Airlines in the Asia Pacific have enjoyed steady growth, strong yields, little competition and the ability to operate large aircraft in the intra-Asian market. Certain parts of the Asia Pacific have begun to experience liberalisation at the same time that yields and traffic have come under pressure. Airlines face tougher strategic planning decisions in the future.

Asia Pacific carriers face new challenges in fleet planning

The intra-Asian market is one of the most diverse markets in the world. It is a mixture of mature, maturing, fast growing, developing, and emerging route networks. These provide market opportunities for all jetliner sizes. The Japanese market is one of the most mature, with the highest rate of air travel per capita in the Asia Pacific region. The other extreme is represented by airlines from countries such as Vietnam and Indonesia, which, after years of political and economic turmoil, are showing signs of large potential for air traffic. Indonesia deregulated in 2000. This prompted the emergence of new airlines.

This is in contrast to the overall perception that the Asia Pacific is generally a constantly and fast growing market, providing potential for high volumes of large aircraft sales.

The Asia Pacific has historically been a market with few new airlines, with little competition and few new routes opening. These factors have all led to the expectation that the market will be for increasingly larger aircraft. Recent years have seen a combination of slowed traffic growth and new entrants in certain markets. Some new airports and routes are now due to open, leading to increased competition. The overall effect will be a change to the route network and fleet profiles of some of the airlines in the region.

Traffic growth

Long-term expectations are for annual growth rates of 6.3% in the Asia Pacific. A 10 year period would therefore see traffic increase by 60% if this were sustained. This could be translated into more routes and higher frequencies, larger aircraft or a combination of both. Traffic growth in recent years has actually been zero in some parts of the Asia Pacific, while as high as 30% in others.

Traffic usually follows a pattern of growth for three to five years, followed by a downturn and then another upturn. The Asia Pacific has had fluctuating traffic growth over the past three or four years. “Our traffic has actually declined recently and was flat for most of 2001,” says Tony Tyler, director of corporate development at Cathay Pacific. “Traffic has basically slowed due to the decline in the global economy. Passenger traffic grew by 13.6% in 2000, but hardly grew in 1999. We have therefore had a rollercoaster in the past three or four years.”

The Japanese economy has been in recession for a decade now. Indonesia has experienced reductions in annual traffic between 1998 and 2000, with a strong recovery emerging in 2001.

“Korean Air has experienced zero growth during 2001 which, as is the case with other airlines in the region, is due to the global economic slowdown,” explains In-Jong Kim, assistant general manager of corporate planning at Korean Air.

This experience is shared by Japan’s airlines. Thai and Malaysian have recently had to put restructuring plans in place, after feeling the combined effects of an economic slowdown and the fall in traffic after the terrorist attacks in the US in September 2001. Malaysian, for example, has withdrawn services from three intra-Asian routes, and will stop services on another two in the near future. Similar measures have been taken on Malaysian’s international routes, although it still has strong tourist traffic from Singapore, Thailand, Indonesia, Japan, China and Australia.

EVA Air has also reduced services on four intra-Asian routes.

There are also disparities in economic and traffic growth rates in the region. Not all areas of the region have been affected by the economic slowdown in 2001. “We have had a passenger traffic growth rate of about 6% so far in 2001,” says Nai-Lung Ting, vice president of corporate affairs at China Airlines. “Freight growth has been slower, at only 0.4%. The weakening domestic economy in Taiwan means our outbound freight traffic has dropped.”

Qantas has also experienced continued traffic growth in recent years. As this has improved passenger yields, the carrier has taken the decision to replace its 767-200 fleet with A330-200s and -

China Airlines' operation of 747s on its heaviest routes is a typical example of the largest aircraft being required to serve traffic demand. At the other extreme, routes have low frequencies and airlines use the smallest narrowbodies. The Asia Pacific is a mixture of mature, growing and emerging markets.

