MINISTRY OF TRANSPORT
TE MANATŪ WAKA

New Zealand airline agreements

Assessment framework guidelines
DRAFT FOR CONSULTATION

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Glossary of terms and abbreviations

Agreement	An umbrella term that encompasses all forms of cooperative arrangements between applicants. This includes, but is not limited to, interline, codeshare, direct coordination, revenue sharing, and metal neutral agreements.
Applicants	The parties that have applied for authorisation.
Capacity	The total number of seats an airline offers for sale on a route over a specified period.
Codeshare agreement	An agreement between airlines that allows them to sell tickets for each other's flights. For example, a codeshare agreement between airlines A and B would enable the purchase of a ticket for airline A's flight on airline B's website.
Complementary routes	If airline A operates a flight from city X to city Y and airline B operates a flight from city Y to city Z, their routes are complementary as they enable travel from city X to city Z.
Connecting passengers	Passengers that travel to their final destination with one or more intermediate stops. In an origin and destination market, a connecting passenger is only considered to be part of the market defined by their origin and destination. Connecting passengers are not part of the markets defined by each separate leg of their journey.
Contribution margin	The difference between revenue and variable cost. This measure indicates how profitable a product or route is.
Coordinated effects	This occurs when an agreement increases the likelihood of airlines, inside or outside the agreement, coordinating on higher prices or worsening other aspects of their product offering.
Counterfactual	The scenario that would prevail "but for" the agreement.
Detriment	Any harm to New Zealand including a lessening of competition. The opposite of a public benefit.
Difference in differences (DiD) analysis	DiD involves identifying "treatment" (routes affected by the agreement) and "control" (comparable routes unaffected by the agreement) groups, and identifying the change in airfares due to the agreement as the difference between the treatment group airfares and what the treatment airfares would have been had they followed the same trend as the control group.
Direct coordination	An agreement that allows airlines to coordinate on airfares, schedules, or marketing. However, revenues from coordination are not shared.
Factual	The scenario in which the agreement is implemented.

Feeder routes	In a hub-and-spoke network, routes that transport passengers from spoke airports to the hub airport, where passengers can then connect onwards to their destination. Typically, feeder routes are short-haul or domestic routes.
Feeder traffic foreclosure	This occurs when an airline withholds feeder traffic to a competing airline to increase the competitor's costs. This can allow the foreclosing airline to undercut the competitor and gain market power.
Frequency	The number of flights operated on a route over a specified period.
Frequent flyer programme	A loyalty programme offered by an airline that allows passengers to accumulate points that can then be redeemed for air travel tickets or other rewards.
Frequent flyer programme coordination and lounge access	An agreement that links the frequent flyer programmes of the participating airlines, for example by allowing passengers to allocate points from a flight to either programme. The agreement can also allow passengers access to both airlines' airport lounges.
Gross margin	Gross profit divided by revenue, expressed as a proportion. Gross profit is the difference between sales revenue and cost of goods sold. This identifies how profitable a product is, accounting for both variable and fixed costs.
Gross upward price pressure index (GUPPI)	A screening tool used to identify the markets in which an agreement can increase prices. For two airlines, this index reflects the value of sales that would be captured by one airline in response to a price increase by the other airline.
Herfindahl-Hirschman index (HHI):	An established measure of market concentration. The HHI adds together the square of each competitor's market share.
Horizontal unilateral effects	This occurs when a lessening of competition between airlines in a cooperative agreement results in worse outcomes for consumers.
Hub-and-spoke	A hub is a central airport in an airline's network, from which the airline operates services to all, or most, other airports. Typically, in a hub-and-spoke network, passengers travelling between two airports that are not hub airports connect via a hub airport.
Interline agreement	An agreement between airlines that allows a passenger to use a single ticket for an indirect journey on which different flights are provided by different airlines.
Marketing carrier	The airline that sells the seat to a passenger, either on a flight operated by the airline itself or a flight operated by another airline. The marketing carrier sells the seat with the marketing carrier's own IATA code, regardless of which airline operates the flight.

Metal neutral agreement	An agreement in which the participating airlines share both costs and revenues in the markets covered by the agreement.
Non-premium passengers	Passengers that value price more than quality. These passengers tend to travel for leisure purposes and do not require flexibility with their booking.
Overlap routes	Routes on which multiple applicants provide air transport services.
Point-to-point passengers	Passengers who travel directly between their origin and destination with no intermediate stops.
Premium passengers	Passengers that value quality more than price. These passengers tend to travel for business purposes and require significant flexibility.
Price concentration analysis (PCA)	A means of estimating the extent to which prices are affected by market concentration. This estimates the average difference in price between routes with different levels of concentration.
Public benefit	Anything of value to the community generally, any contribution to the aims pursued by the society including as one of its principal elements (in the context of trade practices legislation) the achievement of the economic goals of efficiency and progress in New Zealand.
Revenue sharing agreements	An agreement in which the participating airlines engage in direct coordination and share revenues, but not costs, in the markets covered by the agreement.
Route	An origin and destination between which an airline provides air transport services. The route can include multiple airports at each of the origin and the destination.
Schedule delay	The difference between a passenger's preferred time of departure and the closest available time of departure.
Slot	A specific time period during which an airline is allowed to arrive at or depart from an airport.
Small but significant increase in price (SSNIP) test	The SSNIP test (also known as the hypothetical monopolist test) is used to define relevant markets. The test asks whether a hypothetical monopolist controlling (all) the supply of a candidate market could profitably impose a SSNIP – conventionally 5 to 10 per cent.
Special prorate agreement (SPA)	A special case of an interline agreement, whereby two airlines agree on the apportionment of fares on journeys where each airline operates at least one leg.
Trunk route	In a hub-and-spoke network, routes that transport passengers between hub airports. On trunk routes, airlines bundle passengers connecting from multiple feeder routes. Typically, trunk routes are long-haul routes.

