

# AVIATION INDUSTRY 2018

## OPEN SKY FOR AIRLINE INDUSTRY

BVSC RESEARCH TEAM

JANUARY 2018



# OUTLINES

## VIETNAM IS AMONG ATTRACTIVE AVIATION MARKETS

- ▶ South-east Asia market surges thanks to low-cost airlines
- ▶ Vietnam is top attractive aviation market in the region

## LOW-COST CARRIERS STILL HAVE LARGE ROOM FOR DEVELOPMENT

- ▶ In domestic market, LCC begins to slow down
- ▶ LCC vs FSC
- ▶ International market still has room for LCC

## RELIANCE ON INPUTS

- ▶ Reliance on aircraft suppliers
- ▶ Aviation fuel affects earnings result
- ▶ Service charges depend on suppliers

## HIGH COMPETITIVE RISK

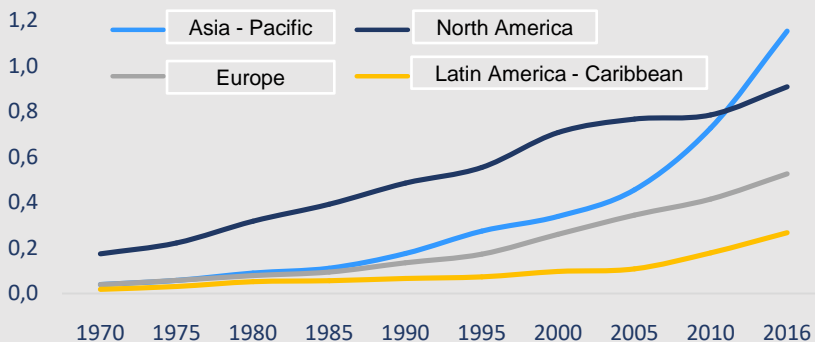
## LOW RISK OF PRODUCT ALTERNATIVES

## VJC - DRAMATIC GROWTH ON INTERNATIONAL MARKET

## South-east Asia market recorded the world's strongest growth

### Air passengers by region

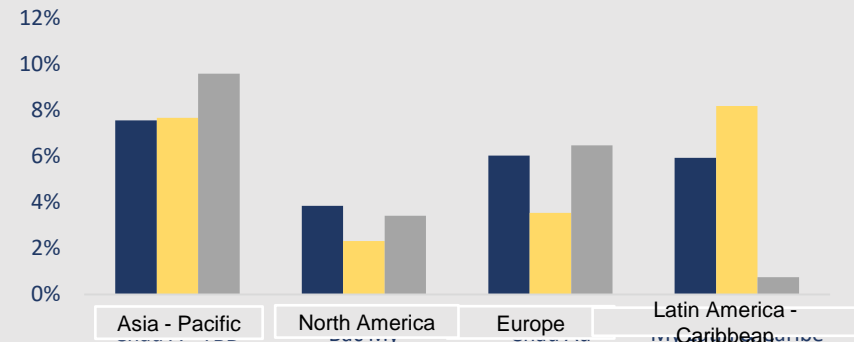