300s. This represents a jump from a 200-seat aircraft to 300- and 340-seat aircraft. Qantas has found that frequencies on routes from Australia northbound to cities in the Asia Pacific have become saturated, so high traffic volume has dictated the need for larger aircraft on this network.

Vietnam Airlines is a prime example of an emerging carrier in the Asia Pacific, and is one of many that is experiencing high growth rates following years of suppressed traffic. Even during the recent economic slowdown, Vietnam has enjoyed continued high growth. Vietnam Airlines' network is mainly domestic and international routes within the Asia Pacific region. "Our international traffic grew by 30% in the first nine months of 2001, and domestic traffic increased by 14% over the same period," says Luong Hoai Nam, director of marketing planning at Vietnam Airlines. "Traffic growth was lower in 2000, at about 20% for international." Vietnam is experiencing rapid growth in tourism, in particular from China, Australia and France. There is also a growing level of business investment in the country.

"We have set ourselves a growth target of 18% per year for international traffic, which means it will double by 2005 if we maintain this performance," adds Nam.

Market development

The main markets in the Asia Pacific region are characterised by flag carriers operating on routes between major cities. The Asia Pacific has shown few signs of developing competition in most areas. Most routes are therefore still operated by two flag carriers between major cities. This is in contrast to other markets, such as the US domestic, intra-European and transatlantic, which have fragmented. Many new routes have opened and new competitors have entered the market. Aircraft size as a consequence has hardly changed and, in some cases, reduced.

Few new airlines have entered the intra-Asian market to date, and not many airports or routes have been opened. This suggests that the region will not see the same fragmentation that took place in the US and Europe. "I do not see there being much fragmentation in the intra-Asian market, and traffic will still be concentrated between big cities," says Tyler. "The Asia Pacific has a higher concentration of population around the large cities, so it is less likely that many secondary airports will open as has been the case in other parts of the world. Another factor is that it will be hard for secondary airlines to start up. The Singaporean government, for example, owns SIA and will not allow another airline to start in competition. Besides political issues, there are not the same opportunities for secondary carriers as there are in the US and Europe.

"To begin with distances are long and there are no secondary airports at cities which are cheap to operate from. These allow fast turn times and high aircraft utilisations in Europe and the US, but a secondary airline would not have the same potential in Asia," says Tyler. "The large aircraft and long route lengths means primary airlines have an ability to dilute costs, and so unit costs will be closer to a secondary carrier's. The major carriers also offer discounted economy fares, which would be similar to fares offered by secondary airlines."

Airlines' aircraft size requirements are also affected by yields and unit revenues. "We have had some severe reductions in revenues in recent years because of drops in business travel, and airlines in the region have had to introduce short-term pricing strategies to generate demand and cash," says Tyler. "The general trend of yields declining in real terms constantly puts pressure on us to reduce unit costs."

Some exceptions to the absence of competition are Korea and Taiwan, where Asiana has developed since 1988, and now operates 59 aircraft and carried 12.2 million passengers in 2000 against Korean Air's fleet of 119 aircraft and passenger numbers of 22 million in 2000.

Korean Air expects further increased competition from mega carriers and global airline alliances, as well as from the new and rapidly growing airlines in the Asia Pacific. Kim cites airlines in China as some of the Asia Pacific's fastest growing carriers. "Their market share has increased, and it could affect us," Kim adds. Korean Air has also felt the effects of weakening revenue streams. "Although fares and unit revenues have increased in recent years, revenue has not increased in real terms because of inflation and continuing competition".

China Airlines, another example, has been experiencing competition from EVA Air, Formosa and Uni Air since 1989.

The general lack of competition and opening of new routes and airports across the Asia Pacific has led to widebodies being used on many routes in the Asia Pacific. The fleets of Singapore Airlines (SIA), Cathay Pacific, Japan Airlines (JAL), All Nippon Airways (ANA), Korean Air, China Airlines and Qantas mostly or wholly comprise widebodies. There are now a few signs that some of this could change.