Introduction

Overview

1 Subpart 2 of Part 6 of the Civil Aviation Act 2023 (the Act) provides the statutory framework that enables a person to apply to the Minister of Transport (the Minister) for an authorisation relating to international carriage by air.

2 Section 199 of the Act provides the scope and statutory test upon which the Minister must be satisfied before granting that authorisation. To support this, applicants are expected to submit an application that aligns with the information set out in the guidelines [and those listed here] to ensure a properly completed application with any relevant agreements are received to prevent delays in processing that application.

[there will be a reference inserted here to the application process document]

3 The Ministry of Transport (Ministry) will assess any applications received and provide advice to the Minister.

Purpose and scope

4 The guidelines describe the assessment framework and standard assessment requirements to enable:

- consistent assessment by the Ministry of applications developed by airlines
- consistent provision of information, data and analysis in applications developed by airlines.

5 The Ministry can request applicants to provide additional information, data and analysis that is not listed as required in this document, to aid assessment of applications[1].

Assessment principles

6 The assessment framework and its application are grounded in five fundamental principles:

- **Effective competition**: The Ministry examines the effect of the proposed cooperative agreement on competition. This principle ensures that the assessment accounts for the detrimental competitive impacts that are consciously traded-off with wider public benefits.
- **Public interest**: The Ministry ensures authorised airline agreements benefit New Zealand, including by improving the overall economic welfare in New Zealand.
- **Evidence-based assessment**: The Ministry ensures the decision by the Minister to authorise or decline an application is underpinned by robust, transparent and credible evidence that avoids double-counting.
- **Transparency and accountability**: The Ministry ensures the rationale behind the assessment and advice to Minister to authorise or decline an airline agreement, as well as the airlines' roles, responsibilities, and obligations, are clearly defined, documented, and enforceable. This ensures the Ministry's trustworthiness and credibility.

[1] The application process is described in a separate document found here: [add link to document when developed].

- **Proportionality**: The Ministry avoids imposing unnecessary regulatory burdens on airlines while ensuring that applications for significant airline agreements receive the scrutiny they warrant. This encourages airlines to enter agreements that increase overall economic welfare in New Zealand.

Assessment framework

Relevant law

7 Subpart 2 of Part 6 of the Act provides the legislative framework that enables a person to apply to the Minister for an authorisation relating to international carriage by air. Section 199 of the Act provides the scope and statutory test upon which the Minister must be satisfied before considering the granting of an authorisation.

8 Section 199 of the Act states "The Minister may, in relation to an application for an authorisation under this subpart, authorise a provision or provisions of a contract, an arrangement, or an understanding where:

- all parties to the contract, arrangement, or understanding are conducting international carriage by air in co-operation with each other, and
- the provision or provisions relate to:
  - i a specified activity carried out for the purposes of the co-operation, or
  - ii an activity that is ancillary to a specified activity and that is reasonably necessary for the purpose of the co-operation."

9 There are two prongs to the statutory test upon which the Minister must be satisfied before granting an authorisation: "The Minister may grant an authorisation if the Minister is satisfied that:

- granting the authorisation will contribute to the main purpose or any of the additional purposes of this Act, and
- giving effect to the provisions of the contract, arrangement, or understanding to which the application relates will in all the circumstances result, or be likely to result, in a benefit to the public that would outweigh any lessening in competition that would result, or would be likely to result, from those provisions."

10 Section 3 of the Act provides the main and additional purposes of that Act.

11 Applications will need to demonstrate how they have met the requirements provided for under the Act.

Assessment framework

12 To uphold the principle of transparency and accountability, the Ministry will assess whether an airline agreement application is recommended for authorisation using a consistent framework.

13 The Ministry will provide advice to the Minister using the framework presented in Figure 1. For example, if the airline agreement does not result in a benefit to the public for New Zealand[2], we will consider whether the detriments can be addressed through remedies, so the airline agreement with remedies leads to a net public benefit for New Zealand. See [reference to application process document].

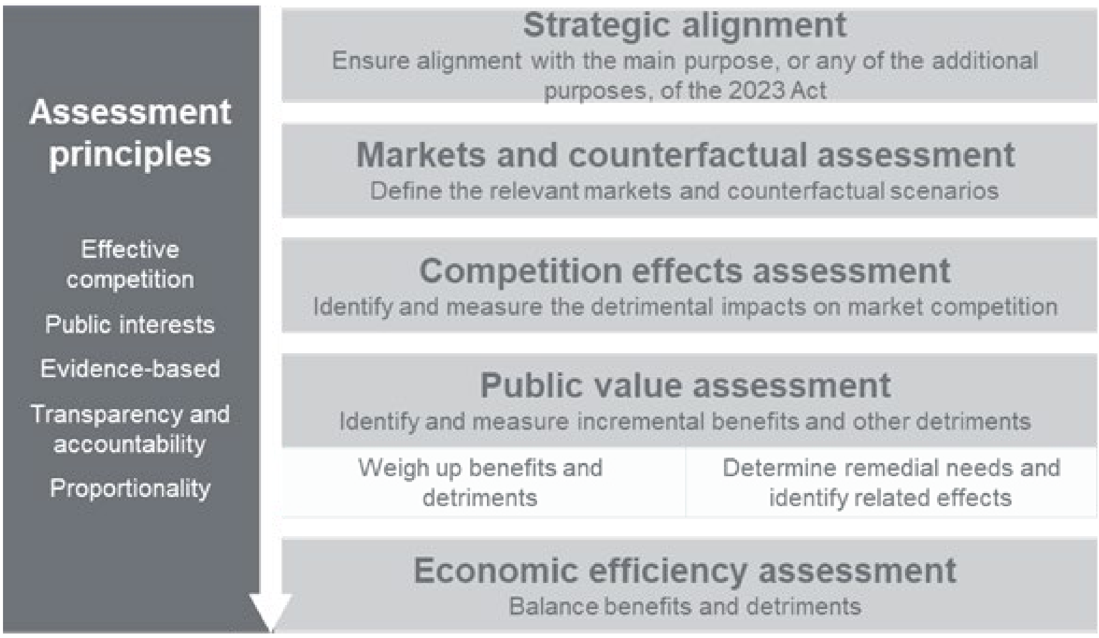
14 The assessment framework comprises five components.