Source: World bank - Unit: billions



### Average growth of air passengers

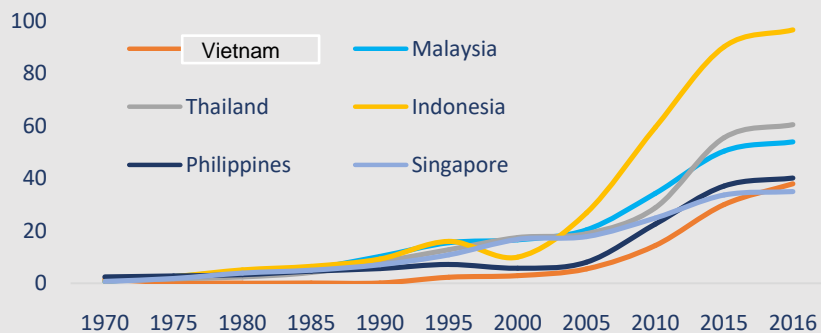
Source: World bank

■ 1970-2010 ■ 2010-2015 ■ 2016



### Air passengers in South-east Asia

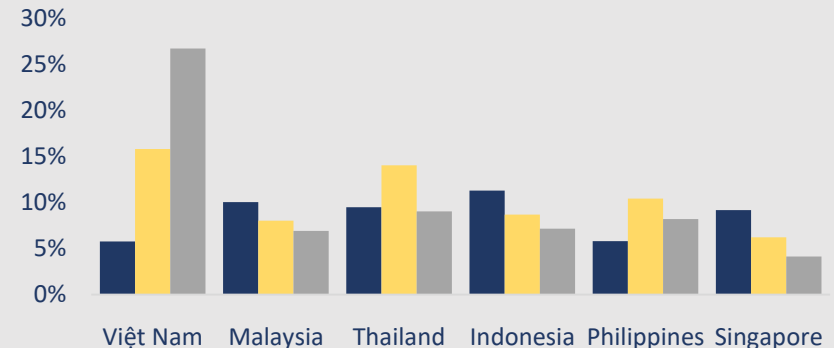
Source: World bank - Unit: Millions



### Average growth of air passengers

Source: World bank

■ 1970-2010 ■ 2010-2015 ■ 2016

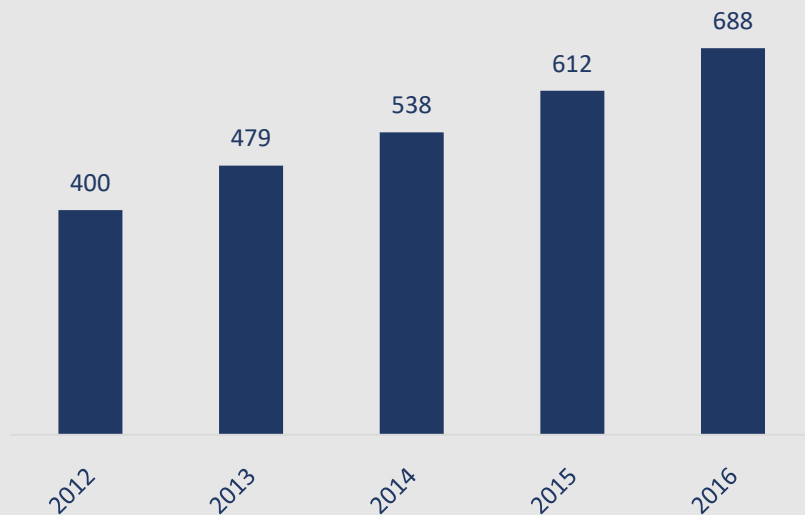


## Southeast Asia market surged thanks to low-cost airlines

- ▶ Asean Single Aviation Market Agreement came into effect on January 1, 2016, expanding aviation market in the region.
- ▶ Open Sky Agreement brings about an unified aviation market, benefiting trade and tourism, especially low-cost airlines due to short-haul flights (within 3 hours).
- ▶ With low income per capita compared to developed countries, Southeast Asia is a promising market for low-cost carriers.