Nam at Vietnam Airlines takes a different view to competitive levels in the Asia Pacific. "I think competition in the Asia Pacific is quite intense now, and there is significant oversupply of capacity," says Nam. "There has been a trend to liberalisation, with less

Cathay Pacific's fleet strategy is based on it operating the 249-seat A340-300 as its smallest aircraft, and the 747-400 as its largest. This allows it to achieve low unit costs. Cathay operates the 376-seat 777-300 on its slot restricted routes, but otherwise still sees potential for higher frequencies on its intra-Asian network. Cathay aims to increase frequencies with traffic growth, while maintaining its current aircraft types.

restrictions on capacity. We and other airlines have suffered a 4-5% drop in load factor in the first half of 2001 partly as a consequence of this. On some of our routes we have more than one competitor, which is different to that experienced on some trunk sectors in the region. For example, we compete with the other Vietnamese carrier Pacific Airlines and China Airlines and EVA on our routes to Taiwan. We also fly to Seoul and compete with both Korean Air and Asiana, and against JAL and ANA on routes to Japan." Pacific Airlines was started in 1993 as part of Vietnam's policy to introduce competition in the market. This is in contrast to Singapore, which has one of the strongest economies in the region, but only allows SIA to operate the majority of routes.

Current network

Korean Air's intra-Asian network serves most countries in the region. "Our main routes are to Japan, China, Hong Kong and Indonesia. The route network in the region is sectors up to 2,500nm," says Kim.

Korean Air operates widebodies on its intra-Asian network. Its A330 aircraft are configured with 296 seats and its A300-600s with 256. Korean Air is one of several Asia Pacific carriers operating the 777-300 on its highest density routes, with a configuration of 376 seats. Cathay Pacific, SIA, Thai and JAL also operate the 777-300 on the intra-Asian market.

Cathay Pacific's cost structure is a product of large aircraft in its fleet, the smallest being the 249-seat A340-300. Cathay's strategy is to keep unit costs down with aircraft at least the same size as its current fleet. It also uses the A330-300 with 311 seats, 777-200 with 336 seats and 777-300 with 367 seats on its intra-Asian routes. Cathay uses the 777-300s on slot restricted routes, and even the larger 747-400 on a few sectors where aircraft are available for a long enough period to gain some additional utilisation.

"We regard intra Asia as far west as India, north to Japan and Korea and south to Indonesia," says Tyler. "The longest route is about 2,000nm, so this defines our performance requirements."

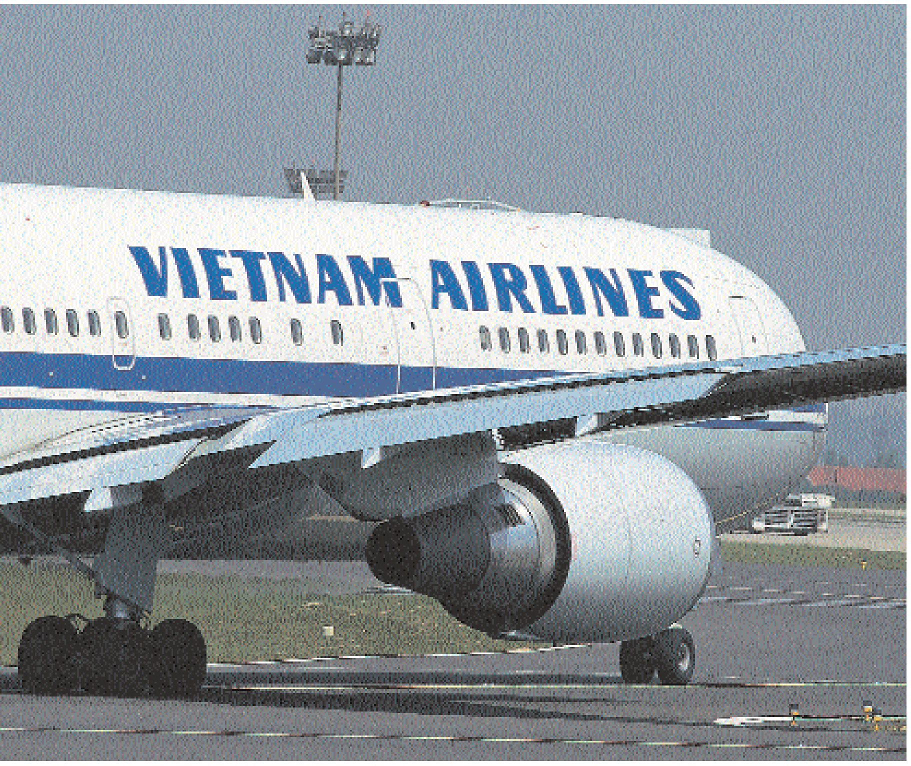
China Airlines' routes vary in length from 340nm to 2,200nm. It has a fleet of five types, which includes the 747-400, A340-300, A300-600 and 737-800 in the passenger role. These have seat capacities between 158 and 380 seats. "We operate the 747-400 on our busiest routes to Tokyo and Hong Kong, which also have the highest frequencies. The A300-600 and 737-800 are used on medium and low demand routes," says Ting.