[2] Noting the second part of the statutory test under section 199(2)(b) of the Civil Aviation Act 2023.

- **Strategic alignment**: The airline agreement aligns with and contributes to the main purpose or any of the additional purposes of the Act.
- **Markets and counterfactual assessment**: The assessment must define the markets affected by the airline agreement and identify the likely impacts of the airline agreement on those markets. The counterfactual must also be defined.
- **Competition effects assessment**: The assessment must identify if the airline agreement is likely to impede effective competition, thus leading to worse competitive outcomes for the New Zealand public.
- **Public value assessment**: The assessment must identify and measure the incremental impacts (benefits and detriments) of the airline agreement and determine the need for remedial measures and identify their impacts. This involves an initial weighing of benefits and detriments to determine whether any remedies are needed. If any remedies are needed, this step involves an assessment of their impacts.
- **Economic efficiency assessment**: The assessment must determine whether the airline agreement improves the lives of the New Zealand public (including an increase in overall economic welfare). This involves a final weighing and balancing of benefits and detriments considering any remedies proposed and their impacts.

15 There is no weight assigned to the five components. The assessment framework should be applied sequentially with the level of evidence required to increase progressively. In some circumstances, the assessment will need to be applied iteratively if the findings from assessment in the later steps affect the conclusions of earlier steps (such as market definition or counterfactual).

Figure 1: Assessment framework



Applying the assessment framework

16 This section describes in more detail the components of the assessment framework.

Strategic alignment

17 Objectives:

- to identify the purpose(s) of the airline agreement
- to assess whether the airline agreement, including its purpose, contributes to main purpose or any of the additional purposes of Act.

18 The applicants are expected to demonstrate that the airline agreement contributes to the strategic aims of the Act. To do this, the applicants must explain the rationale for the agreement and how it contributes to at least one purpose of the Act. The applicants' explanation should be supported by substantive evidence.

Markets and counterfactual assessment

19 Objectives:

- to identify the markets affected by the agreement, focused on markets where the effect of the agreement is greatest
- to define the market conditions of the counterfactual (i.e. where the agreement is absent).

20 The applicants are expected to specify and provide information, data and analysis about relevant markets. Applicants are also expected to compare the expected factual scenario (with the agreement) to the expected counterfactual scenario (without the agreement) in each relevant market and provide evidence. The applicants are also expected to indicate whether and how they consider the factual or counterfactual scenario differs from the status quo in any of the relevant markets.

21 The purpose of defining the relevant markets is to establish the scope of the agreement. A relevant market is a product and geographic area where firms compete (including trunk and feeder routes). See also 'Economic tools and methodologies'.

22 The relevant markets for air passenger transport are usually defined by a specific origin and destination (O&D) pair. This includes trunk and feeder routes. Passengers typically have demand for a particular route and would be unlikely to switch to a different route (such as a different origin or destination) in response to a small price increase.

23 Different considerations apply for transportation of cargo, which are often country-to-country or country-to-continent markets. There is greater scope for switching between specific cargo routes in response to a small price change.

24 The Ministry considers how airlines that operate a hub-and-spoke model compete at the network level in the assessment. However, the Ministry typically does not define markets based on the supply-side (airlines' choices of which routes to fly on in response to small price changes) given that this is a less immediate constraint on firm behaviour than demand substitution.

25 Where appropriate, the Ministry defines or segments markets based on additional characteristics, such as passenger type or accounting for substitution between airports. If the

applicants consider additional characteristics that should be considered, they are expected to provide evidence showing their relevance.

26 The assessment of the airline agreement covers:

- whether the applicants expect to enter into other agreements in the immediate future, either if the agreement is implemented or if it is not
- whether the applicants expect to maintain other existing agreements, either if the agreement is implemented or if it is not
- how the set of routes (of identified relevant markets) operated by the applicants are expected to differ between the factual and the counterfactual
- the expected level of cooperation between the applicants without the agreement.

27 If the applicants expect to enter or exit a route, they are expected to provide evidence of past, current and expected profitability on those routes to support their claim.

Competition effects assessment

28 Objectives:

- to identify whether the agreement increases the applicants' market power, relative to the counterfactual
- to assess the likelihood and magnitude that increased market power leads to anti-competitive effects
- to conduct analyses of market shares, prices and closeness of competition.

29 The focus of the assessment is on the likely competitive detriments from the airline agreement relative to the situation that could be expected to prevail in the counterfactual without the airline agreement. This determines whether the airline agreement will likely impede effective competition, leading to worse competitive outcomes for New Zealand consumers.

Horizontal unilateral effects

30 The applicants are expected to provide an assessment of horizontal unilateral effects based on market shares and a closeness of competition analysis. The Ministry can request assessment of other factors that determine whether horizontal unilateral effects are likely, such as barriers to entry or exit, capacity constraints, and countervailing buyer power.

31 Horizontal, unilateral effects occur when a lessening of competition between airlines in a cooperative agreement results in worse outcomes for consumers. Horizontal, unilateral effects are a primary focus of the Ministry's competitive assessment.

32 A cooperative agreement can lead to a lessening of competition by reducing the number of independent airlines operating a given route, thereby reducing the options available for passengers. This would likely increase the incentive of cooperating airlines to raise airfares. The reason is that, within a cooperative agreement, if one airline increases airfares, passengers who would have switched to the other airline in the agreement are retained. Consequently, fewer passengers are lost to independent competitors following an airfare increase, whilst higher fares increase profits from passengers who do not switch. Hence, the cooperating airlines are more likely to increase airfares.

