

The development of the US aviation  
industry since 2000  
~Passenger and Cargo Companies~

**July 2006**

**Japan International Transport Institute, Institution for  
Transport Policy Studies**



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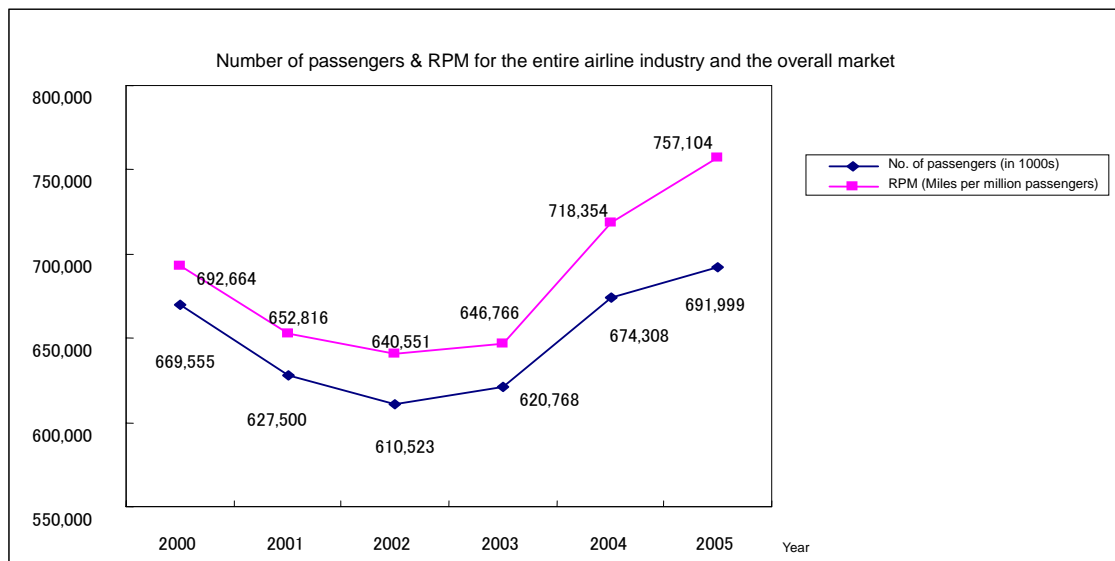
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# I Passenger Companies

## 1. Has the demand for US passenger airlines recovered completely?

### (1) An overview of passenger airline business in the US

- 2005 saw passenger demand grow, together with the number of passengers and RPM (revenue passenger miles), and looking at the overall results for the US passenger airline business, these figures represent an increase on levels for the year 2000.



### (2) The 6 Major Network Carriers<sup>1</sup>

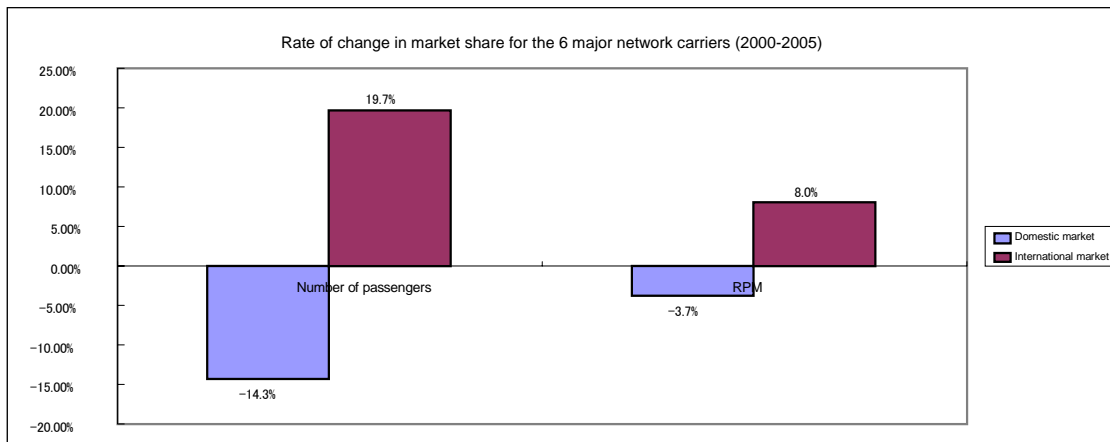
- Characteristic of the 6 major network carriers is the fact that their growth in the international markets<sup>2</sup> is more prominent than their growth in the domestic market. Competition from low cost carriers within the domestic market is forcing a vigorous freight rate war, and as a result these major carriers are both transferring<sup>3</sup>

<sup>1</sup> The 6 major US network carriers consist of American, Continental, Delta, Northwest, United and the former US Airways. US Airways merged with America West on 27th September 2005, but the integration of the operations of the 2 companies is scheduled to take place over 24 months, and they continue to provide data to DOT as separate entities. As such, they will be referred to as the former US Airways and the former America West, and further be treated as separate entities for the purposes of this report.

<sup>2</sup> Total for the Atlantic, Latin American and Pacific markets.

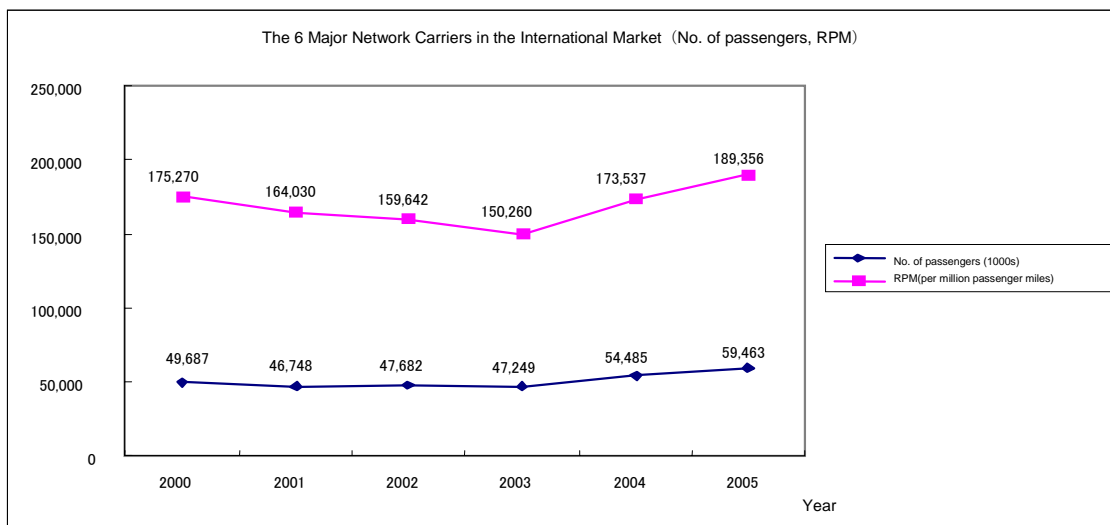
<sup>3</sup> Regional carriers usually provide a major network carrier with extra capacity for transport, based on what is known as a 'Transport Service Agreement,' which will be signed with one of the 6 major network carriers. The regional carrier will now provide a part of the service offered by the major carrier. In most cases, the Service Agreement will stipulate that the major carrier with which the agreement has been signed will carry out the following: arrangement of flight schedule, setting of prices, ticket reservations and sales, etc. The major carrier will then pay a fee laid out within the Service Agreement to the regional carrier (in this sense, these Service Agreements represent a 'risk free' arrangement for the regional carriers concerned). This kind of partnership agreement is seen both within the domestic and Latin American markets.

control of mainly short distance routes to regional carriers<sup>4</sup>, and focusing their own company resources on either domestic long distance or international routes, depending on demand.



**(International Market)**

- **Figures for both the number of passengers and for RPM have surpassed year 2000 levels, and both a recovery of, and indeed expansion of, demand can be expected. It can also be said that the 6 major network carriers are ever more reliant on the international market.**

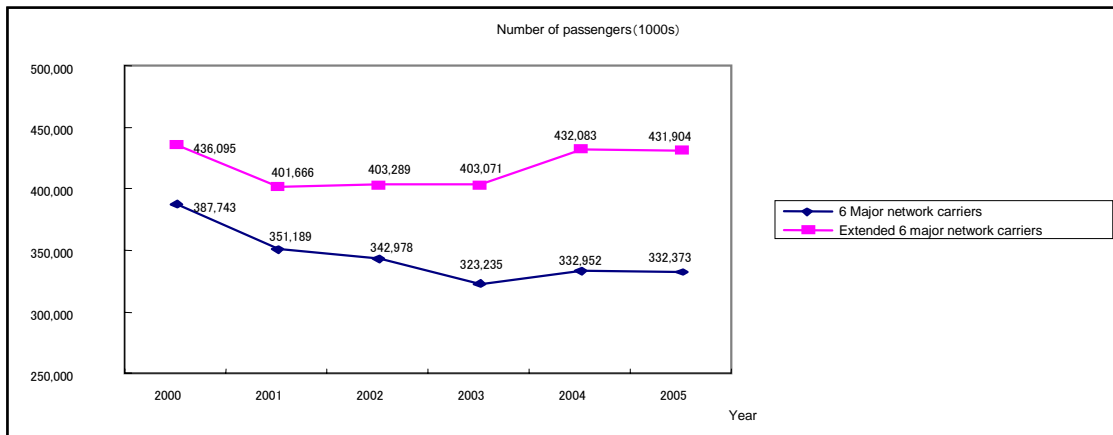


**(Domestic Market)**

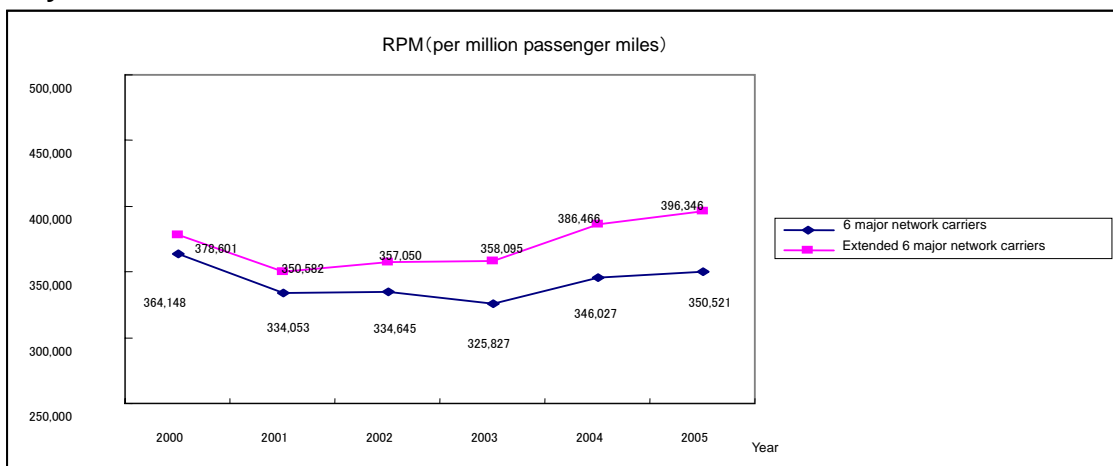
- **Within the domestic market, if one looks at the transition in passenger figures for the 6 major network carriers, one can see that despite there having been a downward trend since the year 2000, this decrease appears to be leveling off.**
- **During this time, the 6 major network carriers have been strengthening their**

<sup>4</sup> There is no legal definition of what constitutes a regional carrier. However, in most cases a regional carrier can be defined as: an aviation company that, through partnership with the 6 major network carriers, both provides flight services between smaller regions and the transport hubs served by the 6 major network carriers using light or small aircraft (regional jets and/or turboprop jets), and encourages the development of new markets, and increases the frequency of flights into large cities through this use of regional jets.

**partnerships with regional carriers**, and if we add<sup>5</sup> those operations that have been consigned to such regional carriers<sup>6</sup> (herein, 'partnership regional carriers'), then we can see that **the number of passengers has recovered to overtake figures for the year 2000.**



- **At the same time, although the RPM for the 6 major network carriers has not yet recovered to the level in the year 2000, it has been showing signs of increasing in the past few years.** If one includes that proportion of operations that has been consigned to partnership regional carriers, **then the RPM for the whole domestic network for the 6 major network carriers is at a higher level than the RPM for the year 2000.**



- Whilst the number of passengers flying with the 6 major network carriers is leveling off, at the same time the RPM for these carriers is demonstrating an upward trend. As a

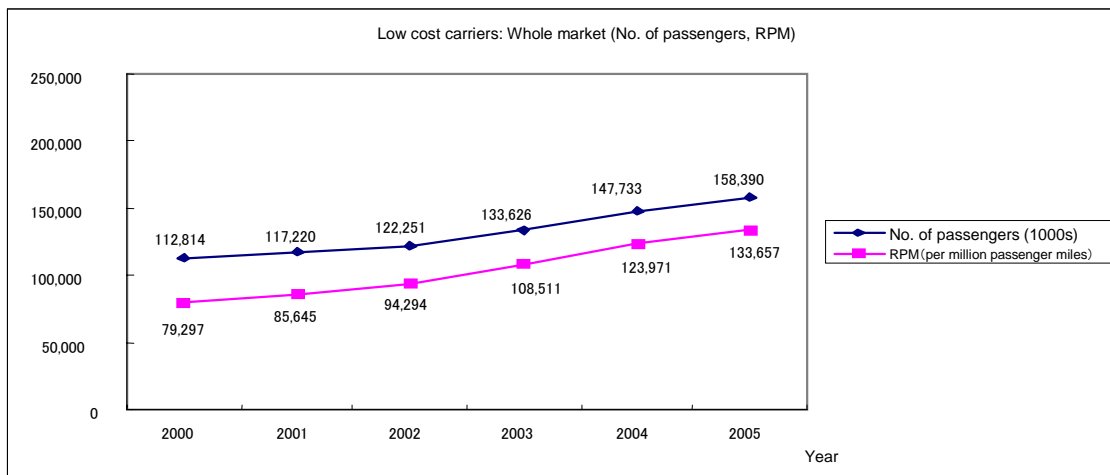
<sup>5</sup> It is not possible to get a fully accurate figure of the overall operations of the 6 major network carriers just by adding together the data from these regional carriers. This is because DOT only requires data from those regional carriers that meet certain criteria regarding scale of operations. However, despite the fact that these figures represent only those regional carriers who are deemed large scale enough to have to provide data to DOT, one can gain a fairly clear idea of the networks overseen by the 6 major network carriers. The figures gleaned from combining data both from the major network carrier concerned, and from its partnership carrier(s), will henceforth be referred to as being representative of the '6 major expanded network carriers'.

<sup>6</sup> The data of 11 regional carriers is available for analysis: Air Wisconsin, American Eagle, Atlantic Coast, Atlantic Southeast, Comair, Executive, Express Jet, Mesaba, Pinnacle, SkyWest and Trans Stats Airlines.

result, we can see that **the 6 major network carriers are consigning the operation of mostly short distance routes to partnership regional carriers, and concentrating their efforts on long distance routes**

### (3) Low Cost Carriers<sup>7</sup>

- Figures for the low cost carriers differ to those for the 6 major network carriers in that, **since the year 2000, both the number of passengers and the RPM has been increasing steadily, and these carriers now account for one fourth of the domestic market.**



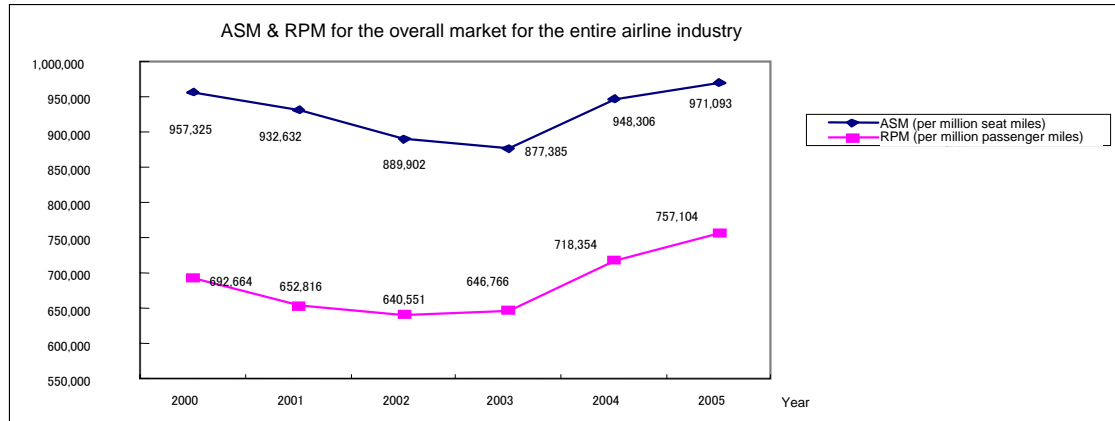
<sup>7</sup> Defined as the following 7 companies: Southwest, JetBlue, Frontier, Spirit, America West, AirTran and ATA. In the case of those low cost carriers (JetBlue, Frontier, Spirit, American West, AirTran and ATA) also operating on international routes (Latin American), some of the data available is not distinguished statistically from data on domestic operations. Therefore, unless specified otherwise, the data on these airlines is referring to the entire market, both domestic and international.



## 2. How are passenger airline businesses in the US responding to the recovery in demand in terms of capacity?

### (1) An overview of passenger airline business in the US

- In correspondence with the increase in transport needs, demand continued to rise in 2005, and by overtaking the figures for the year 2000, showed that demand has undergone a complete recovery.



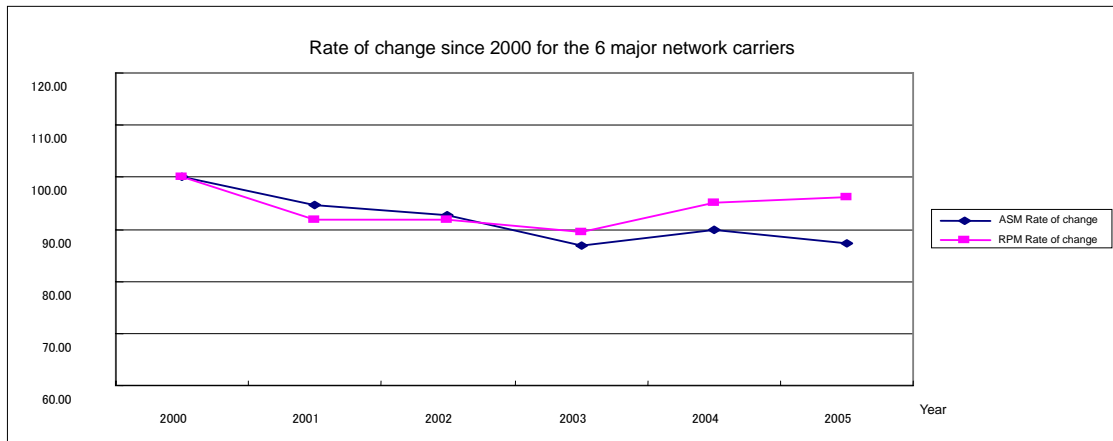
### (2) The 6 Major Network Carriers

- Within the domestic market, where competition is fierce due to the influence of low cost carriers, emphasis was placed on load factors, against the backdrop of a low yield<sup>8</sup>. Increases to capacity have been curbed, even with the rebound in demand that has been apparent since 2004. At the same time, in the international market, the major network carriers are providing capacity according to the steady demand within the market, and are changing their strategies to provide capacity according to the particular characteristics of this market.

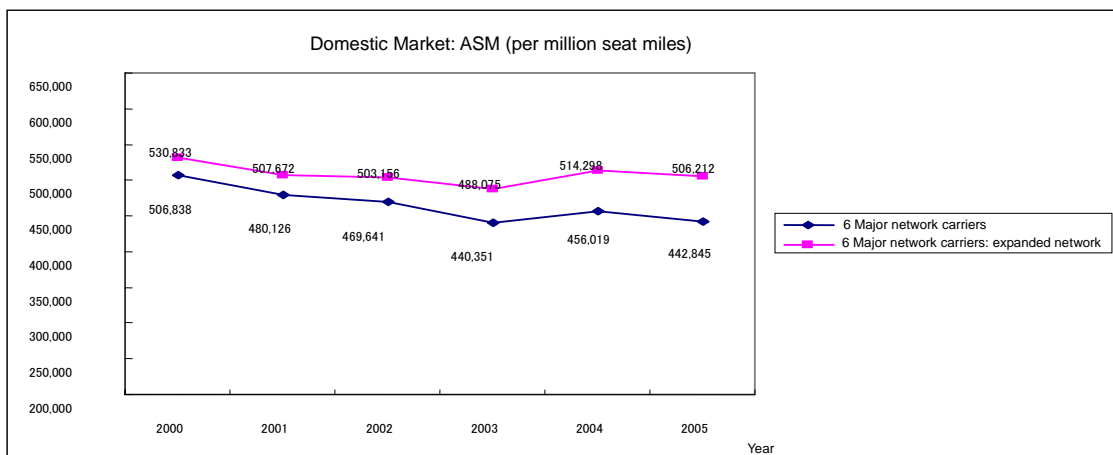
#### (Domestic Market)

- The 6 major network carriers are reducing their ASM in contrast to the increase to RPM in 2005. A trend is beginning to emerge wherein lengths are taken to refine capacity.