Vietnam Airlines' network is to most major cities in the Asia Pacific. It operates codeshare flights with JAL and ANA to Tokyo because of slot restrictions at Narita, but this will change in 2002 when a new runway opens and Vietnam Airlines will operate its own aircraft. Vietnam Airlines currently flies 221-seat 767-300s on routes longer than three and a half hours. This includes operations to Seoul, Melbourne and Sydney. The 767 is also used to Hong Kong. Shorter flights are with 150-seat A320s and 176-seat A321s. Other destinations include Singapore, Taipei, Kaoshing, Beijing, Guangzhou, Kunming, Manila, Kuala Lumpur and Bangkok. These are flown to from Hanoi and Ho Chi Minh.

Network development

The concentration of traffic on major routes has resulted in large aircraft being used on most sectors, but this may change. The exception to large aircraft is fast developing markets within China and route networks within Indonesia and from Vietnam. "We expect many new airports to open in Asian countries in the next 5-10 years," says Kim. "Most countries anticipate their new airports will play an important role in the world as a hub airport. Korea alone plans to open four or five new airports, as well as opening another runway at Incheon international airport in the next five years. We will continue to open new routes as a result and in response to the needs of our customers. We anticipate the opening of 50 new routes over the next 10 years, including about three or four new passenger routes each year. This is still dependent on traffic growth and bilateral air agreements between Korea and other countries."

China Airlines also has plans to expand its route network. "We have a priority to start direct flights to Chinese cities, in particular Beijing and Shanghai, as well as increasing frequencies to booming markets such as Hong Kong and Bangkok," says Ting. "Opening routes to China is difficult, however, and we have been trying to do this for about 10 years, but we may succeed in the next three years or so." China Airlines has been less affected by competition, but has felt the negative economic effects of recent years. "The economic slowdown has reduced our passenger yields and load factors. Also, volatile exchange rates and increasing oil prices have had a negative



Vietnam Airlines is a prime example of a rapidly emerging airline. It experiences traffic growth as high as 30% per year in the intra-Asian market, but operates frequencies only as high as three flights per day on its network. It will maintain its A320/21 fleet while increasing frequencies, but will swap 767-300s for either A340s or 777s for its heaviest routes.

effect." These factors have all reduced an immediate need to increase capacity on routes, and China Airlines has relocated aircraft to new destinations.

Cathay has no immediate plans to open many new routes on its intra-Asian network. "We will open new routes over the next five years, and these will be small markets with the potential to be developed over the long term into profitable ones," says Tyler. "We have never flown routes into China, but may start operations to major cities in the next five to 10 years. Dragonair already flies to smaller Chinese cities, so we would only operate on large routes where we could use the existing aircraft in our fleet."