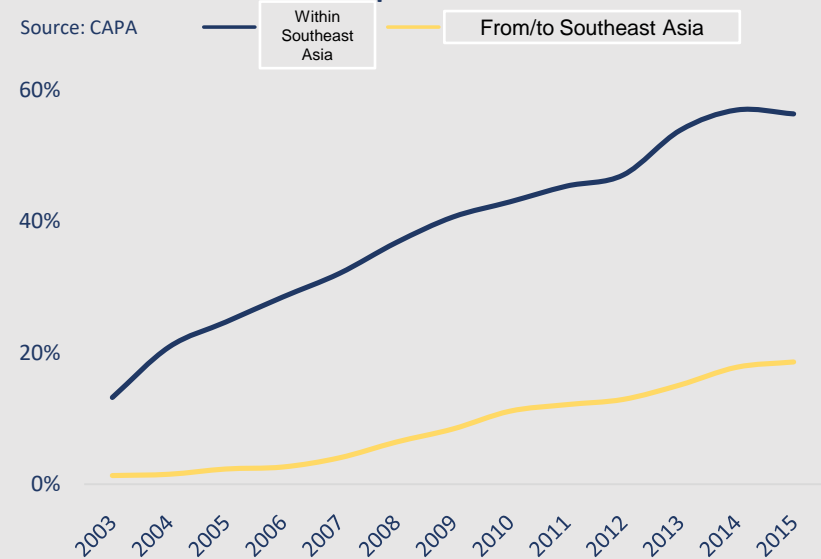
### LCC fleet

Source: CAPA



### Southeast Asia annual LCC penetration rate

Source: CAPA

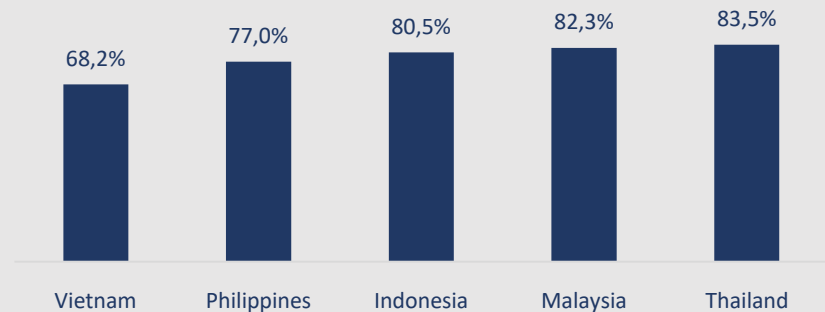


## Vietnam is top attractive aviation market in the region

- ▶ Vietnam is an attractive market, supported by high growth rate of the region.
- ▶ Having low percentage of air passengers in the region.
- ▶ Having high tourism growth rate in the region
- ▶ Having strongest aviation growth in the region

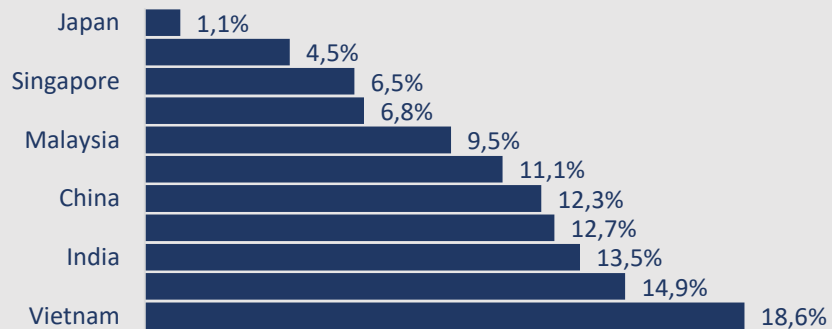
### Percentage of air passengers

Source: FT Confidential research



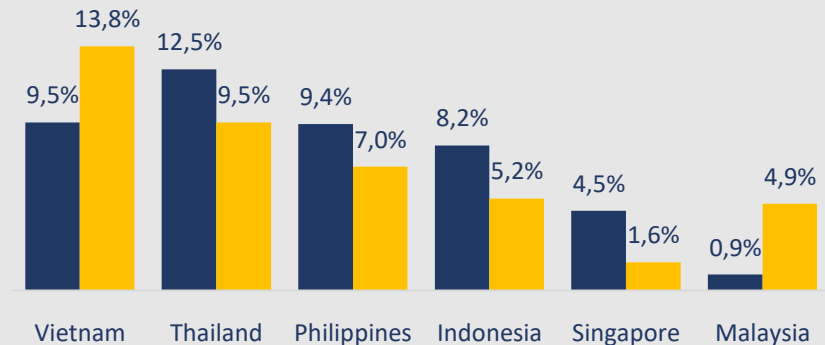
### Growth of air passengers in 2005-2015

