 1999; Heiets et al., 2022; Dobruszkes and Ramos-Pérez, 2025).

ASEAN serves as the most advanced empirical laboratory for this body of literature, and its experience is particularly relevant because it blends ambitious liberalisation rhetoric with ongoing implementation asymmetries. Recent evidence indicates that ASEAN Open Skies increased traffic volumes and promoted market expansion, but the impacts were uneven across cities and more pronounced in certain carrier segments than others. Newer studies on the ASEAN–EU Comprehensive Air Transport Agreement and the China–ASEAN Air Transport Agreement demonstrate that liberalisation increasingly takes place through overlapping regional and inter-regional arrangements instead of a single, uniform framework (Bilotkach et al., 2021; Zuan et al., 2021; Tan, 2023; Lee et al., 2024; Liu et al., 2025).

The literature also shows that regional aviation agreements should be judged not only by the rights they declare but also by the depth of institutions they establish. Studies of recent ASEAN and ASEAN-related arrangements demonstrate that soft-law language, hortatory commitments, and selective implementation clauses are key tools that allow economies to retain flexibility while signalling liberalising intentions. This results in agreements that may be politically easier to reach but more challenging to interpret regarding market impacts. For this study, that lesson is important because subsequent chapters differentiate between the frequency of policy changes and the actual depth of opening, rather than treating every reform event as having equal economic significance (Lykotrafiti, 2025; Zuan et al., 2023; Tan, 2025; Bin Mohamed Anuar et al., 2025).

Another significant strand of the literature concerns the relationship between market opening and network development. Liberalisation is generally associated with more route entry, higher passenger volumes and expanded trade in services, but these gains are filtered through market size, hub structure, geography and carrier strategy. Different regulatory regimes, facing broadly similar demand, can therefore produce quite different connectivity patterns: some foster denser multi-hub networks and more secondary-city links, while others continue to concentrate traffic in a few dominant gateways. In this sense, policy choices expand or narrow the range of network outcomes that are feasible, but they operate alongside powerful commercial and geographic constraints.

Structural work that models air services agreements as links in a global network explains why these constraints often push in the direction of concentration. McCalman and Rysman (2026) show that when economies decide on agreements one pair at a time, given the routes and hubs that already exist, they naturally favour arrangements that feed traffic into established gateways, because those hubs offer the clearest immediate gains and the most onward connections. Liberalisation thus enlarges the menu of possible links, but the incremental, hub-favouring way in which decisions are made tends to reproduce and deepen existing patterns rather than generate a fully diversified network. The result is a configuration that is politically and commercially stable for individual economies and carriers, yet more concentrated and less well connected than would be best for the system. This foreshadows a central theme of the later chapters: openness and connectivity are linked, but the pattern of connectivity that actually emerges reflects both the extra options created by reform and the tendency of decentralised decisions to reinforce incumbent hubs (de Oliveira et al., 2021; Warnock-Smith and Christidis, 2021; McCalman and Rysman, 2026; Dobruszkes and Ramos-Pérez, 2025).

Studies on competition show that liberalisation does not lead to the same outcomes everywhere. Research in ASEAN finds that low-cost and full-service carriers react differently to liberalised markets,

with effects depending on the route, business model, and demand. Recent studies add that full-service carriers may compete more actively with low-cost carriers, and airline business models are becoming more mixed. This means that new rights do not always bring new entrants or lower fares. Policy discussions need to consider how existing airlines respond, how strategies change, and how regulatory differences can limit the benefits of scale, even in large markets (Hanaoka et al., 2014; Avogadro et al., 2021; Magdalena and Bouzaima, 2021; Wang et al., 2025a).

The Asia-Pacific low-cost carrier literature further clarifies the implementation challenge. Recent systematic reviews argue that the region's low-cost sector has created broad welfare benefits through tourism growth, improved accessibility, and regional development, yet these gains are still limited by fragmented regulatory environments and uneven external conditions. A particularly important recent argument is that Asia-Pacific has not produced the large low-cost carriers seen elsewhere despite the size of its underlying market, mainly because regulatory convergence, airport access, and liberalisation remain incomplete. For an APEC-focused survey, this is a crucial finding. It suggests that scale alone is insufficient, and even demand-rich environments may underperform when rights, slots, infrastructure, and competitive neutrality are not properly aligned. Later chapters in this Report on market heterogeneity and operational implementation directly build on this literature-driven distinction between potential scale and practical openness (Wang et al., 2024; Wang et al., 2025a; Wang et al., 2025b).

Research on air cargo shows the need for a targeted liberalisation approach. Earlier APEC-related studies found that more open cargo regimes are linked to stronger trade, especially for time-sensitive and high-value goods, making cargo an important area for analysis. Recent studies add that the benefits of air service agreements in cargo are not shared equally across all actors and routes, and that cargo markets may react differently to shocks and regulatory changes than passenger markets. This supports the proposal to treat cargo as a separate policy area, not just part of general market opening. Later chapters reflect this by focusing on cargo-first sequencing (Geloso Grosso and Shepherd, 2009; Wu, Lange, and Mantin, 2022; Liu et al., 2025).

Another area of the literature focuses on the role of airports and geography in liberalisation. Studies show that the benefits of openness depend on whether airports beyond the main gateways can support international flights. Liberalisation can help local economies near airports, but this depends on infrastructure, business models, and demand for city-pair routes. This is important for the following chapters, which treat access to secondary airports as a key issue. The literature suggests that the next step for Asia-Pacific integration is to make secondary and regional airports viable parts of international networks, not just focus on main city connections (Laplace and Roucolle, 2016; de Oliveira et al., 2021; Wang et al., 2024; Wang et al., 2025b).

Ownership, control, and investment are the least liberalised areas in the literature, which makes them especially important. Recent studies on foreign investment in ASEAN airlines show that liberalising traffic rights has moved faster than ownership reform, so integration is still incomplete even when route access improves. The wider literature finds that economies often use flexible language and partial commitments when dealing with ownership issues. This does not mean ownership is unimportant, but it is more politically difficult to change than market or airport access. This explains why later chapters treat ownership and control as the most persistent barriers, while

focusing first on reforms that are more practical to achieve (Christiawan, 2024; Tan, 2023; Lykotrafiti, 2025; Tan, 2025).

Northeast Asia provides a different view from the ASEAN-focused literature, showing that commercial integration can happen alongside selective liberalisation. Earlier studies on the China–United States market and Northeast Asian routes found that bilateral agreements can change traffic patterns without creating a fully open market. Recent research on South Korea and China shows that airline behaviour, passenger choices, and policy are closely linked during recovery. This means that economies should be grouped not just by formal openness, but also by how their markets operate strategically. The literature suggests that large Northeast Asian markets are best seen as selective liberalisers with strong potential for secondary cities, rather than as simply open or closed (Lei et al., 2016; Kim and Sohn, 2022; Liao et al., 2022; Zuan et al., 2023).

The post-2020 literature offers a warning: liberalisation must now be viewed through the lens of uneven recovery. Recovery studies based on China, South Korea, and global markets show that shocks like COVID-19 do not impact passenger demand, airline strategies, and policy responses uniformly. They also demonstrate that the speed and nature of the rebound depend on domestic market structure, policy intervention, and business-model flexibility. For an APEC literature review, this is important because any modern assessment of connectivity or openness risks conflating long-term liberalisation effects with short-term recovery dynamics. The later quantitative chapters are built around this distinction, and the literature supports that approach. A region can experience significant traffic recovery without a corresponding regulatory opening, just as policy changes can occur without an immediate traffic response when broader conditions remain unstable (Czerny et al., 2021; Gudmundsson et al., 2021; Kim and Sohn, 2022; Liao et al., 2022).

Methodologically, the literature is diverse rather than unified. Some studies infer liberalisation from treaty clauses and bilateral indices; others use passenger flows, route entry, cargo outcomes, expert interviews, or observed competitive behaviour. This mix of approaches highlights different aspects of the same problem, but it also makes direct comparison difficult. A route-level analysis can reveal how airlines actually behave on specific city pairs in response to reforms, even when those effects are not obvious from reading the legal text of agreements, whereas an index built from treaty provisions can show what economies intended to liberalise, even before those intentions are reflected in observed traffic and capacity data. Taken together, these findings imply that changing the rules is only the first step: whether liberalisation “shows up” in the network depends on when and where reform happens, and on whether airports, carriers and regulators are ready to use the new rights. This is why sequencing matters—targeting early reforms at areas where uptake is most likely (such as cargo, secondary-city access, airport usability and competition-sensitive implementation) is more effective than announcing a single, broad package that markets cannot yet fully absorb. The subsequent chapters follow this logic by combining policy assessments based on both treaty conditions and domestic policy settings with connectivity evidence rather than relying on a single metric. (Heiets et al., 2022; Bilotkach et al., 2021; Dobruszkes and Ramos-Pérez, 2025; Lee et al., 2024; Wang et al., 2025b).

A major gap remains in the literature. While there has been progress since 2019, most research still focuses on ASEAN, China–ASEAN, and some bilateral cases, rather than on the whole region. There is no comprehensive body of work that links APEC-wide liberalisation to differences in connectivity,

regulation, and reform across economies. This gap is the reason for the following chapters. The literature review sets out the main issues: fragmented but changing market access, the importance of cargo, uneven low-cost carrier growth, restrictive ownership, and the growing role of secondary airports and implementation. However, it does not provide a full APEC-wide analysis. The next chapters address this by using recent APEC economy data and policy analysis to build a comparative framework.

3. APEC Air Transport Policy Development and Connectivity

The evolution of policy with respect to the delivery of air transport services for the last 3 decades or so, as well as work in APEC concerning that sector, are reviewed in this part of the Report. It begins with a review of an earlier Study prepared for APEC with a similar purpose to this one. It also considers several multi-member agreements on air transport, and it includes new data and analysis summarizing developments in connectivity over this period.

The Auckland Declaration of 1999 and Beyond

APEC leaders at their Summit in Auckland, New Zealand in 1999 endorsed Eight Options for More Competitive Air Services (APEC, 2003).¹ A 2007 APEC study on air services liberalization (APEC TPTWG 2007 – hereafter ‘the 2007 Study’) assessed how far APEC’s 21 member economies advanced towards the Eight Options in the period of 1995 up to 2005, using a combination of performance indicators (GDP, capacity, frequencies, city pairs, traffic volumes, inbound/outbound travel, airport infrastructure) and a regulatory review of 310 bilateral air services agreements. The period is characterised by strong underlying growth but also by major shocks—Asian financial crisis, 9/11, Iraq and SARS—that both distorted traffic trends and diverted policy attention.

Despite this volatile environment, air traffic across the APEC region expanded strongly in the period and ahead of global trends. Scheduled traffic in tonne-kilometres grew by around 5 per cent a year for passengers and 5.5 per cent for cargo — outpacing the region's economic growth of roughly 4.1 per cent annually, which itself exceeded the world average of about 3.6 per cent and gathered pace in the second half of the period as China, the Russian Federation and other emerging economies expanded. With traffic running ahead of output, and output ahead of the global rate, the region's air markets grew well above world rates, underlining air transport's strong income elasticity. This expansion was broad-based: the number of intra-APEC bilateral agreements rose, average weekly seats, frequencies and city pairs served all increased — especially between and through the major hub airports — and inbound and outbound travel grew faster than global benchmarks. This was helped by network expansion and substantial investment in primary airport infrastructure, particularly in Asia between 2000 and 2005.

This performance, however, occurred in the context of largely partial and uneven liberalization, even though the number of agreements was increasing. The 2007 Study characterized the situation for passengers as follows (Table 10, p. 86), referring to the freedoms of the air (see Box 3.1):

- Over half (55%) of agreements allowed open third- and fourth-freedom *capacity for passengers*, but just over a quarter (27%) did so explicitly for *freight* — so even the most basic capacity freedoms were markedly less liberal for cargo than for passengers;
- Open fifth-freedom access was confined to a small minority of agreements and was nearly identical for passengers and freight — 27.4% for passengers and 26.0% for freight — with most economies still limiting fifth-freedom access for both;

¹ The Eight Options for More Competitive Air Services with Fair and Equitable Opportunity were (1) airline ownership and control; (2) tariffs; (3) ways of doing business; (4) air freight; (5) airline designation; (6) charter services; (7) airlines’ cooperative arrangements; and (8) market access.

- More expansive rights were almost entirely absent, and where they existed they favoured freight: seventh-freedom rights appeared in just 2.4% of agreements for passengers but 11.3% for freight, while cabotage existed in only 2 agreements.

In addition, less than 20 per cent of intra-APEC air services agreements had open route schedules² for passenger services by 2005. Traditional substantial-ownership and effective-control provisions remained in place in most agreements, and only limited headway was made on tariff filing procedures relative to APEC targets.³

The 2007 Study also documents the extent to which agreements were renegotiated over the study period (see also the discussion of MALIAT below). That renegotiation advanced unevenly across the freedoms and between passengers and freight. Liberalisation of third- and fourth-freedom traffic rights progressed further for passenger services than for freight: negotiating effort and political attention were concentrated on expanding passenger capacity to support tourism, business travel and headline connectivity, while cargo provisions in many agreements remained closer to their earlier, more restrictive formulations, with airfreight "subject to restrictions in the majority of agreements". At the fifth freedom — where foreign airlines may carry traffic onward beyond the bilateral route — passenger and freight services met the same political resistance, reflecting concerns about eroding hubs and home carriers; open fifth-freedom access was confined to a small and almost identical minority of agreements in each case (27.4% for passengers and 26.0% for freight).

Beyond the fifth freedom, however, the pattern reverses. Whereas the basic third- and fourth-freedom treatment of passengers had become more liberal than that of cargo, the more expansive seventh-freedom rights were conceded far more readily for freight than for passengers — appearing in 11.3% of agreements for freight but only 2.4% for passengers. The asymmetry is instructive: some economies most reluctant to grant deep rights to foreign passenger carriers were considerably more willing to do so for all-cargo services. Why does this occur? One explanation is that the seventh freedom's political cost is almost entirely a *passenger*-market cost — it lets foreign carriers compete for local passenger traffic and feed rival hubs — whereas for all-cargo services that threat is largely absent: freight is business-to-business, has no consumer or flag-carrier constituency, and follows trade-logistics demand that beyond-rights actively serve. Governments therefore concede deep freedoms for freight while withholding them for passengers. If so, this suggests that all-cargo seventh freedoms are the most tractable liberalisation frontier.

² Instead of listing specific points (e.g. "Tokyo–Sydney–Melbourne") and limiting services to those, the schedule is open: airlines can choose any routes within the agreed territories, subject only to general conditions in the agreement (traffic rights, freedoms, safety, etc.).

³ "Tariff filing arrangements" are the rules in the agreement governing whether, and how, an airline must lodge (file) its proposed fares with the two governments, and whether those fares need official approval before they can take effect. This is a form of price regulation embedded in the bilateral, and it's one of the dimensions the 2007 Study tracks as a measure of restrictiveness.

Box 3.1: Freedoms of the Air

The *freedoms of the air* are nine standard categories of traffic rights that one economy may grant to airlines from another economy. These rights are usually negotiated through bilateral air services agreements and determine what foreign airlines are allowed to do in a partner economy's airspace and airports.

First freedom — The right to fly over another economy without landing.

Second freedom — The right to land in another economy for technical or non-traffic purposes (for example, refuelling or maintenance).

Third freedom — The right for an airline to carry passengers or cargo from its home economy to another economy.

Fourth freedom — The right to carry passengers or cargo from another economy back to the airline's home economy.

Fifth freedom — The right to carry traffic between a second and a third economy on a service that begins or ends in the airline's home economy ("beyond rights").

Sixth freedom — The right to carry traffic between two foreign economies by routing the service through the airline's home economy (a combination of third and fourth freedoms).

Seventh freedom — The right to operate stand-alone services between two foreign economies without the flight touching the airline's home economy.

Eighth freedom (consecutive cabotage) — The right to carry domestic traffic between two points within a foreign economy as part of an international service that starts or ends in the airline's home economy.

Ninth freedom (stand-alone cabotage) — The right to operate purely domestic services within a foreign economy.

The 2007 Study's treatment of traffic rights deliberately focuses on the freedoms that are negotiated — third, fourth and fifth for passengers, and broader cargo and seventh-freedom rights. The sixth freedom is treated differently, and intentionally so. It is not a separately exchanged traffic right but a commercial outcome: the combination of two third/fourth-freedom segments routed through a carrier's own home hub, so that an airline carries traffic between two foreign markets via its base. It therefore appears in this agenda not as a clause to be granted but as a structural feature of how the regional network has evolved.

Sixth-freedom hubbing is the engine behind the concentration of regional traffic through a small number of gateways. The 2007 Study analysed a region-wide set of hub airports and found growth concentrated through the major Asian gateways — Hong Kong, Singapore, Bangkok, Kuala Lumpur, Chinese Taipei and the fast-rising Beijing — with Hong Kong, China and Incheon standing out partly because of major new-airport investments in the period. Built on liberal third- and fourth-freedom access, these gateways operated as powerful sixth-freedom connecting points. The same mechanism has since been carried furthest by the Gulf carriers, whose hubs at Dubai, Doha and Abu Dhabi were built explicitly around sixth-freedom connecting traffic and now intermediate a large share of Europe–Asia-Pacific flows. The 2007 Study treated continued hub development and deeper fifth-

freedom liberalisation as complementary: dense hubs create the commercial case for fifth-freedom beyond-routes for the non-hub points, while those rights in turn enlarge and strengthen the hubs.

Some important “soft” elements of liberalisation spread widely and underpinned a significant portion of the observed growth in the study period of the 2007 Study. Multiple airline designation became broadly accepted, codesharing and other cooperative arrangements were routinely included in agreements⁴, and restrictions on airlines’ ability to “do business” (opening offices, stationing staff, selling tickets, repatriating funds) were gradually eased. Together with increased third- and fourth-freedom capacity, these measures supported expansion in seats, frequencies, city pairs and carriers at key APEC airports, particularly where new demand from China and other high-growth markets could be tapped. The 2007 Study also finds that liberalisation outcomes broadly correlate with GDP—larger, more developed economies tended to show more advanced reforms and higher capacity, while smaller or less developed members liberalised more cautiously.

The 2007 Study underscores a series of structural impediments that threaten to slow or redirect further liberalisation. On the industry side, tightening airport capacity, shortages of skilled personnel, high and volatile fuel prices, and ongoing restructuring and consolidation all constrain network development and influence carrier strategies. Advances in aircraft technology create new route possibilities but also intensify competition, altering the cost–benefit calculus of liberalisation for individual economies and airlines. On the policy side, concerns about control and reciprocity underpinned widespread reluctance to relax ownership rules, and many governments continued to protect designated carriers and enforce competition policies that inhibit cross-border mergers or deeper alliances.