<sup>8</sup> 'Yield' refers to the income gained from transporting one passenger for one mile.

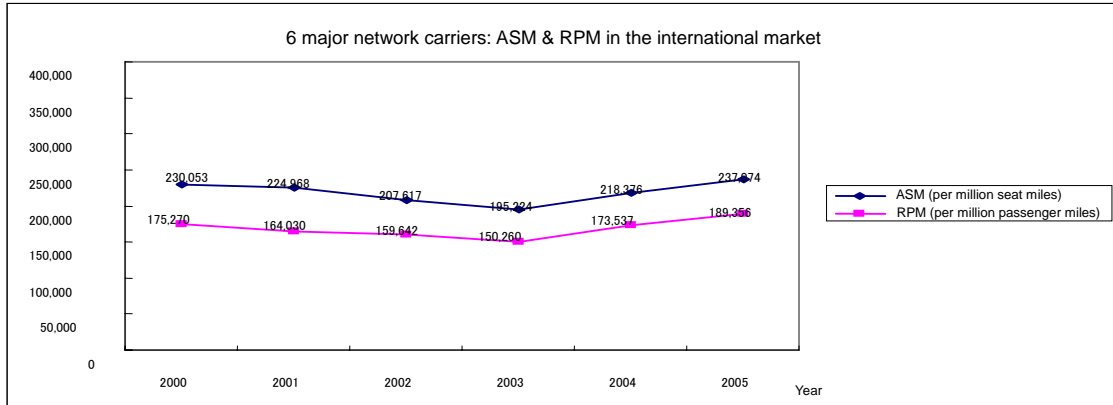


- **This trend is visible not only in figures for the operations the 6 major network carriers alone, but is also evident when we factor in the data from partnership regional carriers as well. We can say that capacity has dropped below the figures for the year 2000.**



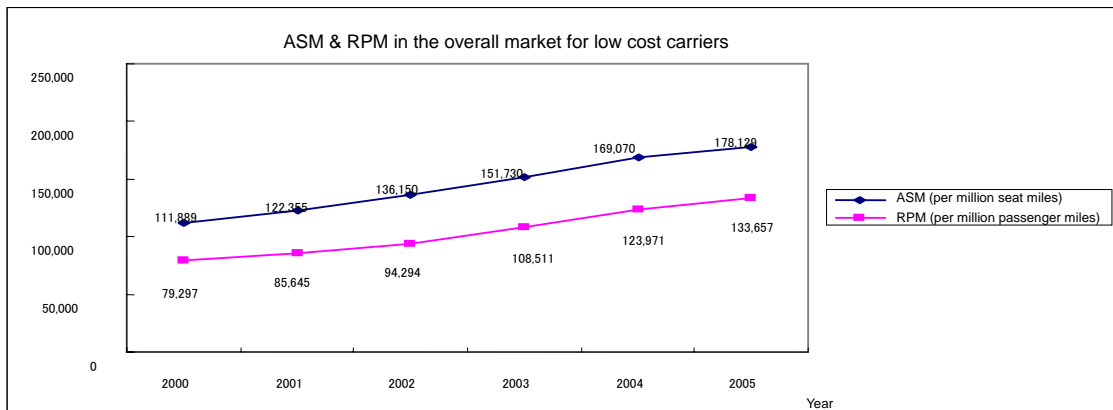
**(International Market)**

- **On the other hand, if one looks at the international market, one can see that since 2004, when demand started to increase, capacity has been steadily increased, and when it was at its peak in 2005, the figure was higher than the level for 2000.**

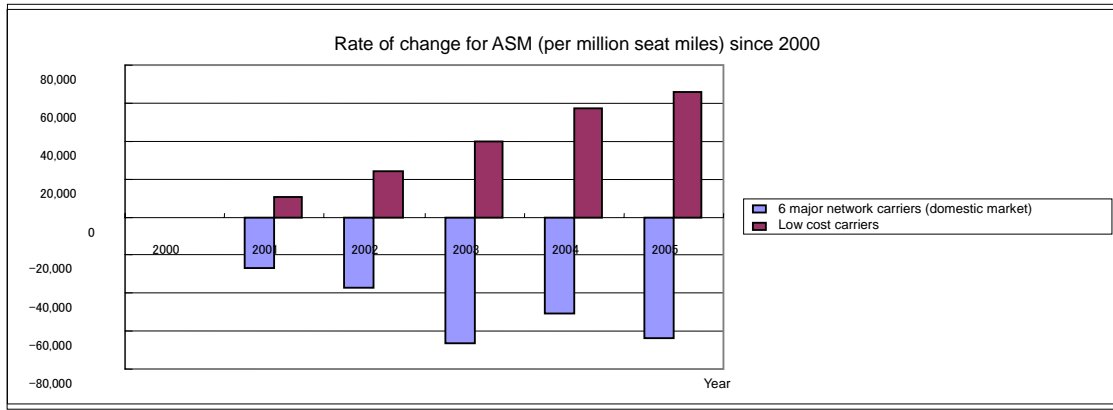


### (3) Low Cost Carriers

- Low cost carriers have been **consistently expanding their capacity in response to the increase in transport demand**, even whilst the 6 major network carriers have been cutting back on their capacity.



- If one compares and contrast the changes in capacity between the 6 major network companies (within their domestic operations) and low cost carriers since 2000, one can see that **a situation has arisen whereby whilst the 6 major network carriers cut back on capacity, the low cost carriers are increasing their capacity to fill that gap, and that this situation is continuing unaltered.**

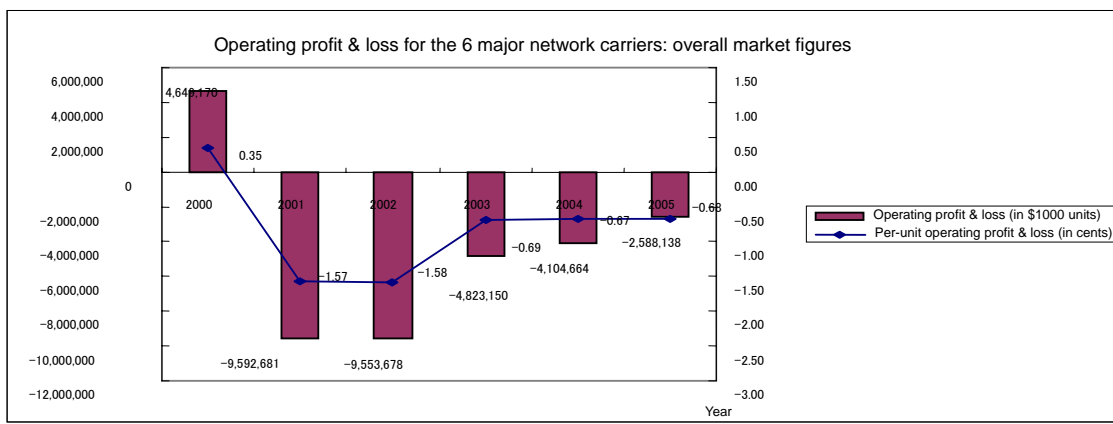


- As a result, **the share of capacity accounted for by low cost carriers has risen from 15.6% in the year 2000 to 24.6% in 2005.**

### 3. Has the financial health of passenger airline businesses in the UK improved?

#### (1) The 6 Major Network Carriers

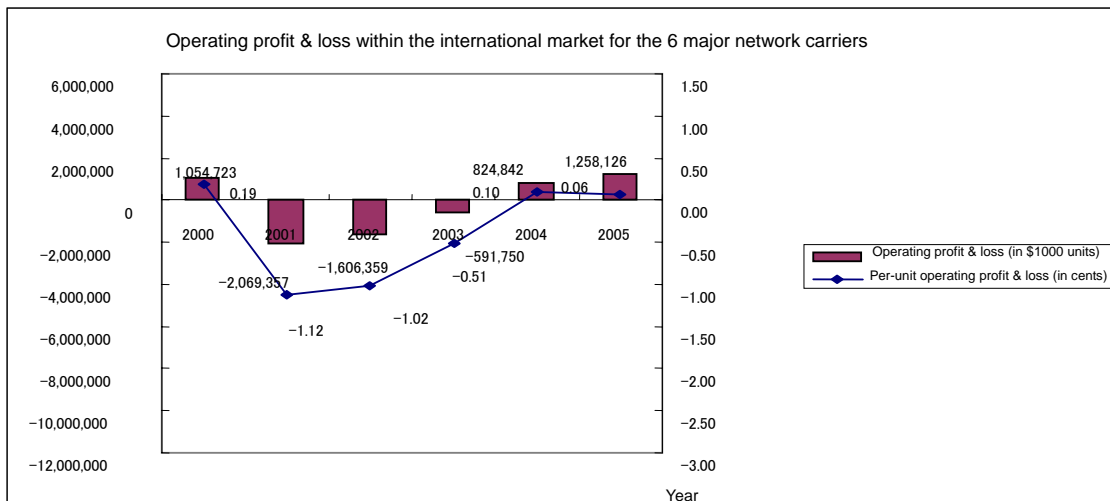
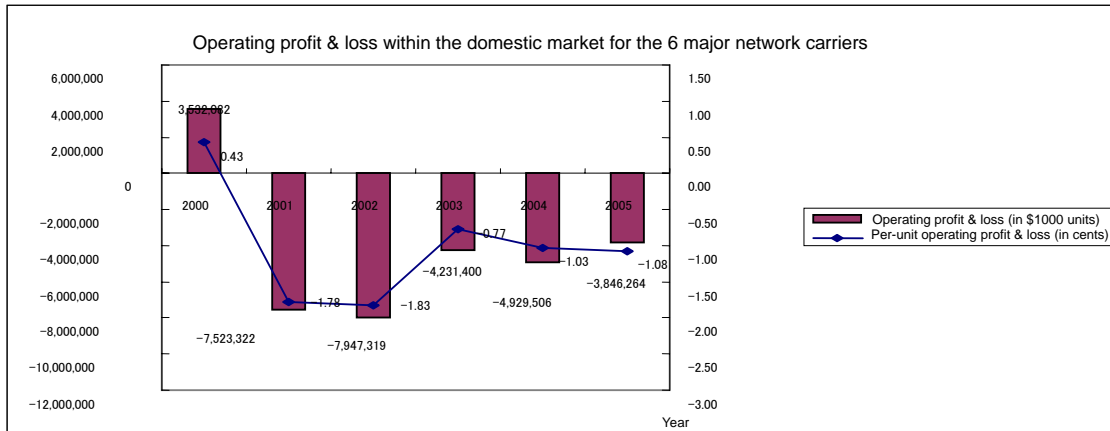
- **2005 saw a drop in the amount of loss in 2004.** However, for the 6 major network carriers, **their combined loss remains at a reported US\$ 2,588,140,000, and no profit was recorded in the 5 years since 2001.**
- **When calculated on a per-unit base<sup>9</sup>, it becomes clear that soaring fuel costs are canceling out reductions in costs achieved elsewhere. At the same time, competition with low cost carriers is keeping revenue low. Thus in 2005 the amount of loss increased slightly from 2004 levels, and represented a unit loss of 0.68 cents.**



- Since 2001, the 6 major network carriers have found themselves in a position whereby **certain elements implied that hopes could be held for an upturn in their financial health**; examples would be the recovery in demand, and the introduction of frameworks designed to reduce costs within airline companies etc. However, **since 2003 the level of unit loss has remained almost unchanged, and if this is to remain the case then there seems little chance of seeing an upturn in the fiscal situation of these carriers.** In **September 2005 both Delta and Northwest Airlines filed for bankruptcy protection.**
- **Within the domestic market, competition with low cost carriers is fierce, and continuous deficits are being seen. However, in the case of the international market, the level of competition is limited compared to the level seen within the domestic market, and it is possible to achieve increases in revenue through the appropriate pricing of fares. For this reason, since 2004 the 6 major network carriers have**

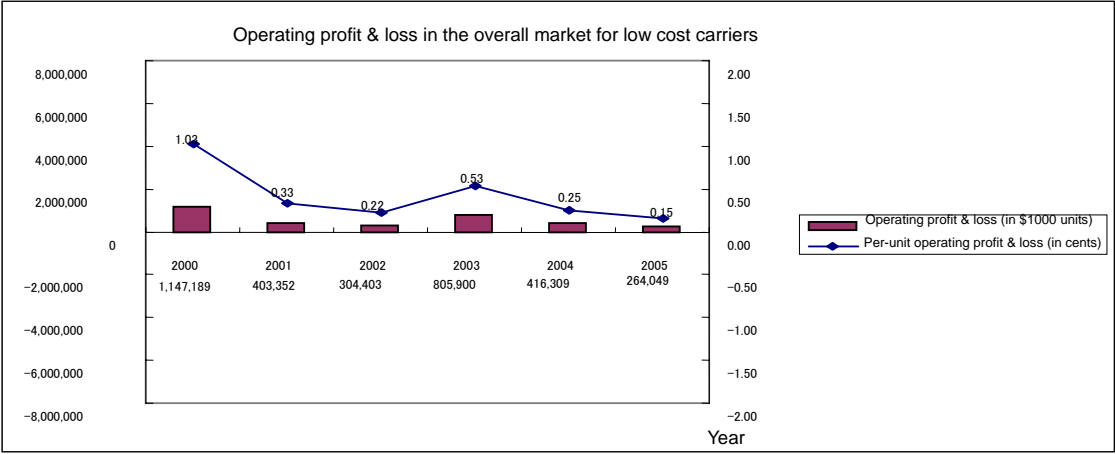
<sup>9</sup> Regarding the cooperative transportation systems that exist between the 6 major network carriers and the regional carriers with which they are partnered (domestic market, Latin American market), because both the revenue and costs associated with such contractual ventures as these are not directly related to the major network carrier, since 2003 these have been required to be reported as 'transportation related revenue,' and 'transportation related costs.' For this reason, regarding the calculations of revenue and/or costs on a per-unit basis, since the ASM denominator is that proportion of flight operations carried out by each company individually rather than through partner carriers, then the values considered to most accurately represent the actual revenue and/or costs of the operations of each individual company, and thus used in calculations, are the revenue and/or costs, or numerators, minus transportation related revenue or transportation related costs as mentioned above.

been recording profit for their international operations. For these carriers, then, the relationship between their domestic and international operations seems to be to focus on seeing a profit from international operations, and then utilizing this profit to reduce their domestic losses.



## (2) Low Cost Carriers

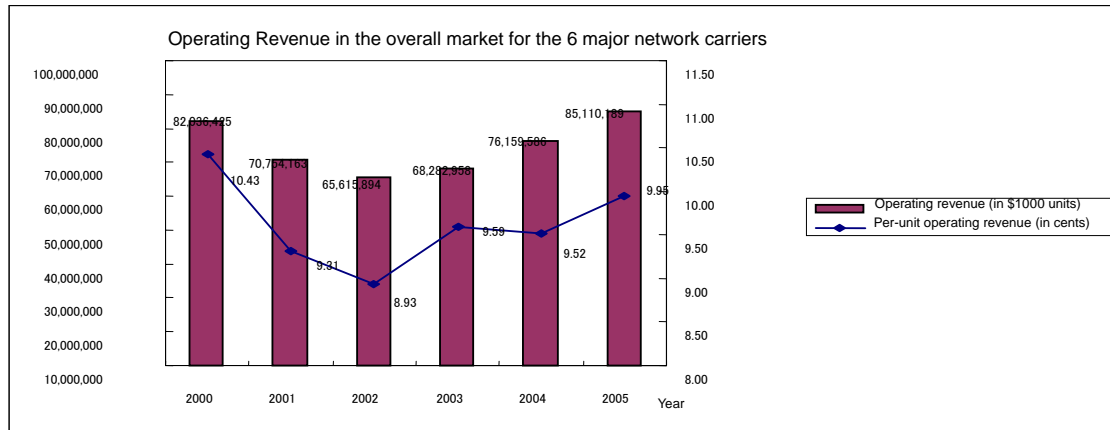
- In 2005, the low cost carriers recorded operating earnings of 264,050,000 US dollars. When this is calculated on a unit base, this represents a unit return of 0.15 cents. However, when calculated on both an actual cost base, and on a unit base, the profit figure for 2005 in face represents a reduction from the relevant figures from 2004.
- The fact that low cost carriers differ from the 6 major network carriers, in the sense that they have been able to continuously record operating profit, is because they have been able to ensure that costs remain less than their low level of operating profit. In 2005, the price of fuel rose sharply, which forced substantial increases in cost. However, because the level of costs for carriers such as these is by definition low to begin with, they were still able to eke out a profit.



## 4. Why are the 6 major carrier networks continuing to record a loss?

### (1) Operating revenue

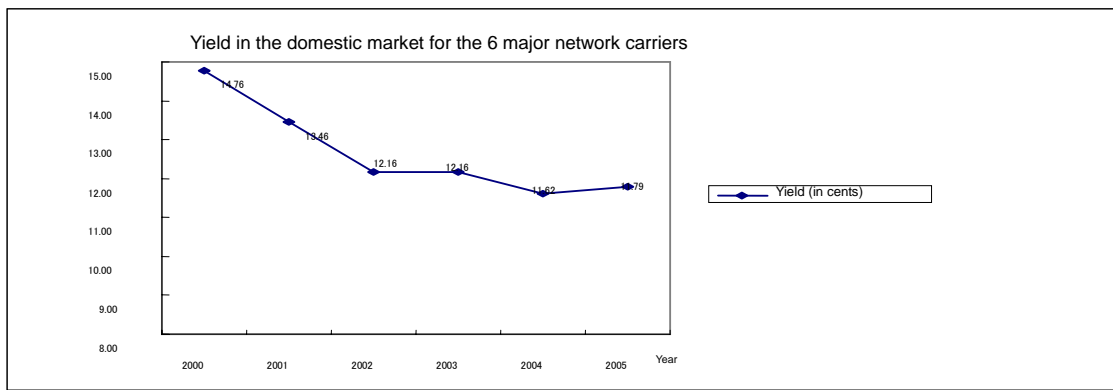
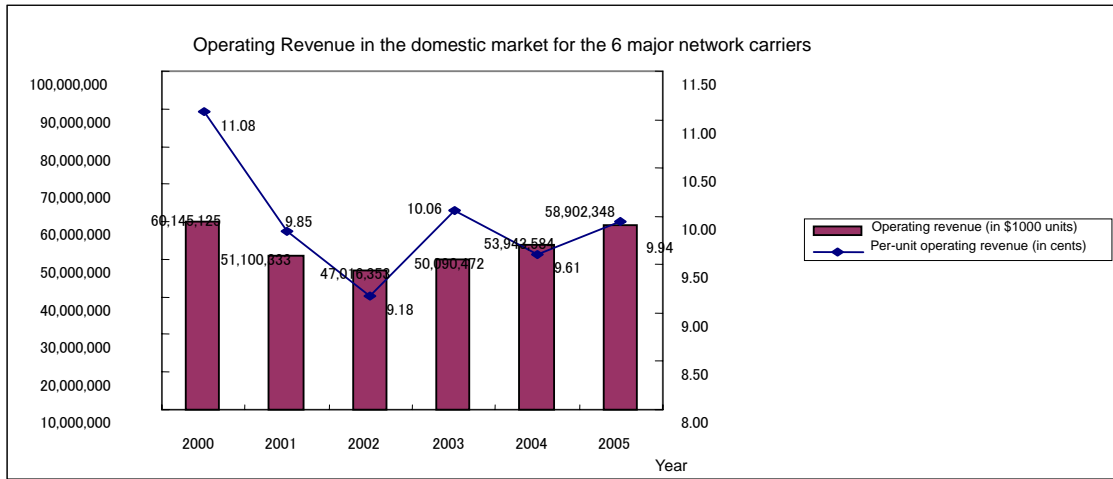
- **The total operating revenue for the 2005 financial year was US\$85,110,190,000, representing an increase from 2004 levels, in parallel with the rise in transport demand. As a result, the figures rose above 2000 levels, which had previously represented a peak.**
- **At the same time, when the operating revenue is considered on a per-unit base, which discounts all income from transportation, the result for 2005 (9.95 cents) does represent an increase from 2004, but has not yet reached the levels seen in the peak year of 2000.**



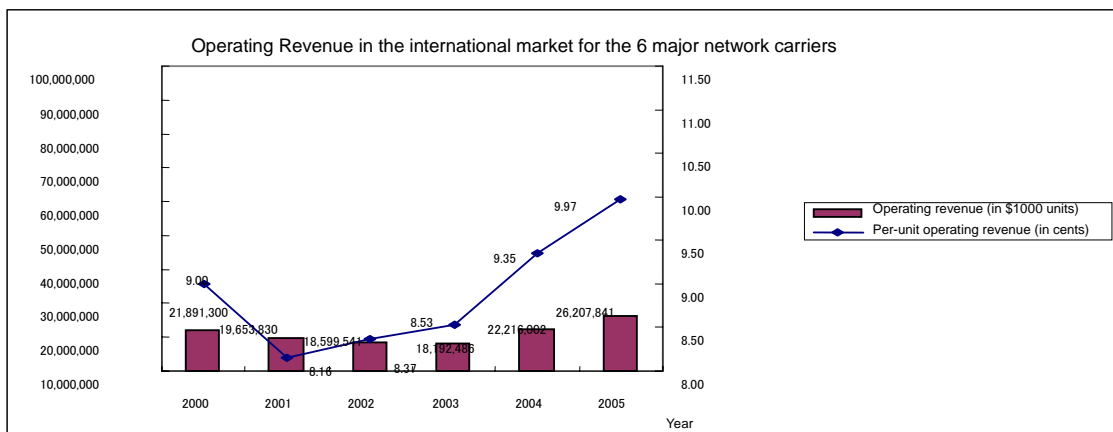
- **Looking at the domestic market, one can see that despite the fact the total operations revenue is increasing, in parallel with the increased levels of transport demand being seen, the decrease in yield being caused by fierce competition with low cost carriers means that unit revenue is struggling to show growth. It is likely that this is a result of significant effect of the downturn in transport levels within the domestic market. In 2005, carriers were faced with steep rises in fuel costs caused by the increase in crude oil prices, and it appears that several attempts<sup>10</sup> have been made to reflect these increased costs by raising the price of domestic air travel. As a result, the yield for 2005 was a little better than that of the previous year. However, significant improvement has yet to be seen. However, even low cost carriers, who have the power to determine the cost of air travel, have found it hard to cope with the increase in fuel costs, and are currently in the process of undertaking price reviews. With this in mind, one can reasonably expect yield to increase in 2006 for the 6 major network carriers.**

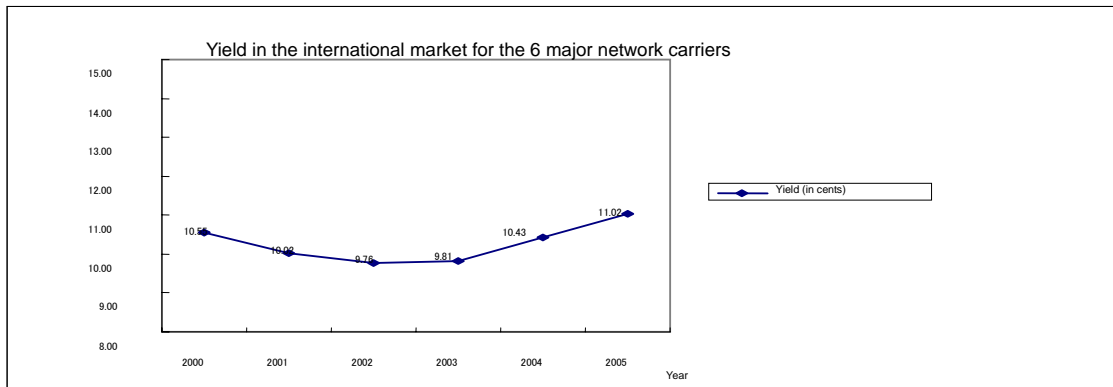
<sup>10</sup> According to the Subcommittee on Transport and Infrastructure within the US Senate Committee on Environment and Public Works, American airline companies were forced to increase fares 12 times throughout 2005 as a direct result of increases in fuel costs. For example, Delta airlines raised the maximum one-way fare under their 'Simplifare' system from 499 to 599 US dollars, and other carriers introduced similar changes.