Source: World bank



### Tourism growth in the region

Sources: compiled by BVSC ■ Domestic ■ International

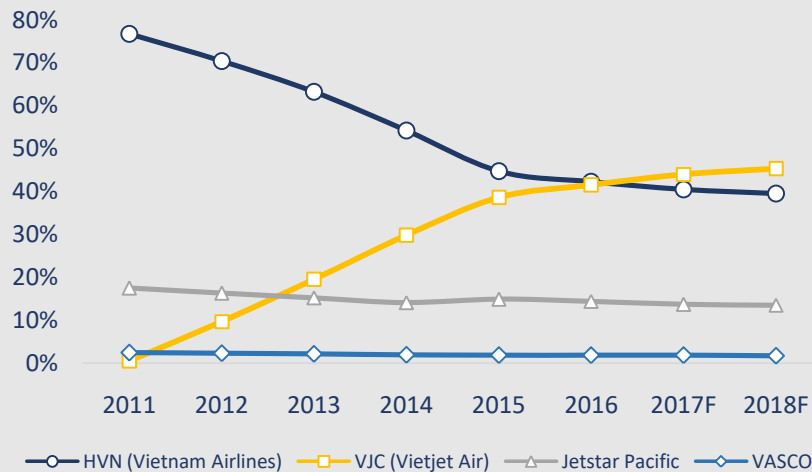


## LCC's growth begins to slow down in domestic market

- ▶ Two largest airlines in Vietnam namely HVN and VJC almost occupy the entire domestic market
- ▶ Each company represents a different business model as HVN is an FSC (Full Service Carrier) and VJC is an LCC (Low Cost Carrier)
- ▶ LCC model of Vietjet Air is enjoying more benefits than FSC amid current market situation in Vietnam. However, LCC penetrate rate in Vietnam domestic market is almost equal to that of South-east Asia market due to a slowdown in the upcoming time

### Domestic market share of Vietnam aviation

Source: compiled by BVSC



### Total fleet of Vietnam aviation

Carrier	Current fleet	Average age	Ordered fleet
HVN	97	6,2	33
VJC	45	3,1	193
Jetstar Pacific	14	6,2	10
Vasco	5	7,7	

## Affordable tickets help attract customers and produce marketing effect

- ▶ As each flight has certain rate of vacant seats, VJC sells these empty seats by offering free or very cheap tickets.
- ▶ Tickets can be sold out weeks in advance, increasing the percentage of seats filled.
- ▶ Low-priced tickets offer skeptical customers opportunities to experience services, bringing about verbal marketing effect through advertisement and customers' experience
- ▶ Cheap tickets can attract potential customers who have never planned for air travels.
- ▶ Low-priced tickets also attract potential customer who are loyal customers of FSC.
- ▶ These potential customers can be driven to buy standard tickets when promo tickets are sold out as standard ticket prices of LLC are still 20%-60% lower than that of FSC.

**Ticket prices of VJC and HVN (booked 1 month in advance with 7kg of carry-on baggage)**

Route	Vietnam Airlines	Vietjet Air	% lower
Hanoi– HoChiMinh	4,652,000	1,478,800	68%
Hanoi– Danang	1,764,000	1,031,800	42%
Hanoi - Bangkok	3,759,120	2,207,000	41%

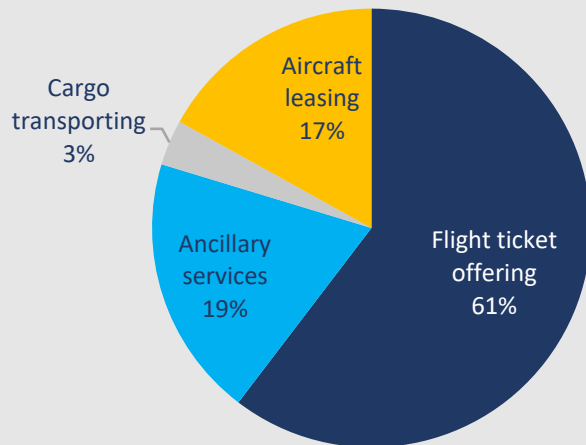
**Ticket prices of VJC and HVN (booked 3 month in advance with 7kg of carry-on baggage)**

Route	Vietnam Airlines	Vietjet Air	% lower
Hanoi– HoChiMinh	1,805,800	1,691,800	6%
Hanoi– Danang	1,292,000	1,031,800	20%
Hanoi - Bangkok	3,759,120	2,102,000	44%