Nam agrees with Tyler about secondary airports not really providing much development in the Asia Pacific. "Although a lot of new secondary airports are going to open, we actually see them as a factor of cost increase," says Nam. "In terms of new routes, we have started operations to Beijing, and will start flying to Kunming and Shanghai in 2002. This will be in addition to our own operations to Tokyo. We are also considering the possibility of flying to Indonesia, but are concerned about the political situation there."

Growth strategy

Since moving to Chep Lap Kok airport, Cathay has been able to improve its schedule to increase frequencies and connections. This has actually reduced average aircraft size in its fleet. Future growth could be met either by increased frequency with the same aircraft or by increasing aircraft size where frequencies have reached saturation.

"We have not yet reached frequency saturation on most of our intra-Asian routes, and would like to improve these first," says Tyler. "Even our Taipei route has a daily frequency of 14 flights, but there is still room for improvement. Most other routes do not have enough frequency. We operate four or five times a day on other busy routes such as Bangkok and Singapore, but lower frequencies on others. The one exception is to Tokyo, Narita, which is slot constrained. A new runway will open at Narita in 2002, allowing us to add frequencies."

China Airlines' route network is varied with high frequency and high traffic density routes to Tokyo and Hong Kong, and others such as Ho Chi Min and Denpasar only being served daily with the A300-600 or 737-800. "In terms of developing our network in response to traffic growth, we will add frequencies first if we can get the route rights. If not we will have to increase aircraft size".

"As our network develops we have the option of increased frequencies or larger aircraft with maintained frequencies," says Kim At Korean Air. "What we do will depend on the market, but we set frequencies that give value to the customer. We usually take the policy of increasing aircraft size on high density routes in order to gain a competitive advantage in operating costs." This indicates that some of Korean Air's routes have reached maturity with respect to frequency development.

As an emerging carrier Vietnam Airlines only operates frequencies of one or two flights a day on major Asia Pacific routes. "We believe the product is about frequency. We currently operate small aircraft because of competition, but still think it is better to remain with the A320 and A321 on the majority of our routes and increase frequencies to at least three per day to increase our market share, before considering using larger aircraft," says Nam. "Although we have smaller aircraft than most other airlines in the region, a lot of carriers are considering using smaller aircraft because of competition levels. We are, however, also considering replacing our 767s with 777-200s and -300s because of the possibility for lower unit cost."

Aircraft requirements

Since Cathay's longest route is no more than 2,500nm, its current intra-Asian fleet of A330-300s, 777-200s and 777-300s meet all its requirements. "We have the high gross weight A330-300, and do not have any payload-range limitations, for both a full passenger and freight payload, with any of the aircraft in our fleet," says Tyler. "We also have Etops capability with all our aircraft, which is a small help on our Perth route, which would otherwise have restrictions without an Etops capable aircraft. It is nice to have commonality in our fleet, but there are more important considerations. For example, aircraft size is important on our slot and frequency restricted route to Narita. The 777-300's size is the overriding factor. If a fleet is large enough and carefully used on the network then commonality issues are not compelling in themselves. We have 19 A330-300s and 12 777s."

Korean Air has similar attitudes to aircraft performance and capabilities. "Range performance can be an important factor in aircraft selection, but it is not critical nowadays," says Kim. "Market responsiveness and adaptability are the more important and critical factors on our intra-Asian network. We require Etops capability, for example, on a quarter of our intra-Asian network. This is on Southwest Pacific and Southeast sub-continent routes. One of our main policies is fleet simplification, which will

China Airlines faces competition from three other Taiwanese carriers, but still plans to increase aircraft size in part of its fleet. It currently operates 12 A300-600s, but will start to replace these in 2003 with 250- to 300-seat aircraft. Candidates for replacement are the A330-300 and 777-200.

give us commonality advantages for using pilots and in maintenance. This gives us an indirect cost reduction."