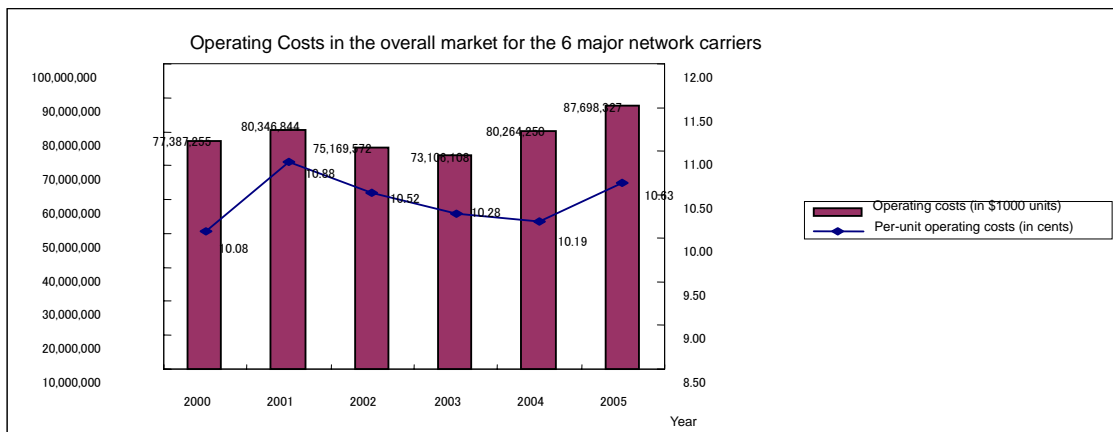
- Within the **international market**, both the total operating revenue and the unit revenue are continuing to show growth. It is clear that this is one of the main reasons why the major carriers are choosing to focus on their international operations, in which they face less competition and can therefore rely on as a source of income.



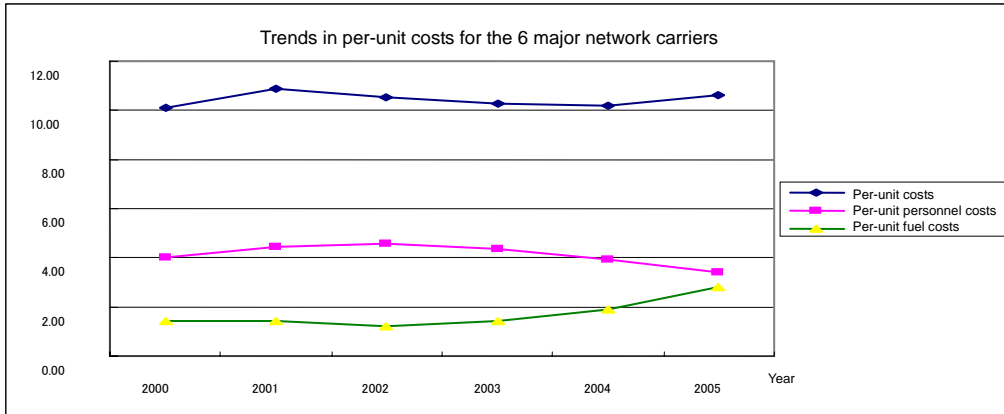


## (2) Operating Costs

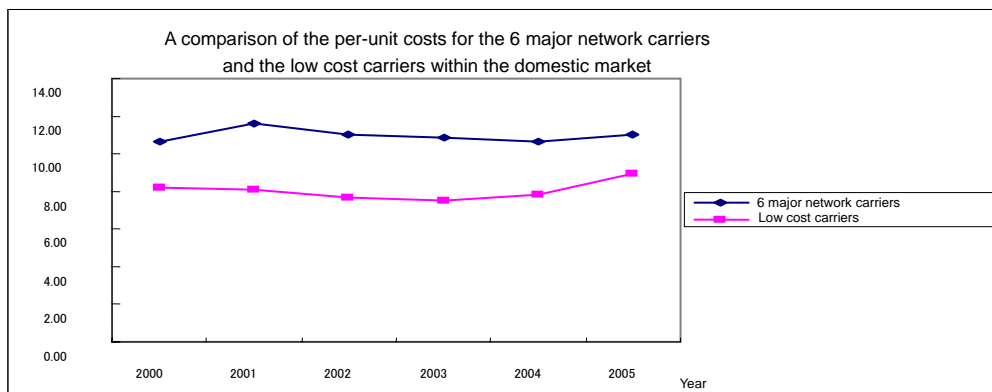
- **Total operating costs for 2005** stood at US\$87,698,330,000, a rise from 2004 levels, representing the effects of both increases in capacity, and soaring fuel costs. As a result, the total costs overtook the 2001 figure, which had previously been the highest recorded.
- **If we look at costs on a unit base, we can see significant increases from 2004 figures.** The result (10.63 cents) is inching nearer to 2001 levels, which again are the highest recorded so far.



- Despite the efforts of the 6 major network carriers to reduce costs (focusing mainly on reductions in personnel costs), **the steep rises in the price of crude oil since 2003 have forced fuel costs up, and essentially cancelled out any effect that personnel cost reduction might have had on overall figures.** Although most of the 6 carriers succeeded in achieving significant reductions in personnel costs in 2005, rises in fuel costs not only counteracted any benefits such cost reductions may have had, but also conspired to push up basic unit costs.
- In 2005, the standard unit cost for both personnel and fuel continued the previous trend of averaging out at around the same levels, and it is clear that the transition seen in the unit cost of fuel is having a significant effect on the overall cost structure of the 6 major network carriers.

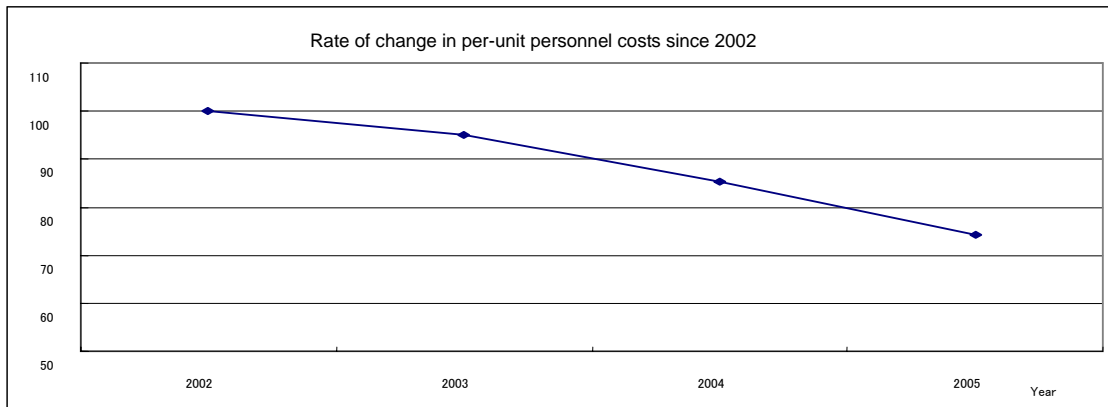


- However, **the fact that the rise in fuel costs has forced an increase in overall costs is the same both for the major network carriers and their main rivals, the low cost carriers.** If we consider the fact that the unit costs for low cost carriers is significantly lower than that of the 6 major carriers (for their domestic operations), then it becomes evident that **there is a need to further implement cost reducing measures in order to remain in viable competition with the low cost carriers, and start to see an upturn in revenue.**

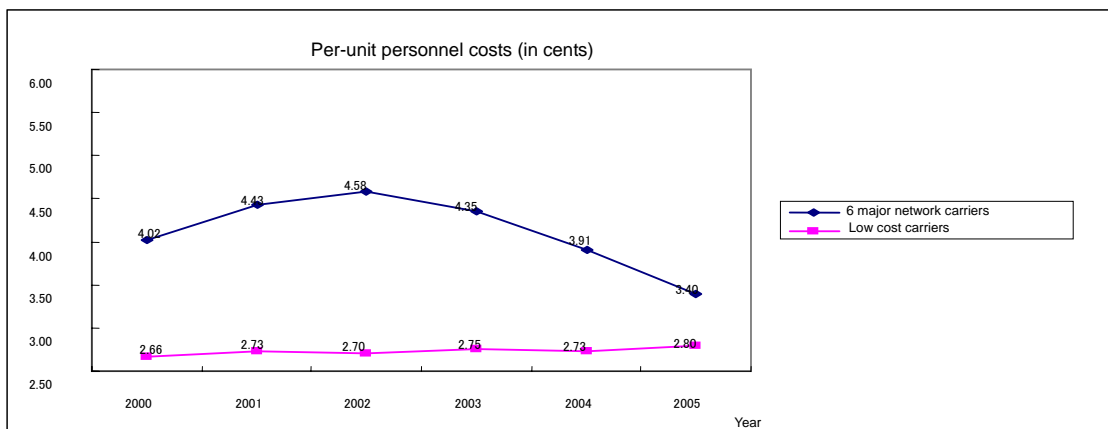


## (2)-1 Personnel Costs

- Personnel costs for the 6 major network carriers have been **reduced by 25% from their highest recorded levels when calculated on a unit base (in 2002).** However, the **increase in the cost of fuel has served to cancel out any effect this reduction might have had on overall costs, and as a result these personnel cost reductions have played no particular role in helping to force an upturn in business.** Further, in the case of those carriers who were sluggish in implementing measures to reduce personnel costs, this decision has added unwanted momentum to their financial woes.

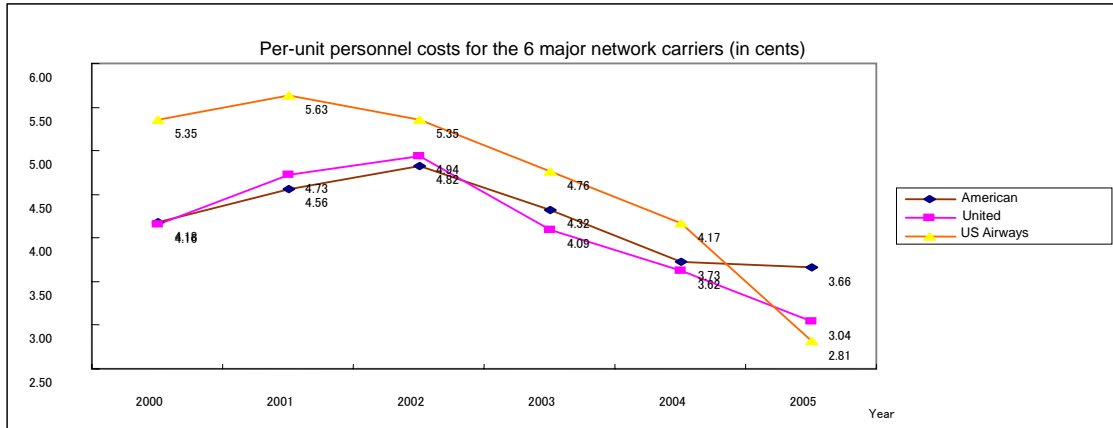


- Although the gap between personnel costs in low cost carriers and the major carriers is shrinking rapidly, **the personnel costs for the 6 major network carriers remain at 1.21 times the level of the low cost carriers.** One can see therefore that the standard costs for the 6 major carriers remain high. Therefore, **in order to be able to continue to compete with the low cost carriers, further measures to reduce personnel costs are required.**

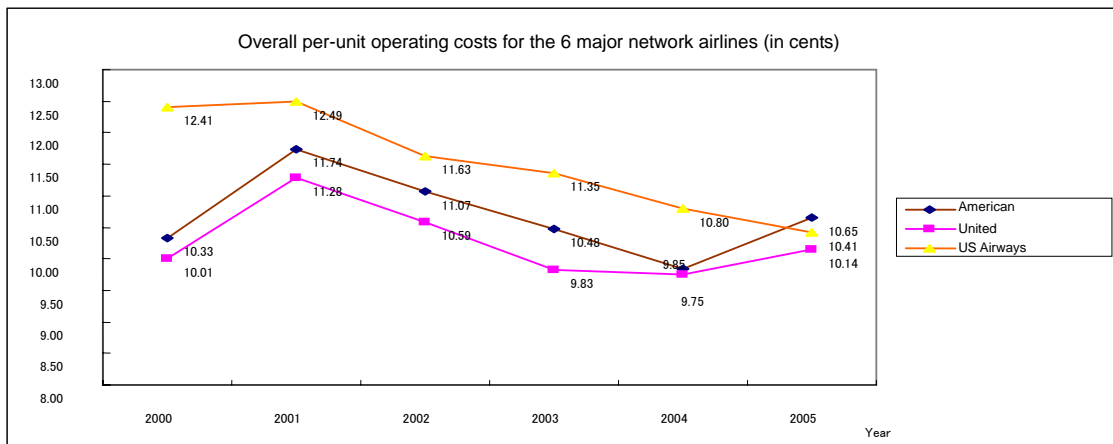


- The personnel costs for the 6 major network carriers reached an overall peak in 2002, and have been steadily declining ever since.** However, by analyzing this trend for each individual carrier one can see that this steady reduction is not necessarily the case for all airlines concerned. One can see **a difference between those carriers which implemented cost saving measures in 2002 (American, United, the former US Airways) - in other words immediately after the rises in the average levels of operating costs and personnel costs that were first seen in 2001 - and those that did not take any such immediate preventative action (Delta, Northwest, Continental).** Those carriers that did not introduce timely counter-measures have placed further pressure on already precarious financial problems as a result of this.
- In 2002, **both United and the former US Airways, which were under bankruptcy protection, were able in 2003 to come to agreements with their relevant workers unions to measures designed to reduce personnel costs.** Further, plans were made for further reductions in personnel costs throughout the second half of 2004 and

**the first half of 2005**, in order to compensate for projected rises in fuel costs. As a result, **both companies were able to successfully emerge from bankruptcy protection<sup>11</sup>**. In particular, the unit personnel cost for the former US Airways (at 2.81 cents) has reached a level comparable to the low cost carriers (2.80 cents). The financial situations of **American Airlines** got so bad in **2003** that they were almost forced to file for bankruptcy protection, but in April of the same year **they announced the implementation of a Turnaround Plan<sup>12</sup> for improvement, and pushed forward with a new framework to reduce personnel costs.**



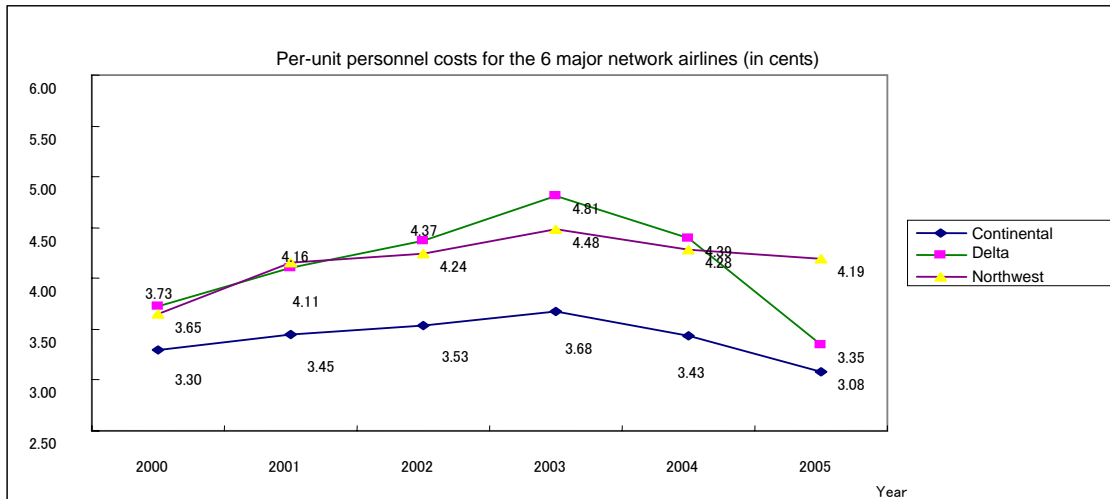
- For these carriers, **the overall operating costs are falling in response to reductions in personnel costs**, and despite the fuel costs increased of **2005**, have fallen below the peak levels seen in **2001**.



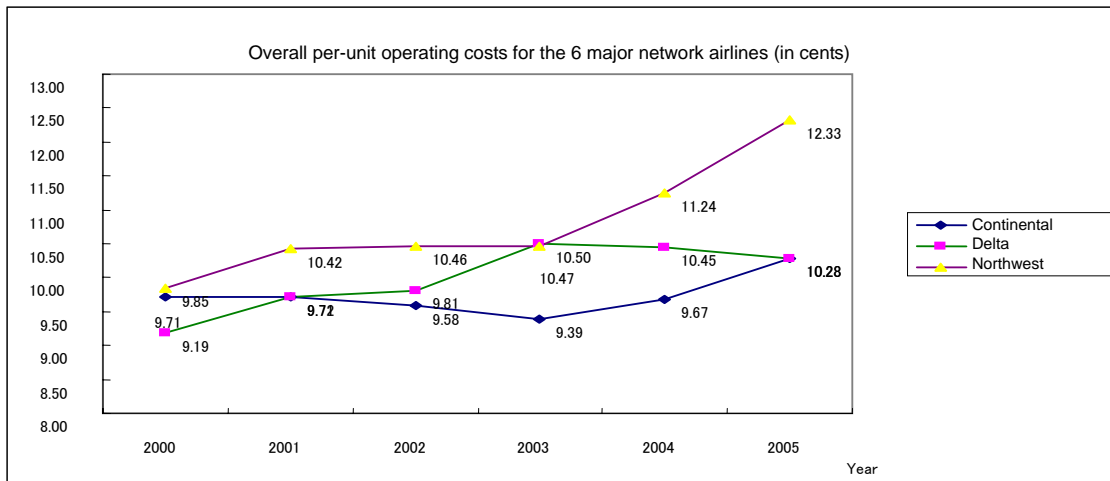
<sup>11</sup> In February 2006, United emerged from the bankruptcy protection they had filed for in December 2002. The former US Airways initially emerged in March 2003 from bankruptcy protection filed for in August 2002. However, they were forced to re-file for bankruptcy protection in September 2004, and in September 2005 announced their intention to merge with America West.