APEC carriers could be disadvantaged if their governments maintain tight fifth- and seventh-freedom restrictions and conservative ownership rules while regions such as the European Union pursue horizontal agreements and allow carriers to establish multiple bases across a large internal market. Under such a scenario, EU airlines could operate into the APEC region from various European hubs with greater flexibility, while many APEC carriers would remain tied to single-hub networks and limited access to foreign capital. This asymmetry risked eroding the competitive position of APEC airlines over time, particularly on long-haul markets.

In response, the study advocates a pragmatic, differentiated strategy rather than a uniform push for full open skies, setting out five priorities for the future development of APEC's programme. The first was to adopt a two-tier approach: more ambitious liberalisation targets for the advanced, developed economies and more incremental steps for less developed economies at an earlier stage of market development. The remaining priorities were substantive. They included a renewed focus on ownership and control reform; greater relaxation of fifth-freedom constraints; and accelerated liberalisation of airfreight, including unlimited access for all-cargo operations as already provided under MALIAT.

⁴ A code-share arrangement lets one airline sell seats under its own flight number (code) on a flight actually operated by another airline, allowing carriers to offer connections and destinations beyond their own networks without flying the routes themselves. It is thus a tractable, already-accepted form of liberalisation and a partial substitute for harder reforms, delivering much of the effect of fifth-freedom rights or foreign ownership without either. The qualification is that it can soften competition where partners would otherwise compete directly, so the aim is to facilitate it while guarding against that risk.

The fifth priority referred to the maintenance of incremental progress on the other elements of the Eight Options—third/fourth-freedom capacity, double-disapproval tariffs, unrestricted doing-business activities, expanded codesharing and more liberal charters—on the logic that wins on these more tractable items would build pressure toward the harder reforms of fifth/seventh-freedom access and ownership. In practice, that pressure never materialised, and the Eight Options framework itself lapsed. Transport Ministers conceded in 2009 that progress had "been challenging" and by 2013 were deferring to MALIAT and ICAO rather than APEC's own mechanisms. The agenda then migrated to the Connectivity Blueprint 2015–2025, recast as a question of routes and hub efficiency rather than regulatory liberalisation, and by the 2023 Transportation Ministerial aviation work had turned to supply-chain resilience and decarbonisation.

Multilateral Agreement on the Liberalization of International Air Transportation of 2001

The Multilateral Agreement on the Liberalization of International Air Transportation (MALIAT) remains a relatively small but conceptually important experiment in open, plurilateral air services liberalisation. Negotiated in Kona, Hawaii in late 2000 by the United States, New Zealand, Singapore, Brunei Darussalam and Chile, it was signed in 2001, entered into force in December 2001, and was designed to replace their bilaterals with a single, liberal framework that was open to accession by other states. Subsequent accessions were limited to the Cook Islands, Tonga and Mongolia (the latter on a cargo-only basis), and while Samoa joined in 2002 it withdrew in 2019. Overall, membership has plateaued at a handful of mostly small or medium-sized economies, and no additional major Asian or European carrier states beyond the original group have come in.

In regulatory terms, MALIAT remains one of the most liberal model agreements in force. It features an open route schedule, open capacity, broad traffic rights including seventh-freedom cargo services, multiple designation, extensive third-economy code-sharing and a very light tariff-filing regime, and it replaces traditional ownership tests with an emphasis on effective control and principal place of business, while still guarding against pure "flags of convenience". These provisions align it closely with a pure open-skies template and go beyond many bilateral open-skies agreements in their explicit treatment of seventh-freedom cargo and ownership/control.

Developments over the past two decades have, however, highlighted MALIAT's limitations as a scalable multilateral model. On paper it offered a pathway for a wider group of like-minded economies—particularly in APEC—to multilateralise open-skies disciplines, but in practice most states have continued to prefer bilateral open-skies agreements tailored to specific market and political relationships. The United States, for example, has built a network of more than one hundred open-skies partners without using MALIAT as the primary vehicle, and regional blocs such as the EU and ASEAN have instead developed their own internal and external aviation frameworks, culminating in instruments such as the ASEAN–EU Comprehensive Air Transport Agreement.

As a result, MALIAT has remained a niche arrangement among a small circle of liberal economies rather than the nucleus of a wider multilateral regime. Recent years have seen no major new accessions, but its provisions continue to apply in the relationships between its members and are often referenced in policy debate as a benchmark for what a "gold-standard" multilateral agreement might look like. For small island and open economies such as New Zealand, the Cook Islands and Tonga, MALIAT remains a practical tool that locks in liberal access and investment rules with key partners in a single instrument. In the broader architecture of air transport governance, its

experience tends to reinforce a familiar lesson from the literature: deep multilateral commitments in aviation are hard to scale beyond coalitions of the willing, and most liberalisation since 2000 has continued to occur through dense bilateral networks and region-specific frameworks rather than through global or near-global multilateral accords.

Region-wide agreements

Several other major developments occurred across this time –the evolution of the ASEAN SAM and the agreement between ASEAN and China, the EU and New Zealand. They are outlined here, but first, there is a review of the development of the Australia-NZ Single Aviation Market.

The **Australia–New Zealand Single Aviation Market (SAM)** is a set of bilateral arrangements, from 1992, that provides an unusually liberal framework for trans-Tasman air services. For passenger operations, designated Australian and New Zealand airlines enjoy fully liberalised third- and fourth-freedom rights, allowing services between any points in the two economies without restrictions on capacity, frequency or routing, subject only to standard safety, security and competition law requirements. Neither state grants legal cabotage, and foreign carriers cannot operate wholly domestic services within the other’s territory. However, the combination of open trans-Tasman rights, flexible designation rules and cross-border airline structures means that carriers can plan networks, allocate fleets and market services across both jurisdictions in ways that approximate the commercial effects of a single market.

The SAM framework also incorporates extensive higher-order traffic rights. Under the open-skies arrangements agreed in 2000 and formalised in 2002⁵, Australian and New Zealand international airlines may operate trans-Tasman services and continue onward to third economies with fifth-freedom traffic rights on each sector. This enables, for example, New Zealand carriers to operate New Zealand–Australia–third economy routes while carrying traffic both across the Tasman and on the onward leg, with reciprocal rights for Australian carriers. Cargo operations are even more liberal: the regime provides seventh-freedom all-cargo rights, allowing designated airlines to operate freight services between the partner economy and a third without the service originating or terminating in the airline’s home. These provisions go significantly beyond the scope of conventional bilateral air services agreements.

The **ASEAN Single Aviation Market (ASAM)**, also known as the ASEAN Open Skies policy, is the core regional project to liberalise air transport among ASEAN members and support the broader ASEAN Economic Community. The process has been driven by successive ASEAN transport plans and the 2004 Roadmap for Integration of the Air Travel Sector, including the Kuala Lumpur Transport Strategic Plan (KLTPSP) 2016-2025, and is now being carried forward into the ASEAN Transport Sectoral Plan 2026–2030, which links liberalisation explicitly to competitiveness, safety, security and more efficient air traffic management.

The ASEAN Single Aviation Market rests on three multilateral agreements — the 2009 air-freight agreement (MAFLAFS), the 2009 passenger agreement covering capital cities (MAAS), and the 2010 agreement extending passenger access to all ASEAN points (MAFLPAS), bringing secondary cities which have international airports into scope. Each agreement liberalises rights through a sequence of

⁵ The text of the 2002 agreement is at <https://www.treaties.mfat.govt.nz/search/details/t/3364/>

protocols⁶ that members ratify individually, with a protocol taking effect once three members accept it and binding only those that do.

In practice, ASEAN air transport agreements complement existing bilateral arrangements, which continue to remain in force. For example, under Article 18 of the Multilateral Agreement on the Full Liberalisation of Passenger Air Services (MAFLPAS), where there is any inconsistency between the multilateral agreement and an existing bilateral agreement in respect of traffic rights, the more liberal or less restrictive provision shall apply. Bilaterals continue to govern rights the agreements do not cover, including seventh-freedom services and routes to non-ASEAN economies, and carriers operate under whichever instrument grants the right they need.⁷

By 2025 all ten members had ratified all the protocols of the three agreements; what limits coverage today is not missing ratifications but the point-specific reservations attached to ratification. That is, the implementation of the agreements varies across Member States and routes. The design itself also stops at the fifth freedom, with no seventh-freedom rights and no cabotage. The binding constraints today are therefore the absent freedoms in the text, and the economy reservations layered onto it.

Recent statements by ASEAN officials⁸ suggest that recent shocks, including the pandemic, are now being treated as a spur to accelerate outstanding ASAM reforms, particularly in further liberalising air cargo, harmonising regulations and completing ratification and implementation of existing agreements. ASEAN has explored concepts such as ASEAN Community Carriers, although this has not yet been formally adopted at the regional level. More recent external agreements have introduced greater flexibility by accommodating principal place of business as an alternative designation criterion. This evolution suggests a growing openness within ASEAN towards more liberal ownership and control arrangements.

Overall, the trajectory is one of substantial but incomplete regional liberalisation: intra-ASEAN skies are far more open than in the 1990s, yet remaining constraints mean that ASAM falls short of the EU-style fully integrated internal market to which it is often compared.

The **ASEAN–China Air Transport Agreement (AC-ATA)**⁹, signed in 2010 together with Protocols 1–3 (passengers (third and fourth freedoms), cargo and fifth freedoms respectively) between 2010 and 2011, forms the core framework governing air services between China and the ten ASEAN member states. It is China’s earliest and most liberal region-wide air services agreement. The framework progressively removes restrictions on market access, allowing designated airlines to operate based

⁶ The protocols are the implementing instruments attached to each framework agreement: the agreement sets the general terms, while each protocol switches on one specific traffic right (a particular freedom over a particular geographic scope) and takes effect only for the members that separately ratify it.

⁷ The status of ratification is available at https://asean.org/wp-content/uploads/2026/05/Ratification-Status-of-ASEAN-Air-Transport-Agreements_May2026.pdf

⁸ ‘ASEAN sees geopolitical uncertainties as opportunity to accelerate aviation reforms’, available at <https://bernama.com/en/news.php/news.php?id=2556341>

⁹ See ASEAN–China Aviation Cooperation Framework (background and mandate for the ASEAN–China Regional Air Services Agreement): [ASEAN–China Aviation Cooperation Framework (PDF), available at https://www.asean.org/wp-content/uploads/images/2012/Economic/ATM/other_doc/ASEAN-China%20Aviation%20Cooperation%20Framework.pdf].

on market demand as Protocols are ratified, including liberalised capacity, frequency and carrier designation on routes listed in the Agreement's Annexes.

Substantively, AC-ATA provides for unlimited third- and fourth-freedom traffic rights on specified routes for parties that have ratified Protocol 1 and introduces limited fifth-freedom opportunities under Protocol 3. The implementation of the Agreement has continued to progress steadily. Protocols 1 and 2 are now in force among all ASEAN Members and China, while Protocol 3 has also achieved a high level of participation (8 ASEAN Members + China). Implementation has supported a substantial expansion of China–ASEAN connectivity during the 2010s, with strong growth in direct routes and frequencies prior to the pandemic. However, since ASEAN member states have ratified Protocols 1–3 at different times and apply them with varying degrees of regulatory openness, there is a patchwork of market access conditions shaped not only by staggered ratification but also by persistent operational impediments such as slot scarcity at congested airports, administrative approval requirements, infrastructure limitations in CLM states, and the incomplete implementation of ASEAN's own Single Aviation Market. Together, these factors mean that the Agreement's liberalised rights are not experienced uniformly across the ASEAN–China market.

Politically, both sides frame AC-ATA as a key connectivity instrument within the ASEAN–China Comprehensive Strategic Partnership and as complementary to the ASEAN–China Free Trade Area and wider regional cooperation. Recent ASEAN–China Transport Ministers' meetings have reaffirmed the significance of the Agreement and its Protocols, noted ongoing work on implementation and progressive liberalisation, and encouraged exploration of additional protocols to expand market access and improve connectivity. The Strategic Plan for ASEAN–China Transport Cooperation 2026–2035 situates aviation liberalisation within broader goals of an integrated, sustainable and resilient transport partnership, aligned with the ASEAN Transport Sectoral Plan 2026–2030.

The **ASEAN–EU Comprehensive Air Transport Agreement** of 2022¹⁰ should be understood not simply as another market-opening instrument, but as a shift in the scale and logic of aviation governance between the two regions. Rather than relying on a fragmented set of more than 140 bilateral air services agreements, the agreement creates a single bloc-to-bloc framework covering all EU and ASEAN member states. That matters because it standardises the legal basis for market access, reduces the transaction costs associated with differing bilateral texts, and gives airlines a clearer and more predictable framework for planning routes, capacity and partnerships across the Europe–Southeast Asia corridor.

At the commercial level, the agreement significantly expands the space within which airlines can operate. It allows all EU airlines to fly from any point in the Union to any point in ASEAN, and vice versa for ASEAN carriers into the EU, with unlimited third- and fourth-freedom rights — no limit on frequency or capacity — and unlimited all-cargo services, including fifth-freedom cargo rights. Passenger fifth-freedom rights, by contrast, are limited: each EU or ASEAN member may operate up to 14 weekly fifth-freedom passenger services (seven from entry into force and a further seven after

¹⁰ ASEAN–EU joint press release on the signing (Bali, 17 October 2022): [ASEAN and the EU sign the world's first bloc-to-bloc Air Transport Agreement], available at https://www.eeas.europa.eu/delegations/association-southeast-asian-nations-asean/asean-and-eu-sign-world%E2%80%99s-first-bloc-bloc-air-transport-agreement_en. The treaty is available at <https://asean.org/wp-content/uploads/2024/10/AE-CATA-full-79-pages-web.pdf>

two years, only on routes not already served by a carrier of the other bloc), routed via or beyond the partner region. Cabotage is excluded.

The agreement lets EU and ASEAN airlines build the connecting networks Gulf carriers have used to dominate Asia–Europe travel. Unlimited third- and fourth-freedom flights let a carrier feed its hub with direct services from cities across both regions, while fifth-freedom rights let it extend a service with a revenue-earning onward leg — Singapore Airlines flying Singapore–Frankfurt–Madrid and selling the Frankfurt–Madrid sector, or a European carrier doing the equivalent beyond an ASEAN gateway. That onward traffic fills the aircraft beyond the first stop and makes one-stop services viable on routes too thin for a nonstop, helping EU and ASEAN carriers win back passengers who would otherwise connect over Dubai or Doha. The gain is bounded: fifth-freedom frequencies are capped, and the agreement bars cabotage, so carriers cannot fly purely internal segments within a single economy of the other region.

The significance of the agreement also lies in its regulatory content. It reflects the model of a newer generation of air transport agreements in which traffic rights are combined with disciplines on fair competition, subsidies, labour and social standards, consumer issues and environmental cooperation. In this sense, the agreement serves not only to liberalise market access but also to project a particular regulatory approach to aviation governance. For the European Union, this is consistent with a broader strategy of embedding competition and sustainability norms in its external agreements; for ASEAN, it reinforces the region’s gradual move from a purely bilateral aviation order toward a more coordinated external air transport policy linked to the development of the ASEAN Single Aviation Market.

The **ASEAN–New Zealand Air Services Agreement (ANZ-ASA)**¹¹ establishes a region-to-state air services framework intended to consolidate and modernise the regulatory basis for air transport between New Zealand and the ten ASEAN member states. Negotiations were concluded at working level in Siem Reap in September 2023, and the agreement was signed on 28 October 2025 in Kuala Lumpur. The instrument provides a single legal structure to replace, over time and subject to domestic processes, the ten bilateral air services agreements previously in force between New Zealand and individual ASEAN members.

Substantively, ANZ-ASA provides for liberalised third- and fourth-freedom traffic rights for designated airlines of ASEAN member states and New Zealand, removing capacity, frequency and carrier-designation limits for direct passenger and cargo services between the parties’ designated points. The agreement also incorporates a phased schedule of fifth-freedom entitlements: eligible airlines may operate up to seven weekly fifth-freedom services between ASEAN and New Zealand during the first year after entry into force, increasing to 14 weekly services thereafter, in addition to any rights available under existing bilaterals. Beyond traffic rights, the agreement includes standard “doing-business” provisions common to modern ASAs, including rules on airline designation and authorisation, fair and equal opportunity to compete, tariff filing or notification requirements, safety

¹¹ Joint statement on the signing of the ASEAN–New Zealand Air Services Agreement and Protocol 1 (with key provisions): [Joint Statement on the signing of the ASEAN–New Zealand Air Services Agreement] available at https://asean.org/wp-content/uploads/2025/11/Joint-Statement-ASEAN-New-Zealand-ASA-Signing-final_rev.pdf. The treaty document is available at <https://www.treaties.mfat.govt.nz/search/details/p/315/760>.

and security provisions, cooperative arrangements (such as code-sharing), and clauses on commercial presence, ground handling, and user charges.

Implementation will depend on the extent to which individual ASEAN member states complete ratification and align their domestic administrative practices with the agreement's obligations. As with other ASEAN external air transport instruments, the legal rights created by ANZ-ASA will take effect unevenly across the region until all parties have completed their internal procedures, and practical market access may continue to be shaped by airport-level constraints, slot availability, and economy-level regulatory processes. Over time, however, the agreement is intended to function as the primary legal basis for air services between ASEAN and New Zealand, simplifying the regulatory landscape and reducing reliance on the existing network of bilateral agreements.

Connectivity trends

To examine the longer-term trends in connectivity, and the impact of COVID-19, a new data set has been compiled for this Report of 51 economies, including APEC members identified in the dataset, from 2005 to 2023. For APEC members, the data set includes passenger numbers, and freight volumes in million ton-kilometres, along with normalized indices for each series. The overall aviation connectivity index is calculated as the average of the departures, passenger, and freight indices, providing a summary measure of aviation activity. Chinese Taipei is included as an APEC member but lacks usable data in the merged panel, so most quantitative summaries in this file are based on 20 economies.

Before the pandemic, the APEC region experienced significant growth in air transport. Between 2005 and 2019, passenger traffic more than doubled, departures increased by about half, and freight grew by just over two-fifths (see Figure 3.1) The connectivity composite rose by 43.4 percent during the same period. This sustained expansion is important for policy analysis, as it shows that policy changes in air transport in APEC have taken place in a context of rising demand and greater integration.