33 A lessening of competition can also occur through the same mechanism by reducing the benefits customers receive from air transport services. Customers can face a reduction in quality of service, less choice and less incremental innovation.

34 If the applicants are close competitors, passengers are more likely to switch between them in response to a unilateral price increase by one airline. This implies that a greater share of passengers is retained within the cooperating airlines' agreement if one of the airlines raises airfares, so the competitive effects of the agreement are likely to be greater.

35 For agreements involving higher levels of integration and a greater likelihood of detriments, applicants are expected to perform more advanced techniques to assess the likely magnitude of price effects.

Other competitive detriments

36 Where appropriate, the Ministry will consider any other aspects of the airline agreement that has a detrimental effect on New Zealand consumers. These include feeder traffic foreclosure and co-ordinated effects.

37 Feeder traffic foreclosure involves withholding feeder traffic to competitor airlines. This can increase competitors' per-passenger costs, because costs are then spread over smaller passenger numbers, and reduce their competitiveness. The airline employing this strategy can then raise its airfares because of the weakened constraint from affected competitors.

38 Coordinated effects occur when an agreement increases the likelihood of airlines more generally coordinating their airfares or other aspects of their product offering, i.e., over and above the specific cooperation covered by the agreement. This could involve coordination with airlines that are not included in the agreement.

Public value

39 Objectives:

- to identify and estimate the incremental benefits and detriments of the agreement
- to ensure the benefits and detriments are incremental and not double counted
- to determine remedial action requirements and the likely effects of actions proposed.

40 The applicants are expected to identify the benefits that arise from the airline agreement and verify them with evidence. In providing evidence, they are expected to take care to avoid double-counting benefits. The Ministry gives more weight to benefits that are passed onto customers, more timely, more likely to occur and more closely linked to the agreement.

41 Table 1 provides examples of benefits for which the applicants are expected to submit evidence.

Table 1: Potential benefits of cooperation

Potential benefit	Description	Assessment(s)
Elimination of double marginalisation	Airlines may coordinate to offer multiple connecting routes, operated by separate airlines, as a single product. This incentivises airlines to offer lower airfares.	Reduction in airfares for connecting passengers due to the elimination of double marginalisation.
Economies of traffic density	Cooperation between airlines may increase the number of passengers travelling on each route of the applicants' networks. This lowers the airline's per-passenger cost which may lead to lower airfares.	Reduction in airfares: - for point-to-point passengers from a reduction in double marginalisation on complementary routes; and - for all passengers from grouping together passengers on overlap routes. Addition of new destinations.
Optimised flight schedules	Airlines may jointly optimise their flight schedules to serve more times of day and reduce time between connections.	Reduction in schedule delay. Reduction in waiting times between connections.
Frequent flyer benefits	Airlines may coordinate their frequent flyer or loyalty programmes to provide passengers access to benefits across both their programmes.	Additional rewards or amenities available to passengers.
Operational efficiencies	In cost-sharing agreements, airlines may share ground handling and engineering staff, as well as combining marketing campaigns. This improves productive efficiency and may result in lower costs which could be passed onto passengers.	Reduction in cost from efficiencies, including the share of the cost reduction that will be passed onto customers.

42 The applicants are expected to provide evidence of other benefits they consider relevant, including those that do not directly relate to passengers, cargo delivery, or the airlines themselves. These may include environmental benefits or those to the wider economy. These additional benefits must be verified to avoid double-counting.

43 Airline agreements that lead to greater public benefits than competitive detriments, considering all the available evidence, are more likely to be authorised. Where an agreement leads to competitive detriments that outweigh public benefits for New Zealand, the applicants will need to propose remedial actions that sufficiently reduces the competitive detriments while enabling the public benefits.

Economic efficiency assessment

44 Objectives:

- to determine if benefits or detriments are greater, considering remedial actions proposed
- to weigh up the benefits and detriments, where appropriate.

45 The Ministry will assess whether the airline agreement improves the lives of the New Zealand public. In doing so, the Ministry considers the relevant benefits and detriments to determine whether the airline agreement increases or decreases public value for New Zealand relative to the counterfactual.

46 ‘Assessment by airline agreement type’ provides further details on the level of assessment that the applicants are expected to submit for each type of airline agreement.

Assessment by airline agreement type

47 The level of assessment varies depending on how much the airline agreement changes the structure of the relevant markets. This ensures that assessments are proportionate. More substantial changes to market structure occur with deeper levels of cooperation between the applicants. The depth of cooperation in airline agreements can be broadly categorised into three levels of agreement:

- **limited cooperation on specific routes**: interline or frequent flyer programme and lounge access
- **additional cooperation to expand the network**: code-sharing agreements or direct coordination
- **merger-like integration**: revenue sharing or metal neutral.

48 This section outlines how we apply the assessment framework to each type of airline agreement.

Foundational assessment

49 Some parts of the assessment are foundational and are required in all assessments, regardless of the depth of coordination. For every agreement type, the applicants are expected to provide the following:

- the rationale for the agreement and how it aligns with the purposes of the Act
- the relevant markets and the most likely counterfactual scenario in each market.

50 The Ministry assesses all the information provided by applicants to determine whether a lessening of competition is likely. In that case, the Ministry will assess whether the benefits of the agreement will likely outweigh the competitive detriments.

Limited cooperation on specific routes

51 The Ministry expects applicants to provide simple descriptive analyses to assess airline agreements involving limited co-operation, including:

- shares of passengers, frequency of flights, and capacity in each of the relevant markets
- shares of slot holdings at each airport covered by the agreement
- any wider social or economic detriments.

52 The applicants are also expected to provide evidence of the likely benefits of the airline agreement. If the Ministry finds that the airline agreement is likely to lead to a lessening of competition, it is likely to recommend to the Minister that evidence be provided, as a condition to authorise the airline agreement, that the benefits will likely outweigh the detriments to the public in New Zealand.