<sup>12</sup> A strategic plan consisting of the following measures: 1) Peak Equalization at the Miami hub, reduction of scale of operations at the St. Louis hub, streamlining of domestic routes 2) Expansion of international operations 3) More efficient utilization of machinery and materials 4) Consolidation of terminals and gates utilized. The plan also looked to strengthen overall operations by concentrating on international routes as a main source of income.

- In contrast, **Delta, Northwest and Continental** experienced steady increases in personnel costs until 2003, and in the same year reported new record figures for these costs. These carriers were finally able to formulate agreements on personnel cost reductions with their workers union from the end of 2004 through the beginning of 2005. Whereas Delta and Continental are beginning to see the fruits of these cost-reducing measures in terms of a downturn in unit costs, the cost reductions introduced by Northwest were not as far-reaching as was necessary, and as a result reductions seen in their unit personnel costs have been marginal.



- As a result of rises in fuel cost, the overall operating costs for these carriers have been reporting either new peak levels in operating costs, or have leveled off since 2003. As a result, **Northwest and Delta** were forced to file for bankruptcy in **September 2005**, and have introduced additional measures to reduce costs.

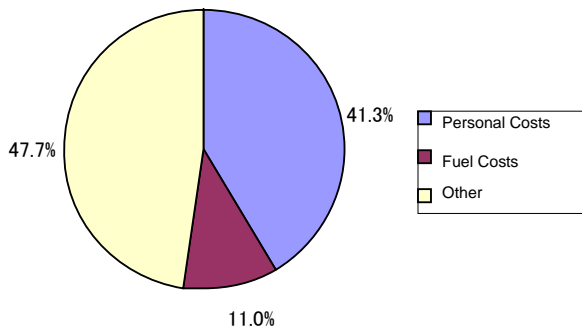


## (2)-2 Fuel Costs

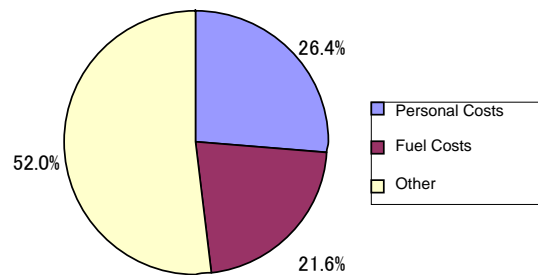
- As a result of the soaring price of fuel, and failures in hedge strategies, the 6 major network carriers saw the fuel costs come to account for 22.6% of their overall operating costs in 2005, almost double the same figure for 2002. Thus fuel costs came to account for almost the same proportion of overall costs as personnel

**costs. The increase in fuel costs served to make redundant any potential effect in overall costs that improved mileage and reductions in personnel costs might have had, and is the main reason behind the rise in overall operating costs being experienced by all 6 major network carriers.**

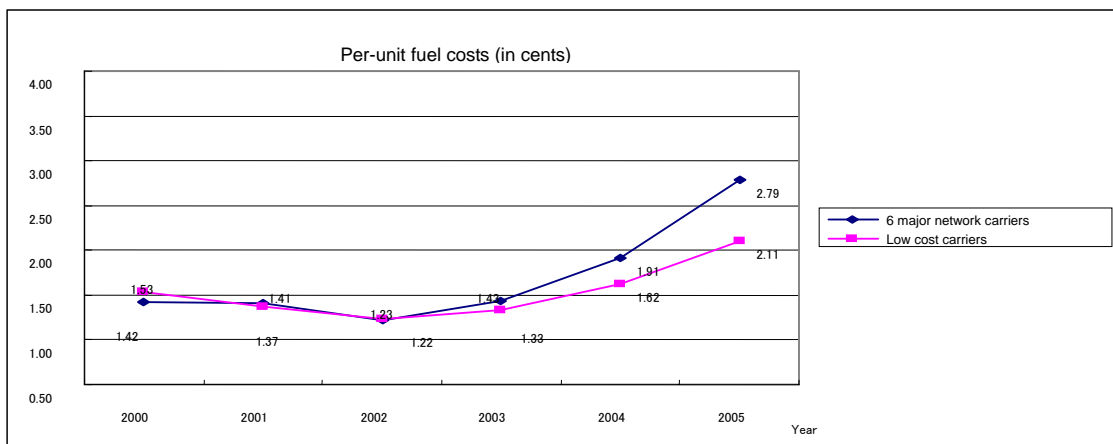
Breakdown of costs for the 6 major network carriers in 2002



Breakdown of costs for the 6 major network carriers in 2005



- If one compares the trends in fuel costs for both the 6 major network carriers and the low cost carriers since 2003, when the price of crude oil began to rise, one can see that **the gap is getting larger every year**. The reason for this is that **the low cost carriers carried out very effective fuel hedge strategies**.



- Despite the 6 major network carriers experiencing an increase in capacity since 2002, **levels of fuel consumption have changed little**, mostly thanks to the implementation of frameworks designed to promote the more efficient use of fuel<sup>13</sup>. However, **the increase in the unit price of fuel has resulted in the price of fuel almost doubling**. If the unit price of fuel for 2005 had remained at 2003 levels, then the overall fuel costs

<sup>13</sup> Each carrier is working towards increased fuel efficiency through the introduction of the following measures: 1) efficient utilization of the engine, 2) lightening of the aircraft through the removal of unnecessary fittings and utensils, 3) encouraging economical use of fuel through alterations in baggage storage and operations, 4) reduction in air resistance and the introduction of techniques designed to improve buoyancy. According to the Air Transport Association (ATA) in the US, the price of fuel has increased by about 18% since 2000.

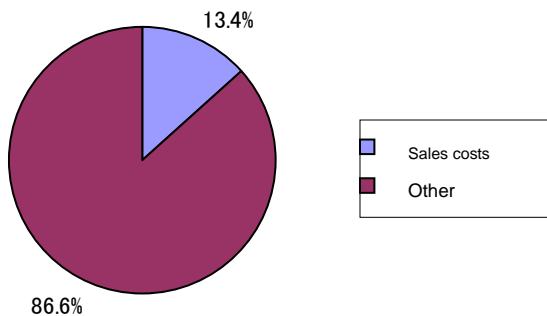
borne by the carriers could have been maintained at just under about 10 billion US dollars.

- Taking into account the fact that the total operating losses for the 6 major network carriers in 2005 was US\$2,588,140,000 **one can estimate that these carriers could have recorded profitable operating figures had the price of fuel not increased. No such increase would have seen the measures to reduce personnel costs being successful.**
- **At the beginning of April 2006 the price of crude oil increased again (standing at US\$69.03 per barrel as of 11<sup>th</sup> April 2006) and it is likely that the price of crude oil will remain at high levels in the future<sup>14</sup>. As a result, it is evident that the 6 major network carriers need to implement further cost reducing measures.**

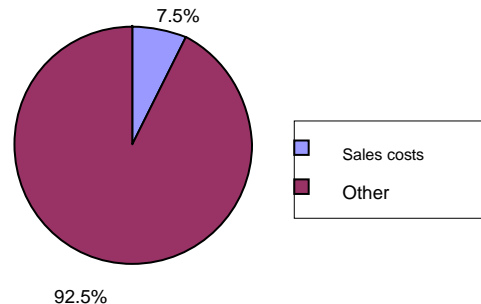
## (2)- 3 Sales Costs

- The **per-unit sales costs** for the 6 major network carriers are **gradually decreasing due to such measures as greater use of internet bookings**, and the **share of overall costs accounted for by sales costs has halved, from 13.4% in 2000 to 7.5% in 2005.** However, it remains **1.4 times the equivalent share of costs for low cost carriers and further reductions are necessary in order to remain competitive.**

Breakdown of costs for the 6 major network carriers in 2000

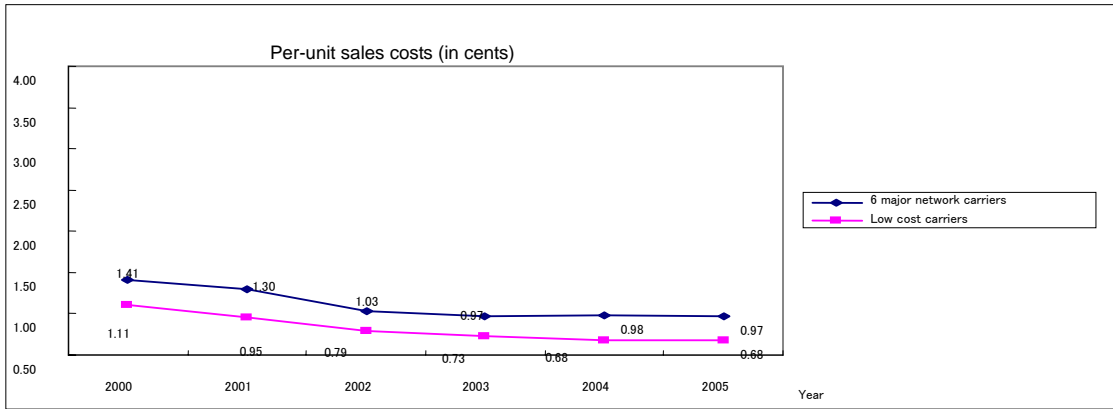


Breakdown of costs for the 6 major network carriers in 2005



<sup>14</sup> Most studies suggest that the price of crude oil is likely to be in the range of 45 and 55 US dollars per barrel over the next few years (FAA Aerospace Forecast 2006-2017).





## 5. Responses shown by the 6 major network carriers

### (1) Redesign of business models

#### (1) - 1 Is the Hub and Spoke System unnecessary?

- **The Hub and Spoke system used by the 6 major network carriers is problematic<sup>15</sup> in that it is intrinsically expensive.**
- However, the system also allows **passengers to enjoy wider and more frequent air transport services. In those markets where the scale of demand is large, income has dropped off sharply due to competition with low cost carriers.** As a result, there is a greater dependency<sup>16</sup> on income from those markets where demand is low – such as demand for spoke routes. With all these factors considered, it is likely that **in a country as large as the US, this system will continue to be necessary for the development of an air network,** and it is very difficult to imagine that the system will be abolished or replaced.

#### (1) – 2 Streamlining and rationalizing the Hub and Spoke system

- **The 6 networks carriers continue to use the Hub and Spoke system, but measures to streamline and make more effective this system are now top priority for all carriers.** As a result, the 6 major network carriers are **looking to focus their operations on their largest hub airport, and reduce the scale of their operations at other hub airports that are not as strategically important.**
- **Further, by using regional carriers<sup>17</sup> for spoke routes, major carriers can work towards the rationalization of their own capacity, whilst still pursuing new markets through the utilization of regional jet aircraft, and the advancement of services offered.** However, even if the 6 major network carriers work towards keeping transport related costs down, **as long as the cost of operating the regional carriers itself does not decrease, such measures will have no long term effect on the overall network**

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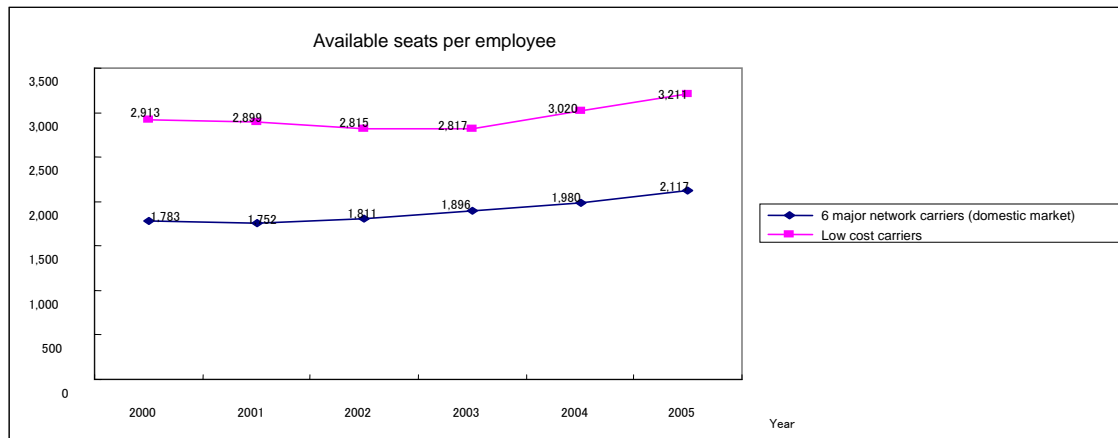
<sup>15</sup> The Hub and Spoke system is based on the concept that connections will be made. As such, extra costs are incurred by assumes that passengers will be making transfers. As such, extra costs are incurred, through reductions in down time, through increase in fuel consumption caused by taxing on each departure and arrival, and through the extra maintenance and pilot training that the use of a wide array of aircraft, in order to respond to the scope of demand, requires. In addition, costs are increased by the use and subsequent required maintenance of boarding gates and passenger lounges in hub airports, as well as costs associated with the provision of those staff necessary to handle passenger service and baggage handling needs.

<sup>16</sup> Looking at trends in passenger revenue from each marker between 2000 and 2004, one can see that although the general trend is one of a decline in passenger revenue, for those markets in which the annual total of passengers is less than 18,000, there is in fact an upturn in revenue, which accounts for 10% of total revenue.

<sup>17</sup> The 6 major network carriers, which have been hit hard by soaring fuel prices and find themselves obliged to work towards further cost reductions for business survival, have finally seen in 2005 transportation related revenue surpass transportation related costs, thanks to revisions in contractual arrangements with regional carriers. Thus, the fruits of outsourcing are finally being realized.

costs borne by the major carriers.

- Looking at the available seat figures per employee for the 6 major network carriers, one can see that in 2000 efficiency was at 61% of that of the low cost carriers. By 2005, the figure had increased by 18.7% from 2000 levels, as a result of personnel restructuring and a reappraisal of the Hub and Spoke system. However, this remains at 66% of the figure for low cost airlines, and further remains at an average level of around 70%.



- The effects of the review of the Hub and Spoke system, carried out by the 6 major network carriers, are beginning to make an impact, albeit a small one at this point. However, one can see through comparison with low cost carriers that still more needs to be done. These reviews and changes have only begun to make a dent in overall costs, and further improvements will need to be made.

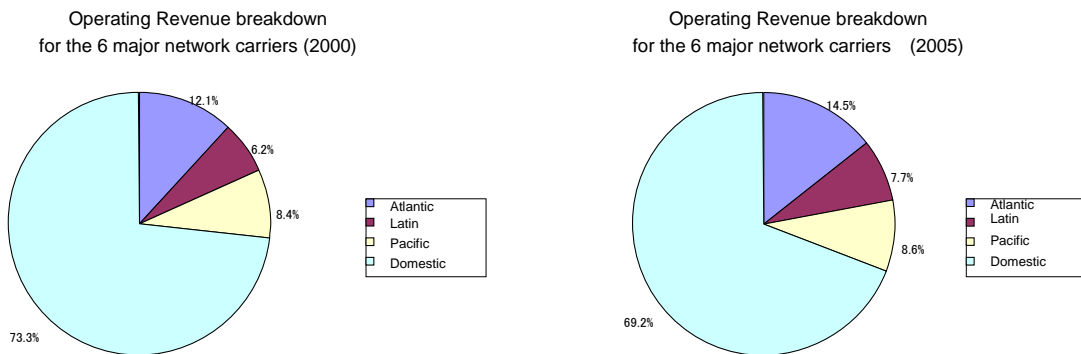
### (1) – 3 Review of operational structure

- The Yield Management<sup>18</sup> system that up until now has supported and made financially viable the high cost Hub and Spoke system has been facing competition with low cost carriers offering cheap fare, and has been the reason for the 6 major carriers losing a great deal of patronage.
- Amongst the 6 major network carriers, there are those which have been working towards streamlining their operational structure, but it is absolutely vital that costs are reduced to the extent that the development of business through the introduction of low cost travel will be made possible.

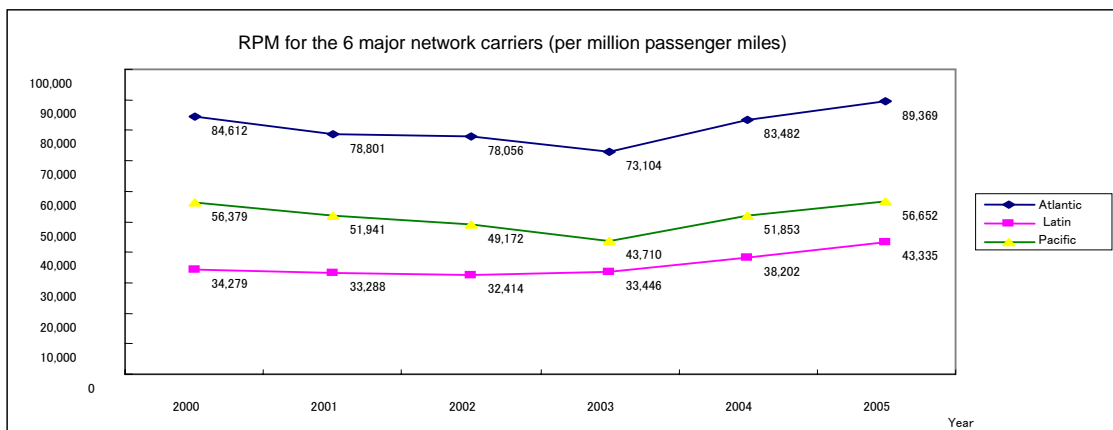
<sup>18</sup> The 6 major network carriers classify passengers as either business or leisure passenger. As such, they have priced tickets with a view to charging those business passengers, whose schedules are less flexible, higher prices, and have set fares according to the time and day of the flight, as well as charging particularly high prices for those passengers who purchase tickets on the day of travel.

## (2) Strengthening the International Market

- Looking at operating revenue, one can see that in 2000 the share held by the 3 international markets was 26.7%, and that this had expanded by 2005 to 30.8%. **Reliance on income from international markets is increasing for each of the 6 major network carriers.** In addition to the extra demand that the healthy global economy is producing, the 6 major network carriers are **carrying out strategic fare reviews within the domestic market, according to demand, in order to maximize income.**



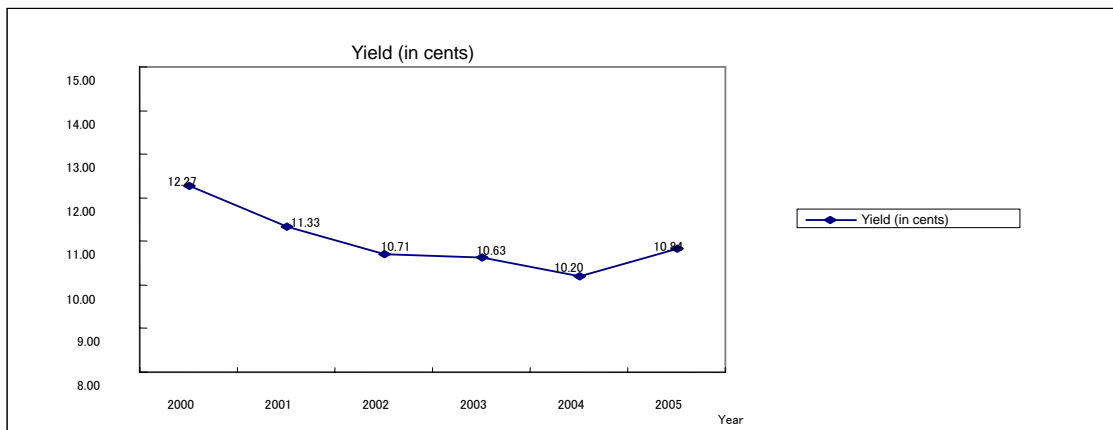
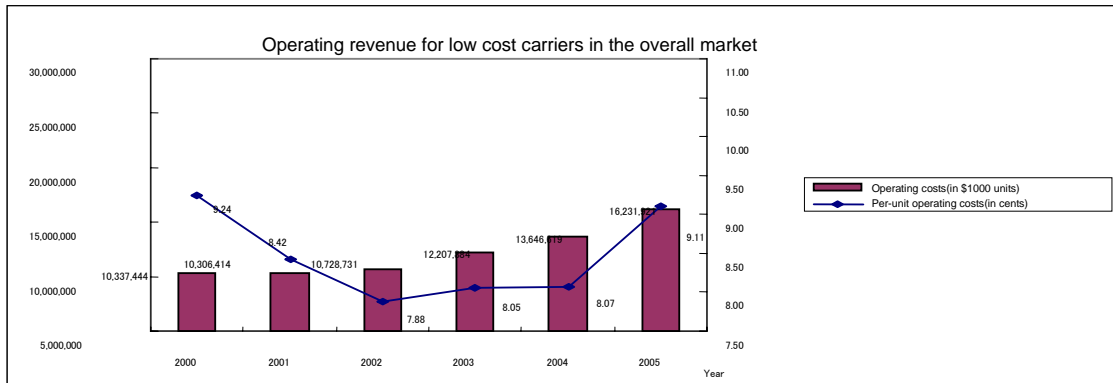
- If one looks at each market individually, one can see that the trend for each market is slightly different: **the Atlantic market plays an increasingly important role**, with both yield and demand recovering well; **the Latin American market is showing remarkable growth**; and **the Pacific market is showing signs of recovery**. However, all of these markets represent **an important source of income** for the 6 major network carriers.
- It can be assumed that advances into the international market will continue in the future. However, all 6 major network carriers are members of airline alliances, and as such it is likely that advances into the international market will represent **increased competition with carriers from the same alliance, and a restructuring of roles with airline alliances**, rather than simply increasing competition with other individual carriers.