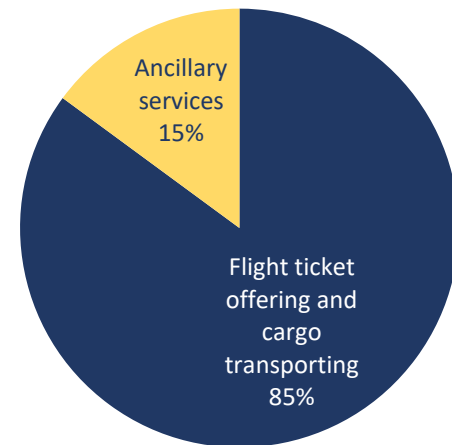
## LCC collects revenues from more sources than FSC

- ▶ The weight of traditional services such as selling flight tickets and transporting cargo of LCC is usually lower than that of FSC due to the revenues generated from other services.
- ▶ Ancillary services of LCC will be diversified by charging more seat options, meals, excess baggage, insurance, etc., which have been fully offered by FSC.
- ▶ Aircraft leasing is another feature of LCC model. With low charter cost, travel companies are major customers who charter an entire aircraft for their clients. This service can hardly be provided due to high lease cost.

Revenue of VJC in 2016



Revenue of HVN in 2016



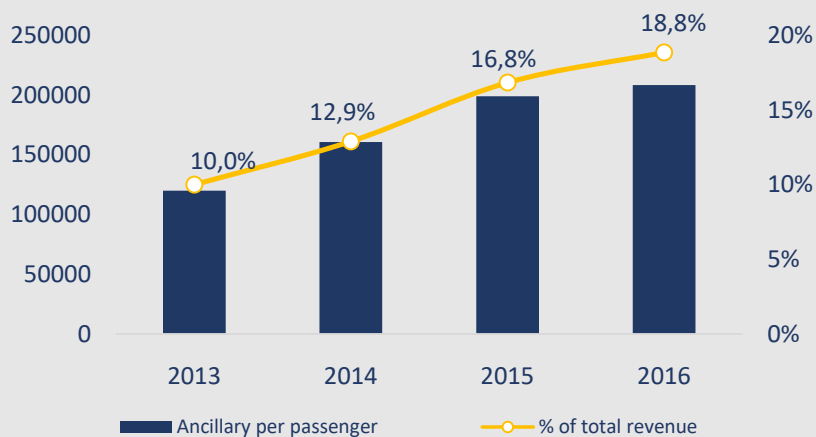


## Weight of ancillary services in Vietnam is lower than in the world

- ▶ Ancillary revenues of LCC come from providing customers more options upon their demands. Meanwhile, customers sometimes have to pay for services they don't need on FSC flights.
- ▶ VJC has offered several standard ancillary services such as selling foods, preferred assigned seats, changes in flight date/name, excess baggage, insurance. However, there exist many other services that can be exploited such as early boarding rights, combining with banking services, hotel reservation, car rental or advertisement.
- ▶ For LCC, ancillary revenues are of significant importance as charges for LCC services are low. Ancillary revenue of VJC as a percent of total revenue is still low, so the company still has large room for ancillary development.