Additional cooperation to expand network

53 For the assessment of airline agreements entailing additional cooperation, the Ministry requires:

- the information listed in paragraphs 49 to 52; **and**

- additional and more detailed analyses that provide the Ministry with a more comprehensive understanding of the likely effects of the agreement in the relevant markets, including analysis of closeness of competition between applicants and countervailing factors.

54 For the assessment of competition, additional analyses may be needed to assess:

- the likelihood and effects of feeder traffic foreclosure in the relevant markets
- the likelihood of coordinated effects in the relevant markets. It can be the case that coordinated effects take place in markets not served by either of the applicants. Any market where coordinated effects can occur because of the agreement are considered relevant markets.

55 The Ministry expects applicants to provide substantive evidence of the benefits arising from the agreement. Examples of passenger benefits applicants are expected to provide evidence for include:

- the effect of the elimination of double marginalisation on passenger airfares
- the effect of economies of traffic density on passenger airfares
- flight schedule improvements.

56 To avoid double counting, applicants should consider how individual effects interact. For example, the overall effect of elimination of double marginalisation and the economies of traffic density can be lower than the sum of their individual effects. Assessment of benefits should be done separately for passengers on overlap and complementary routes.

Merger-like integration

57 For the assessment of agreements with merger-like levels of integration, applicants are expected to submit more advanced analyses, in addition to the information identified in 'Foundational assessment', 'Limited cooperation on specific routes', and 'Additional cooperation to expand network'. It is for the applicants to decide which advanced analysis to provide, depending on data availability and quality. Examples of advanced analyses are:

- analysis of the upward pressure on prices from the agreement, applying a gross upward price pressure index (GUPPI) or similar price pressure analysis
- analysis of the likely effect of market concentration on airfares, in the relevant markets and at a network level
- analysis of the profitability of the affected routes
- where reauthorisation is sought, analysis of the effect of previous iterations of the agreement on airfares in the relevant markets (for instance, using a difference-in-differences approach).

58 In addition, applicants are expected to provide substantive evidence of the benefits caused by the agreement. For merger-like agreements, the Ministry encourages applicants to submit more advanced analyses of the benefits, including detailed quantification where possible.

Overview of analysis by agreement type

59 Tables 2 and 3 provide an overview of the analyses the Ministry expects applicants to submit for each type of airline agreement. The greater the level of integration involved in an agreement and the greater the risk of expected detriments, the more substantive the analysis needs to be for the agreement to be assessed properly.

60 For Table 2 on competitive detriments, analyses listed as "expected" are expected to be provided by the applicants, unless a clear explanation is provided for why the analysis is not applicable or is inconsequential to the agreement. The level of analysis required by the Ministry reflects the nature and scope of the agreement. However, the Ministry can request further analyses at any point if it considers it necessary to assess the application.

61 Applicants should provide any evidence or analysis that supports the assessment of their application by the Ministry. Accordingly, analyses listed as "on request" can be provided proactively by applicants to support their application. See also '<u>Economic tools and methodologies</u>', for other analyses that applicants can provide. The Ministry is expected to request analyses at any point if the Ministry considers it is necessary to support the application.

Table 2: Competitive detriments analyses – by type of agreement

Type of agreement	**Competitive detriments**					
	Horizontal unilateral effects				**Feeder traffic foreclosure**	**Coordinated effects**
	Market shares	Slot holdings	Closeness, countervailing factors, and pricing analyses	Pricing analyses - advanced		
Interline / Frequent flyer programme	Expected	Expected	On request	On request	On request	On request
Codeshare	Expected	Expected	Expected	On request	On request	On request
Direct coordination / Revenue sharing / Metal neutral	Expected	Expected	Expected	Expected	Expected	Expected

62 Table 3 provides examples of public benefits where evidence is required if they are expected to arise due to the agreement. Applicants are expected to provide evidence of the likely size

of these benefits, the extent to which they apply to passengers and the public in New Zealand and demonstrate that they have avoided double counting. See also 'Additional cooperation to expand network'.

63 Benefits are listed as "likely minimal" if they are not expected to arise to a significant extent due to the agreement. The Ministry usually assigns less weight to these benefits in its assessment but considers evidence submitted by applicants if the benefits are material.

Table 3: Public benefits – by type of agreement

Type of agreement	Public benefits				
	Elimination of double marginalisation	Economies of traffic density	Optimised flight schedules	Frequent flyer benefits	Operational efficiencies
Interline / Frequent flyer programme / Codeshare	Evidence Expected	Likely minimal	Likely minimal	Evidence Expected	Likely minimal
Direct coordination / Revenue sharing / Metal neutral	Evidence Expected	Evidence Expected	Evidence Expected	Evidence Expected	Likely minimal

Applicant obligations

64 Applicants are expected to provide the rationale for the agreement and evidence of how it can lead to net public benefits relative to the counterfactual. This ensures that the assessment is evidence-based, transparent and accountable.

65 Applicants are also expected to include information on the agreement and analyses of the agreement's likely effects. The expected information is listed in Annex 2, "checklist of data expectations". For agreements with deeper levels of cooperation, additional analyses are required, as explained in 'Assessment by airline agreement type'.

66 All claims submitted by applicants are expected to be supported by substantive evidence (including data, assumptions and related analyses). The level of detail and breadth of the evidence required reflects the level of integration and scope of the agreement. Applicants are expected to provide more detailed evidence for agreements that cause more substantial changes to the market structure.

67 The Ministry reserves the right to request other analyses at any point if the Ministry considers it is necessary to support the application.

68 The Ministry may also require the applicants to provide data after authorisation has been granted, for the duration of the agreement, to check that the agreement leads to public value. This may mean a condition is recommended to the Minister as part of any authorisation for consideration. The Ministry will monitor any conditions specified in the authorisation.