## 6. Will Low Cost Carriers be able to continue and sustain steady growth?

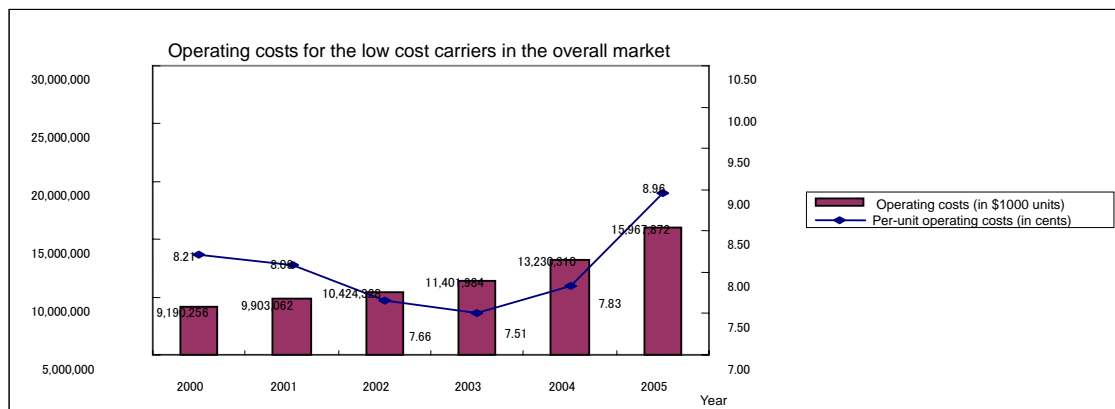
### (1) Operating Revenue

- In addition to the 10% annual increase in total operating revenue that has been seen since 2003, reflecting the increase in demand seen in 2005, per-unit revenue also rose considerably between 2004 and 2005, and currently stands at 9.11cents.
- Yield also started to increase in 2005, for the first time since 2000, and was reported at 10.84 cents. However, a comparison with average levels for 2000 shows a 1.44 cent decrease, representing a significant decline. Taking the current level of competition in the domestic market into consideration, one can see that the low cost carriers are in a position which makes any increase in average fare levels difficult.
- However, low cost carriers are heading towards a reduction in the scale of fuel hedging. If the price of crude oil continues to rise at a similar pace to now, and the low cost carriers become unable to bear the increased cost of fuel, then there it is likely that yield will increase as the carriers will be forced shift some of the cost increase onto passengers, through fare increases.

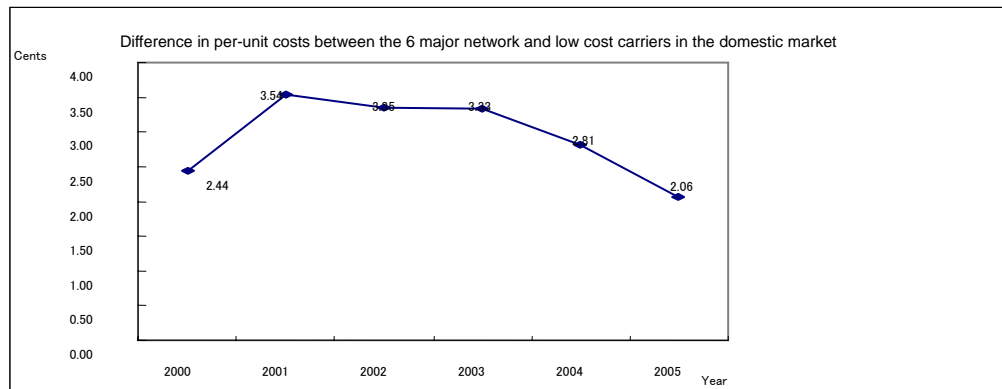


## (2) Operating Costs

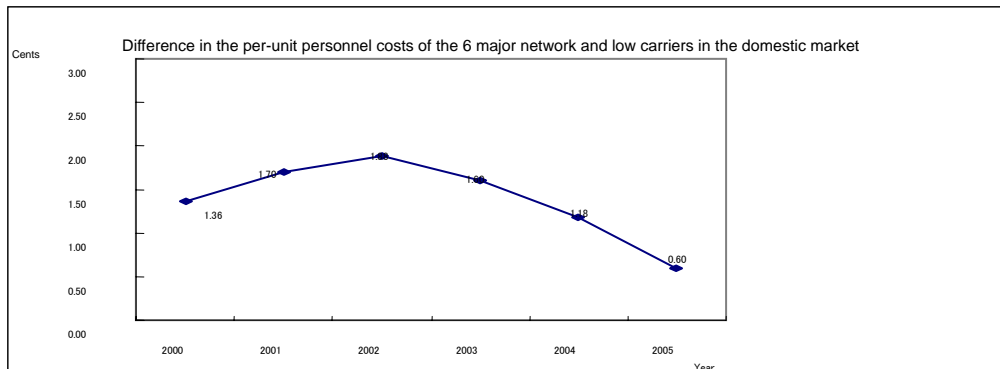
- The total operating costs for 2005 increased from 2004, in response to a rise in capacity from the previous year, and stood at US\$15,967,820,000. On a per-unit basis, this represents an increase from the following year, standing at 8.96 cents. As a result, these figures represent an increase on the record set in 2000, and indicate a new record.
- Per-unit costs increased significantly due to fuel costs continuing to soar in 2005 as they did in the previous year also. However, per-unit costs for low cost carriers were substantially low even before the influence of fuel cost rises were felt, thanks to a policy of strict cost management. Also, per-unit revenue rose to 9.11 cents in 2005. As a result, low cost carriers have managed to keep per-unit costs lower than per-unit revenue.



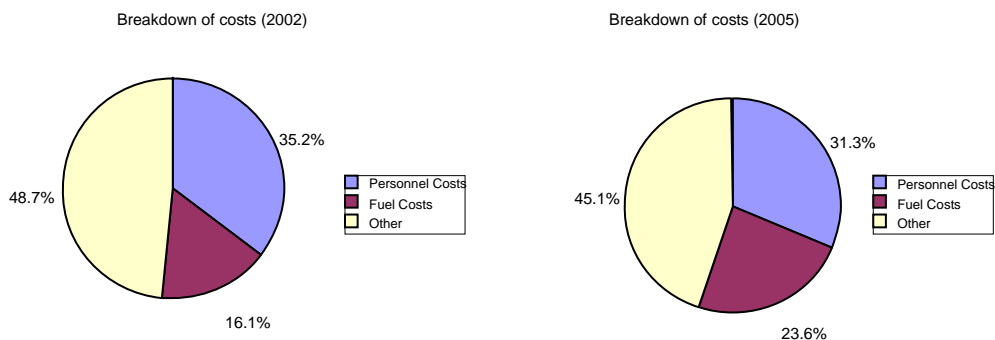
- However, the gap in the per-unit costs of the 6 major network carriers, which are making efforts to reduce costs mainly within the area of personnel costs, is getting smaller every year. Taking in consideration the fact that there is a possibility that fuel costs will continue to rise as they have been, there is a risk that the low cost carriers, which have succeeded in maintaining low levels of cost through strict and comprehensive cost management, may lose their dominant market position.



- In particular, personnel costs are 0.60 cents lower than those of the 6 major network carriers, and **although ascendancy is thus being maintained in the area of personnel costs**, the per-unit costs for low cost carriers is gradually increasing year by year. **The difference between the two types of carrier, which in 2002 stood at 1.88 cents, has been rapidly reduced**, thanks mainly to measures designed to reduce personnel costs on a large scale which have been implemented by the 6 major network carriers. Consequently, **the comparative dominance of low cost carriers, in terms of personnel costs, is weakening.**



- Low cost carriers have also felt the effects of soaring fuel prices, just as the 6 major network carriers have. **Per-unit costs rose in 2005 from 2004 levels, to 2.11 cents. The overall share of costs held by fuel costs rose from 16.1% in 2002 to 23.6% in 2005, and is coming to represent a similar share of costs as personnel expenses.**



- However, if the price of crude oil remains high, then the **hedge ratio of low cost airlines, and the number of companies employing hedging strategies, will decrease**, and this will doubtless affect low cost airlines in some way. **Consequently, it will not be easy for low cost carriers to continue to control their fuel costs.**
- Low cost carriers attract passengers by offering their services at a low price. This has been made possible by ensuring that costs are kept as low as possible, and thus it seems clear that future increases in the price of fuel will make this policy extremely difficult.**

### **(3) Expansion Strategies for Low Cost Carriers, and Problems that may be encountered**

- Low cost carriers have steadily increased capacity in response to a healthy increase in demand, and are intensifying competition with the 6 major network carriers. It is likely that **this trend will continue in the future.**
- However, in the context of further possible increases in fuel costs and the difficulties in controlling overall costs that such increases would create, it would seem that **the key to being able to their current business model lies in whether or how they will be able to control the increase in costs that would accompany any expansion of their networks.** Further, with fuel costs rising, **whether or not the dominance of the low cost carriers against the 6 major network carriers will continue depends on if the low cost carriers can prevent their personnel costs from rising or not.**
- If the low cost carriers **fail to achieve this, then they will lose their dominant position over the 6 major network carriers, and it is possible that this would lead to the complete failure of their business model.**



## 7. Future Trends and Prospects

- Considering the likelihood that demand will continue to increase steadily in the future<sup>19</sup>, it seems likely that **the competition already seen within the domestic market will continue, and intensify.**
- **The 6 major network carriers** are under threat from the expansion of operations by low cost carriers, and are finding themselves increasingly reliant on the international market. However, **there is a fundamental need to reorganize their business model for the domestic market**, which still accounts for around 70% of total operating revenue.
- **Within the domestic market**, if the major carriers are to continue to gain support from passengers in the face of competition from low cost carriers, then the comparatively high average fare levels that have been in place up until now will no longer be appropriate. Consequently, **it will become vital to increase cost competitiveness.** However, in the face of increasing costs through soaring fuel prices, **the 6 major network carriers need to undergo a comprehensive review of their high cost operational structure, implementing fundamental changes and improvements to their business model, including a review of the Hub and Spoke system.**
- **In terms of the healthy international market**<sup>20</sup>, one would think that **the major carriers will continue to strengthen their share and invest further capacity.** However, they are likely to face competition from low cost carriers within the Latin American market, and further in the other international markets there may be increasingly intense competition with carriers from other countries. At the same time, all international carriers are members of airline alliances, and as such it seems that there is a need to **consider how best to expand operations and increase revenue through a review of how operational relationship with airline alliance partners can best be optimized.**
- **Although it can be assumed that low cost carriers will continue to advance their operations**, soaring fuel prices are likely to have a detrimental effect on the cost structure of these carriers, **and it will be necessary to control costs as operations are expanded.** The 6 major network carriers can utilize the bankruptcy protection process whilst striving to reduce costs across the board. Consequently, **there is a possibility that the low cost carriers will lose the position of dominance they have enjoyed up until now against the major network carriers.**
- For both the 6 major network carriers and the low cost carriers, **only those carriers that are able to react appropriately to the competitive market environment, to review their business model in order that opportunities are not lost, and to keep costs at as low a level as possible will be able to survive in the market.** In particular, **those major network carriers that have been able to improve their Hub and Spoke system and create a structure that is able to survive whilst offering lower fares, and those low cost carriers that have been able to expand whilst maintaining a tight control on costs, will be able to continue to strengthen their positions in the competitive market.** The business models of such successful carriers are likely to be

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<sup>19</sup> According to estimates on demand from the FAA, the RPM for the US domestic market is expected to increase at a rate of 3.6% a year between 2005 and 2017 (FAA Aerospace Forecasts Fiscal Year 2006-2017).

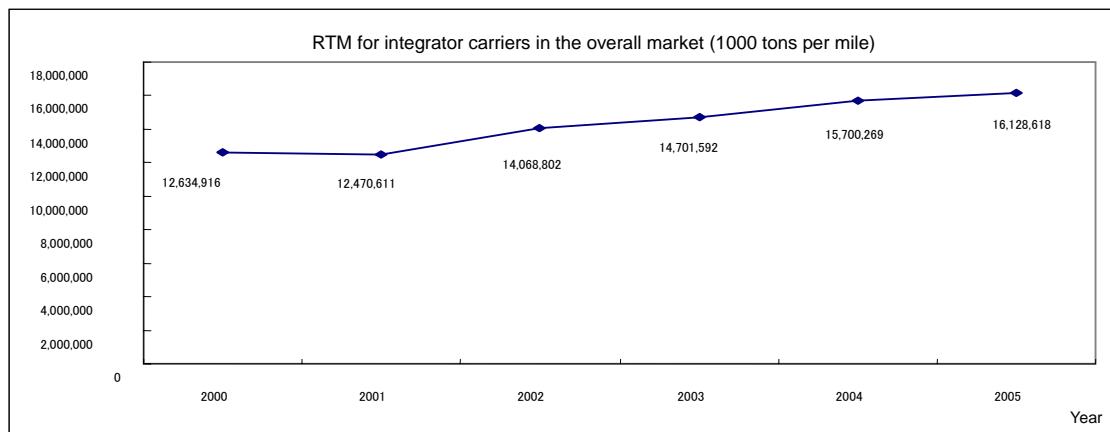
<sup>20</sup> The Atlantic market is forecast to increase by 4.1%, the Latin American market by 6.1%, and the Pacific market by 6.8% in the years between 2005 and 2017 (As above).

more similar to each other than in previous years.

## II Cargo Companies

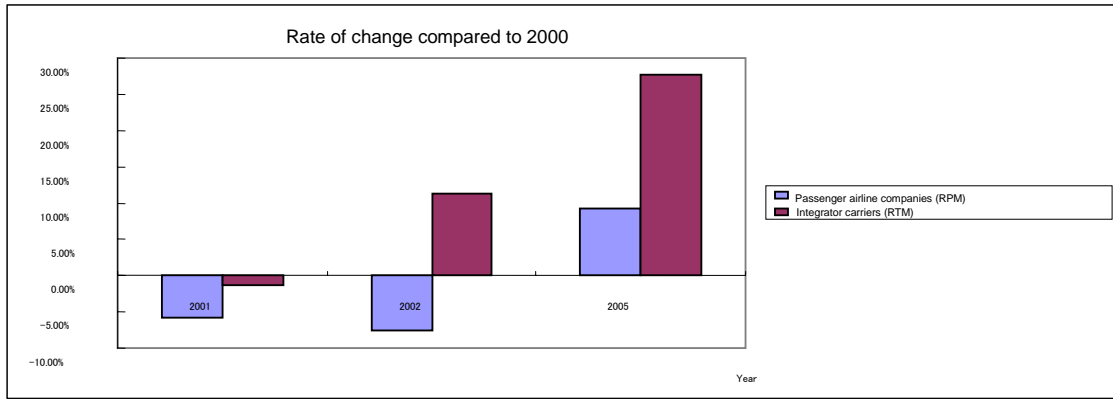
### 1. How have the transport demands for US air cargo companies been changing?

- The integrator carriers<sup>21</sup> differ from passenger carriers in that they were not influenced so significantly by the terrorist attacks of 11<sup>th</sup> September 2001, and the decrease in demand was 1.3%, compared with the 5.8% experienced by passenger companies. Demand has been increasingly steadily within both the domestic and international markets since 2000, excluding the 2001 figure for the domestic market. Levels for 2005 are at 1.28 times the figures for 2000.
- It is thought that the main reasons for this shift towards using integrator carriers may be due to the fact that economic recovery has stimulated demand for transport, and also the restrictions<sup>22</sup> placed on the transportation of cargo on passenger aircraft introduced by the US governments.
- Growth in the international market is more pronounced than domestic growth, and consequently the international market currently accounts for around 40% of total demand. In particular, the market for packets is expanding rapidly.



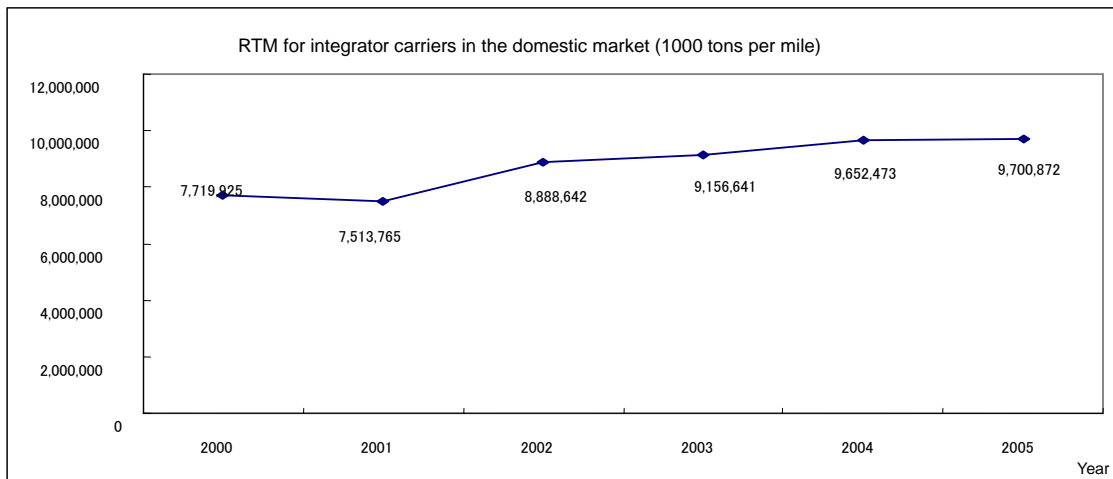
<sup>21</sup> The following 3 carriers were analyzed: FedEx, UPS, and ASTAR Air Cargo (In cooperating with DHL. Formerly known as DHL Airways) . Further, ABX Air (formerly Airborne Express) also exists, but it was not possible to use their company data for the purposes of this report and as such they have not been considered.

<sup>22</sup> Immediately after the terrorist attacks of September 11<sup>th</sup> 2001, it was forbidden for any cargo to be loaded onto passenger aircraft, and subsequently the transportation of cargo by any passenger aircraft was made illegal in most cases. However, it is still possible, in exceptional circumstances, to transport cargo on passenger aircraft, although this is restricted to those goods owned by a persons or company who has had frequent and long-standing dealings with the airline company concerned.



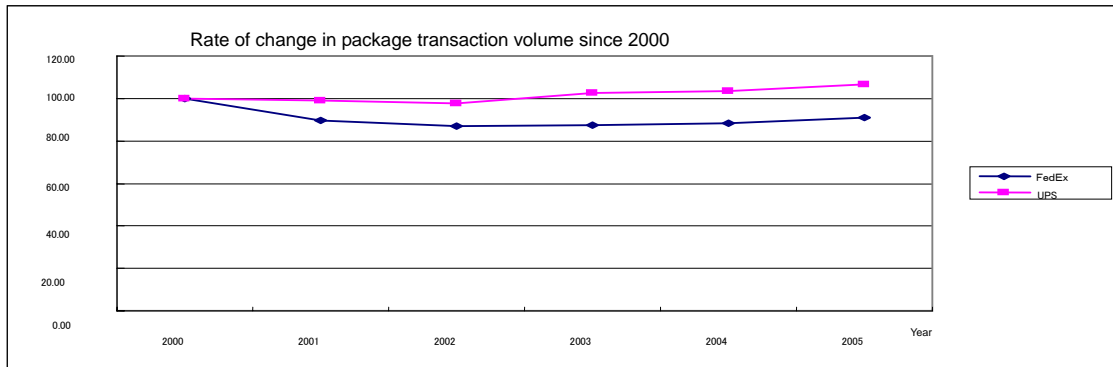
**(Domestic Market)**

- Although demand dropped suddenly and temporarily in 2001, **by 2002 demand levels has recovered to surpass the previous peak level recorded in 2000, and have continued to rise steadily. By 2005, demand had grown to 1.26 times that of the level in 2000.**



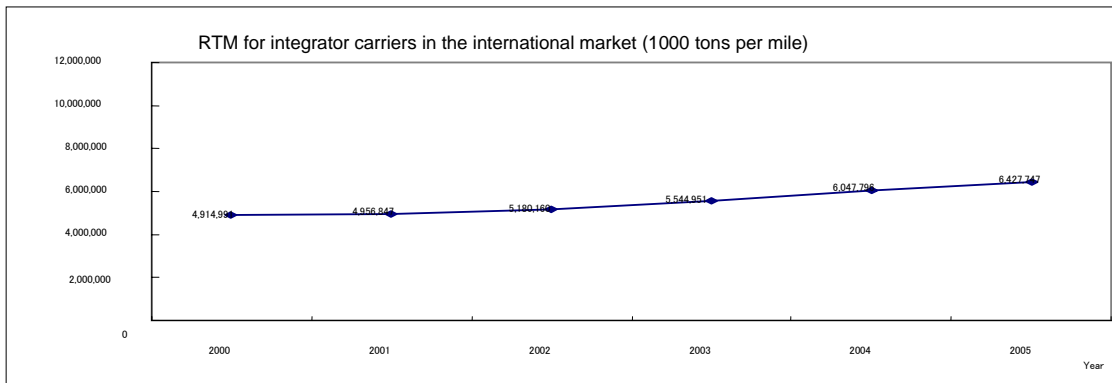
- According to the SEC annual report,<sup>23</sup> **the volume of package transactions undertaken by FedEx and UPS showed a drop compared to figures for 2000, but have steadily increased since 2003.**
- By comparing levels in 2005 with those for 2000, one can see that **whilst figures for UPS show an increase from levels in 2000, FedEx levels remain below those for 2000.** However, FedEx classifies mail not as ‘packages’ but as ‘freight,’ and if one considers the fact that the transaction volume for ‘freight’ recorded by FedEx in 2005 is twice that of the volume undertaken in 2000, **it can be assumed that 2000 levels of package transaction volume are being surpassed, if mail is included in the classification of ‘package.’**

<sup>23</sup> The cycle of reportage to Sec by FedEx and UPS is different. FedEx reports full year data up to the end of November, whereas the data sent by UPS to SEC is up to the end of December. Further, there is no classification of ‘package’ within the DOT Form 41 data.