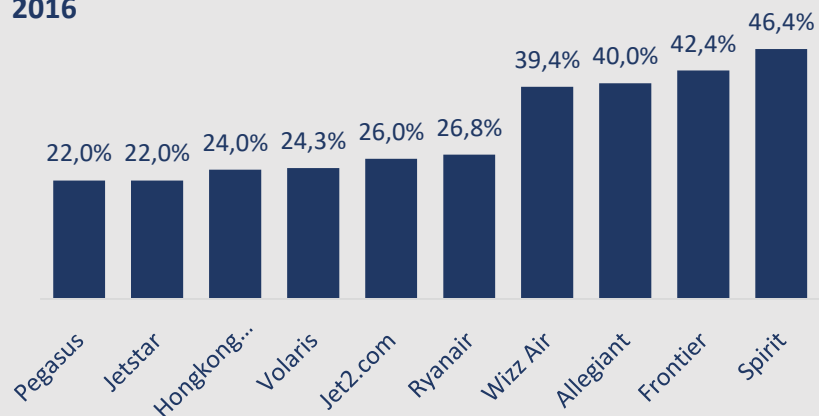
### Ancillary revenue of VJC

Source: compiled by BVSC



### Low cost carriers earning top ancillary revenues

2016

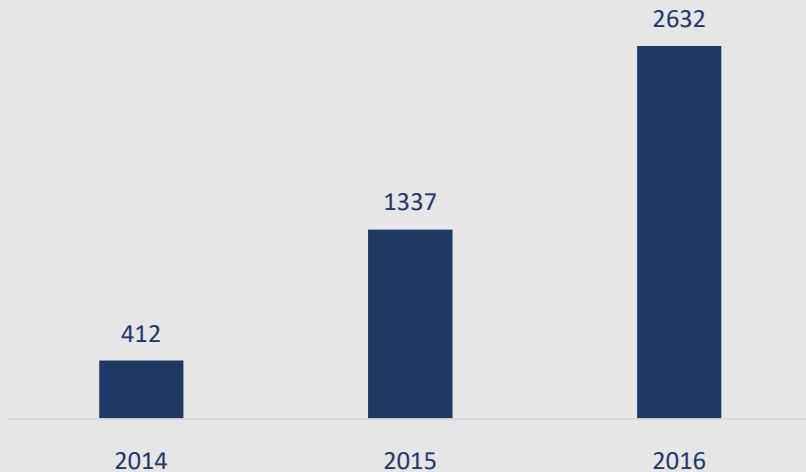


## Aircraft leasing optimizes LCC model

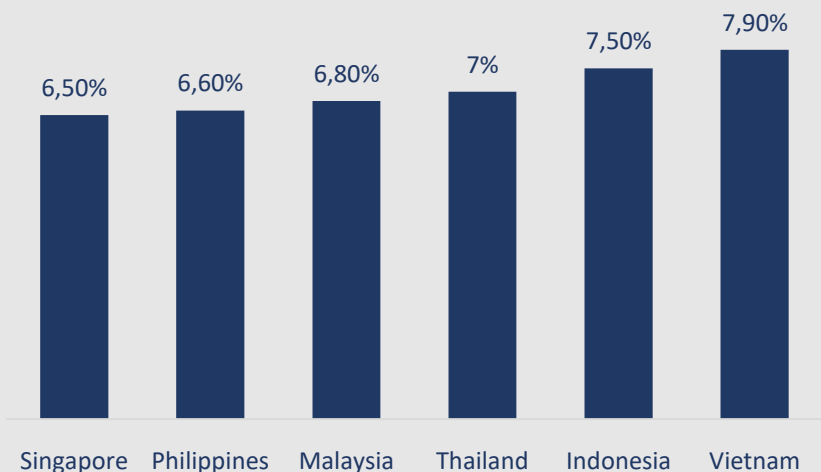
- ▶ This service is usually provided by LCC only, supported by low lease cost. With this service, all seats can be sold out, optimizing the aircrafts' operating capacity. Also, travel companies can provide more services for customers and enjoy preferential lease cost.
- ▶ This service is included in the company's strategy to optimize aircrafts' capacity in off season.
- ▶ With this service, LCC can test flight routs in new market, especially international markets before fully developing in these markets.
- ▶ Major customers of this service is mostly travel companies with international passengers. Thus, the growth of this service correlates the growth of foreign tourists.

### Revenue for aircraft lease of VJC

Source: compiled by BVSC



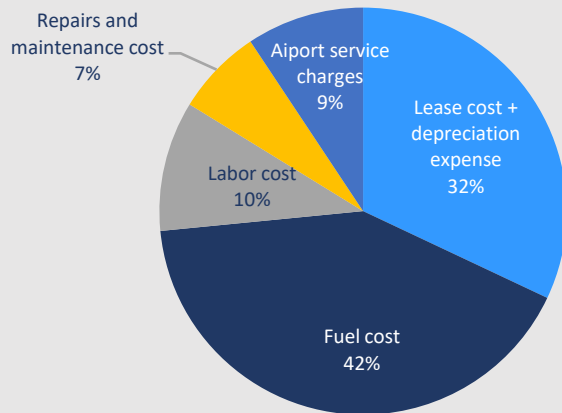
### Forecast growth of international arrivals in Southeast Asia in 2015-2020