APEC air transport expanded strongly before 2020 and had not fully recovered by 2023

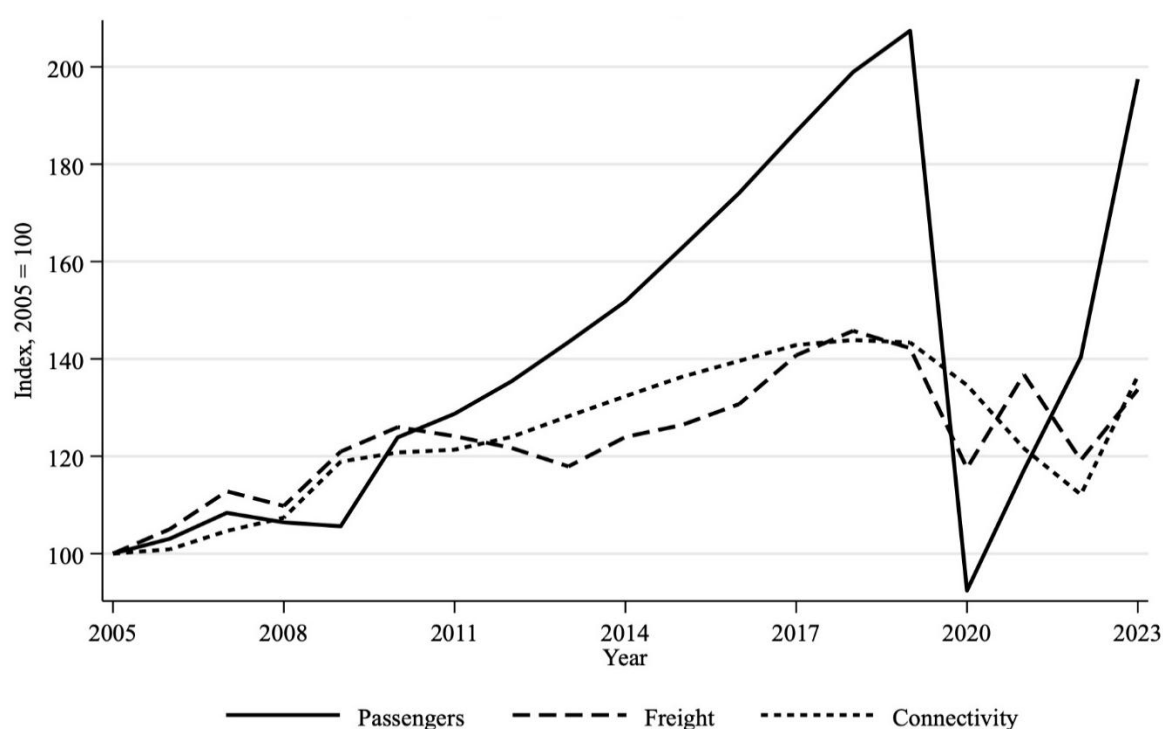


Figure 3.1. APEC air transport expanded strongly before 2020 and had not fully recovered by 2023

Source: APEC_STRI_connectivity_merged.xlsx, connectivity panel-policy data sheet; author's calculations.

That trajectory was abruptly interrupted by the COVID-19 pandemic in 2020.¹² Border closures, quarantine rules and public-health restrictions caused an unprecedented collapse in passenger demand, grounded fleets across the region and brought tourism flows to a standstill in many economies. In these circumstances, the usual indicators—traffic volumes, city pairs, frequencies and load factors—were no longer driven primarily by regulatory openness or market demand, but by the severity and duration of emergency restrictions.

The 2020 downturn highlighted that the components of connectivity responded differently under stress. Passenger traffic experienced the larger decline, departures also decreased significantly, while freight remained comparatively resilient. This divergence indicates that cargo liberalisation should be considered as a distinct area within the APEC agenda, rather than as an extension of passenger policy. During periods of disruption, cargo networks can continue to play a critical commercial and strategic role, even when passenger networks are significantly reduced.

By 2023, the region had clearly entered recovery, but not into a uniform post-pandemic equilibrium. At the aggregate APEC level, passenger traffic was still 4.8 percent below 2019, and freight remained 6.0 percent less. The composite connectivity indicator also remained below its pre-pandemic peak. This incomplete rebound is useful analytically because it shows that the region is not yet operating from a single stable baseline. Some markets have already returned to tight capacity and resumed growth, while others continue to rebuild demand, route structures or airport throughput. Therefore, it is important to avoid designing liberalisation as if every APEC member faced the same problem

¹² More detail on the COVID-19 impact is available in ADB (2023).

simultaneously. The appropriate sequencing is likely to differ between economies that are already returning to or exceeding 2019 volumes and those where recovery remains partial or structurally uneven.

The 2023 cross-economy recovery ranking is a notable finding in the latest data. Passenger volumes in Mexico, Singapore, Indonesia, Viet Nam, and the United States all exceeded their 2019 levels, by 12.6 percent, 10.3 percent, 6.3 percent, 3.5 percent, and 1.6 percent, respectively (Figure 3.2). Chile returned to its pre-pandemic level. These economies represent a range of market types, including large continental systems, hub economies, and smaller but commercially responsive markets. Despite these differences, each had regained or surpassed pre-pandemic air travel volumes by 2023. This indicates that in these economies, further market opening is likely to result in increased network use, as demand has already demonstrated its capacity to support higher service levels.

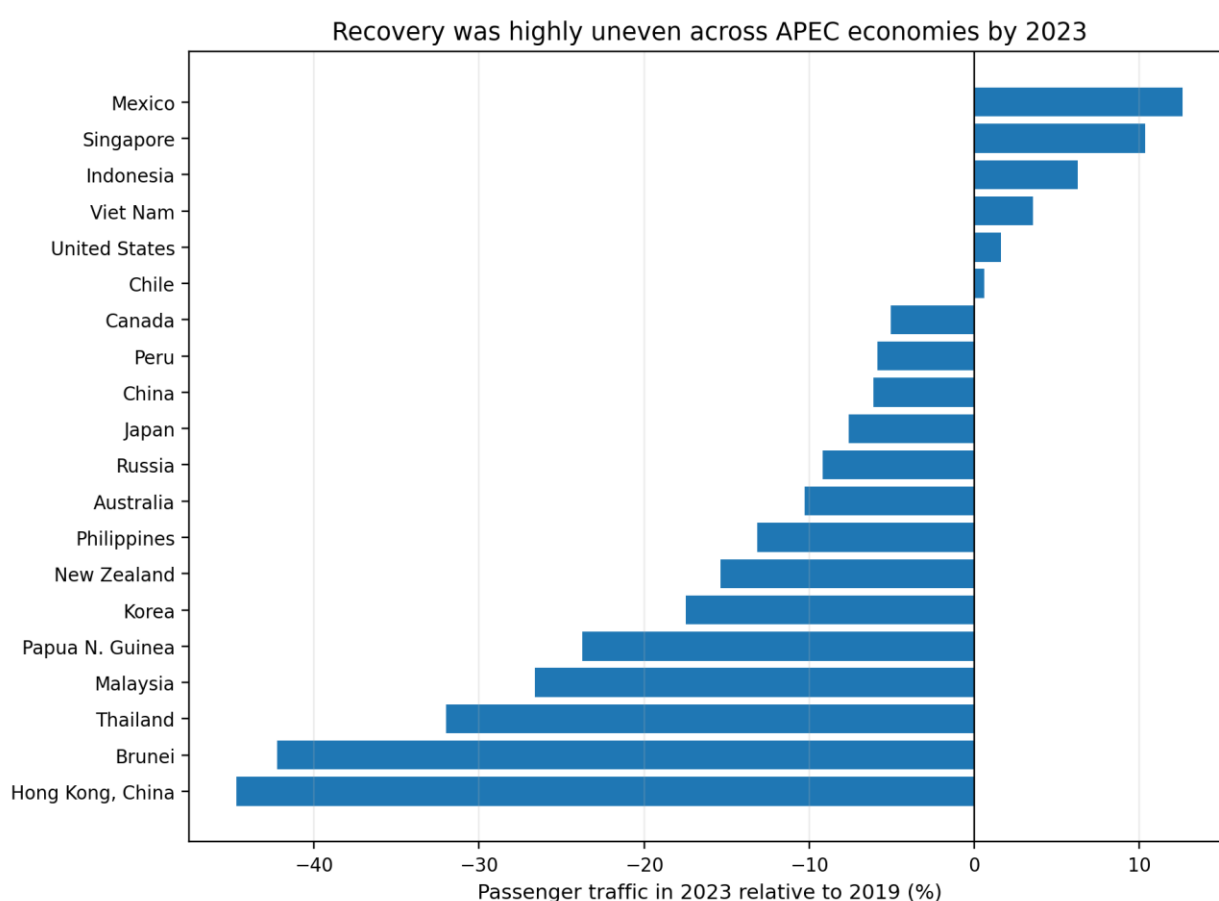


Figure 3.2. Recovery was highly uneven across APEC economies by 2023

Source: APEC_STRI_connectivity_merged.xlsx, connectivity panel-policy data sheet; author's calculations for 2023 relative to 2019 passenger traffic: authors' calculations

At the other end of the spectrum, some economies illustrate why a single approach to liberalisation may not be appropriate. In 2023, Hong Kong China was still 44.7 percent below its 2019 passenger levels, while Brunei Darussalam was 42.2 percent below, Thailand 32.0 percent below, Malaysia 26.6 percent below, and Papua New Guinea 23.8 percent below. Korea, New Zealand, the Philippines, and Australia also remained below their pre-pandemic passenger numbers.

These differences are not only the result of policy choices, but also reflect factors such as the timing of reopening, geographic location, reliance on hub airports, and the structure of domestic markets. The policy implications are important. APEC economies need to identify whether their main challenge is to manage increased demand efficiently, or to focus on rebuilding connectivity, restoring routes, and supporting the commercial viability of new services, especially outside major gateway airports.

4. Recent Policy Trends

This part of the Report contains sections on two policy analysis tools, one based on OECD policy information and the other derived from information collected and analysed for this report. It concludes with an assessment of the contribution of various elements of policy to connectivity.

OECD STRI data

OECD air transport services trade restrictiveness index (STRI) data are used here to show year-to-year changes in policy measures for 17 APEC economies over the last decade (OECD 2019, 2026). The STRI records on an MFN-basis rules on foreign equity caps, board citizenship, visa conditions, competition, and transparency. Its structure helps identify when reforms took place, whether they represented liberalisation or tightening, and which policy areas were affected. Four APEC economies in the connectivity data of part 3—Brunei Darussalam, Hong Kong, China, Papua New Guinea, and Chinese Taipei—are not included in the STRI-based reform timeline, so the policy analysis here covers 17 economies. The key findings from the data are

- For the 17 APEC economies covered by the STRI, the average air transport restrictiveness score was 0.359 in both 2014 and 2023. There was only minimal fluctuation in the average STRI score between those two years.
- Over the same period, the reform log records 859 policy events. These events were split almost evenly between liberalising and tightening measures. Policy activity was therefore frequent but largely offsetting in its net effect.
- Most reforms targeted foreign entry rules and administrative transparency. Competition policy, airport access and other deeper implementation levers changed much less.

The lesson is not that incremental reform is useless, but that uncoordinated tweaks will not shift the system: at the same time, a single “big bang” open-skies agreement would also fall short if the deeper constraints are left untouched. APEC members are therefore more likely to make real progress through a modular, data-driven agenda that focuses on specific constraints—such as cargo, secondary-city access, airport usability and competition-sensitive implementation—and sequenced reforms so that changes in legal rights are matched by the conditions needed for those rights to be used.

The air transport STRI captures only one layer of the policy environment. It measures domestic regulations affecting whether and how foreign investors and service suppliers can own, establish and operate airlines in an economy—such as foreign equity caps (which are scored separately for domestic and international operators), licensing and economic needs tests, conditions on leasing aircraft, movement of people requirements for key staff, competition law exemptions and slot-allocation practices. It does not code the content or allocation of traffic rights under bilateral and plurilateral air services agreements. As a result, the STRI provides a useful benchmark of the general regulatory climate facing foreign airlines, and of where establishment mode reforms have or have not occurred. But it is not a direct indicator of how open specific routes, capacities or airport pairs are. Later sections therefore complement this picture with an aviation-specific framework that summarises the treaty and network layer.

Turning to the results in more detail, while traffic data point to significant movement, the STRI policy measure shows that overall policy restrictiveness in air transport remained stable (Figure 4.1). For the 17 APEC economies with available data, the average restrictiveness proxy was 0.359 in both 2014 and 2023, fluctuating only slightly within a narrow range of 0.358 to 0.361 over the period. This finding indicates that, at the regional level, there was no major shift towards greater openness in air transport policy during the past decade, even though individual reforms did occur. The evidence suggests that most policy changes within the STRI portfolio were either too limited in scale, offset by other measures, or concentrated in a few economies, so they did not significantly affect the regional average.

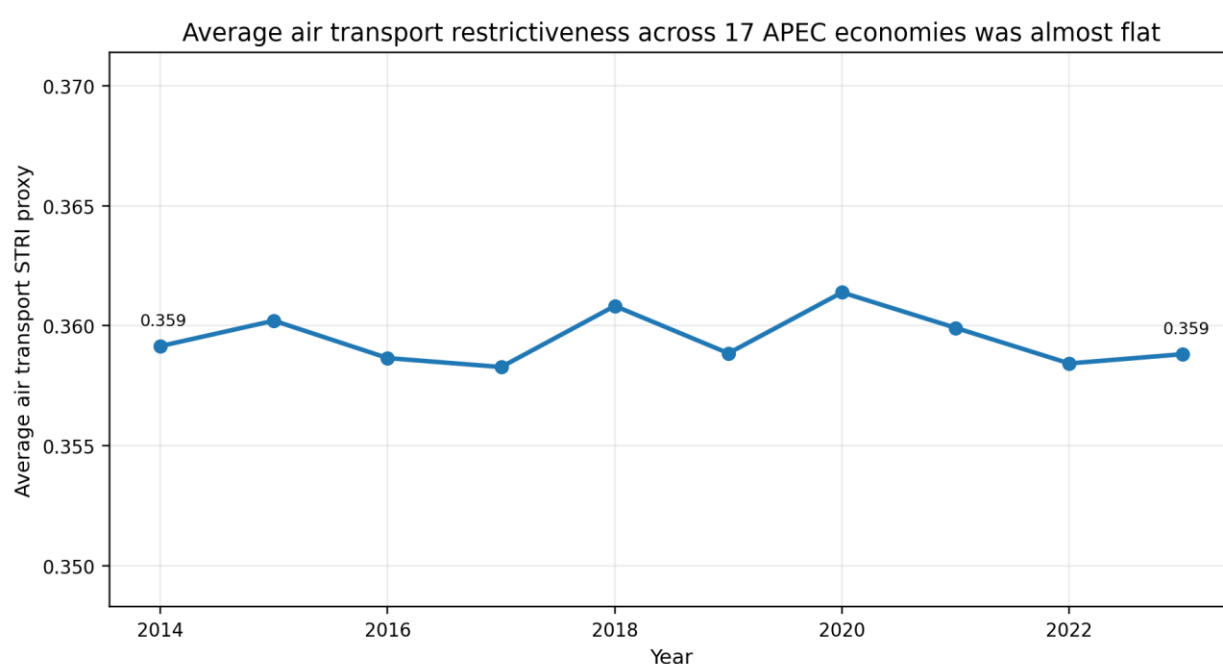


Figure 4.1. Average air transport restrictiveness across 17 APEC economies was almost flat

Source: OECD, https://oecd-main.shinyapps.io/STRI_Explorer/

The 2025 cross-section highlights that significant differences remain across economies (Figure 4.2). Overall, however, along with legal services, and accounting and auditing services, air transport is one of the most restrictive on average across the STRI economy scope (with an average score of 0.4 – the APEC group is divided half above and half below that level). While these indicators reflect only one aspect of each aviation system, as explained above, they show that APEC economies do not share a single starting point for liberalisation. Instead, the region includes a mix of relatively open, mid-range, and more restrictive settings on policies within the scope of the STRI.

Significant Differences Remain in STRI scores across economies, 2025

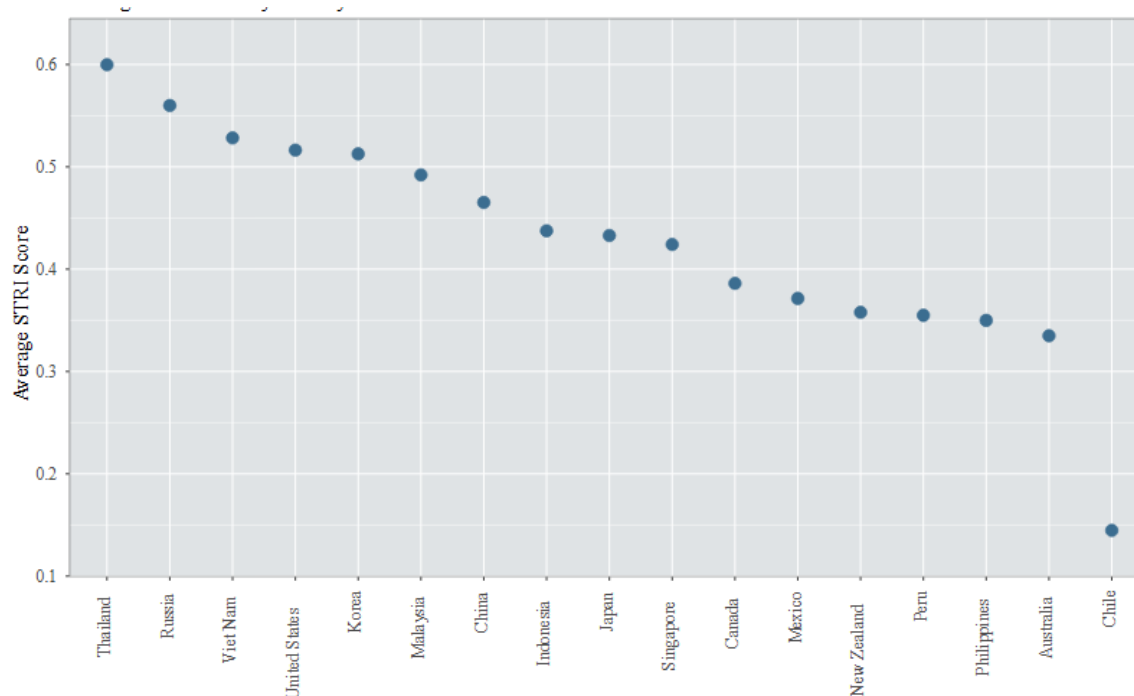


Figure 4.2. Air transport restrictiveness across 17 APEC economies in 2025

Source: OECD, https://oecd-main.shinyapps.io/STRI_Explorer/

The specific types of restrictions are just as important as their overall level. Figure 4.3 shows the treatment of various dimensions of the STRI by economy – lighter shadings are more restrictive. There is considerable variation across measures and across economies. This suggests that a modular approach to negotiations is needed. Rather than a single liberalisation formula, APEC economies require a flexible set of options to address specific challenges, whether related to equity limits, board-residency requirements, visa processes, competitive neutrality, or administrative transparency. Box 4.1 provides further discussion of the competition policy aspects, from the perspective of prospective entrants to an air transport market.