Vietnam Airlines is satisfied with the performance of its A320 and A321 fleet, with the operation of flights up to three and a half hours. "We use the 767 on longer flights because of higher comfort levels," says Nam. "Because of this strategy the range performance of the A320/21 and 767 is not important. So far we do not operate Etops routes, because there are plenty of alternates on our network. Although there are good commonality levels between the A320 and A340, our A320 fleet is large enough to have commonality advantages. We will be replacing our 767s with larger aircraft. Although this could be the A340, the commonality between the A320 and A340 is not the main issue. The decision to select either the 777 or A340 also concerns which aircraft is better for our route to Paris and our anticipated capacity requirements for China."

Besides requiring an aircraft larger than the 767-200, Qantas looked for flexibility through two aircraft sizes. It considered the 767-400 in combination with the 777-200. This would have introduced two new types to the fleet. The 777-200 was also too heavy for Qantas, and the A330-200 and A330-300 option provided a single aircraft solution.

Fleet development

Qantas has already made the decision to increase aircraft size on its Asia Pacific routes because of frequency saturation.

China Airlines is also in the process of increasing aircraft size for use on its routes currently served by the A300-600. "We are now in the process of selecting a 250 - to 300-seat aircraft to replace our fleet of 12 A300-600s from about 2003. This will either be the A330-300 or 777-200," says Ting.

China Airlines has also reduced the number of aircraft types in its fleet in recent years from seven to five. This includes the MD-11 and 727, which are configured as freighters. "Simplifying the fleet reduced costs by 6% in 2000 and will achieve another reduction of 8% in 2001. This simplification will increase commonality," says Ting. "Simplification will continue. We will retire our MD-11s and 727s, and also replace our A300-600s. This will leave us with the 747-400, A340, 737-800 and a new aircraft type, leaving just four types."

Cathay and Korean both expect to operate aircraft of similar capacities to their current fleets in the next five to 10 years. "These will be 250- to 350-seat aircraft on our key Asian routes," says Kim.

Tyler explains that Cathay Pacific's cost structure means it has no compelling reason to serve routes with traffic levels requiring aircraft smaller than its smallest aircraft; the A340-300. Cathay will thus increase frequencies as traffic grows. "We have added eight A330s to our fleet in the past year, but these could have been 777-200s. The A330 is a good aircraft and we were offered the best deal from Airbus. We are considering larger types for our long-haul routes. We have already signed a lease for three A340-600s for routes to the US and will consider this against the 777-200LR for a larger fleet in the future. We are also keeping the A380 under consideration, but will not use it within Asia."

Vietnam Airlines anticipates fast traffic growth to Japan and China, and this will play an important part in deciding between the A340 and 777. "We may need the 777-300 for routes to Japan and China, because these are fast growing tourist markets, and so we require the capacity, and the 777-300 has the lowest unit cost. The same fleet will have to be used on our route to Paris, and we also plan to start flying to London," says Nam. "We plan to keep our A320/21 fleet, while increasing frequencies, and will expand the fleet to at least 15 aircraft by 2003 because of the expected doubling of traffic."

Summary

Despite having strong and fast growing economies, countries in the Asia Pacific region are still vulnerable to global economic influences. Consequently airlines can experience flat or even negative growth.

Although new airports are unlikely to result in route network fragmentation, it seems that competition from more airlines will increase in certain markets. Like other carriers around the world, airlines in the Asia Pacific are experiencing yield erosion. Competition is also increasing, contributing to yield erosion and reduced load factors. Some carriers in the Asia Pacific may then face the prospect of having to maintain capacity on routes, despite growth in the overall market, as well as keeping or even increasing their frequencies. This then leads to the possibility that, while more aircraft will be required, volumes and average size may not increase as fast as expected.