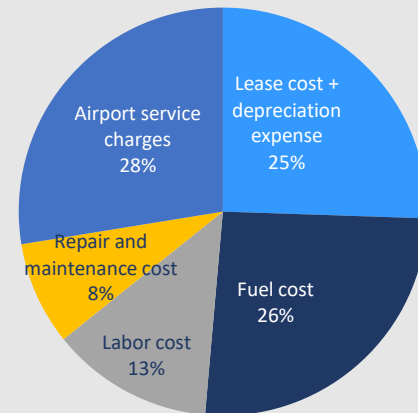
## How does LCC optimize its operating expenses?

- ▶ Only by optimizing business expenses and saving can LCC provides cheaper tickets than FSC.
- ▶ LCC airlines optimize asset management by applying “economies of scale” strategy due to enormous fixed cost of airline industry.
- ▶ Lease cost + depreciation expense, some airport service charges, and repairs-maintenance expense are fixed costs. In 2016, these 3 expenses occupied for 48% of total costs of VJC, while the figure for HVN was 61%. Apparently, VJC had more effective asset management than HVN.
- ▶ Mostly, maximum flight duration of LCC is 4 hours, enabling the carrier to keep the aircrew in a roundtrip within a 8-10 hour shift over a course of a day, thereby cutting the cost of accommodation and labor cost (variable costs) for cabin crew.
- ▶ Short-haul flights can also save cost of entertainment such as TV and magazines and tighten seating to increase the number of seats, but customer can tolerate for the tickets are low-priced. Customers are encouraged to book flight tickets via the Internet and print them out to save costs at ticket counters.

**Business expenses of VJC in 2016**



**Business expenses of HVN in 2016**

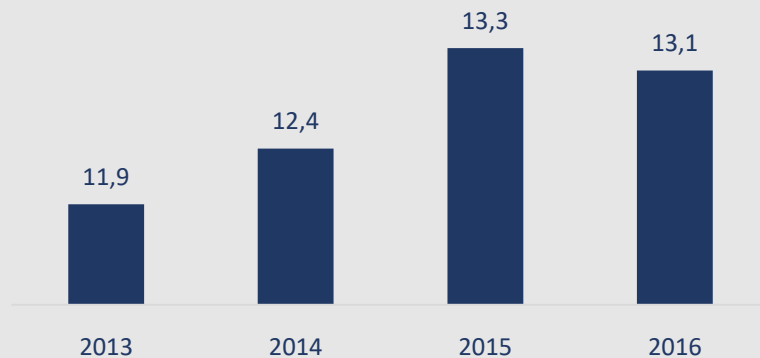


## How LCC increases aircraft performance

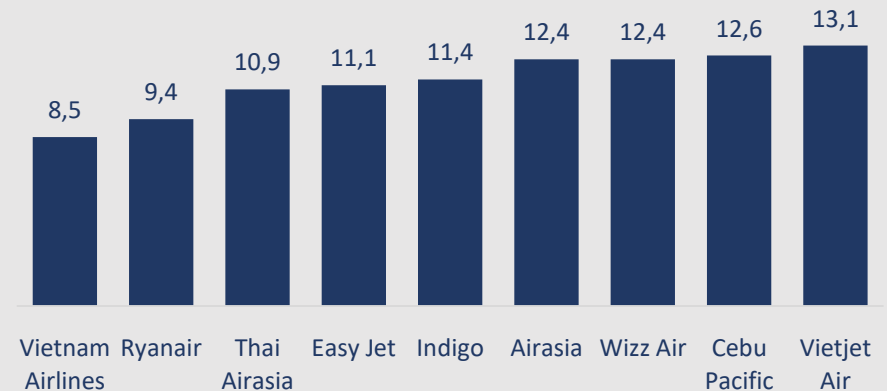
- ▶ In order to extend scale, LCC has to (1) increase flight frequency per aircraft a day and (2) optimize the percentage of seat filled on each flight. The second factor is addressed by cheap tickets and marketing effects as mentioned above, while the first factor is solved by increasing LCC's aircraft performance.
- ▶ LCC focuses on short-haul route, so each aircraft can provide a number of flights a day.
- ▶ Most LCC airplanes of LCC are of the same type and must be quickly repaired, maintained, fueled after each flight so that the aircraft can be rapidly ready to serve the next flight (cutting the wait and increasing operating time of aircrafts)
- ▶ With cheap tickets, passengers may tolerate departure time of mid-night or early morning, LCC airplanes can take off right after finishing technical tests to increase aircraft performance, while FSC has to take off upon appropriate time of customers.