Figure 4.3. The composition of restrictions differed across APEC economies in 2023
Source: OECD, https://oecd-main.shinyapps.io/STRI_Explorer/

Box 4.1: The Challenges for Entrants

Incumbents in air transport enjoy a range of competitive advantages that go well beyond the formal allocation of traffic rights. Their compliance costs are largely sunk: they have already invested in the safety management systems, manuals, IT platforms, training programs and regulatory relationships needed to obtain and maintain operating certificates, so adding a new route is a marginal decision rather than a fresh, capital-intensive project. At the airport level, incumbents typically hold long-standing portfolios of slots at congested hubs, often at commercially valuable times, and benefit from established access to gates, terminals and ground-handling arrangements that new entrants must negotiate from scratch. Where state ownership persists or governments have close ties to national carriers, incumbents may also enjoy softer advantages in public procurement, infrastructure decisions and regulatory forbearance, which further tilt the playing field against new competitors.

The STRI captures some, but not all, of the regulatory sources of these advantages. In its dedicated **barriers to competition** pillar, the index records the presence of state ownership in major carriers, whether airline alliances receive exemptions from competition law, and key features of slot allocation such as grandfathering, new-entrant reservations and bans on slot trading. These variables are directly relevant to how strongly incumbents are protected by the rule set: they indicate whether a market is open in principle to new capital and carriers, whether state-backed players operate under the same competition rules as others, and whether access to scarce airport capacity can realistically be reallocated.

However, the STRI inevitably leaves important parts of the incumbency story offstage. It does not observe the cost or duration of certification and licensing processes, only the existence of certain requirements, so it cannot quantify the sunk-cost asymmetry between established airlines and prospective entrants. It does not measure actual market concentration at airports or on routes, nor does it capture the degree of effective competition in ground handling, gate access or other airport services where incumbents often have de facto control. And because it is based on de jure, MFN-based rules, it cannot see how often regulators or infrastructure providers interpret those rules in ways that favour familiar carriers over new ones. In that sense, the STRI offers a reasonable picture of the formal framework that shapes competition, but there is value in further work to complement it with market-structure and implementation evidence to fully understand how incumbent advantages operate in practice.

An example of the kind of further work that would strengthen the competition analysis is the Australian government's decision to require its competition authority (the Australian Competition and Consumer Commission (ACCC)) to monitor domestic aviation in detail, including at the airport level. Under successive directions since 2020, the ACCC has been publishing regular reports on domestic airline competition that track market shares, capacity, route-level concentration, fare trends and profitability, and more recently has turned explicitly to airport issues such as slot hoarding, the use of grandfather rights to entrench incumbents, and how long-term leases and vertical relationships at major airports can limit effective access for new or smaller carriers (ACCC, 2026). This sort of monitoring goes beyond a rule-based index by linking the formal regulatory environment to observed outcomes in prices, entry patterns and service levels. It suggests a clear avenue for work in APEC: complement STRI-style benchmarking with periodic, ACCC-style reviews of airline and airport competition that focus on market structure, slot and gate access, ground-handling arrangements and the interaction between airport governance and airline conduct.

The policy log indicates that air transport regulation in APEC economies has been characterised by considerable activity. From 2014 to 2025, there were 859 recorded reform events across 17 economies, with 444 liberalisations and 415 tightenings (Figure 4.4). This resulted in only a modest net movement towards liberalisation. Reform activity remained significant throughout the period, peaking at 110 events in 2020 and remaining high at 91 in 2022. These figures challenge the notion that aviation policy in APEC has been static, as substantial policy changes have taken place. However, these changes often moved in different directions across measures, years, and economies, so the frequency of reforms should not be equated with the depth of reform or a clear shift towards greater openness.

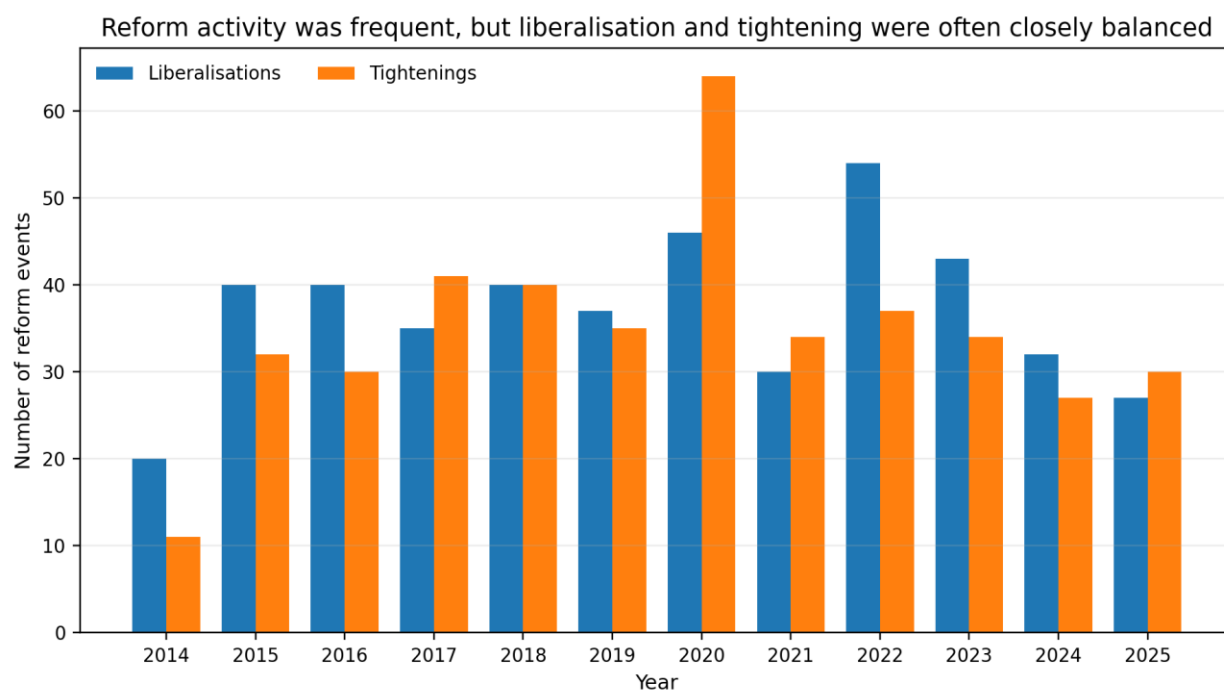


Figure 4.4. Reform activity was frequent, but liberalisation and tightening were often closely balanced

Source: OECD, https://oecd-main.shinyapps.io/STRI_Explorer/

The data can provide useful insights by highlighting not only the occurrence of reforms but also the specific measures that consistently appeared during negotiations (Figure 4.5). A small number of measures account for a large share of all recorded events. For example, foreign equity restrictions were responsible for 111 reform events, while obtaining a business visa accounted for 84. Licensing or permit quotas and economic-needs tests contributed 64, board citizenship rules 62, and board-residency rules 49. Several related conditions on management residency and citizenship follow closely behind these top items. This concentration is important because it shows that the politics of liberalisation tend to centre on a recurring set of issues. The same questions continue to arise: who is allowed to invest, who can exercise control, who can manage, and how difficult it is for airlines and related businesses to navigate administrative entry requirements?

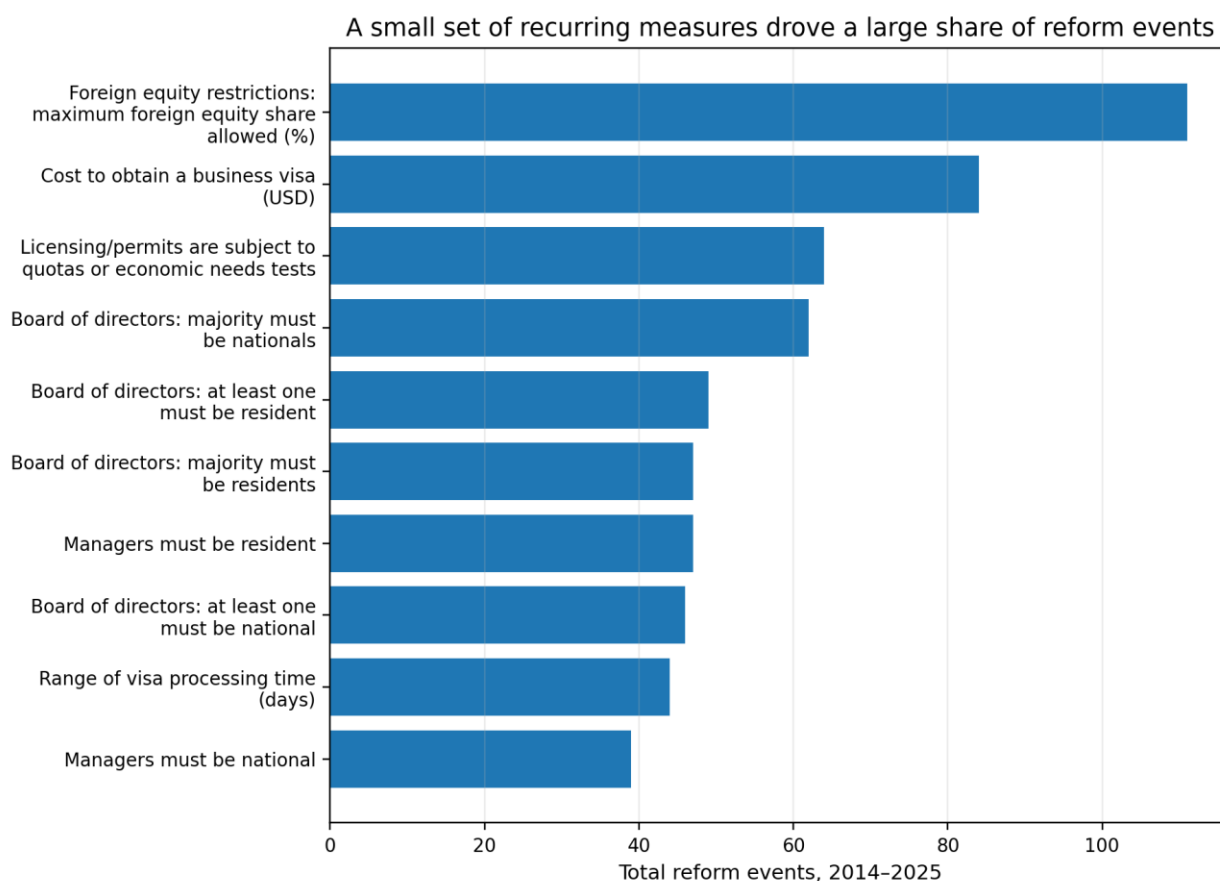


Figure 4.5. A small set of recurring measures drove a large share of reform events

Source: OECD, https://oecd-main.shinyapps.io/STRI_Explorer/

The high number of foreign-entry and visa-related measures suggests that developing model clauses, standard templates, and peer comparison exercises in these areas would respond directly to the region's current reform priorities. In contrast, the lower number of competition measures does not mean they are less important. Competition and airport-access rules appear less often in the reform log because they are more challenging to change at the institutional level, but they can play a critical role in determining whether liberalised rights are used in practice.

APEC Air Transport Reform Through the C-O-S Lens

This part of the Report uses the Capacity-Ownership-Secondary Airports (C-O-S) policy framework to assess all 21 APEC members and considers a key policy question: where does the real liberalization frontier lie today? This novel framework was constructed by the authors for this report.

The findings show that ownership and control (O) remain largely unchanged across the region, as most APEC economies continue to use traditional designation rules based on economy of ownership.

As a result, the main differences are found in C, which covers how open economies are on routes, frequencies, capacity, multiple designation and beyond rights, and in S, which looks at whether secondary airports are functioning as international nodes.

The C-O-S framework is designed precisely to address the layer that the STRI does not observe. Whereas the STRI focuses on the MFN domestic regulatory regime for airlines, C-O-S summarises how an economy's air services agreements and airport system translate into usable commercial opportunities. Within that, the ownership/control dimension (O) is closest to the "origin" logic found in preferential trade agreements: it defines which airlines qualify as the carriers of a Party and can therefore be designated to use the rights embodied in those agreements, much as services chapters define which service suppliers "of a Party" are entitled to preferential treatment. By implication it also implies others are not offered market access, and therefore the system can involve a disruption of the gains from trade – competitive suppliers of air transport services may be denied access to markets.

The capacity dimension (C) and the secondary airport dimension (S) are closer to the quantitative (or 'quota') and geographic conditions attached to those qualifying rights: C reflects how far traffic rights, frequencies and beyond rights are opened or capped on particular routes, and S reflects which parts of the domestic airport system are effectively eligible to participate in international networks.

Because these ASA- and airport-based conditions lie outside the STRI's field of view, the two tools are complementary: the STRI helps identify where establishment mode rules may constrain foreign suppliers in general, while C-O-S indicates which airlines qualify to use international rights and where, and how far those rights are actually usable across routes and airports. The C-O-S scores are a deliberately simplified economy-wide indicator, and they are designed for comparative and policy-framing purposes, not for legal diagnostics.

More details of the framework and the scoring applied are included in Box 4.2. C measures how open an economy's air services are in terms of routes, frequencies, capacity, multiple designation and beyond rights. O considers whether designated airlines must meet traditional ownership and control requirements, or if more flexible approaches like principal place of business or community-carrier models are being used. S looks at the role of secondary and regional airports, assessing whether they are rarely used, modestly used, regularly active or fully integrated as international nodes. A low S score does not always indicate a policy failure. In economies such as Singapore, Hong Kong, China, and Brunei Darussalam, low S reflects structural factors, as these economies are centred around a single main airport. However, even in those sorts of cases, there is scope for the construction of new airports, as the older facilities become more congested or as new business models develop (eg low-cost carriers). This Report uses these concepts to assign indicative scores at the economy level, rather than coding each treaty individually, since most APEC members have a mix of arrangements with different partners. Transitional scores such as C2.5 or C2 to C3 are used when an economy's position falls between categories.

These classifications are summarised in the Box below and the results of their application are shown in Table 4.1. It gives an economy-wide read for each APEC member as of early 2026. Scores summarize the practical posture across major corridors rather than any single treaty. Transitional values such as C2.5 or C2->C3 indicate mixed or evolving portfolios.

Annex 1 contains more information on individual economies, which is also used in Table 4.1 to suggest the most natural next deepening. The analysis groups economies into five main categories. Australia, Canada and the United States have the most open C systems, with well-developed access to secondary airports. Singapore and Hong Kong, China are also highly liberal in terms of capacity,

but their low S scores reflect their roles as single-gateway hub economies. New Zealand, Chile, Peru, Mexico and Chinese Taipei are commercially open, though their systems remain more focused on main gateways compared to the larger continental economies. In Northeast and Southeast Asia, economies such as China, Japan, Korea, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam are selective liberalizers. These economies are seeing growth in secondary cities, but progress is limited by carve-outs, capacity management and uneven implementation. Papua New Guinea and Russia are outliers, where connectivity is shaped more by carrier structure, infrastructure, safety and geopolitics than by treaty arrangements.

Box 4.2: The C-O-S Framework

Dimension	Working levels	Reading used here
C	C1 / C2 / C3	From tight control of routes and capacity, through partial liberalization, to near-open or open market access.
O	O1 / O2	From traditional economy-based ownership and control to more flexible principal-place-of-business or community-carrier approaches.
S	S0 / S1 / S2 / S3	From primary-airport concentration, through latent and active secondary access, to a mature non-primary international network.

The most important general finding from the scorecard is that O is the least differentiating variable inside APEC. Nearly every member still reads as O1 in the broad sense used here. Even the most liberalized cases - for example New Zealand's Single Aviation Market with Australia or some of Hong Kong, China's commercially flexible business rules - soften the edges of O1 rather than replacing it with a clean O2 model. That has a direct policy implication. Headline ownership reform across the region is not the immediate priority. There is more immediate impact from a focus first on the C and S margins where results are easier to obtain: more flexible designation, more all-cargo freedoms, more usable fifth-freedom rights, fewer city-specific exclusions, and more systematic treatment of secondary airports, slots and border facilitation.

While the ownership rules themselves do not vary much across the economies in the sample (Table 4.1), what does vary, however, is the use of substitutes for ownership change — above all the depth and structure of cooperative arrangements. On many dense routes, carriers have already replicated a large part of the economic logic of mergers through interlining, codeshare, alliances and, at the limit, antitrust-immunised joint ventures that pool revenue and coordinate pricing and capacity. Where such cooperation is deep and well developed, the marginal effect of relaxing formal ownership-and-control rules on measured performance is likely to be correspondingly small.

This does not mean ownership is irrelevant; it means its impact is filtered through the availability and quality of these substitutes. In systems where airlines rely only on shallow cooperation, the same ownership restriction can bind more tightly than in markets where joint ventures and alliances are already delivering many of the gains that equity integration would have provided.

There is, however, a real and persistent cost. Cooperation is only a second-best: it carries higher transaction costs, looser integration and a standing risk of defection, and the very fact that airlines must reach the merger frontier through immunised joint ventures rather than ownership is itself a deadweight on the industry — raising the cost of capital, entrenching incumbent alliance blocs, and, on ICAO's evidence, often redistributing traffic and reducing competing services rather than stimulating new ones.¹³

In the long run, airline ownership still needs to be tackled, but the strategic conclusion is about **sequencing**, not substitution. Deeper cooperation depends on capacity liberalisation, and most near-term competition gains lie on the capacity and secondary-airport margins, so the priority should be a C and S track focused on route rights, capacity, secondary-airport access, slot transparency, customs hours and digital facilitation. Empirical work reported in Annex 2, where the C and S policy indicators are linked to a measure of performance support this focus — more open regimes in these dimensions are associated with higher levels of performance of air transport systems at the economy level.

Ownership should remain on the agenda as a long-term objective, because substitute arrangements shift some costs but cannot eliminate the structural inefficiencies of current restrictions. Foreign-entry constraints are still the heaviest part of the problem, and full ownership reform is politically difficult; without movement on this front, economies lock in the costs of a second-best regime indefinitely, and the workarounds that make ownership look unimportant today are precisely what prevent its full benefits from being realised. Meanwhile, there is room for a narrower short-term O track, limited to politically usable steps such as principal-place-of-business concepts where acceptable, more flexible wet leasing, cargo designations and broader code-share or joint-designation provisions.