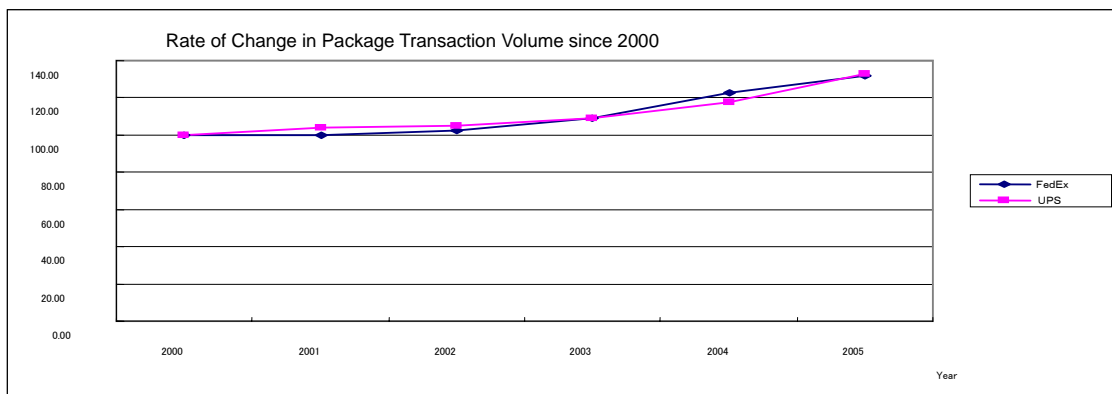


**(International Market)**

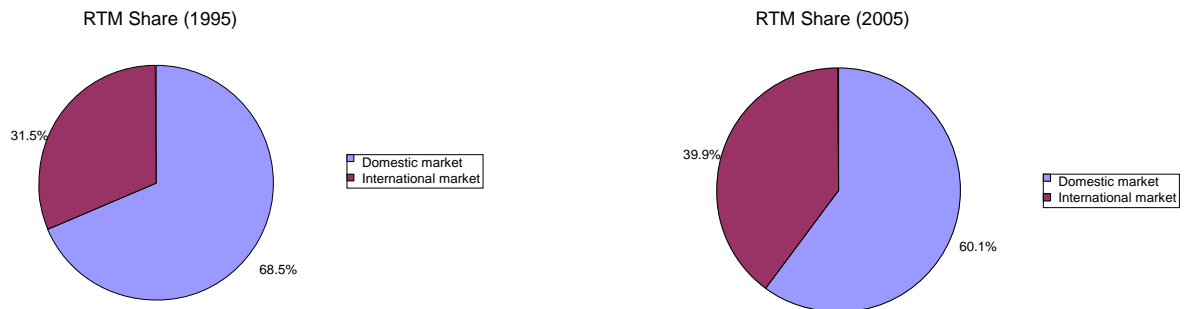
- **The international market differs from the domestic market, in that a small margin of growth was achieved in 2001 (0.9% up on the previous year), and steady growth has continued since then. Figures for 2005 show levels to be 1.31 times those for 2000.** Growth in the international market is higher than that of the domestic market.



- Looking at trends in package transaction volume for FedEx and UPS in the international market, one can see that both FedEx and UPS have achieved steady growth since 2000. **In particular, rapid growth has been achieved since 2004, and 2005 levels represent a 30% increase from 2000.**

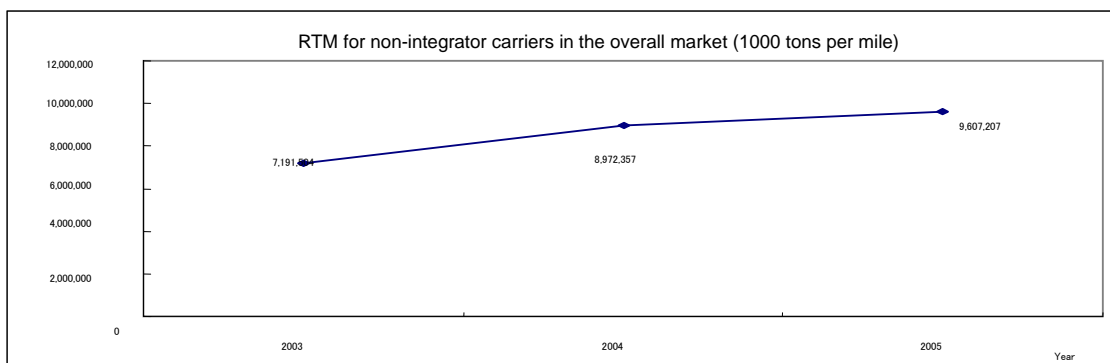


- Looking at the RTM share of integrator carriers in both the domestic and international markets, one can see that the **international market share**, which was 31.5% in 1995, **now accounts for a 39.9% share in 2005, and the international cargo market, and in particular the international package transportation market, are expanding significantly.**



**(Trends amongst non-integrator carriers)**

- Non-integrator carriers<sup>24</sup>, which focus mainly on the international market<sup>25</sup>, have seen **increased demand** since 2003 **as a result of a healthy global economy.**
- As a result, the scale of operations in 2005 is approximately 1.3 times that of 2003, and one is able to appreciate **the growth in the international cargo market** that these figures represent.



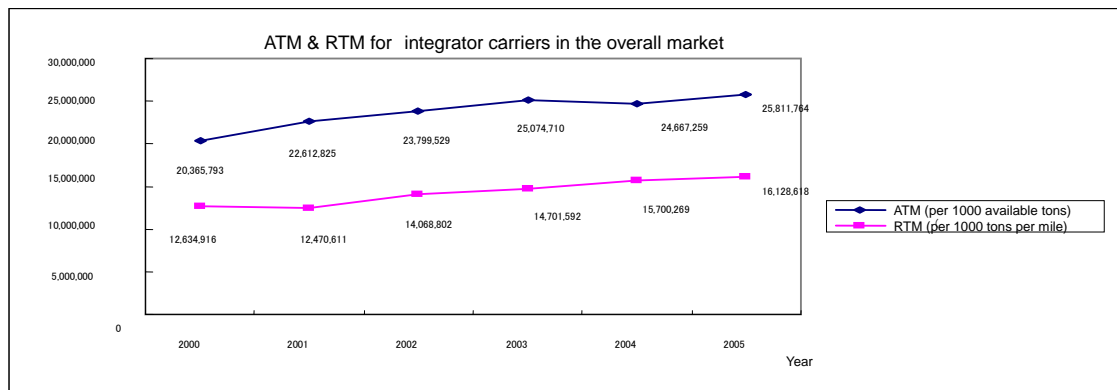
<sup>24</sup> The following 6 carriers were analyzed: Atlas, Polar, Evergreen, Gemini, Air Transport International and Kalitta. According to DOT classification, these carriers are National carriers (defined as those carriers with an annual revenue of more than 100 million but below 1 billion US dollars.) and their data was useable for the purposes of this report.

<sup>25</sup> The international market accounts for around 81% of the total.

## 2. How is capacity being expanded?

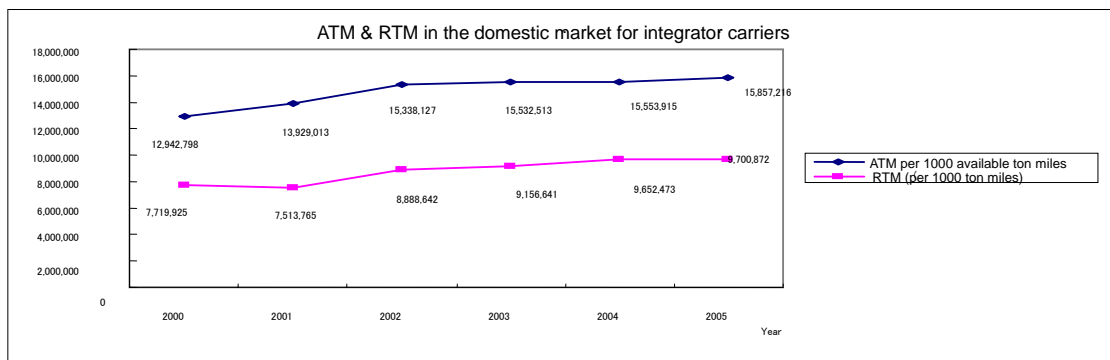
### (Overall Market)

- In contrast to passenger airline companies, which reduced capacity between 2001 and 2003, integrator carriers **increased capacity throughout these years in response to growing demand** in both the domestic and the international markets. **Capacity in 2005 stands at 1.27 times the 2000 level.**
- Growth in the international market is higher than domestic levels, and the share of the international market has increased from 30.7% in 1995 to **38.6% in 2005**. From this one can see that **integrator carriers are strengthening their operations in the international cargo market, and in particular in the market for international package transportation.**
- Integrator carriers are introducing large aircraft with wide bodies (such as the MD11, the B747-400 and the A380), as part of an overall **strategy to strengthen capacity within the international market by introducing large aircraft into operations.**



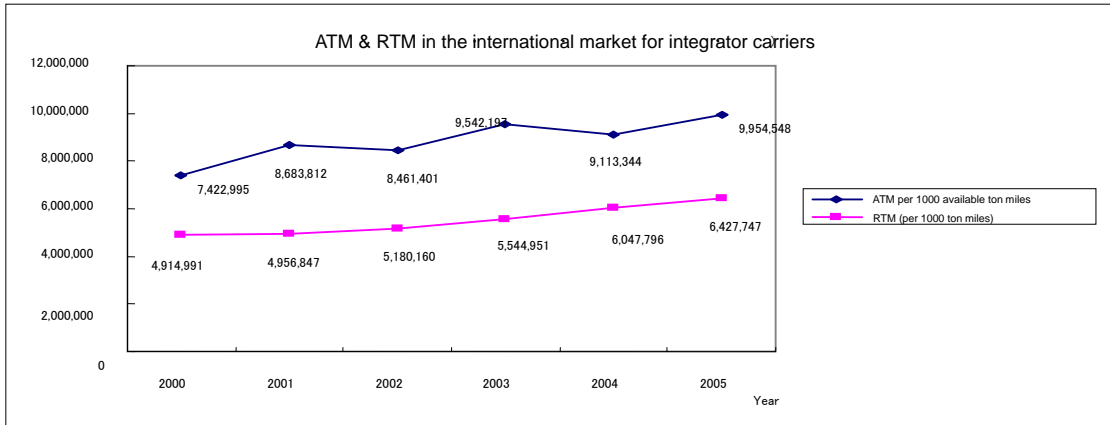
### (Domestic Market)

- Capacity was not reduced in 2001, despite there having been a slight drop in demand for that year, and **capacity has been steadily expanded in response to increasing demand. Consequently, figures for 2005 stand at 1.23 times those for 2000.**



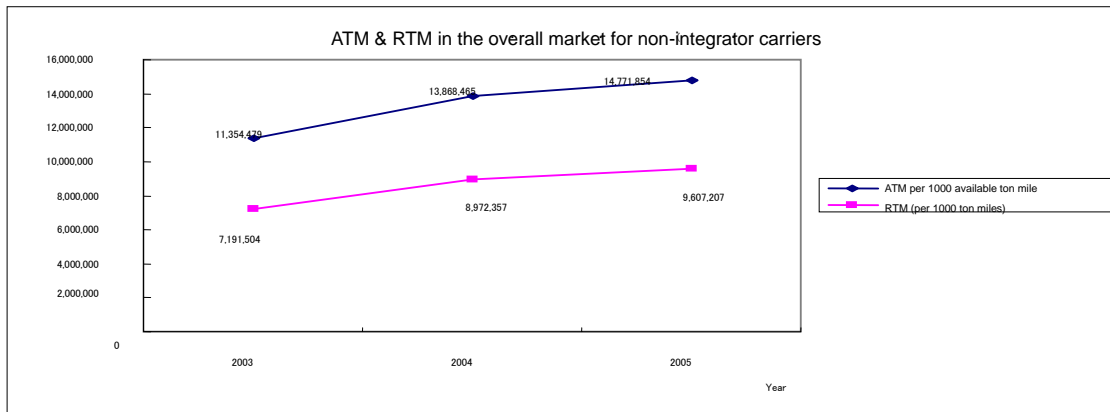
### (International Market)

- Within the international market, **capacity is being expanded in response to the increase in demand. Consequently, figures for 2005 stand at 1.34 times those for 2000.**



**(Trends amongst non-integrator carriers)**

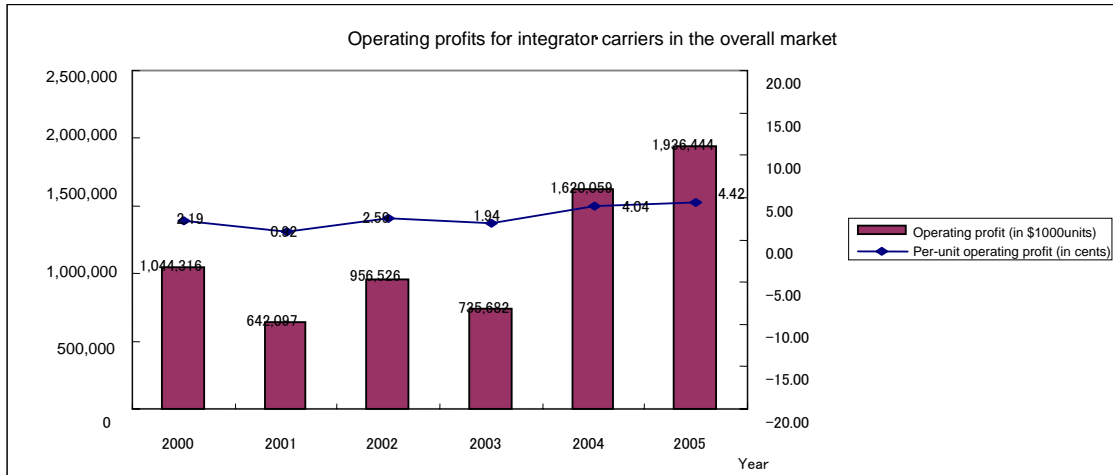
- Non-integrator carriers have also **steadily increased capacity in response to higher levels of demand. Consequently, capacity in 2005 is 1.30 times that of 2003.**





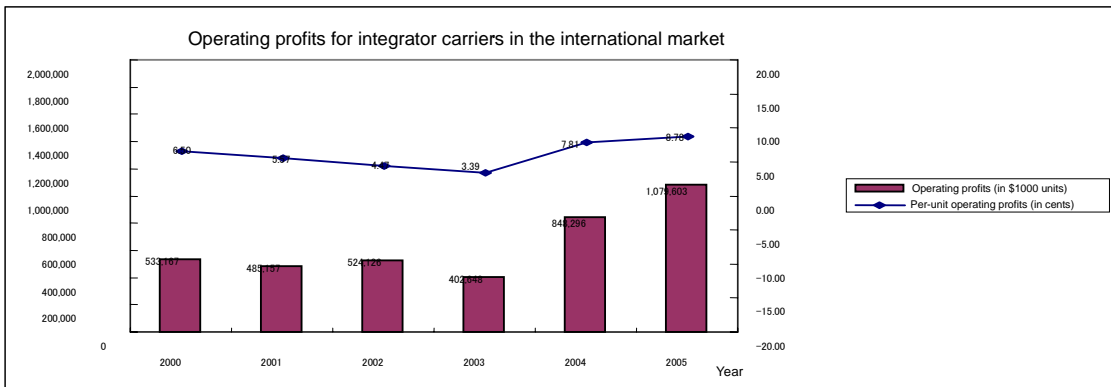
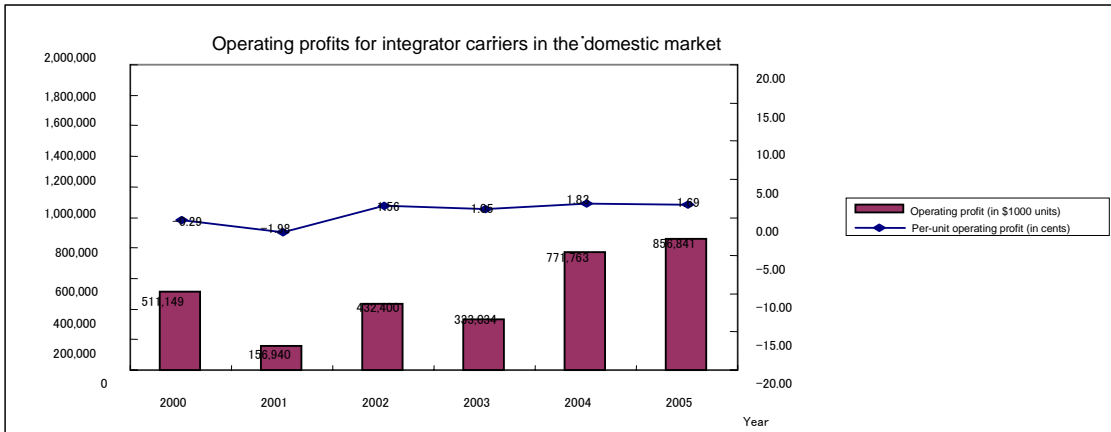
### 3. What are the financial circumstances of US Air Cargo Companies?

- **Unlike passenger companies, integrator carriers have recorded operating profits in the years since 2000, and the total operating profit for 2005 was US\$1,936,440,000. On a per-unit basis<sup>26</sup>, this represents a per-unit profit of 4.42 cents. In particular, operating profits have been rising since 2004.**

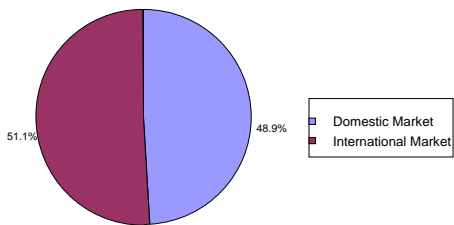


- Comparing the post-2001 aggregate profit and loss figures for cargo carriers with passenger airline companies, one can see that the 6 major network carriers have suffered a total loss of around 31 billion US dollars, whilst low cost carriers have made a profit of around 2 billion US dollars. In contrast to these figures, **integrator carriers have seen a total profit of around 6 billion US dollars, and are in a healthy financial situation.**
- **Operating profits in the international market are higher than those for the domestic market.** Between 2000 and 2005, the share of the total operating profits representing the international market has increased, and **the significance of the international market to operations continues to rise.**

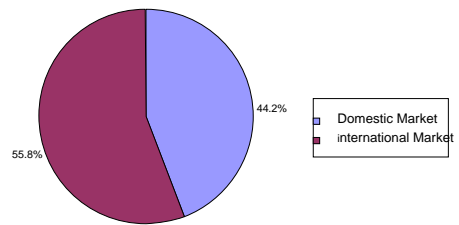
<sup>26</sup> Integrator carriers utilize the Hub and Spoke system, but in most cases other partner carriers are commissioned to transport cargo on feeder routes – the ‘spoke’ elements of the system. FedEx has a particularly strong tendency to commission such business (UPS tends to use trucks for short-distance routes). This commissioned business is included in the data on operating revenue and costs as transportation related revenue and costs, but it is not included in ATM. Consequently, in calculating data on a per-unit basis, values were used that did not include transportation related revenue and costs.