Economic tools and methodologies

69 This section describes economic tools and methodologies that applicants should and can apply to support their application. The Ministry may request specific analyses if it considers them necessary to support the application.

Relevant markets

70 The hypothetical monopolist test is used to define relevant markets. The test asks whether a hypothetical monopolist controlling (all) the supply of a candidate market could profitably impose a small but significant non-transitory increase in price (SSNIP) – conventionally 5 to 10 per cent. The SSNIP can be unprofitable either due to demand-side substitution – whether customers view other flights as alternatives and would switch to these in response to a SSNIP – or supply-side substitution, whether airlines could and would switch supply between routes in response to a SSNIP.

71 A SSNIP test involves the following steps:

- Define a candidate market (for example, a city pair route).
- Ask whether a hypothetical monopolist controlling supply on that market could profitably impose a SSNIP.
    - i If the evidence shows that a hypothetical monopolist could impose a SSNIP profitably, the candidate market is a relevant market.
    - ii If a hypothetical monopolist could not impose a SSNIP profitably because of demand or supply substitution, a broader market must be considered, including

alternative flights or other transport. The SSNIP test is reapplied to this broader market and to successively broader candidate markets until it is passed.

72 A SSNIP test provides a crucial conceptual framework for defining markets rigorously.

Horizontal unilateral effects

73 This section describes tools to identify whether an agreement leads to horizontal unilateral effects.

Market shares

74 Market shares provide an overview of competition in a market. Applicants' combined market share is a useful proxy to measure applicants' market power, which represents their ability to raise prices above competitive levels. See also Annex 2, "checklist of data expectations".

75 As market shares do not account for other important factors in determining the likely horizontal unilateral effects, other analyses such as the closeness of competition between the airlines with other competing airlines will be needed to supplement market share analysis.

Herfindahl-Hirschman index (HHI)

76 The HHI is an established measure of market concentration. The greater the increase in concentration, the greater the risk of horizontal unilateral effects.

77 The HHI adds together the square of each competitor's market share.[3] The HHI increment shows how much the agreement changes market concentration.

78 The HHI is simple to calculate and provides a single number to describe the overall concentration in a market. As the HHI does not account for other factors, other analyses such as closeness of competition between the airlines will be needed to supplement the HHI analysis.

Closeness of competition and diversion ratios

79 Closeness of competition captures the degree to which airlines compete for the same or similar customers. Horizontal unilateral effects are more likely when airlines are close competitors.

80 Closeness of competition can be assessed using qualitative evidence of the similarity between the applicant's service offerings and evidence of consumer preferences.

81 One indicative measure of closeness of competition between two airlines is a diversion ratio, which is the proportion of sales lost by one airline that are gained by the other airline, such as in response to a small but significant price increase.

82 Diversion ratios can be obtained from statistical analysis of price and quantity data or consumer surveys. Diversion ratios do not capture future reactions by competitors.

Market competition and slot analyses

83 Market competition analysis include.

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[3] $HHI = (market\ share\ of\ competitor\ 1)^2 + (market\ share\ of\ competitor\ 2)^2 + (market\ share\ of\ competitor\ 3)^2 + \ldots + (market\ share\ of\ competitor\ N)^2$

- **Barriers to entry**: This assesses the threat that another airline will enter and offer lower airfares. Barriers to entry include required investment in aircraft and crew, the availability of slots, and customer loyalty to incumbent operators.
- **Spare capacity**: This assesses the level of spare capacity (spare seats, aircraft or staff) an airline has and the likelihood that the airline would increase airfares if passengers respond by switching airline.
- **Buyer power**: This assesses the existence of a major player or customer who is sufficiently important to an airline that might prevent the airline from increasing airfares such as through the threat of sponsoring new entry. This is rare but can apply to large corporate clients or travel agencies.

84 Slot analysis identifies whether competitors can easily enter the relevant markets. If no slots are available, an airline is unable to fly a route and cannot enter the market.

85 Slot analysis typically involves assessing the average share of slots held by applicants (i) during airport opening hours, and (ii) during peak hours.

86 Slot analysis indicates the availability of slots at airports. It does not reveal the extent to which airlines have requested slots and whether they have been denied entry, which may indicate entry is more difficult. Evidence of airlines requesting slots and being denied entry may be publicly available or provided by airports.

Gross upward price pressure index (GUPPI)

87 The GUPPI is a screening tool used to identify the markets in which an agreement can increase prices. For two airlines, this index reflects the value of sales that would be captured by one airline in response to a price increase by the other airline.

88 The GUPPI formula is below, with a separate GUPPI for each applicant.

$$(3) \quad GUPPI_{airline\ 1} = \frac{(diversion\ ratio_{airline\ 1\ to\ airline\ 2}) * (gross\ margin_{airline\ 2}) * (price_{airline\ 2})}{price_{airline\ 1}}$$

GUPPI accounts for closeness of competition between the applicant airlines. However, it does not account for other factors, such as future reactions by competitors and agreement-specific cost savings.

Pricing analyses

89 Analysis of airline prices can indicate market power. It can also indicate closeness of competition in addition to diversion ratios (see ‘Closeness of competition and diversion ratios’). If an airline charges higher prices than other airlines, this can indicate that they are able to charge prices greater than the competitive level which reflects market power. If airlines charge similar prices, this indicates that they serve customers with similar budgets, so can be close competitors.

90 A simple analysis of prices involves comparing mean or median prices charged by the airlines serving each route with those charged by individual airlines, in an International Air Transport Association (**IATA**) season.

91 This analysis is indicative and does not account for differences in airlines’ costs and product offering. Care should be taken to ensure that prices are compared on a like-for-like basis. For example, economy prices should not be compared to business-class prices.

92 Where appropriate, the Ministry can require more advanced analyses by applicants to assess the horizontal unilateral effects of an agreement. These analyses can require advanced econometric techniques. Two examples of detailed analysis are price-concentration analysis and difference in differences analysis.