Table 4.1 Economy-wide indicative C-O-S scorecard for all APEC members

Economy	C	O	S	Short reading	Most natural next deepening
Australia	C3	O1	S3	Capacity-ahead-of-demand benchmark with many international gateways.	Indonesia; Viet Nam; Philippines
Brunei Darussalam	C2.5	O1	S0	Liberal corridors exist, but the network is still effectively one-airport.	Singapore; New Zealand; Australia

¹³ These issues and related competition policy questions are examined in several studies including ICAO (1997), OECD (2000), USDJ (2011) and WEF (2016).

Economy	C	O	S	Short reading	Most natural next deepening
Canada	C3	O1	S3	Blue Sky system with diversified transborder and international gateways.	Mexico; Japan; Thailand
Chile	C3	O1	S1	Long-standing open-skies policy, but Santiago still dominates.	Peru; Australia; United States
China	C2->C3	O1	S2	Selective liberalizer with very large secondary-city upside.	Australia; Singapore; Thailand
Hong Kong, China	C3	O1	S0	Global hub economy; low S is structural, not restrictive intent.	Singapore; Chinese Taipei; Thailand
Indonesia	C2	O1	S2	ASEAN-driven opening with important airport carve-outs.	Australia; Singapore; Malaysia
Japan	C2.5	O1	S2	Broad open-skies coverage, but metro-airport carve-outs remain.	Korea; Singapore; Thailand
Korea	C2.5	O1	S2	Liberalizing system with growing regional-airport relevance.	Japan; Thailand; Viet Nam
Malaysia	C2.5	O1	S2	Mixed ASA portfolio with active secondary international airports.	Singapore; Indonesia; Thailand
Mexico	C2	O1	S2	Liberal written terms, but MEX implementation frictions matter.	United States; Canada; Peru
New Zealand	C3	O1	S2	Open-market policy, with Auckland-led but real secondary access.	Australia; Indonesia; Thailand
Papua New Guinea	C1/C2	O1	S1	Economy-backed designated carrier and a thin international network.	Australia; Singapore
Peru	C3	O1	S1	Fast-moving liberalizer, though Lima still dominates.	Chile; Australia; United States
Philippines	C2	O1	S2	Development-airport liberalization outside Manila.	Japan; Australia; Singapore
Russia	C1/C2	O1	S1	Practical openness is constrained by various factors.	China; limited Asian partners
Singapore	C3	O1	S0	Highly liberal hub economy with single-airport structure.	Malaysia; Indonesia; Viet Nam
Chinese Taipei	C3	O1	S2	Commercially open system operating under diplomatic constraints.	Japan; United States; Singapore
Thailand	C2.5	O1	S2	ASEAN-integrated market with tourism-led secondary access.	Singapore; Malaysia; United States
United States	C3	O1	S3	Extensive open-skies network with distributed gateways.	Thailand; Viet Nam; Philippines

Economy	C	O	S	Short reading	Most natural next deepening
Viet Nam	C2	O1	S2	Cargo-first liberalization and a fast-expanding airport base.	Singapore; Thailand; Australia

Source note: ratings synthesize current official transport-ministry, civil-aviation-authority and U.S. DOT materials.

The comparative analysis suggests that APEC members could also focus on specific corridors instead of aiming for average outcomes. The most achievable agreements are not always between the most open and most closed economies, but rather between those with similar treaty frameworks, airport systems and commercial interests. In practice, this means starting with existing liberal arrangements and using APEC processes to address the implementation challenges that prevent these frameworks from delivering more secondary-city services, greater cargo flexibility and more competitive market access. This work might better proceed in small groups, or pathfinders, and Table 4.2 lists some options for consideration, including the drivers of the feasibility of the group and its near-term agenda. This table also draws on material in the Annex.

Table 4.2 APEC member groupings

Corridor	Why it is relatively feasible	Near-term agenda
Australia / New Zealand with ASEAN growth markets	Existing liberal text already exists or is improving, especially through ASEAN and the New Zealand-ASEAN framework.	Secondary-city passenger rights, seasonal routing, LCC access, and cargo facilitation.
United States with Thailand and Viet Nam	Thailand has renewed momentum after FAA Category 1 restoration; Viet Nam already has cargo open skies with the U.S.	Cargo-first liberalization, secondary-airport packages, and competition/slot disciplines.
Chile / Peru / Australia / United States	Chile is consistently open-skies oriented and Peru is liberalizing quickly, making Pacific corridors easier to modernize.	Provincial airport access, tourism-cargo combinations, and flexible code-share rules.
China with Singapore, Malaysia, Thailand and Australia	High traffic, strong cargo logic and lower political friction than a full Northeast Asian single market.	Selected C3 corridors, fifth- and seventh-freedom cargo, and secondary-city rights.
Japan / Korea with ASEAN	Demand is large and regional airports can absorb additional direct services.	Metropolitan carve-out reduction, regional-airport permissions, and all-cargo flexibility.
Papua New Guinea with Australia and Singapore	Connectivity needs are high, but market opening must be paired with capability-building.	Airport readiness, safety, competition oversight and targeted route opening.

Conclusion

The core message is that near-term strategy should focus on sequencing reforms. In the short to medium term, the priority is a C and S track aimed at capacity and secondary-airport margins—route rights, capacity, secondary-city access, slot transparency, customs hours and digital facilitation—more open regimes on these dimensions are associated with better air transport performance at the economy level. At the same time, ownership should stay on the agenda as a long-run goal, since workarounds only mask and redistribute the costs of current foreign-entry restrictions and risk locking in a second-best regime; in the interim, a narrower O track can pursue politically feasible steps such as principal-place-of-business concepts, more flexible wet leasing, cargo designations and expanded code-share or joint-designation provisions. Comparative analysis also suggests APEC members should target specific corridors and groups of economies with similar treaty frameworks, airport systems and commercial interests, using APEC processes—and small “pathfinder” coalitions—to turn existing liberal agreements into more secondary-city services, greater cargo flexibility and more competitive market access, guided by options such as those in Table 4.2 and the Annex.

Existing liberal architectures are already strong enough to support a new wave of practical deepening if APEC uses them better. As noted in part 3 of this report, ASEAN's agreements collectively provide intra-ASEAN open skies for ratifying economies, and New Zealand has now negotiated a broader ASEAN agreement intended to lift and standardize its rights across the group. The United States maintains a dense open-skies network, and MALIAT still matters for Brunei, Chile, New Zealand and Singapore. The central issue, therefore, is less the absence of liberal texts than the uneven conversion of those texts into route entry, secondary-airport use, cargo flexibility and competition-neutral access to congested gateways. In other words, APEC's next problem is implementation depth rather than first-principles design.

With respect to implementation, Table 4.1 in this Report can be turned into an annual peer-review instrument that tracks not only treaty language, but also whether secondary airports are actually being designated, whether all-cargo rights are becoming commercially usable, and whether slot and border rules are neutral enough for new entrants to exploit formal liberalization. That would fit APEC's practical style. Instead of trying to impose one legal model on all 21 members, members could compare themselves against the peers that most closely resemble them: large C3 systems against one another, single-gateway hubs against one another, and selective liberalizers against the members they most want to emulate.

5. Impact of the Middle East Disruption on Europe–Asia Air Traffic

Before the 2026 conflict, the three large Gulf carriers together handled roughly one-third of all Europe–Asia passenger traffic and more than half of Europe–Australia traffic through their hubs. The closure of key Middle Eastern hubs from February 2026 disrupted this traffic. IATA found that within ten days of the escalation beginning on 28 February 2026, 73 percent of ASK capacity to and from the Middle East had been cancelled. The immediate result was a sharp collapse in that Gulf transfer system between Asia and Europe.

The broader consequence was a system-wide reallocation of the displaced Asia traffic through cancellations, rerouting, substitute hubs and direct services. For APEC, the relevance lies in how a shock at one end of the network exposes the concentration of long-haul flows and value of diversified routings and alternative hubs.¹⁴

The shock was severe enough to alter global outcomes: in April 2026, total industry demand fell 3.4 percent year on year, while demand excluding the Middle East still rose 1.2 percent. But the network remains adaptable in aggregate: IATA still forecasts 2.1 percent global passenger growth for 2026, with Asia Pacific and Africa benefiting from rerouting even as the Middle East contracts sharply. The interpretation is therefore not that hub-and-spoke aviation has failed, but that excessive concentration of Europe–Asia traffic in a narrow set of Gulf hubs and corridors generated avoidable fragility.

Europe–Asia adjustment channels

The key issue for Europe–Asia traffic is not only the initial loss of capacity but how the Asia-bound traffic that had used the Gulf bridge was reallocated. The data support a decomposition into four channels: outright cancellation, rerouting around closed or risky airspace, substitution to other hubs, and the expansion of direct or near-direct services.

IATA's June outlook judges that alternative routings and carriers may recover up to one-third of the traffic lost in the Middle East. That recovered third is itself split between substitution to other hubs and conversion to direct services. The direct-service component can be sized from the passenger data: direct traffic between Europe and Asia rose 15.3 percent year on year in April, the strongest international route result of the month, as nonstop and less hub-dependent services replaced Middle East connections. The remainder of the recovered third reflects substitution onto other one-stop hubs in Asia and Europe.

The two channels that do not preserve the original journey make up the balance: rerouting, where the journey continued on longer paths, and outright cancellation, where it did not. Cancellation dominated the first phase, when 73 percent of regional capacity was withdrawn within ten days and no acceptable alternative existed at short notice. Rerouting then absorbed a further slice: EUROCONTROL measured around 1,150 rerouted flights per day in the European network, with 206,000 additional kilometres flown daily, 602 extra tonnes of fuel burnt and 1,900 extra tonnes of carbon dioxide emitted.

In summary, roughly one-third of the lost traffic was recovered through alternative routings and carriers, divided between substitute hubs and the 15.3 percent surge in direct Europe–Asia services; the remaining two-thirds was split between traffic that continued on longer reroutings and traffic that was cancelled outright and did not travel. The proportions vary by city pair and have shifted over time as Gulf airspace has partially reopened.

¹⁴ The drivers towards networks with concentrated hubs were discussed in part 3 of this Report.

Carrier-level evidence from Asia supports this interpretation and shows the substitution channel at work.

- Singapore Airlines suspended its Middle East services at the outset and then absorbed displaced demand onto its own Europe and Americas flying: its Europe passenger load factor rose 4.9 points to 87.7 percent in April, the largest regional gain in its network, which the airline attributed to spillover traffic as capacity through the Gulf hubs remained constrained, while its low-cost arm Scoot lifted revenue passenger-kilometres 13.7 percent.
- Cathay Pacific carried 16.5 percent more passengers in April than a year earlier, with revenue passenger-kilometres up 17.8 percent and year-to-date passengers up about 19 percent, and redeployed capacity from its suspended Dubai and Riyadh services onto European routes such as Manchester and Rome.
- Korean Air posted a 47 percent rise in first-quarter operating profit on a 14 percent rise in revenue, which industry analysts attributed to Middle East disruption pushing Europe–Asia transit demand through Seoul.
- Thai Airways saw Europe demand shift “toward non-stop flights over connecting flights” and added supplementary Bangkok–Paris and Bangkok–Frankfurt services to absorb stranded passengers.

The airport data confirm both the immediate disruption and the subsequent absorption of demand. Some reported large numbers of cancelled flights. But Incheon, for example, then recorded its busiest first quarter in sixteen years, and in April and May its transfer passengers rose by about 360,000 year on year, a lift the airport operator attributed directly to European transfer passengers diverting from Middle Eastern hubs; its European-route traffic rose about 13 percent and its US-route traffic about 15 percent, even as its own Middle East route traffic fell about 55 percent.

Passenger flows previously relying on Gulf hubs were redirected to East Asian gateways including Singapore, Kuala Lumpur, Hong Kong, Tokyo and Seoul. The broader IATA figures point in the same direction: stronger load factors, resilient international demand and a larger role for direct Europe–Asia traffic all indicate absorption of displaced demand rather than prolonged traffic destruction.

The longer-term significance of disruption lies in what it reveals about adaptation capacity. Airlines responded first by suspending the most exposed Asia–Gulf–Europe services, then by rebuilding selected flows through a combination of rerouting, alternative hubs and direct flying. Not all traffic was replaced and remained disrupted. But significant adjustments occurred. This matters because the policy debate should not be framed as a choice between preserving a hub-and-spoke system and replacing it with an entirely different model. The practical outcome is a mixed system in which some Europe–Asia traffic still favours major hubs, some shifts to different hubs, and some moves toward direct services.

Korea illustrates how resilience depends on both infrastructure and policy: it is a selective liberaliser with genuine secondary-airport potential beyond Incheon, but those additional airports only help when airlines can use them. In practice, Korean Air and other Korean carriers benefited from stronger direct Europe demand and from the increased appeal of Northeast Asian hubs when Gulf routings became unreliable, yet that gain was not automatic. It relied on the availability of slots, on airport strategies that could accommodate extra Europe–Asia flying, and on bilateral agreements flexible enough to allow services to be added. The point is that shocks create opportunities for alternative hubs only where airport systems and air services regimes are configured to let airlines respond. Japan has a different story – see Box 5.1.

Box 5.1: Japan's Asian Gateway Strategy and the Limits of Gateway Readiness

Japan provides a useful contrast case for the report's argument about resilience, gateway diversification and the difference between policy aspiration and operational adaptability. The Asian Gateway Initiative, launched in 2007 (Prime Minister's Office of Japan, 2007) aimed to make Japan a gateway for the movement of people, goods and capital across Asia and to achieve a more open regional aviation system. In aviation policy terms, the strategy called for "Asian Open Skies", removal of restrictions on carriers, entry points and frequencies, accelerated liberalisation at Kansai and Chubu, further internationalisation of Haneda, and wider use of regional airports as part of a multi-airport gateway platform rather than a single-hub model.

This makes the strategy highly relevant to the Report's focus on secondary airports. The Japanese approach was not simply about opening more routes at the main Tokyo airports. It was also about using Kansai, Chubu and selected regional airports to create additional entry points into Japan and Asia, relieve pressure on the largest hubs, support low-cost and point-to-point services, and widen the set of airports that could play an international role. In other words, the strategy recognised that resilience and connectivity depend not only on the scale of the primary gateway, but also on whether an economy has a broader airport system that airlines can use when market conditions or disruptions make alternative routings valuable.

Yet the Middle East disruption of 2026 shows that a gateway strategy and a dispersed airport system do not automatically translate into an ability to capture displaced traffic. Japan has certainly been affected by the disruption: flights to Europe have been rerouted, journey times have lengthened, and tourism and business links have been disrupted. But Japan has not emerged as a major substitute bridge for Europe--Asia traffic in the same way that some Northeast and Southeast Asian gateways have. The immediate effect has been more defensive than opportunistic, with airlines adjusting existing services rather than rapidly absorbing large volumes of transfer traffic.

The reason is that secondary-airport potential only contributes to resilience if it is commercially and operationally usable. Turning any location into an alternative gateway in a crisis depends not just on having multiple airports, but on having slots, airport charges, terminal arrangements, border processing and bilateral rights that allow airlines to shift or add services quickly. Japan's Asian Gateway strategy created the possibility of a more distributed system, but much of its liberalisation was calibrated for gradual growth in tourism, business travel and regional integration rather than for emergency rerouting of long-haul intercontinental traffic. Haneda remains highly slot-constrained, Narita competes with other Northeast Asian hubs, and the ability of Kansai, Chubu and regional airports to absorb major Europe--Asia diversions is limited unless the surrounding operating conditions make that possible.

The broader lesson is consistent with the Report's main argument. Secondary airports matter, but only when they are genuinely usable. Gateway strategies and open-skies rhetoric are not enough on their own. What matters for resilience is whether airports beyond the primary hub are equipped, accessible and supported by policy settings that allow airlines to use them when shocks occur. Japan's experience therefore reinforces the central policy point: the real reform frontier lies not only in declaring openness, but in making secondary airports and alternative gateways genuinely usable when the primary corridor fails.

Fuel price rises

The Middle East disruption is not only a traffic and hubbing shock but also a fuel-price shock with system-wide consequences. IATA's June 2026 outlook, as reported by financial media, indicates that the world airline fuel bill is expected to rise from about USD 252 billion in 2025 to around USD 350 billion in 2026, while jet fuel prices are expected to average about USD 152 per barrel, up almost 70 percent from roughly USD 90 in 2025. Fuel is therefore projected to rise from 25.4 percent of airline

operating costs in 2025 to 31.4 percent in 2026. This makes fuel one of the most important channels through which the disruption affects carriers that are not directly exposed to Middle East cancellations.

This matters because adaptation itself is fuel-intensive. The same rerouting that preserves Europe–Asia connectivity increases stage length and fuel burn, so the network can remain operational while becoming much more expensive to run. IATA now expects global airline net profit in 2026 to fall to about USD 23 billion, roughly half the 2025 level, with net margins compressed to about 2.0 percent. For Europe–Asia traffic, this may be as important as the rerouting story itself: direct services and substitute hubs can preserve a part of the market, but they do so in a much higher-cost operating environment.

New hubs and the China question

A lesson from the disruption is that resilience in Europe–Asia traffic may improve if bridging and transfer functions are spread across a wider set of hubs. That does not mean inventing a wholly new global hub map from above, but it does justify discussion of where additional capability could emerge if traffic rights, airport readiness and market demand align. The right strategy is to make multi-hub and multi-airport options more usable rather than to force a shift away from hub-and-spoke altogether.

There are candidates for additional hub roles in the Philippines as well as Korea and Japan, discussed above. Another example is Urumqi in China. Recent reporting describes Urumqi as a candidate international aviation hub linking Asia and Europe, supported by airport expansion and new airline investment, including a China Eastern branch in Xinjiang and large growth in traffic and cargo at Urumqi Tianshan International Airport. Urumqi will not replace the Gulf hubs, but it illustrates the type of inland or secondary gateway that may become more valuable in a more distributed Europe–Asia network, especially for selected routings through Central Asia and western China.

Policy options

Policy should distinguish two layers of reform: the rights written into air services agreements and the operating conditions that determine whether those rights can be used in practice. The most important levers therefore include more flexible traffic and designation rights, multiple designation, clearer access to secondary and regional airports, predictable slot allocation, contestable ground handling, and border and customs services that match actual flight needs rather than administrative convenience.