Breakdown of operating profits (2000)



Breakdown of operating profits (2005)

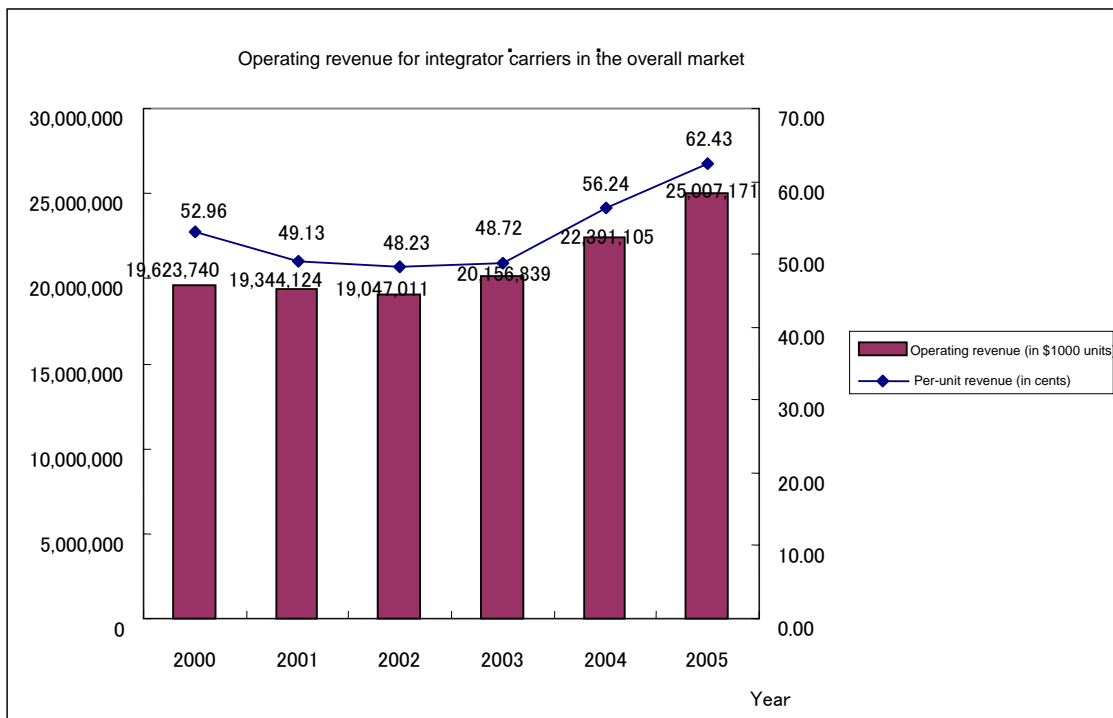


#### 4. What are the reasons behind the favorable financial condition of US air cargo companies?

##### (1) Operating Revenue

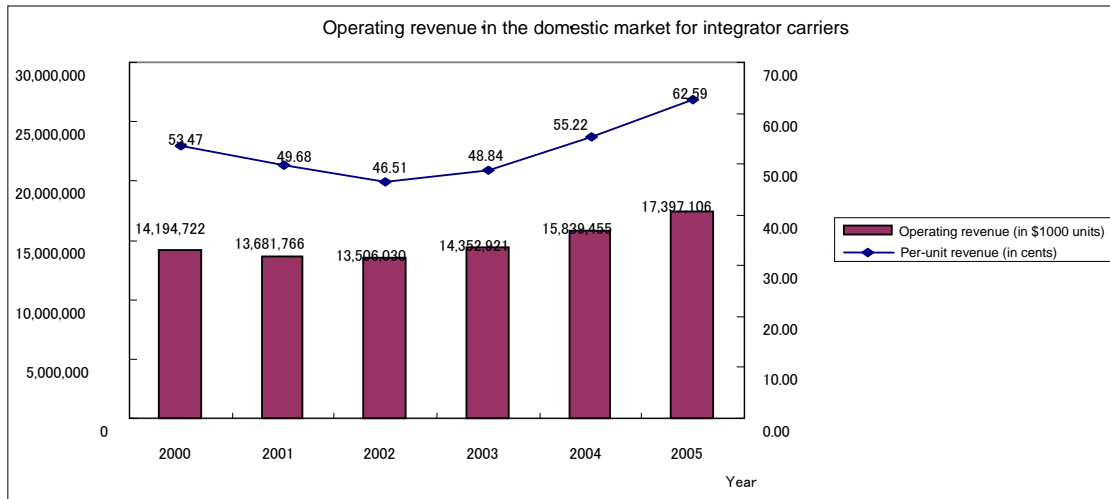
###### (Entire Market)

- The total operating income for integrator carriers in 2005 was US\$25,007,170,000. **Total operating income reached a peak level in 2000, and then went into decline until 2002. Growth reemerged in 2003, and after surpassing figures for 2000, record totals have continued to be reached.**
- On a per-unit basis, which excluded transportation related revenue, the figure for 2005 was 62.43 cents. **Per-unit revenue also reached a peak level in 2000, then went into decline until 2002. After growth reemerged in 2003, record totals have continued to grow steadily.**



###### (Domestic Market)

- Transport demands were quick to surpass 2000 levels, reaching record highs in 2002. Despite this, operating revenue showed a decline until 2002. This was **due to a downturn in the domestic market during this period.**
- **The total operating revenue, like the per-unit based figures, reached a peak level in 2000, then went into decline until 2002. Growth reemerged in 2003, and after surpassing figures for 2000, record totals have continued to be reached.**



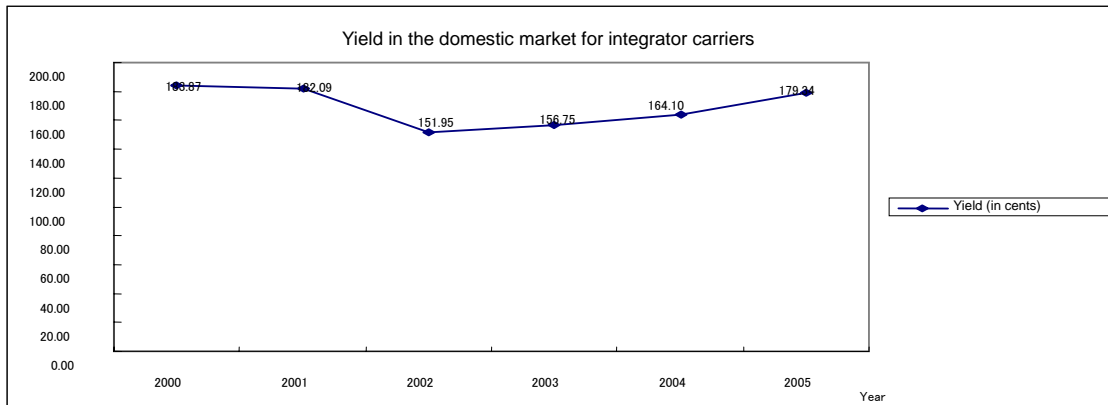
- **Despite the fact that demand for transport overtook 2000 levels by 2002, a decrease in yield<sup>27</sup> accounts for the fact that operating revenue continued to decline.** Yield decreased in 2002 by 16.6% compared to 2001 figures. In addition to the fact that this was partly due to **too much capacity in the context of a declining economy**, and also because **passenger airline companies were attempting to provide cargo transportation business at cheap prices<sup>28</sup>**. As a result, **integrator carriers were forced to lower prices in the fact of such competition.**
- **The growth in operating revenue seen since 2003 has been facilitated both by the expansion in transport demand created by a healthy economy, and by a growth in yield.** Since 2003, yield has increased<sup>29</sup>, reflecting the policy of **implementing surcharges for fuel**. Consequently, yield in 2005 has recovered to a level similar to that seen in 2000.

<sup>27</sup> Differences in the method of classification for total revenue are seen for each relevant carrier.

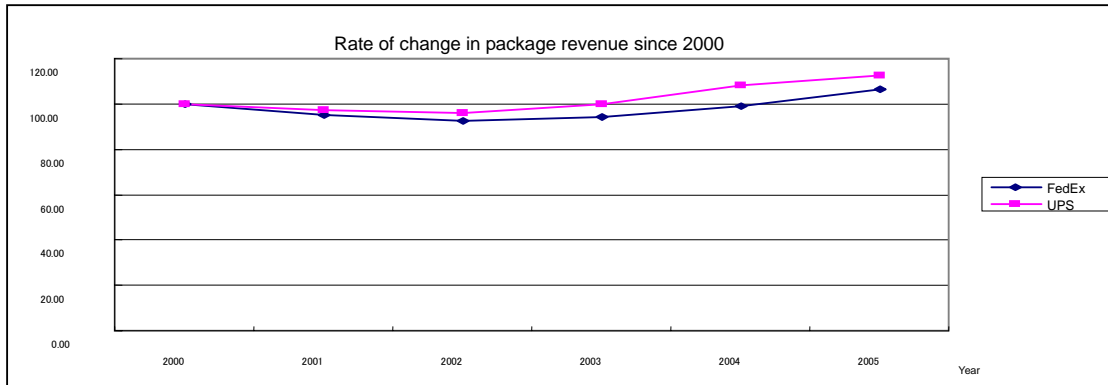
Consequently, the figures for yield are those values removed from the operating revenue through RTM.

<sup>28</sup> There is a trend amongst passenger airline companies to try and fill the belly space of their aircraft, whether that might signify transporting goods at an extremely low price or not. In that sense they are the price leaders in the air cargo transportation industry ("Air Cargo; Industry Overview and Recent Trends" Dr. Peter P. Belobebe, MIT International Center for Air Transportation etc.).

<sup>29</sup> Surcharges in 2005 were between 11.5%-20%, the growth rate for yield was 9% in both the domestic and international markets. These figures show the effects of the surcharge policy.



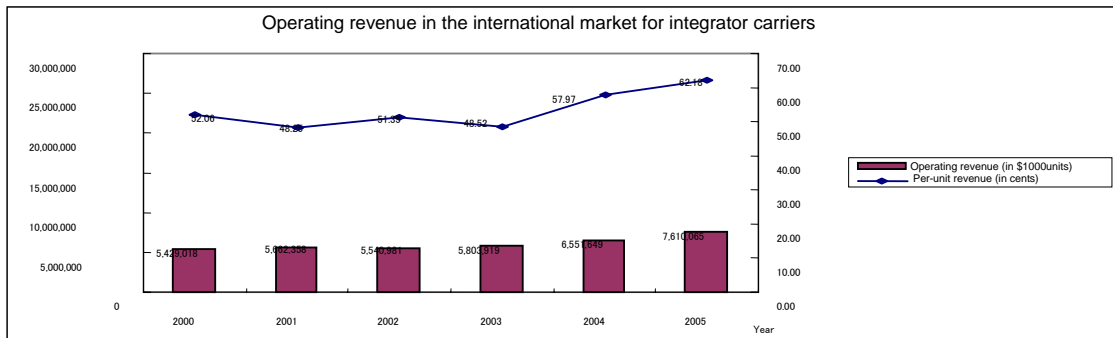
- According to the SEC annual report, **package cargo revenue** for both FedEx and UPS **declined between 2000 to 2002**. However, **from 2003, growth emerged and continued, reflecting both the upturn in demand for transport, and recovery of yield figures through the implementation of fuel surcharging. Figures for 2005 surpassed those recorded in 2000.**
- Comparing the two carriers, it seems that FedEx is experiencing slower recovery and growth than UPS. However, as detailed in the section on transport demand, it is possible to say that FedEx is in fact enjoying more growth than suggested by these figures, if one takes into account all package transactions undertaken by the company, and adds the transport revenue taken from their air cargo contract with the US Postal Service to the data on their package transactions<sup>30</sup>.



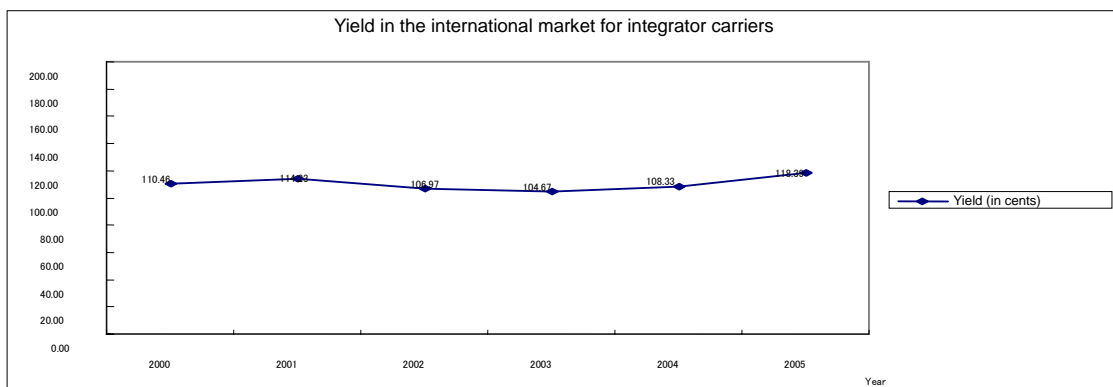
**(International Market)**

- **In contrast to the domestic market, the actual operating revenue for the international market leveled off between 2000 and 2002. It began to rise in 2003, and continues to reach record levels.**
- **Per-unit revenue also leveled off between 2000 and 2003. Growth began in 2004, and record levels have been achieved in all subsequent years.**

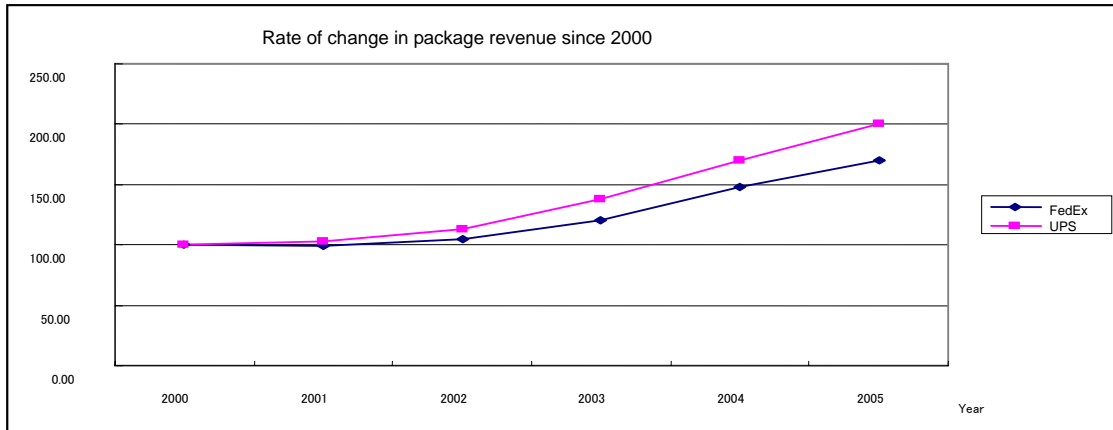
<sup>30</sup> General freight transactions, which include items of mail in its classification, have increased three fold between 2000 and 2005.



- In terms of **yield**, the international market **again contrasts with the domestic market**. As will be subsequently explained, the growth in yield from the Pacific market contributed to overall yield increases, and **after a period of stagnation** between 2000 and 2003, growth began to be seen in 2004 and beyond, reflecting the recent fuel surcharging policies. **Yield for 2005 surpassed that recorded in 2000. The trend for operating revenue within the international market accurately reflects trends in transport demand**; whilst RTM rose 1.31 times in the period 2000 to 2005, operating revenue increased by 1.40 times in the same 5 years.

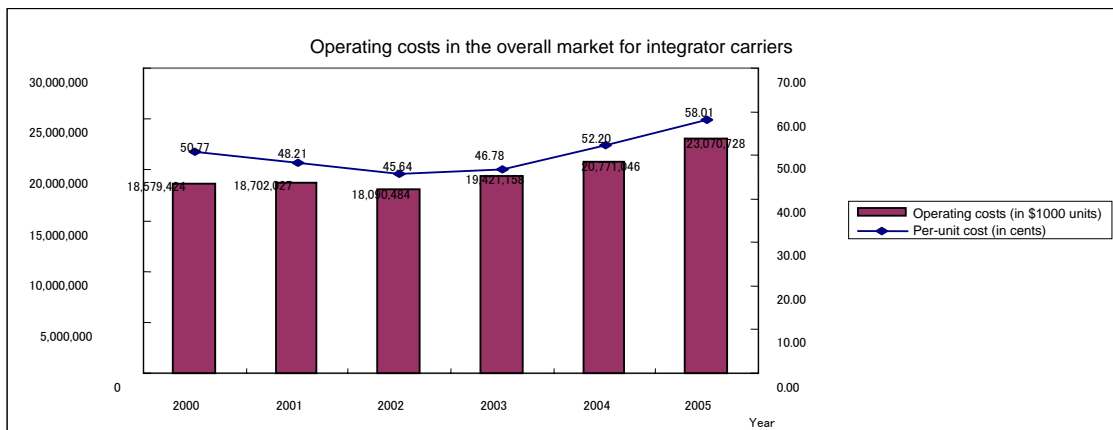


- The package cargo revenue for both FedEx and UPS has been rising steadily since 2000. **In particular, since 2003, this revenue has increased rapidly, reflecting both increases in demand for transport, and the rise in yield brought about by the application of fuel surcharges. Figures for 2005 are between 1.7-2.0 times those recorded in 2000.** In the case of FedEx, if one takes into account the revenue from their air cargo contract with the US Postal Service, and consider their total package revenue including items of mail, then FedEx may well be in fact experiencing a higher level of growth than suggested by these figures. This is the same situation as the one we find in the domestic market.

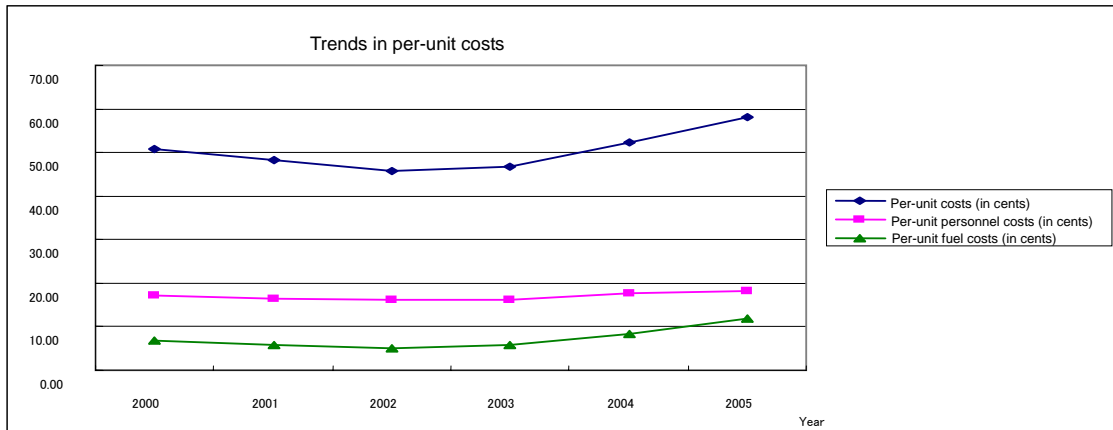


## (2) Operating Costs

- **The total operating costs for integrator carriers for 2005 was US\$23,070,730,000. This figure reflects both measures increase capacity, and the soaring cost of fuel. Costs have increased between 7%-11% annually since 2003.**
- **On a per-unit basis, one can see significant increases from 2003, with record levels being reached every year, and the figure for 2005 standing at 58.01 cents.**



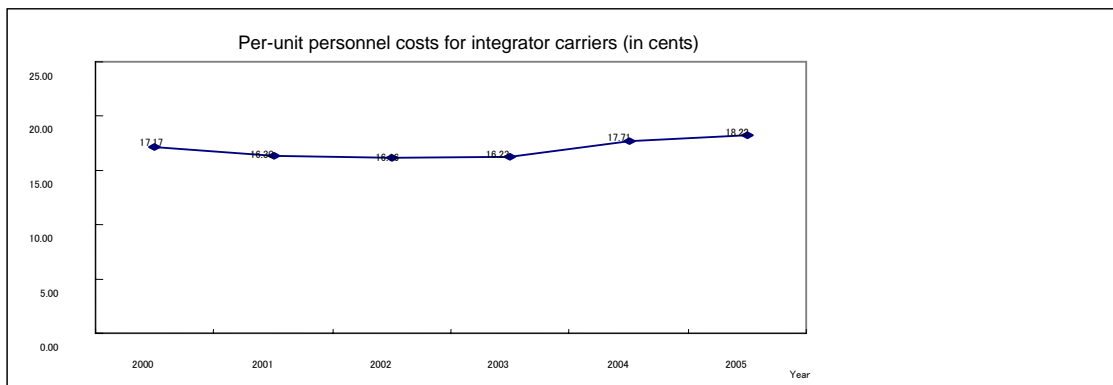
- Looking at transitions in unit cost in terms of both per-unit personnel and per-unit fuel costs, one can see that although personnel costs have leveled off, fuel costs have been rising since 2003. Consequently, **the increase in fuel costs can be seen as the main factor behind an overall increase in per-unit costs.** At the same time, **efforts are being made reduce personnel costs despite the effects this could have on business expansion.**



## (2)-1 Personnel Costs

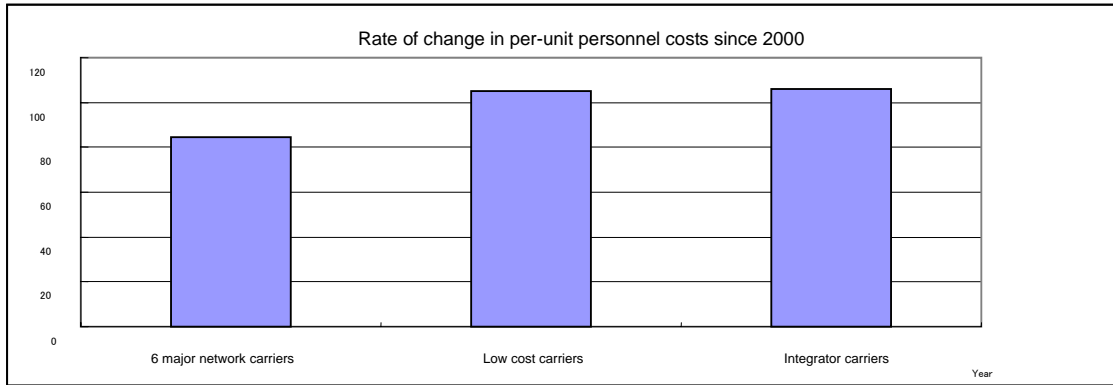
### (Transitions in Personnel Costs)

- Per-unit personnel costs for integrator carriers remained fairly consistent in the years following 2000, but 2004 saw an increase of 1.48 cents, thus reaching a peak level since 2000. This figure continued to increase in 2005, and now stands at 18.22 cents.