Price-concentration analysis (PCA)

93 PCA provides a means of estimating the extent to which prices are affected by market concentration. This estimates the average difference in price between routes with different levels of concentration. Market concentration is typically measured by the number of competitors in the market or by the HHI (see ‘Herfindahl-Hirschman index (HHI)’).

94 Where data is available, econometric analysis should be conducted to account for other factors that can affect prices across routes, such as cost and demand differences, possible “reverse causation” between prices and concentration, and can examine changes over time. This analysis requires data for multiple routes, on market concentration, airfares, and other factors that influence airfares.

Difference-in-differences analysis

95 For a reauthorisation application, the Ministry can request a difference-in-differences (DiD) analysis to establish whether an agreement has led to increased prices as there is information on what occurred before and after the initial authorisation. DiD involves the following.

a. Identify “treatment” (routes affected by the agreement) and “control” (comparable routes unaffected by the agreement) groups.

b. Check airfares of treatment and control groups follow the same parallel trend before the agreement was in place.

c. Identify the change in airfares due to the agreement as the difference between the treatment group airfares and what the treatment airfares would have been had they followed the same trend as the control group.

96 The key assumption of the analysis is that the treated and control group would have continued to follow the same trend absent the agreement (known as the parallel trends assumption).[4] In addition, to ensure a like-for-like comparison between airfares of the treated and control groups, the analysis will need to account for different cost or demand characteristics of each route, and differences across time.

Feeder traffic foreclosure

97 Feeder traffic increases the number of passengers on a flight, which reduces the per-passenger cost of the flight. Feeder traffic foreclosure occurs when an airline withholds feeder traffic to a competing airline to increase the competitor’s costs. This can allow the foreclosing airline to undercut the competitor and gain market power.

98 Feeder traffic foreclosure can be assessed using an “ability-incentive-harm” framework.

[4] Generally, if the airfares of treated and control groups follow similar trends before the agreement is implemented, this indicates that the control group is a suitable counterfactual for the treated group.

- **Ability to foreclose**: Whether the airline provides a large share of rivals' feeder traffic and whether rivals can replace feeder traffic with passengers from their own network or other airlines.
- **Incentive to foreclose**: Whether the profit gained by the airline (the passengers diverted to applicants and the margins earned on them) outweighs the profit lost (the passengers that no longer use the airline's route and the margins earned on them).
- **Harm from foreclosure**: Whether foreclosure leads to higher airfares.

Coordinated effects

99 Coordinated effects occur when an agreement increases the likelihood of airlines, inside or outside the agreement, coordinating on higher prices or worsening other aspects of their product offering.

100 The assessment of coordinated effects that result from an agreement involves the following conditions:

- **Alignment**: This assesses the ability for airlines to arrive at a common understanding of what the coordinated outcome should be. This depends, among other things, on the number of airlines, transparency, complexity, asymmetry between airlines, and whether any of the airlines are "mavericks".
- **Internal stability**: This assesses the ability for airlines to effectively monitor and credibly punish any deviations from the coordinated outcome. This depends on transparency and whether the airlines have spare capacity to punish deviations through charging low prices or improving their product offering.
- **External stability**: This assesses the level of influence from external competitive parties (i.e. from outside the coordinating group), such as from rival airlines or airports. This depends on whether fringe airlines can expand, or new airlines can enter.

101 The analysis focuses on whether the agreement increases the likelihood that the three cumulative conditions are met or strengthens existing coordination. The analysis uses both qualitive and quantitative evidence.

Public benefits

102 In evaluating public benefits, applicants are expected to adhere to the following guidance:

- the benefits will arise in New Zealand and must be specific to the agreement
- the relevant benefits are those over and above the benefits that would arise if the agreement was not implemented (the counterfactual)
- there should be no double-counting
- benefits are verifiable and given more weight in the assessment when passed onto customers, more timely, more likely to occur and more closely linked to the agreement.

Elimination of double marginalisation

103 Elimination of double marginalisation can occur when airlines that separately operate two routes combine their operations. Prior to integration each leg of a passenger's journey is priced individually. Once integrated, all legs of a passengers' journey are priced together. As

a result, the airlines accounting for the revenue and density benefits that connecting passengers provide on all legs can offer lower airfares.

104 Econometric analysis is expected to show whether elimination of double marginalisation reduces airfares, by identifying the change in airfares once an agreement is implemented.

Economies of traffic density

105 Cooperation between airlines can increase the number of passengers travelling on each route in the airlines' networks (an increase in traffic density). An increase in traffic density is typically achieved either via the elimination of double marginalisation or by grouping together passengers on overlap routes. This reduces per-passenger costs and possibly airfares.

106 Econometric techniques to estimate how much an increase in the number of passengers per-flight reduces per-passenger costs. This requires route-level data on:

- per-passenger costs
- flight frequency
- number of passengers
- all other variables that determine or influence per-passenger cost.

107 Economies of traffic density delivered by an airline agreement can cause a route to be profitable for the airlines concerned that they otherwise would not operate. Operating a new route increases choice and reduces journey durations. For the Ministry to consider this benefit, applicants are expected to provide evidence of:

- the profitability of serving the route both with and without the agreement, which shows that the agreement makes the route viable to serve; and
- the reduction in journey duration (the difference between the direct flight duration and the previous shortest indirect flight duration), and its monetary value to passengers using estimates from the economic literature.

Optimised flight schedules

108 Joint optimisation of cooperating airlines' schedules can increase passengers' choice of flight times and reduce waiting times between connecting flights. The benefit can be quantified by reduced schedule delay (the difference between a passenger's preferred and actual flight time). This requires:

- the flight schedules of applicants and competitors before the agreement and the applicants' planned schedules after the agreement
- estimates of hourly passenger demand throughout the week, before and after the agreement, to compare to the flight schedules
- estimates of the monetary value of reduced schedule delay by passenger type.