This matters directly for Europe–Asia adaptation. If airlines are to test more direct routes, rely on different hubs, or switch traffic toward secondary airports, they need practical access rather than just liberal language on paper. The next gains in resilience will come not from writing abstractly liberal agreements alone, but from making those agreements usable through airport readiness, facilitation and competition policy.

A further issue is the danger of a subsidy race after a major shock. When a dominant hub region fails, economies may be tempted to pull Europe–Asia traffic toward their own airports through subsidies, bespoke deals or support packages for national carriers and hub operators. There is a long history of support for route development, managed either by airports or local governments. These include landing and other fee discounts and grants, as well as marketing support. Many economies apply policy to meet internal community obligations, and there are frameworks for evaluating the costs and benefits of these interventions. But routes also regularly collapse at the end of the subsidy period and the intervention can lead to ‘churn’. The situation is more complex when different jurisdictions compete, since then the subsidies tend to mount, with the effect of merely relocating traffic at a significant fiscal cost.

One practical concern is the rate and structure of route support and subsidies, because these determine whether intervention preserves or distorts competition. Where support is set at a high, open-ended rate and tied to a specific carrier rather than a route, it can underwrite that airline's fixed costs, dull its incentives to improve efficiency and deter potential rivals who cannot match a subsidised cost base. In these cases, subsidies function less as a tool to secure minimum connectivity and more as a form of selective protection, reinforcing the incumbency advantages already created by slot holdings, ground-handling arrangements and state ownership.

The better approach is a competitive one. Regional cooperation should aim for transparency about support, a bias against policies that deliberately undercut neighbouring hubs, and time-limited corridor experiments that let airlines discover which routes, hubs and direct services are commercially sustainable. The point is not to script the future network from above, but to let markets test a wider menu of options without locking traffic into another protected set of fortresses. In this spirit, competitively determined subsidy rates — for example, transparent tenders in which airlines bid to operate a defined level of service for the lowest required support — are more consistent with the contestability focus in Part 4. They anchor assistance in the minimum subsidy needed to sustain a route, rather than in the financial needs or lobbying power of a particular carrier, and they leave space for entry by more efficient operators.

Conclusion

Resilience does not come from any single fix. It is not just about standing up new hubs, and it is not just about flying more direct services. What protected the wider Europe–Asia system when the Gulf corridor collapsed was that several different models were available and able to compete: Gulf-style super-connectors, but also other one-stop hubs across Southeast and Northeast Asia and Europe, ultra-long-haul nonstops on thinner premium routes, low-cost transfer hubs such as Kuala Lumpur, and emerging greenfield or inland gateways. Because these models were genuinely competing rather than locked out, traffic could redistribute across them when one corridor failed. Resilience, in other words, is a property of competition among diverse network structures, not of any one preferred architecture.

Furthermore, it is not that the hub-and-spoke model of aviation has failed. It is that the resilience of aviation comes from a plurality of competing network models rather than from any single architecture, and that excessive concentration around a narrow set of hubs creates unnecessary risk and magnifies the cost of adaptation when disruption occurs. The policy response should therefore focus on adaptability: making rights and airports usable, allowing experimentation with different network forms, encouraging contestable alternative hubs, and avoiding a subsidy race that simply reproduces old distortions in new locations.

6. Agenda for Air Transport Reform in the APEC Region

Recommendation and Principles

The recommendation based on this Report is that APEC Leaders endorse a practical agenda to strengthen air connectivity across the region by improving the conditions under which air services rights are translated into real services for passengers and cargo, especially on routes that can deepen competition, expand secondary-city access, and strengthen resilience in the face of disruption. Leaders would direct Ministers and officials to pursue a phased implementation agenda based on a set of principles that prioritise commercially usable connectivity. The first is to move in areas where gains are likely to be fastest and most visible, including cargo reform, better use of existing rights, more effective access to secondary airports, and practical removal of regulatory and operational barriers. Leaders would also call for a follow-up report to the next APEC Economic Leaders' Meeting setting out where these principles have been applied, which barriers have been removed, and what progress has been made in improving connectivity, diversification and resilience across the regional aviation network.

The principles for strengthening air connectivity in the Asia-Pacific are as follows:

1. **Put better connections for people and cargo at the centre.** Air transport policy should be judged by whether it delivers more frequent, reliable and convenient links for travellers and shippers, rather than only by changes in formal agreements and policy announcements.
2. **Deepen openness where gains are most tangible.** Economies should focus first on reforms that quickly unlock extra services, such as better use of existing traffic rights and secondary airports, before tackling more complex ownership issues.
3. **Tackle recurring bottlenecks first.** Regulatory obstacles that repeatedly block entry and competition, like licensing hurdles, slot capacity or restrictive conditions on key staff, should be early targets for practical reform.
4. **Use cargo as a fast-moving pathfinder.** Cargo markets can often be opened more quickly and politically easily, creating early wins in trade and resilience that can pave the way for wider passenger liberalisation.
5. **Build a more diversified and resilient network.** Connectivity strategies should deliberately reduce dependence on a few hubs and corridors so that the system can continue to function when routes or regions are disrupted.
6. **Use shared indicators to guide and learn.** Simple regional scorecards on openness, airport use and connectivity can help policy makers see where reforms are most needed and learn from economies that have already implemented successful changes, drawing on the connectivity and policy indicators reported here.

The remainder of this part of the Report explains why these recommendations are important and how they can be translated into a practical APEC work program. It draws on the broader evidence and analysis set out in the Report but presents that material in a form that directly supports the recommendation to Leaders and the associated principles.

Why a New Frame is Needed

APEC's air transport agenda should now be framed with a practical objective: turning existing and future air services rights into more frequent, reliable and commercially usable connections for passengers and cargo across the region. Air connectivity in APEC remains constrained by uneven liberalisation, recurring operational bottlenecks, underused cargo and secondary-airport opportunities, and a network structure that has become too dependent on a limited number of major hubs and corridors. The policy task is therefore not simply to expand formal traffic rights, but to improve the conditions under which those rights are translated into real services that widen competition, expand access to secondary cities, and strengthen resilience when major routes or regions are disrupted.

International air services in the region are still governed mainly by bilateral agreements, despite the increasingly strong economic case for more liberal arrangements. Yet the central problem is no longer just the formal restrictiveness of treaties. In many markets, legal rights, commercial viability and operating conditions do not align. A route may be legally authorised but still fail because of slot constraints, border procedures, weak ground handling, limits on airport readiness, or the inability to package demand from smaller cities in a way airlines can use. Air transport reform in APEC in the immediate term should therefore be understood as a market-shaping agenda rather than only a treaty agenda.

The current pattern of agreements across the region reinforces this point, but it also shows that the missing ingredient is uptake rather than a usable template, as documented in part 3 and in the Annex. As of May 2025, the number of intra-APEC air services agreements for individual economies ranged from 4 to 19, with some economies still showing data gaps, and that variation means there is no single liberal baseline that all members already share. Yet liberal multi-member models do exist. The Multilateral Agreement on the Liberalisation of International Air Transportation (MALIAT) remains one of the most liberal instruments in force — open routes, open capacity, seventh-freedom cargo rights and a principal-place-of-business designation test — and was expressly designed to be open to accession by other economies. The ASEAN Single Aviation Market has likewise opened third-, fourth- and intra-regional fifth-freedom passenger services and now serves as the internal base for outward agreements with China, the European Union and New Zealand. The constraint, then, is not the absence of a model but its limited reach. The evidence suggests that deep multilateral commitments in aviation are hard to scale beyond coalitions of the willing. There is scope to work to lower the cost of converging onto these existing instruments — reducing negotiation costs, aligning policy approaches, creating opt-in accession pathways among willing economies, and offering model clauses and work programs that support progressive convergence without assuming identical starting points.

Recent conditions also make this a favourable moment for practical reform. Passenger demand has recovered strongly, cargo volumes remain robust, growth in secondary and tertiary cities is increasing, and new aircraft types are making thinner routes more commercially viable. In 2025, Asia-Pacific traffic grew faster than that in other regions, and earlier parts of this Report discussed the knock-on effects of the Middle East disruption in 2026. These developments create a window to convert cyclical recovery into structural reform rather than simply restoring the pre-pandemic patchwork.

Principle 1: Put Better Connections at the Centre

The first principle is that aviation policy should be judged by the quality and usability of the connectivity it produces. More frequent, reliable and convenient links for passengers and shippers are the true policy objective. Liberalisation is valuable only when it improves the real network available to travellers, exporters, tourism operators and logistics providers. That means attention must extend beyond the rights exchanged in agreements to whether those rights support viable route economics, competitive entry and dependable operations.

This principle matters because traffic recovery has not removed structural fragmentation. The region still exhibits substantial policy restrictiveness in air transport relative to broader services trade, and the remaining barriers often sit in implementation rather than in headline legal language. The real liberalisation frontier now lies in capacity openness, secondary-airport integration, and the alignment of treaty rights with commercially workable operating conditions, as discussed in part 4. The policy question is therefore not simply how many freedoms are granted, but whether those freedoms can be exercised on routes that matter for trade, investment, tourism and regional integration.

The unit of analysis should shift away from capital-to-capital rights alone. The next wave of value is increasingly tied to second- and third-tier city pairs, tourism gateways, manufacturing nodes, university centres and inland logistics markets. APEC's tourism work has already recognised the policy significance of identifying direct air connectivity from primary to secondary and tertiary cities across the region. Liberalisation should therefore be judged in part by whether it supports those emerging markets rather than only incumbent hub-to-hub routes.

Principle 2: Deepen Openness Where Gains Are Most Tangible

The second principle is to focus first on reforms that can produce fast, visible and politically sustainable gains. This points to a phased market-access strategy rather than an all-at-once push for maximum liberalisation. In the short term, the emphasis should be on broader third- and fourth-freedom access, more liberal fifth-freedom rights on selected routes, simpler airline designation, more flexible pricing and better use of existing rights that remain commercially underused.

This sequencing is justified by the heterogeneity of APEC markets. Economies differ widely in size, treaty coverage, regulatory systems and institutional capacity. The role of APEC processes should therefore be to provide model clauses and modular negotiating options rather than a single uniform formula. Passenger packages can focus on third, fourth and selected fifth freedoms; cargo packages can go further; secondary-city packages can include seasonal scheduling and flexible capacity; and facilitation packages can improve border and operational coordination. This modular approach would make liberalisation more adaptable to different political and commercial conditions while still pushing the region toward greater openness. It mirrors the way that actual agreements and corridor initiatives have evolved in the region.

Ownership and control reform remains part of this agenda but should be approached pragmatically, because the treaty and investment layers govern different things. International route access depends on the air services agreement, whose designation clause has conventionally required a carrier to be at least majority owned and controlled by the designating economy or its nationals. Foreign

ownership of the carrier, however, is governed separately by domestic investment law, so a more liberal treaty can be offset by national rules: even where the designation clause is relaxed toward "principal place of business and effective regulatory control," a domestic foreign-equity cap can still limit who may own and control the carrier. The workable near-term path is broader designation clauses, more flexible treatment of foreign minority investment, and template provisions that reassure regulators on safety, security and oversight.

Principle 3: Tackle Recurring Bottlenecks First

The third principle is to remove the operational and regulatory bottlenecks that repeatedly stop legal rights from becoming functioning services. Licensing hurdles, slot opacity, restrictive conditions on key staff, ground-handling limits, airport access problems and weak border coordination often matter as much as treaty language. These barriers should therefore be early targets for practical reform. Implementation bottlenecks are central policy problems rather than technical afterthoughts.

This is particularly important for secondary airports and smaller international gateways. Many potentially viable routes fail not because demand is absent, but because the airport lacks the operational conditions needed to support scheduled international service. Problems may include insufficient customs and immigration coverage, weak apron or fuel arrangements, poor runway or terminal readiness, or the absence of service standards that airlines can plan around. Liberalisation should therefore be paired with a basic internationalisation toolkit for secondary airports, including border-agency service standards, simplified certification pathways where appropriate, and targeted technical assistance for airports beginning regular international operations.

Digital facilitation belongs in this same category. For passengers, interoperable passenger information systems, standard data formats, e-visas and reliable transfer procedures can materially improve route economics and network reliability. For cargo, interoperable shipment data and end-to-end visibility are becoming just as important as rights themselves. Airlines are less likely to sustain new routes if border processes are unreliable, and logistics providers cannot fully exploit liberalised cargo rights if digital systems remain fragmented. Liberalisation should therefore be paired with practical interoperability in passenger and cargo facilitation systems.

Principle 4: Use Cargo as a Fast-Moving Pathfinder

The fourth principle is to use cargo as the early reform track. Cargo markets can often be opened more quickly and with fewer political sensitivities than passenger markets, while generating visible benefits for trade, resilience and supply-chain performance. Asia-Pacific cargo demand rose by 8.4 percent in 2025, the strongest regional performance in the world, confirming that freight remains a dynamic and strategically important part of regional aviation. This makes cargo the clearest candidate for an early demonstration effect.

A practical cargo agenda would include wider all-cargo rights, broader fifth-freedom operations, optional seventh-freedom cargo rights where economies are comfortable, easier interline and transfer arrangements, and closer alignment of customs and data processes. Such reforms would support e-commerce, high-value manufacturing, pharmaceuticals, perishables and time-sensitive trade while also improving the region's ability to absorb shocks. Because cargo networks are crucial during disruption, early reform in this area would also advance the broader resilience objective.

Using cargo as a pathfinder would also serve a wider strategic purpose. If APEC members can generate early wins in freight liberalisation, route additions and digital coordination, it will be easier to build political confidence for broader passenger reforms. Cargo reform can therefore function as both an economic deliverable and an institutional learning process. It offers a practical way to move the region away from general endorsements of liberalisation and toward visible market outcomes.

Principle 5: Build a More Diversified and Resilient Network

The fifth principle is that connectivity strategies should deliberately reduce dependence on a small number of hubs and corridors. Recent events in the Middle East in early 2026 abruptly disrupted the shortest air bridge between Europe and Asia-Pacific and exposed how heavily many routings had come to depend on Gulf hubs. That network structure had evolved for strong commercial reasons, but it also produced systemic fragility. APEC members should respond by treating diversification as a policy objective.

A more resilient network would use liberalisation and facilitation to support alternative long-haul routings, stronger intra-APEC multi-hub patterns, and more viable operations through non-traditional gateways and selected secondary airports. Secondary-city connectivity is therefore not simply a regional-development side issue; it is also part of network resilience. A recurring APEC exercise combining city-pair demand mapping, route simulation, airport-readiness screening and consultation with airlines, airports, tourism bodies and logistics firms would help identify where secondary-city access is commercially realistic and strategically valuable.

Resilience also needs to be built into treaty design and operational coordination. The pandemic showed how quickly passenger networks can collapse, while later supply-chain disruptions underlined the strategic value of flexible cargo and logistics systems. APEC members should therefore consider contingency clauses, temporary operating flexibilities for cargo and relief services, interoperable data systems, and practical procedures that allow authorities to manage risk without defaulting immediately to blunt border frictions. A liberalised market that cannot function under stress is not liberalised in a durable sense.

Principle 6: Use Shared Indicators to Guide and Learn

The sixth principle is to back reform with shared indicators, measurable workstreams and structured pilots. APEC members should establish a recurring Air Services and Connectivity Work Program built around six modules: passenger market access, cargo market access, secondary-city connectivity, ownership and competition, digital facilitation, and sustainability and regulatory capacity. This would give Ministers and officials a coherent structure for implementation while still fitting APEC's preference for incremental convergence and voluntary alignment.

A scorecard is essential if this agenda is to move beyond statements. APEC processes should track, by economy, the number and type of traffic rights granted, foreign ownership rules, designation criteria, slot and ground-handling access, cargo digitalisation readiness, deeper implementation of passenger information systems, border-processing performance, and the number of secondary-city international routes added or sustained. This would make it easier to see where rights have been widened, where bottlenecks persist, and where reforms are producing real diversification and resilience in the network. Options for relevant indicators were discussed in part 4 of this Report.

Pilots would add an important layer of learning and political feasibility. Rather than seeking across-the-board convergence immediately, member economies could nominate specific passenger routes, cargo corridors, secondary-city packages or facilitation reforms for structured monitoring over a two- or three-year period. Each pilot would record the rights granted, the operational conditions attached, the airport-readiness measures adopted, and the observed effects on frequencies, fares, cargo throughput and border performance. This would distinguish between liberalisation on paper and liberalisation that changes actual connectivity.

A secondary airport perspective on all six principles is presented in Box 6.1.

Box 6.1 Making Secondary Airports Work

Much of the region's next wave of aviation value lies in second- and third-tier city pairs — tourism gateways, manufacturing nodes and inland logistics markets — rather than capital-to-capital routes. Secondary airports are not only a feature of large, but geographically dispersed economies. Even small economies can develop them, and many capital cities are now building or operating multiple airports to spread capacity, reduce congestion at a single oversized hub, and lower transfer times and costs for passengers. Many such routes and gateways are commercially viable in principle but fail in practice, not for lack of demand but because the airport lacks the conditions to sustain scheduled international service: insufficient customs and immigration coverage, weak apron, fuel or ground-handling arrangements, poor runway or terminal readiness, or poor local infrastructure which raises costs of passenger access.

Secondary-airport access is therefore also a matter of network resilience: a network spread across more gateways is less exposed when a major hub or corridor is disrupted, as the early-2026 Middle East "hole in the sky" showed.

The chapter's principles translate into a focused work program for secondary airports:

- Internationalisation toolkit — border-agency service standards, simplified certification pathways, and technical assistance for airports beginning regular international operations.
- Tailored access — secondary-city packages with seasonal scheduling and flexible capacity, distinct from capital-city deals.
- Bottlenecks first — treat licensing, slot opacity, ground-handling and border coordination as central problems, paired with interoperable passenger and cargo facilitation systems.
- Readiness exercise and scorecard — a standing program of demand mapping, route simulation and airport-readiness screening, with pilots monitored over two to three years and secondary-city routes tracked in the regional scorecard.

Airline Value in this Agenda

For airlines, the value of this agenda is not liberalisation for its own sake but the removal of constraints that depress route economics and limit network options. Each principle maps onto a concrete commercial interest.