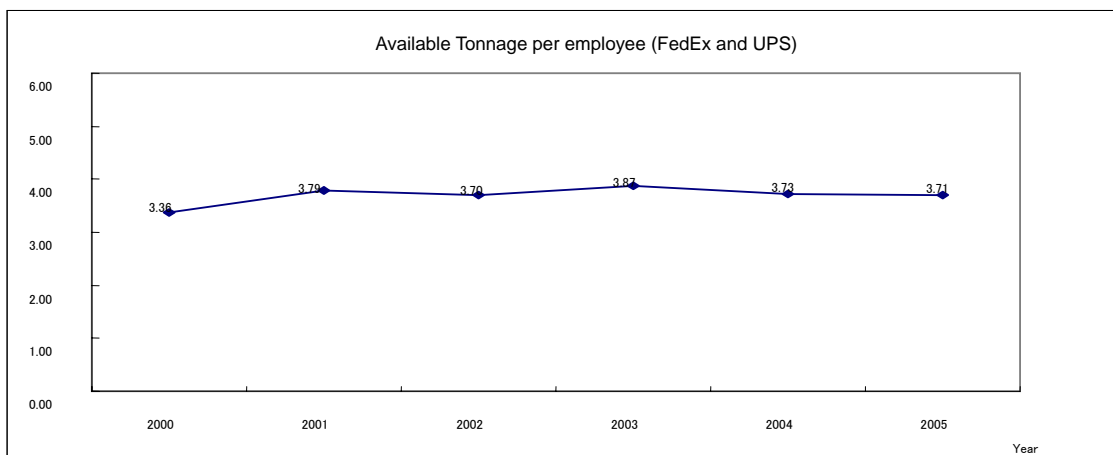
- However, if one compares this to the rate of change that the 6 major network carriers and low cost carriers have experienced since 2000, one can see that **the rate of increase for integrator carriers is similar to that of the low cost carriers**, and as such one can glean that **both carriers are thus struggling to control personnel costs in the light of business expansion.**



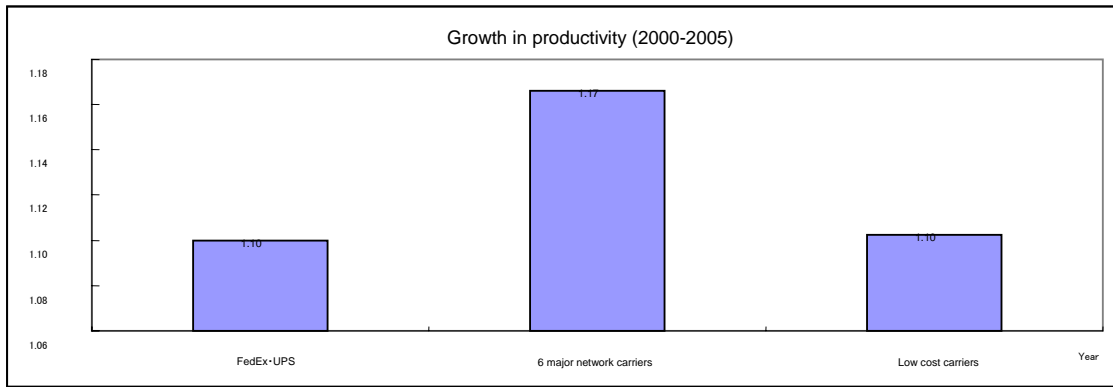


**(Trends in productivity)**

- Looking at figures documenting the available tonnage per employee, one can see that this has increased almost 10% in the five years between 2000 and 2005. For integrator carriers, the introduction into operations of large, wide body aircraft, the creation of more effective classification and distribution systems, and the utilization of IT, has allowed carriers **to expand business whilst undertaking measures to improve productivity.**



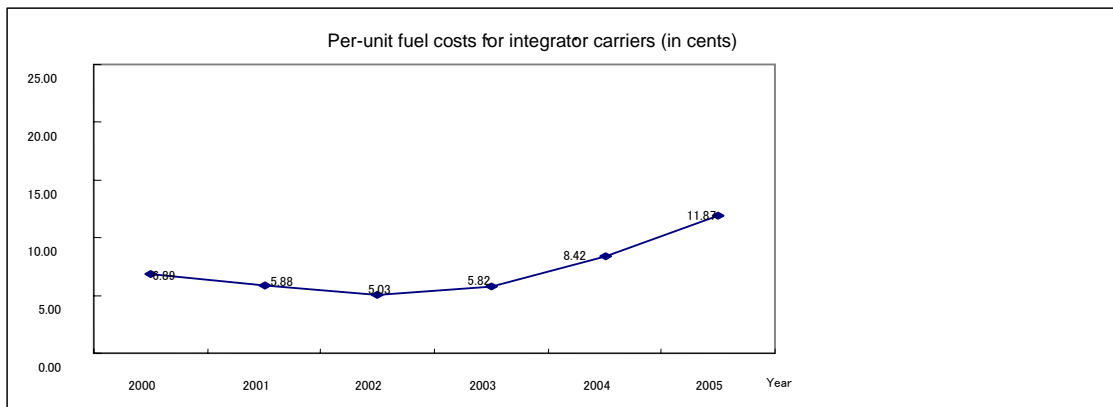
- With regard to those services that must be offered, in contrast to those persons necessary to deal with passengers (flight attendants, staff at check-in desks etc.) which passenger airline companies must employ, cargo companies are not required to provide these services to their customers. As such, it is not really possible to compare cargo and passenger companies in terms of productivity. However, if one looks at the five years between 2000 and 2005, it is possible to see that cargo carriers are **working towards improvements in productivity**, in a way similar to that of low cost carriers. The 6 major network carriers, by contrast, are having to concentrate on reappraising their overall business models.



Note: For FedEx and UPS, the figures represent tonnage available per employee (overall market); whereas the figures for the 6 major network carriers and low cost carriers represent the number of available seats per employee (overall market).

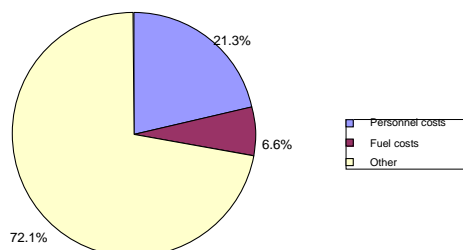
## (2)-2 Fuel Costs

- Fuel costs have been affected, since 2003, by increases in the price of crude oil. **By 2005, the per-unit fuel cost stood at 11.87 cents, double the same figure for 2003.**

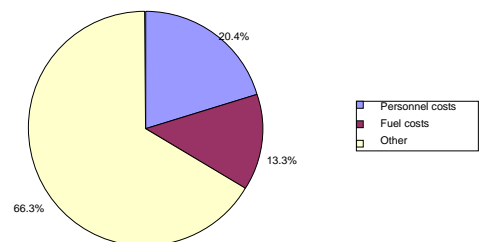


- Consequently, **the share of overall costs accounted for by fuel costs, has almost doubled from 6.6% in 2002 to 13.3% by 2005. Soaring fuel costs will doubtless have a significant influence on the costing policies of integrator carriers, as it will also have on passenger airline costs.**

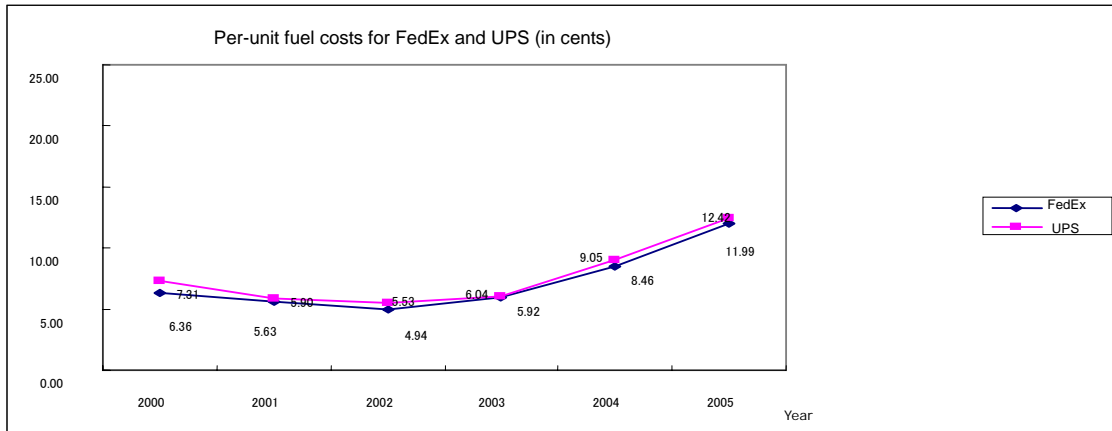
Breakdown of cost share (2002)



Breakdown of cost share (2005)

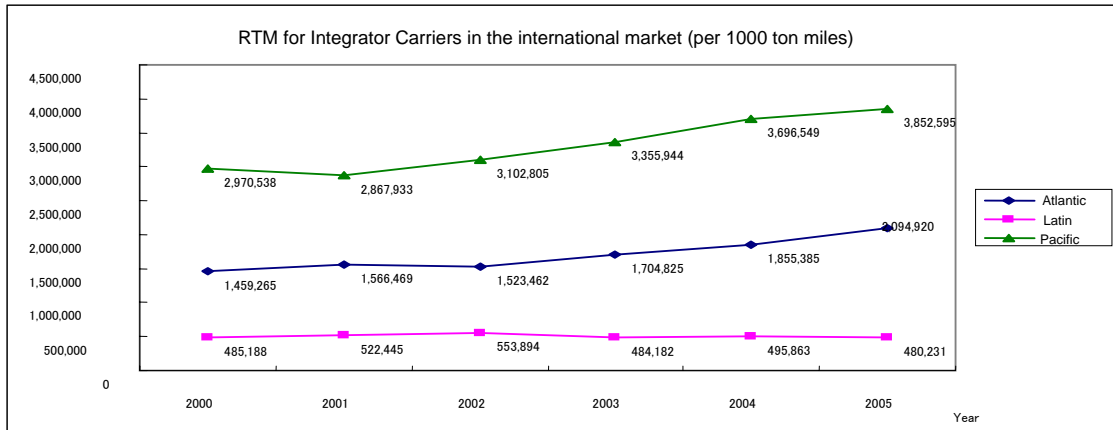


- Both cargo and passenger carriers are implementing fuel surcharging policies in order to combat rising fuel costs, rather than approaching the problem from the cost side by using fuel hedge strategies.

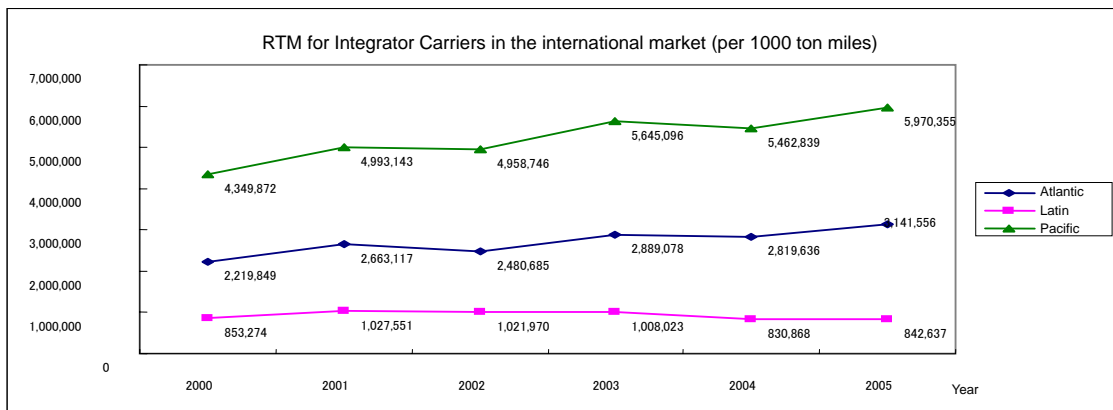


## 5. Trends in the Three International Markets

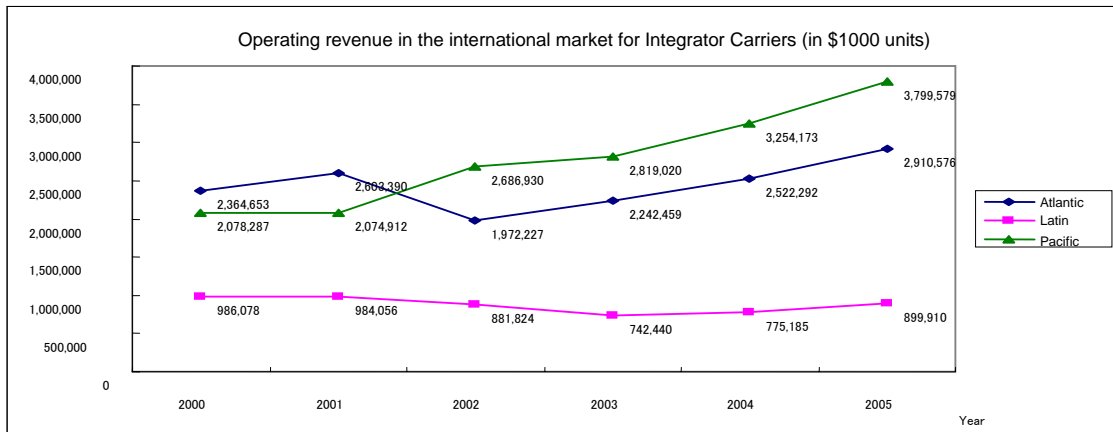
- The RTM for integrator carriers is the highest for the Pacific market, followed by the Atlantic and then the Latin American markets. **Between 2000 and 2005, demand within the Pacific and Atlantic markets increased significantly (29.7% and 43.6% respectively),** although demand in the Latin American market stayed almost the same (a decrease of 1.0%).



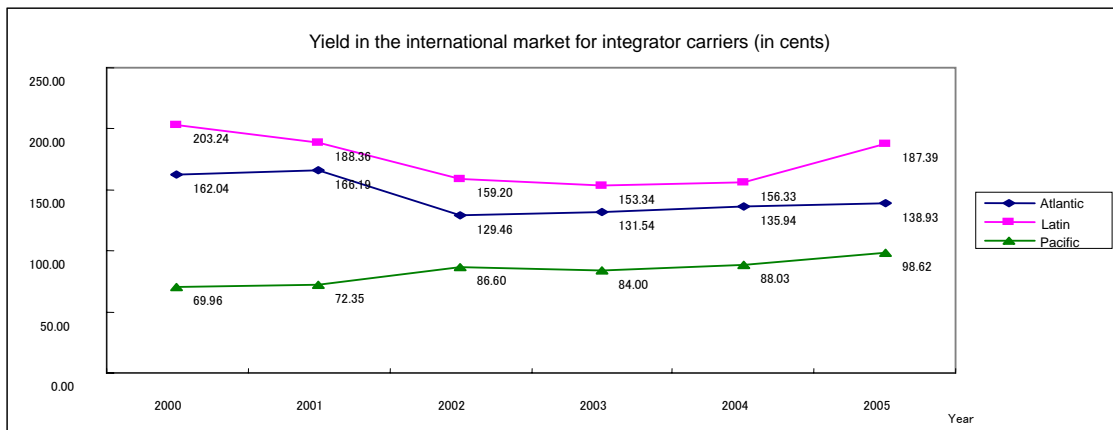
- Looking at the ATM for integrator carriers, **capacity has increased since 2000 in the Pacific and Atlantic markets,** in response to the increase in demand (capacity increased by 37.6% and 41.5% respectively). For the Latin America market, capacity has been maintained at almost an identical level (reduction of 1.3%).



- In terms of the total operating revenue for integrator carriers, **the Pacific market overtook the Atlantic market in 2002,** and since then the order in terms of the share accounted for now stands as Pacific, Atlantic and finally Latin American. Whilst **integrator carriers have achieved substantial growth in the Atlantic market,** the 6 major network carriers are experiencing stagnation in growth. At the same time, the 6 major network carriers have experienced their most significant growth within the Latin American market, in contrast to which the integrator carriers are seeing a drop in that area.



- Yield in the Atlantic and Latin American markets sank in parallel to the dip in yield seen in the domestic market, but is now in the process of recovery in all these markets. In contrast, **yield in the Pacific market has grown steadily since 2000, and growth is recorded at around 41%, a significant increase.** In 2002, when all other markets experienced a downturn in yield, **there was an airline workers strike across the west coast of the US**, and this encouraged a shift towards air cargo transportation. Further, **the number of airline passengers was temporarily but substantially reduced by the SARS health scare**, and the cargo capacity of passenger airlines consequentially decreased. The pressure that was placed on capacity as a result of these incidences is one of the factors that allowed integrator carriers to increase their yield in 2002.



- Amongst those integrator carriers endeavoring to expand international package cargo transportation operations are the US companies FedEx and UPS. In addition to these, however, are **DHL and TNT, which both possess substantial networks in Europe.** **There is a strong possibility that the existence of rival carriers such as these is responsible for the upward trend in yield within the Pacific market, and the still recovering Atlantic market.**

## 6. Future Trends and Prospects

- The transport demands for integrator carriers have been increasing in parallel with overall economic growth. As such, it seems likely that integrator carriers will seek to consolidate and continue business expansion **by focusing on international markets, and specifically the Pacific market which is showing remarkable growth.**
- However, **by being dependent on overall economic growth, carriers risk their businesses declining should the economy begin to stagnate.** Consequently, **integrator carriers will likely build up their market portfolio by creating hubs in each market, and by expanding their operations, and adapt their capacity flexibly in accordance with the economic status of each relevant market.** The US government carries out constant airline negotiations in order to ensure that the integrator carriers should be able to achieve timely business development and expansion.
- Integrator carriers were able to increase their capacity within the Pacific market mostly thanks to a new Sino-American agreement signed in 2004. This agreement allows an extra 111 cargo flights per week to be scheduled by 2010 (for passenger flights, this figure was set at 84 per week). **Both FedEx and UPS, in response to this new agreement, have moved their hubs<sup>31</sup> to China, and are rearranging and expanding routes with a greater focus on China. This agreement is scheduled to be reviewed in 2006, and there is a strong possibility that further increases in capacity will be discussed.**
- At the same time, **both companies are utilizing the liberal agreement between the US and Germany, and are moving to strengthen their European networks from hubs in Germany.** The Open Skies Agreement, provisionally agreed in 2005 between the US and the EU, would create further opportunity to expand operations in Europe, and in particular emphasis should be placed on the value of **acquiring** the so-called **fifth-freedom rights<sup>32</sup>.**
- **Both companies will, in the light of these opportunities within the international market, start to use A380 aircraft in their operations from 2009, and are looking to realize further expansion of capacity with a particular view to operations in Asia.**
- In this way, **the direction that most integrator carriers are looking to head in is very similar. In the future, one can expect to see fierce competition between carriers looking to monopolize the international cargo market, and in particular the market for international package cargo.**
- Further, the strategies employed by these integrator carriers are such that **should the economy experience a downturn, then the excess in capacity that such a downturn would create would mean that these carriers would be affected by passenger carriers implementing competitive low fare pricing, and as such would force the integrator carriers to carry out similar reductions in price.** The

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<sup>31</sup> In this agreement, a system of 'cargo hubs' will be established, and from January 2007, as long as there are more than 72 arrivals and departures from these so-called 'cargo hub' airports, and further conditions regarding employment at the same airport are met, then arrangements regarding the number of flights arriving and departing at that airport, and the aircraft that can be utilized will be freed up and left to the discretion of the airport.

<sup>32</sup> From a statement by Mr. Rush O'Keefe, Jr., Senior Vice President and General Counsel, FedEx made before the Aviation Subcommittee of the House Transportation and Infrastructure Committee (2<sup>nd</sup> Feb 2006).

current recovery and increase in yield being reported are due to the fact that the integrator carriers have managed to implement fuel surcharge policies with great success. However, it is unclear whether current yield levels can be maintained. Consequently, in order to remain in a position of competitive dominance, and to continue to produce profits, **the most fundamental question is whether or not these carriers are able to manage their costs whilst simultaneously expanding their operations.**

- Further, **in order to ensure that a downturn in the economy in one specific area would not have a detrimental effect on the overall profitability of the company, integrator carriers need to focus on create a larger market portfolio.** As such, **integrator carriers need to seek out more liberal agreements in areas of market growth,** and it is likely that the US government will seek to carry out such negotiations in the light of the integrator carriers wishes.