109 This analysis indicates the benefit passengers receive from a jointly optimised flight schedule. The true benefit can differ as competitors can respond by changing their schedules.

Annex 1 Check list for assessment framework

Table 4: Assessment framework expectations by type of agreement

Assessment framework component	***Types of agreement requiring assessment***	***Requirement***
Strategic alignment	Expected for all agreements	Explain the rationale for the agreement
		Evidence of how the agreement contributes to at least one purpose of the Civil Aviation Act 2023
Counterfactual and relevant markets	Expected for all agreements	Definitions of all relevant markets affected by the agreement
		The likely scenario absent the agreement (counterfactual)
Effective competition	Expected for all agreements	Market share analysis in each relevant market
		Analysis of the shares of slot holdings at each relevant airport
		Wider social, environmental, and economic detriments
	Expected for codeshare, direct coordination, and merger-like integration	Closeness, countervailing factors, and pricing analyses
	Expected for direct coordination and merger-like integration	Analysis of the likelihood and impact of feeder traffic foreclosure

		Analysis of the likelihood and impact of coordinated effects
		Advanced pricing analysis
Public interest	Expected for all agreements	Evidence of the likely benefits arising from the agreement
	Upon request where relevant and appropriate	Remedies which alleviate the detrimental effects of the agreement
Economic efficiency	Expected for all agreements	Covered by points above

Annex 2 Check list of data expectations

110 Applicants are expected to provide the following information. All quantitative information submitted by applicants must be accompanied by the underlying data and a documentation of the analysis (including related calculations and methodology).

111 The applicants must provide information on the agreement’s likely effects. The level and breadth of the analysis required reflects the level of integration and scope of the agreement. The applicants must provide more detailed evidence for agreements that cause more substantial changes to market structure.

112 The Ministry can request other analyses at any point if we consider it is necessary to assess the application.

Documents

- **Agreements**: All agreements into which the applicants are entering or have entered (individually or jointly), that are relevant to the agreements for which they are requesting authorisation. This includes the agreement for which the applicants are requesting authorisation, as well as any agreements entered by one applicant which cover a market that is also covered by an agreement entered into by another applicant.
- **Purpose of agreement**: An explanation of how the agreement contributes to at least one of the purposes of the Civil Aviation Act 2023 and the business rationale for the agreement. The applicants must provide substantive evidence to support any claims, such as internal strategy documents or analysis.
- **Strategic documents**: Strategic documents related to the markets affected by the agreement, created in the ordinary course of business during the last 5 years.

- **Technical documents**: These cover documentations of any technical analyses conducted to support the application. These should outline data, assumptions and methods used in the analyses as well as the corresponding findings.

Data and information

113 When submitting the estimates or evidence of impacts described below, applicants are expected to provide the underlying data used to produce these estimates or evidence of impact. The applicants are expected to provide the underlying data in the closest available format to the format in which it was obtained or extracted. Where data is requested by IATA season below, the applicants are expected to provide the underlying data at least at the monthly level.

- **Relevant markets**: A list of the markets affected by or otherwise relevant to the agreement. Markets should be defined as described in sections 'Markets and counterfactual assessment' and 'Relevant markets'. All types of market should be considered, not only air passenger transport markets. For example, cargo or maintenance, repair and overhaul markets can also be relevant. Alongside the list of markets, the applicants must list all the air transport segments affected by the agreement. This should include, but is not limited to, segments on all routes with an origin or destination airport in New Zealand that are operated or marketed by the applicants.
- **Counterfactual**: The applicants should indicate if they expect the counterfactual (without the agreement) to differ from the status quo and the factual (with the agreement) in any of the relevant markets. Areas to consider include, but are not limited to:

  i whether the applicants expect to enter into other agreements in the immediate future

  ii whether the applicants expect to maintain other existing agreements

  iii how the set of routes operated by the applicants are expected to differ between the factual and the counterfactual

  iv the expected level of cooperation between the applicants absent the agreement.

  For routes the applicants will enter or exit in the counterfactual, the applicants must provide their overall contribution margin, as well as separately for point-to-point passengers and connecting passengers. The applicants can provide other measures and analyses of their current or expected financial performance on these routes. All measures of financial performance are expected to be provided for the last 5 years, by IATA season.
- **Market shares**: The applicants and competitors' share of (i) passengers, (ii) frequency, and (ii) capacity (that is the number of seats supplied) in all markets meeting the following criteria:

  i The market is affected by the agreement.

  ii The applicants' combined share of passengers in the market is above 20 per cent, in at least one of the four most recent IATA seasons.

  The applicants should present market shares for the last 5 years (and sufficient data for re-authorisation that covers both the before and after periods), by IATA season, passenger type (overall, premium, and non-premium), and carrier (treating airlines that belong to the same revenue sharing or metal neutral agreement as a single competitor). Passengers should be assigned to the competitor with whom they purchased their ticket, referred to as the marketing carrier. Premium passengers are those travelling with first-class, business, premium economy, or fully flexible economy tickets.

- **Slot holdings**: The average share of slots held by the applicants individually and combined at each of the applicants’ hub airports in each IATA season included in the market shares. The share of slot holdings should be provided for both during (i) all opening hours, and (ii) peak hours.
- **Prices**: To the best of the applicants’ knowledge, the mean and median airfares charged by themselves and their competitors on each of the routes for which market shares are provided. This data should be provided by IATA season, passenger type, and carrier.
- **Flight schedules**: The flight schedule operated by each of the applicants, as well as the flight schedule that is planned to be operated by each of the applicants after the agreement is implemented. This data must be provided for the routes and IATA seasons included in the market shares, as well as for the first Summer and Winter IATA seasons following the agreement’s implementation or reauthorisation.

New Zealand airline agreements

Authorisation guidelines
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