- Usable connectivity over paper rights. Carriers earn returns from frequencies flown, not freedoms granted. Reforms that turn dormant rights into operable services — better use of existing entitlements, secondary-airport access, dependable border and ground operations — directly improve load factors, yields and aircraft utilisation. This is the difference between a route that can be scheduled and one that merely exists in a treaty.
- Faster, lower-risk market entry. Slot transparency, simpler designation, flexible pricing and predictable licensing reduce the time and sunk cost of launching a route. Lower entry risk lets carriers test thinner city pairs and seasonal services they would otherwise avoid, expanding the addressable network.
- Cargo as immediate upside. Wider all-cargo and fifth-/seventh-freedom rights, easier interlining and aligned customs and data processes lift belly-hold and freighter revenue quickly, support e-commerce and time-sensitive trade, and improve the economics of passenger routes that rely on cargo contribution.
- Network resilience as risk management. Diversified routings, multi-hub options and alternative gateways give carriers commercial flexibility when a corridor closes — protecting revenue and schedule integrity rather than being a purely public-policy concern, as the early-2026 Middle East disruption underlined.
- Investment and consolidation headroom. Progress on designation and foreign minority investment widens access to capital and partnership options, supporting fleet renewal, alliances and cross-border efficiency.

How does this support an airline strategic plan? The same reforms feed directly into route planning (which thin and secondary markets become viable), fleet decisions (new-generation aircraft matched to newly openable city pairs), cargo strategy (where freight rights unlock margin), and risk planning (contingency routings and operational flexibility). A predictable, scorecard-tracked reform pipeline lets carriers plan multi-year capacity and capital commitments against a visible timetable rather than reacting to ad hoc bilateral outcomes.

In short, the agenda succeeds commercially when it lowers the cost and risk of doing what airlines already want to do — open profitable routes, carry more cargo, and protect networks against disruption — and when reform is sequenced and measured in ways carriers can plan around.

Work Program and Follow-Up

Taken together, these principles point to a practical agenda for the next phase of APEC air transport reform, with a clear sequence over the next five years. In the near term (1–2 years), passenger market access among willing economies should be widened through model clauses covering third- to fifth-freedom rights, designation, pricing, wet leases and cooperative arrangements, starting with voluntary pilot deals and a small “coalition of the willing.” Cargo should move faster on the same timeline, with early pilot arrangements for broader all-cargo rights and closer customs and data coordination, building toward a more standard regional template by the mid-term.

Over the medium term (2–3 years), secondary-city connectivity should become a standing program of route analysis, airport-readiness assessment and consultation with market actors, with a view to

bringing at least a first wave of secondary-airport corridors into commercial use and reviewing progress annually.

Ownership and competition issues will require a longer horizon. In the first phase, economies could adopt incremental templates on principal place of business, foreign minority investment, slot transparency, ground handling and alliance review, and test them in new or renegotiated air services agreements. Over the medium to longer term (3-5 years), those templates could be deepened and expanded as regulators gain confidence, with regular stocktakes on how far de facto conditions for market entry and competition are converging.

Digital facilitation should be developed in parallel, connecting passenger and cargo reforms to interoperable border and logistics systems, with short-term goals focused on data standards and pilots, and a medium-term goal of regionally interoperable processes. Sustainability and regulatory-capacity work needs to run throughout, ensuring that opening proceeds in line with real fleet, fuel, infrastructure and oversight constraints, and that regulators keep pace with more complex networks and business models.

This agenda is an APEC-centric package rather than a universal model. But in the next 1–3 years, APEC can help members negotiate more effectively with non-APEC partners by creating a library of model clauses and modular negotiating options tailored to different types of market-access package. Shared templates would not replace bargaining between economies, but they would reduce transaction costs, improve comparability and make it easier for members to negotiate packages that are politically feasible and commercially relevant. As experience accumulates (3–5 years), these modules could be refined and, where appropriate, bundled into more ambitious ‘packages’ that willing economies can adopt as a step toward deeper openness.

The agenda has consequences for non-members. As APEC members’ air transport systems become more open and competitive, there will inevitably be spillover effects for non-members as they interact with APEC carriers and hubs; these may be positive (for example, better connectivity and lower through-fares) or negative (for example, pressure on non-member carriers and hubs). Those spillovers should be recognised and monitored, and they are an important by-product of APEC-based reforms.¹⁵

The agenda must also recognise domestic adjustment and public-interest guardrails at each stage. Liberalisation can improve connectivity and efficiency, but it can also intensify fare competition, expose national carriers, affect traffic distribution across airports and raise labour concerns. In the early phases, these issues should be managed through route-level pilots, temporary monitoring of competition outcomes and clear rules for economy-level support, with sunset dates and review points. Where routes are socially necessary but commercially weak, targeted service obligations should be used sparingly and transparently and revisited as markets evolve. At the same time, liberalisation must not come at the expense of safety oversight, aviation security, consumer protection or transparent competition; as markets open, the expectation should be that regulatory capacity and independence are strengthened on a defined timetable, not diluted.

¹⁵ ASEAN members have active dialogues with its partners on air transport connectivity, which provides a framework for the interaction with non-members.

A follow-up report to the next APEC Economic Leaders' Meeting should identify where these principles have been applied, which barriers have been removed, and what early progress has been made in strengthening connectivity, diversification and resilience across the regional aviation network. Subsequent reports, on a regular cycle, should document the measurable outputs of the work program, including changes in market access, cargo rights, secondary-city services, digital facilitation and airport-readiness improvements, and should recommend which pilots to expand or retire. This would create a rolling learning cycle in which economies can compare progress, identify bottlenecks, refine sequencing and extend the reforms that prove most effective. Deeper research including extension of the methods developed here can be applied to the data collected in this reporting process.

Over time, that process could help APEC move from a fragmented and uneven set of bilateral arrangements toward a more coherent pathway of negotiated openness, supported by practical implementation tools, clearer timeframes and a stronger evidence base.

Annex

Economy profiles and cluster interpretation

This section considers in some detail both the profiles of APEC member economies and their classification into clusters. These results are then used in the following section (Which bilateral or plurilateral deepening looks easiest now?) to discuss pathways for policy changes. Some readers may wish to turn directly to that section.

Open-market systems with mature multi-airport access

The first group of economies includes the most straightforward cases where liberal treaty frameworks and secondary-airport access work together. Australia, Canada and the United States are all classified as O1 for ownership, but they reach C3 and S3 because they have broad bilateral agreements, established open-skies policies, and international traffic that is spread across multiple airports. These economies can now look beyond initial market opening and consider more advanced liberalization measures, such as packages for secondary cities, protocols that prioritize cargo, neutral slot allocation, and stronger competition rules for alliances and airport access.

Australia (O1-C3-S3). Australia still applies classical Australian ownership and control requirements to designated international airlines, but its bilateral strategy is clearly based on providing capacity ahead of demand. The 2024 Aviation White Paper states that Australia already has air services agreements or arrangements with 110 economies and open-access type agreements with no limit on the number of flights with several major partners, including New Zealand, China, the United States, Japan, India and Singapore. Official airport designation material also shows a wide set of international gateways beyond Sydney and Melbourne. That combination makes Australia one of the strongest APEC cases where treaty openness and secondary-airport access genuinely support one another. Its most natural next deepening is with Indonesia, Viet Nam and the Philippines. (Australia Department of Infrastructure, 2024, 2026.)

Canada (O1-C3-S3). Canada is also best read as a high-C, high-S economy. Global Affairs Canada says it has air transport relationships with more than 125 economies while the Canadian Transportation Agency's characterization of the Canada-U.S. agreement makes clear how liberal key corridors already are: any number of airlines may be designated, any points may be served, fifth-freedom rights are permitted and all-cargo seventh-freedom services are allowed. On the outcome side, Canada's international network is not confined to Toronto and Vancouver. The National Airports System spans 26 airports, and international or transborder traffic is spread across several large gateways. Canada's most plausible next-stage deepening is with Mexico, Japan and selected Southeast Asian partners. (Global Affairs Canada, 2025; Canadian Transportation Agency, 2025; Transport Canada and Statistics Canada, 2025-2026.)

United States (O1-C3-S3). The United States remains the clearest O1-C3-S3 benchmark within APEC. Although designation still rests on conventional ownership logic, U.S. international aviation policy is built around a very large open-skies network. As of March 2026, the Department of Transportation listed Australia, Brunei, Canada, Chile, Indonesia, Japan, Korea, Malaysia, New Zealand, Peru, Singapore, Chinese Taipei, and Thailand as current APEC open-skies partners, while Viet Nam was

covered by cargo open skies only. Because the United States distributes international traffic across many gateways rather than one primary hub, its S rating is also mature. The U.S. is therefore most useful not as an economy needing more basic liberalization, but as one that can normalize cargo-first agreements, secondary-city rights and competition-oriented implementation. Thailand and Viet Nam are the most actionable next Asian steps. (U.S. Department of Transportation, 2026.)

Single-gateway liberal hubs

The second group includes economies with high or nearly high C scores but consistently low S scores. Singapore, Hong Kong, China and Brunei Darussalam each rely on a single main international airport, so secondary-airport access is not comparable to that in larger economies. In these cases, a low S score reflects geography rather than restrictive policy. International aviation is naturally concentrated at one hub. These members are most relevant as examples of regulatory, cargo and network connectivity, rather than as models for expanding domestic secondary-airport access.

Singapore (O1-C3-S0). Singapore is the clearest case where low S does not imply weak liberalization. Its ownership rules remain traditional, but the city has one of the world's most liberal air services portfolios. The Ministry of Transport states that ASEAN's MAFLAFS, MAAS and MAFLPAS together provide intra-ASEAN open skies for ratifying economies while CAAS has reported that Singapore has concluded air services agreements with more than 130 economies, including more than 60 open-skies agreements. Because Singapore is effectively a single-airport economy, secondary-airport liberalization is not the issue. Its role as a hub for cargo, sixth-freedom traffic, digital border facilitation and regulatory templates. Its easiest deepening is with Malaysia, Indonesia and Viet Nam, where hub access can be tied to better secondary-city outcomes. (Singapore Ministry of Transport, 2026)

Hong Kong, China (O1-C3-S0). Hong Kong, China is another single-gateway liberal hub, although its operational culture is more commercially flexible than the average O1 system. In practical terms it reads as O1-C3-S0. Hong Kong, China maintains an extensive network of air services and transit agreements, and official 2025 planning material recorded roughly 130 airlines operating more than 750 daily flights to nearly 200 destinations worldwide by October 2024. The three-runway system reinforces that hub role. But because Hong Kong, China is a compact single-airport economy, the relevant question is not secondary-airport access inside Hong Kong, China itself. It is how Hong Kong, China can support cargo and passenger connectivity for secondary cities elsewhere in the region. The most natural next-stage linkages are with Singapore, Chinese Taipei and major ASEAN economies. (Hong Kong Transport and Logistics Bureau, 2025; Civil Aviation Department Hong Kong, 2025.)

Brunei Darussalam (O1-C2.5-S0). Brunei Darussalam sits between the single-gateway hub cases and the wider ASEAN liberalization story. It benefits from ASEAN open-skies arrangements and is also a MALIAT signatory; the United States accordingly treats Brunei as an open-skies partner through that framework. Yet Brunei's practical network is small, and almost all international rights are exercised through Brunei International Airport. Capacity rights are therefore relatively liberal in some corridors even though the overall system does not behave like a full C3 market across its whole portfolio. Brunei is a good candidate for 'use what already exists' liberalization: more systematic exploitation of ASEAN passenger and cargo freedoms, code sharing and digital facilitation rather than a new headline treaty agenda. Its natural partners are Singapore, New Zealand and Australia. (U.S. Department of Transportation, 2026; Singapore Ministry of Transport, 2026.)

Liberal but geographically concentrated Pacific and Latin systems

A third group of economies is relatively liberal in terms of capacity, but international traffic remains concentrated at one or two main airports, unlike in larger continental systems. Here, geography plays a key role. Factors such as long-haul routes, high levels of tourism, and island or peninsular locations allow for C3 or near-C3 agreements, but do not necessarily lead to S3 outcomes. These cases show that further liberalization often requires targeted efforts, such as improving access at provincial airports, addressing seasonal demand, increasing code-share flexibility, and balancing cargo and passenger services. New Zealand and Chile are the strongest examples of treaty liberalization, Peru is making rapid progress from a lower starting point, Mexico has liberal agreements but faces operational challenges, and Chinese Taipei is commercially open but limited by diplomatic factors.

New Zealand (O1-C3-S2). New Zealand is best classified as O1-C3-S2, with the important caveat that the Australia-New Zealand Single Aviation Market softens the practical edge of O1 in one crucial corridor. The Ministry of Transport defines open skies in strongly liberal terms and continues to pursue such agreements where they serve the interest of New Zealand. The 2024 New Zealand-ASEAN agreement and protocol were designed to raise the quality and consistency of New Zealand's arrangements across Southeast Asia, even though some restrictions remain. Auckland still dominates international traffic, so S is not fully mature, but Christchurch, Wellington and Queenstown mean secondary-airport access is real rather than merely legal. The most promising next deepening is with Indonesia, Thailand and the Philippines, where New Zealand has both diplomatic momentum and clear tourism and cargo complementarities. (New Zealand Ministry of Transport, 2025.)

Chile (O1-C3-S1). Chile is best read as O1-C3-S1. Its commercial aviation policy has been explicitly framed around open skies for roughly three decades, and the official traffic-rights matrix distinguishes the most liberal markets as those with no limit on the number of flights. In treaty design, Chile therefore sits among APEC's more liberal members. The weaker dimension is S: Santiago remains dominant, and secondary international connectivity is meaningful but still not broad enough to make Chile a mature non-primary network. Chile's practical value lies in pairing a liberal treaty posture with targeted South Pacific and west-coast Latin American connections. The easiest deepening is with Peru, Australia and the United States, especially for cargo, tourism and seasonal services. (JAC Chile, 2025-2026; U.S. Department of Transportation, 2026.)

Peru (O1-C3-S1). Peru is moving faster than any other APEC Latin American member in the direction of a modern C3 posture, so the best current reading is O1-C3-S1. In early 2026 Peru's Transport Ministry described its new agreement with Australia as a full open-skies arrangement with free capacity setting, route flexibility, pricing freedom and broad code-share rights, while other 2026 releases pointed to similar modernization with Panama and Colombia. Lima nevertheless still dominates the international system, and secondary airports remain more latent than mature in the C-O-S sense. Peru is therefore important as an emerging liberalizer rather than as a fully consolidated one. The most natural deepening partners are Chile, Australia and the United States, with a particular emphasis on cargo, tourism and provincial airport upgrading. (Peru Ministry of Transport and Communications, 2026; U.S. Department of Transportation, 2026.)

Mexico (O1-C2-S2). Mexico is best classified as O1-C2-S2. On paper, the 2015 U.S.-Mexico agreement is liberal enough that U.S. authorities describe it as meeting the written open-skies threshold. In practice, however, implementation has become less predictable because of slot confiscation, capacity reductions and the forced relocation of all-cargo operations from Mexico City, which the U.S. Department of Transportation argues undermine the agreement's liberal operating environment. Mexico therefore no longer reads as a straightforward C3 case in practical terms even though parts of the treaty text are modern. At the same time, international traffic is distributed across several major non-capital airports, so secondary access is clearly active. The most natural next-stage partners remain the United States, Canada and Peru, but any deepening agenda should now include slot rules, transparency and airport access disciplines. (Government of Mexico, 2025; U.S. Department of Transportation, 2025.)

Chinese Taipei (O1-C3-S2). Chinese Taipei is best read as O1-C3-S2. Despite diplomatic constraints that complicate treaty form, the market behaves more like a liberal Pacific aviation system than a protected bilateral one. The United States lists Chinese Taipei as an open-skies partner, and the Civil Aviation Administration's operational pages show multiple airports handling international and cross-strait traffic, not only Taoyuan but also Songshan, Kaohsiung and Taichung. Taoyuan still dominates, so S is better read as active than fully mature. The comparative lesson is that diplomatic complexity does not necessarily imply low C. The most natural deepening is with Japan, Singapore and the United States, especially where secondary-airport services, cargo flows and technologically sophisticated passenger markets overlap. (U.S. Department of Transportation, 2026; Civil Aviation Administration, MOTC, 2026.)

Northeast Asian selective liberalizers

The Northeast Asian cases are commercially large but institutionally selective. None still looks like a classic C1 market, yet none is a frictionless regional single market either. The main constraints are airport-specific carve-outs, phased liberalization, capacity management at metropolitan gateways, and continued reliance on traditional ownership logic. The result is a set of economies that often operate in the C2 to C2.5 range overall, even though some corridors already look like C3. This group matters because secondary-city gains can be large once metropolitan bottlenecks are eased. The priority is pragmatic corridor-building rather than a premature push for sweeping ownership reform.

China (O1-C2->C3-S2). China's baseline system remains reciprocity-based and heavily managed through bilateral negotiations, but recent practice is more liberal in selected corridors than older literature would imply. The CAAC maintains a dense bilateral network, the 2016 China-Australia arrangement opened third and fourth freedom passenger rights and expanded fifth-freedom opportunities, and 2025 policy pilots in Hainan introduced limited seventh-freedom experimentation. The outcome side is also no longer capital-city only: many second-tier Chinese airports are real international nodes, though the overall system still falls short of a region-wide S3 reading because rights, slots and market access remain uneven. China is therefore best classified as O1-C2->C3-S2. The easiest next deepening is with Australia, Singapore and Thailand or Malaysia, where commercial demand is strong and political frictions are relatively manageable. (CAAC, 2016; APEC PSU, 2025.)

Japan (O1-C2.5-S2). Japan is more liberal than a simple reading of older bilateral restrictions would suggest. The Ministry of Land, Infrastructure, Transport and Tourism reported that by 2015 Japan had

realized open skies with 27 economies and regions covering about 94 percent of passengers, which places Japan well above a mid-range bilateral model. Yet official materials also make clear that metropolitan airports, especially Tokyo, have required special treatment, and Japan's reform agenda has relied on phased openings, LCC terminals, lower fees and regional airport support rather than on one single leap to full uniform openness. That combination produces active secondary access but not a fully mature multi-airport international network. Japan is therefore best read as O1-C2.5-S2. The most natural next deepening is with Korea, Singapore and Thailand. (MLIT Japan, 2015; Japanese airport and consultation materials.)

Korea (O1-C2.5-S2). Korea is also best read as O1-C2.5-S2. Official Korean materials explicitly frame Open Skies Agreements with the EU, ASEAN and other partners as tools to promote liberalization and increase capacity, and recent agreements have extended the possibility of direct services between regional Korean airports and foreign destinations. In practice, however, Korea still sits in the middle range rather than at a clean C3, because major-airport strategy, alliance structure and selected bilateral frictions continue to matter. The S dimension is stronger: Busan, Jeju and several other airports regularly participate in the international system even if Incheon remains dominant. Korea's most plausible next-stage deepening is with Japan, Thailand and Viet Nam, all of which combine large demand with room for better secondary-airport and all-cargo connectivity. (Ministry of Land, Infrastructure and Transport Korea, 2025; U.S. Department of Transportation, 2026.)

ASEAN-style selective liberalizers with active secondary-airport growth

Southeast Asia provides APEC's clearest example of substantial but still incomplete regional opening. ASEAN's MAFLAFS, MAAS and MAFLPAS create a strong legal base for open skies among ratifying economies, but both official and semi-official material show that members still limit access at particular airports. That is why economy-wide scores often land in C2 or C2.5 rather than at a pure C3. This cluster is especially important because the legal base already exists, the secondary-city opportunity is large, and the next policy step is often implementation depth - designated airports, slots, customs hours, cargo digitization and airline business freedoms - rather than an entirely new treaty architecture. (Singapore Ministry of Transport, 2026; Anas and Findlay, 2017.)

Indonesia (O1-C2-S2). Indonesia's legal direction is liberalising: ASEAN ratification allows designated airlines to operate passenger and cargo services with no limits on capacity or schedule between international points, including fifth-freedom operations. But Indonesia's own APEC structural reform paper also records the continued restriction of ASEAN access to selected airports, and the route-permit system remains operationally consequential. The outcome side is stronger than the treaty average suggests because several non-capital airports - including Bali, Medan, Surabaya and Makassar - are genuine international gateways. Indonesia therefore has active secondary access, but not a consistently open C3 framework, making O1-C2-S2 the best current read. The most practical next deepening is with Australia, Singapore and Malaysia, where traffic is strong and secondary-airport routes are commercially credible. (APEC PSU Indonesia, 2017; Directorate General of Civil Aviation Indonesia, 2024.)

Malaysia (O1-C2.5-S2). Malaysia is best classified as O1-C2.5-S2. The Ministry of Transport's current ASA inventory shows a broad bilateral network, while MAVCOM's strategic work describes a mixed portfolio of restricted, unrestricted and hybrid agreements, with ASEAN-SAM as a major liberalization driver. Malaysia's airport structure also supports a higher S reading than a Kuala Lumpur-only story

would suggest: Penang and Kota Kinabalu are important international nodes, and the domestic policy debate has explicitly considered whether traffic should be funnelled into KUL or determined more by market forces. That combination makes Malaysia a good test case for the proposition that treaty flexibility and airport strategy must move together. The easiest next deepening is with Singapore, Indonesia and Thailand, especially around secondary cities, LCC operations and all-cargo services. (Ministry of Transport Malaysia, 2026; MAVCOM, 2020.)

Philippines (O1-C2-S2). The Philippines is best read as O1-C2-S2. Executive Order No. 29 created an unusually explicit tool for directing liberalization toward development airports outside Manila, and the Civil Aeronautics Board continues to describe it as a flexible mechanism for attracting direct services without first waiting for full bilateral renegotiation. That is a strong S-oriented innovation. Yet CAB guidance also makes clear that EO 29 rights are not a full substitute for regular reciprocal treaty rights, and the Philippines has continued to shield Manila from parts of the ASEAN liberalization architecture. The result is a system with active secondary-airport access but only partial economy-wide liberalization. The most natural next deepening is with Japan, Australia and Singapore, where development-airport traffic, tourism and diaspora demand are all significant. (Civil Aeronautics Board Philippines, 2025; Anas and Findlay, 2017.)

Thailand (O1-C2.5-S2). Thailand is best read as O1-C2.5-S2. ASEAN liberalization pushes Thailand above the simple bilateral middle, and Thailand's secondary tourism airports give the S dimension real substance. At the same time, Thailand has not yet converged to a uniform C3 profile across all major partners. The 2025 restoration of FAA Category 1 status mattered because the Civil Aviation Authority of Thailand immediately identified review of the U.S. open-skies relationship as a next step, signalling that further liberalization is still agenda-driven rather than complete. Phuket, Chiang Mai, Krabi and other non-Bangkok airports make Thailand a particularly useful case for linking treaty reform to secondary-airport growth. The easiest next deepening is with Singapore, Malaysia and the United States. (CAAT, 2025; ASEAN air-services materials.)

Viet Nam (O1-C2-S2). Viet Nam is best classified as O1-C2-S2. The clearest liberalization signal is that the United States treats Viet Nam as a cargo open-skies partner, while official planning points to a major expansion of the international airport system, with 14 airports intended to handle international flights by 2030 and Long Thanh entering technical operation in 2025. Those infrastructure choices matter because they progressively activate the S dimension beyond Ha Noi and Ho Chi Minh City. Yet Viet Nam is not yet a clean C3 passenger market across its bilateral portfolio, and economy-level strategy remains important in capacity planning. The most practical deepening is therefore phased: cargo and digital facilitation with the United States, plus broader passenger and secondary-airport deepening with Singapore, Thailand and Australia. (U.S. Department of Transportation, 2026; Viet Nam planning sources, 2025.)

Constrained or disrupted systems

The last cluster contains cases where legal market access is not the only or even the main bottleneck. Papua New Guinea (O1-C1/C2-S1). Papua New Guinea's own current policy debate points to a more restrictive practical picture than the economy's connectivity needs might suggest. The ICC's draft aviation industry inquiry states directly that PNG has not implemented an open-skies policy, that discretion is retained over additional airline entry, and that Air Niugini remains the designated and dominant international carrier under bilateral agreements. Secondary access is also limited:

international services exist outside Port Moresby, but the network is thin and heavily conditioned by scale, infrastructure and SOE economics. PNG is therefore best read as O1-C1/C2-S1. Its easiest useful deepening is not headline C3 negotiations, but step-by-step reforms with Australia and Singapore that combine safety, airport readiness, competition oversight and targeted market opening. (ICCC Papua New Guinea, 2025.)

Russia (O1-C1/C2-S1). Russia is best characterised as O1-C1/C2-S1 in current practical terms, even if some legacy bilateral arrangements were negotiated under less restrictive conditions. It is more usefully treated as a special-case economy where air liberalisation is constrained by regulatory, safety, and network limitations. Any practical deepening options are narrow and concentrated in a limited set of Asian partners.

Performance indicators

Reported here is an application of the framework in part 4 to the determinants of performance in air transport systems. The results reported here are preliminary and will be the focus on future work.

The analysis starts from a simple, well-established idea about air travel: the number of passengers flying between two places depends mainly on how big the two economies are and how far apart they sit. Bigger economies generate more demand, and longer distances tend to dampen it — the same "gravity" logic used to explain trade and migration flows. Here, economic size is measured by the two markets' combined GDP and separation by the distance in kilometres between them; expressing these in logarithms lets the results be read as elasticities, showing the percentage change in traffic from a one per cent change in size or distance. The method then adds one further step. Rather than just describing average traffic, it estimates the maximum passenger volume a route could realistically achieve given its size and distance — a performance "frontier" — and separates two reasons a route might fall short of it: ordinary random noise (measurement error and one-off disturbances) on the one hand, and genuine underperformance on the other. Each connection is then given an efficiency score between zero and one, where a score near one means the route is carrying almost as many passengers as its market potential allows, and a lower score means it is leaving traffic on the table. Ranking these scores from highest to lowest shows which connections are making the most of their underlying potential and which are most underused — the latter being where liberalisation could unlock the largest gains. Box A contains more detail of the analytical method.

Box A: Stochastic Frontier Analysis

The empirical analysis is based on a Stochastic Frontier Analysis embedded in a gravity-model logic of air transport flows. In line with the gravity approach, passenger volumes on airline connections are assumed to depend primarily on the economic mass of the two connected markets and the distance between them. Economic mass is captured through combined GDP, while geographical separation is measured by the distance in kilometres between the relevant locations. The estimated relationship therefore reflects the idea that larger economies tend to generate stronger passenger demand, whereas greater distance tends to reduce traffic volumes. To estimate this relationship in a consistent way, the variables are transformed into logarithms, which also allows the coefficients to be interpreted as elasticities.

The stochastic frontier specification extends the traditional gravity model by distinguishing between random shocks and systematic underperformance. More specifically, the error structure consists of a symmetric random component, which captures measurement error and other exogenous disturbances, and a one-sided inefficiency component, which captures the extent to which an observed airline connection performs below its estimated potential. In this way, the model identifies a frontier level of passenger traffic that is feasible given the structural characteristics of the route. After estimation, technical efficiency scores are predicted for each airline connection. These scores range between zero and one, with values closer to one indicating that a connection is performing nearer to its estimated potential. On that basis, a ranking of airline connections is constructed by ordering the estimated efficiency scores from highest to lowest, so that connections can be compared in terms of how strongly they exploit their underlying market potential.

The results of the efficiency scores are then plotted in two formats in Figures A1 and A2. Figure A1 plots this efficiency measure for each economy against its secondary airports (S) score from part 4. The overall association is positive. Economies with a stronger role for secondary airports tend to display higher connectivity efficiency, suggesting that a more distributed airport structure may help economies exploit demand more effectively and channel traffic to a wider set of routes. Thailand and Malaysia perform strongly, both lying well above 0.91 on the efficiency axis. At the other end, Japan combines a relatively modest score on secondary airports with one of the lowest efficiency levels, while Brunei records a comparatively high score on the horizontal axis but remains far below the fitted line, indicating that secondary airports alone are not sufficient to guarantee efficient connectivity.

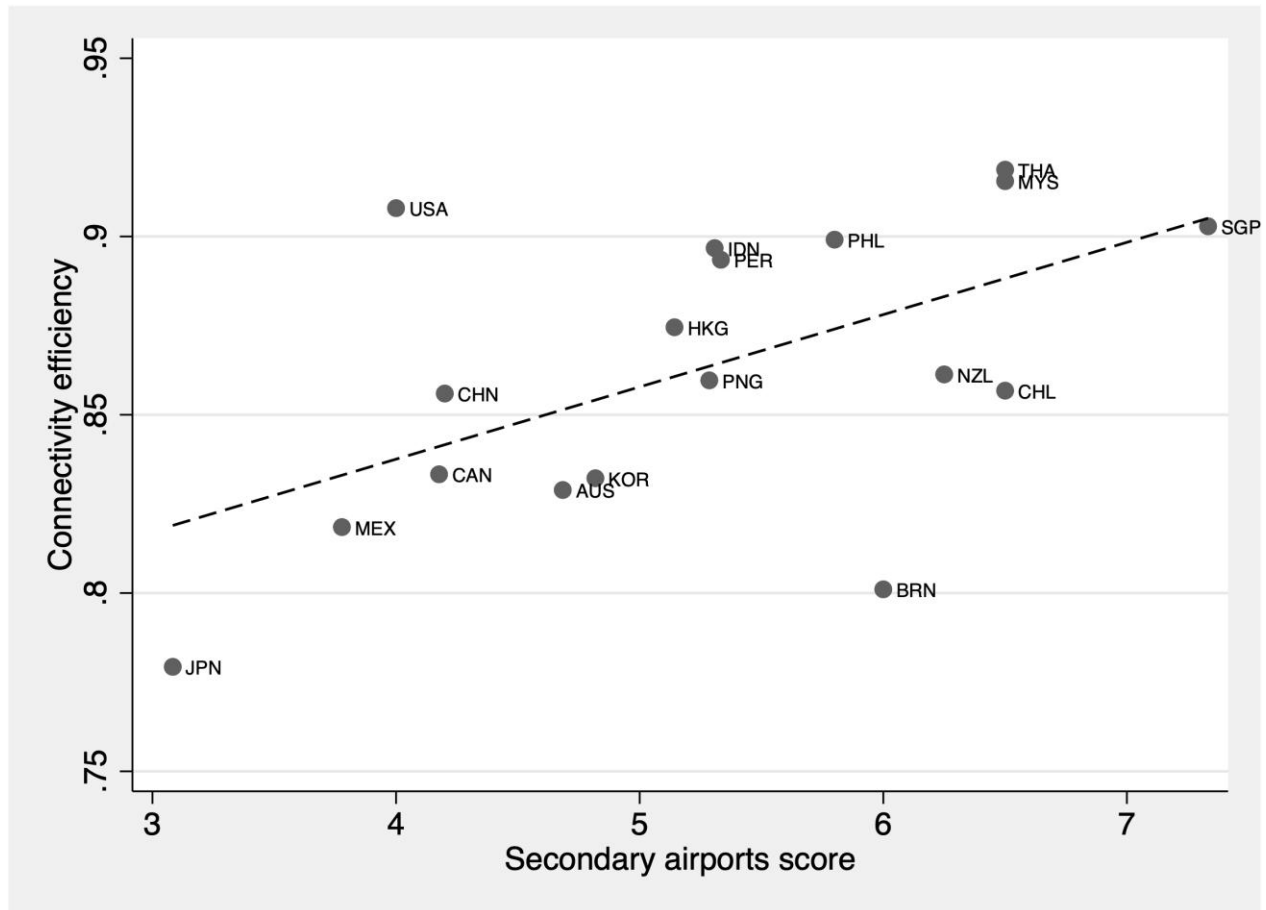


Figure A1: Connectivity Efficiency and the Secondary Airports Score

Source: Author calculations

Figure A2 shows a similar pattern for the capacity (C) score. The fitted line again slopes upward, indicating a positive relationship between stronger competitive conditions and connectivity efficiency. This is consistent with the idea that more competition can improve route development, pricing, frequency and overall responsiveness to passenger demand. Singapore lies on the high end of both dimensions, while Thailand and Malaysia also combine relatively strong competition scores with high efficiency. The United States is somewhat unusual: it displays very high efficiency despite a lower competition score in this sample, suggesting that other structural or network advantages may also matter. By contrast, Japan and Mexico both occupy the lower-left part of the figure, with comparatively weak scores on both dimensions.

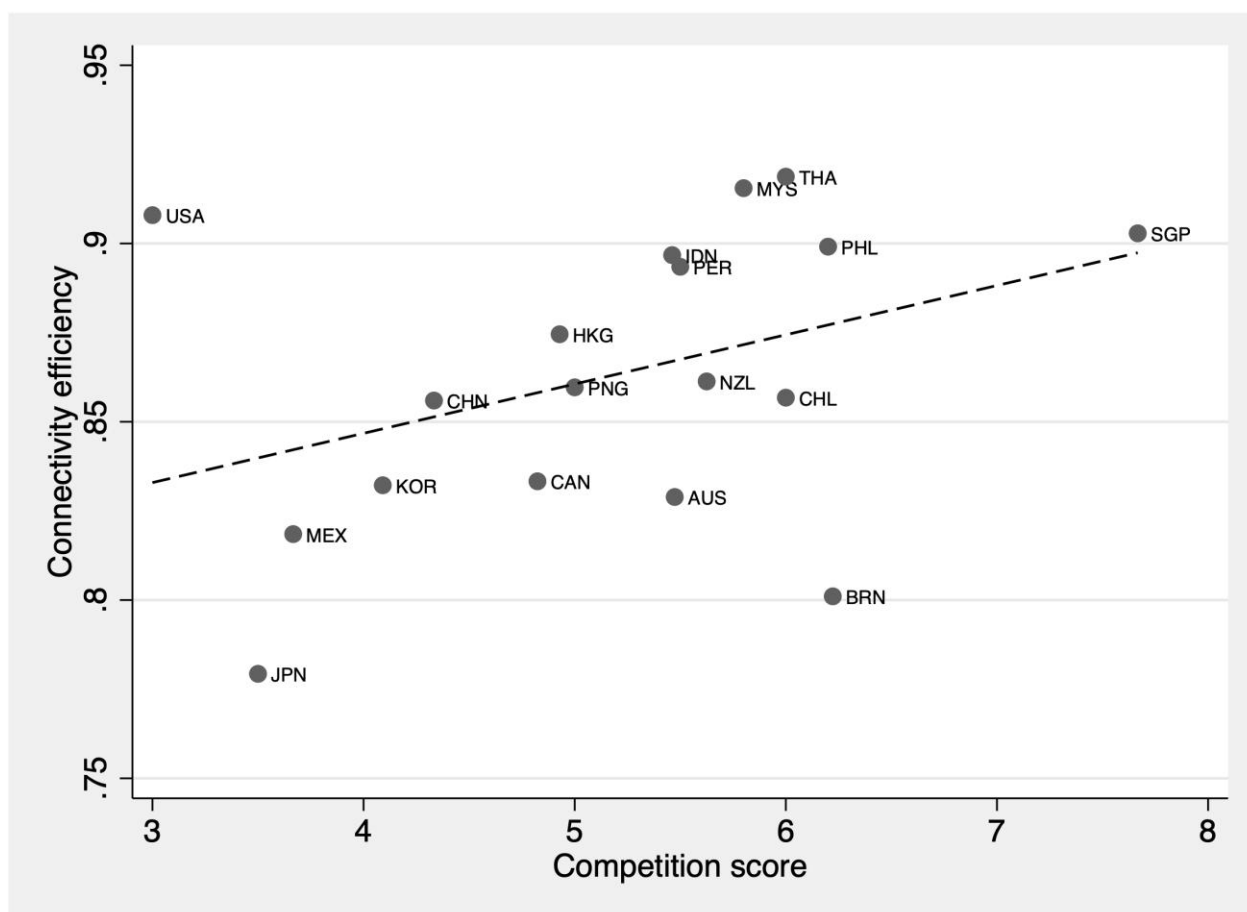


Figure A2: Connectivity Efficiency and the Capacity Score

Source: Author calculations

The analysis was not undertaken for the application of the O score, given its lack of variation across economies. In that situation, there would be no sign of any relationship between O scores and the efficiency indicators.

Discussion of the Figures so far has concentrated on the shape of the horizontal variation, that the level of efficiency appears to rise with the level of openness according to the C and S scores. It is also of interest to comment on the vertical variations. That is, even at the same levels of scores of C and S, there is variation in efficiency. Clearly then, there are other drivers of performance. These include various economy level conditions, including location and geography. But also, drivers may include other policy settings, for example, the impacts of the policy dimensions covered by the STRI, as discussed in part 4 of the Report. The relative importance of these variables is a topic for further work. But this sort of variation supports the comments in the Report that existing commitments within the C-O-S framework appear to be under-utilised (here indicated by the lower efficiency scores) in many economies.

Overall, the results support the proposition in the main text concerning the sequencing of reform. Because the political economy of full ownership reform is so hard, headline ownership liberalisation (changing the O score) is not the realistic near-term frontier. The achievable gains sit on the capacity (C) and secondary-airport (S) margins: more flexible designation, more all-cargo and fifth-freedom

rights, fewer city-specific carve-outs, and more systematic treatment of secondary airports, slots and border facilitation. This points to a two-track strategy in the immediate term — a broad C-and-S track carrying most of the near-term value. At the same time there is value in a deliberately narrow O track limited to politically usable measures such as principal-place-of-business concepts, flexible wet leasing and cargo designations.

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