**Flight hours per day of each aircraft of VJC**

Source: VJC



**Flight hours per day of each aircraft of air carriers**

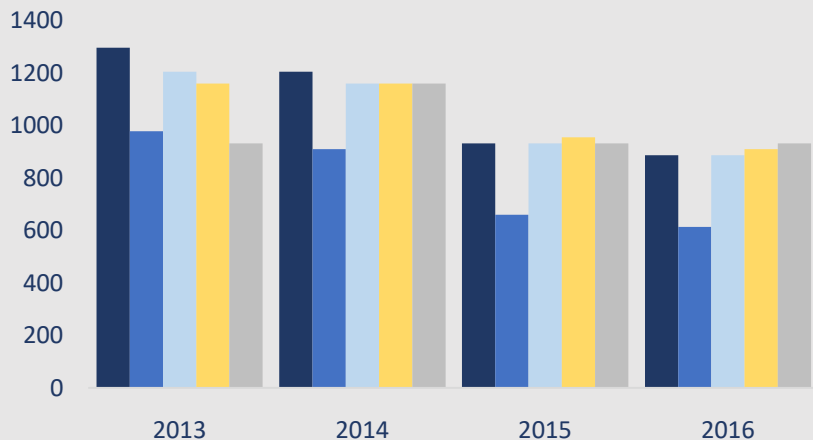


## Benefits of Airbus A320 family for LCC

- ▶ Airbus A320 family (including A318, A3319, A320 and A321) is designed with single aisle and can accommodate 180-220 seats, which is suitable for domestic flights or short-haul international flights with higher percentage of seats filled than other large aircraft families.
- ▶ More importantly, this aircraft family saves 3.5-4% of fuel compared to others, supported by curved winglets and many changes of core engine.
- ▶ VJC began to use these aircrafts in 2015 and saw a significant cost reduction. Total cost per seat each kilometer fell from VND1,159 in 2014 to VND931 in 2015. Meanwhile, total cost excluded fuel cost per seat for each kilometer in 2015 saw a smaller reduction, reflecting a considerable cut in fuel cost thanks to these aircrafts.

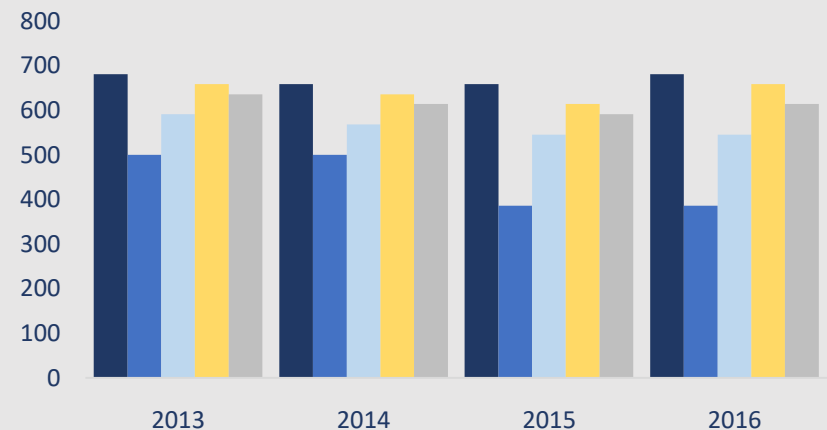
**Total cost per km for each seat**

Source: compiled by BVSC ■ Cebu ■ AirAsia ■ Vietjet Air ■ AAV ■ Spring Airlines



**Total cost excluded fuel per km for each seat**

Source: compiled by BVSC ■ Cebu ■ AirAsia ■ Vietjet Air ■ AAV ■ Spring Airlines

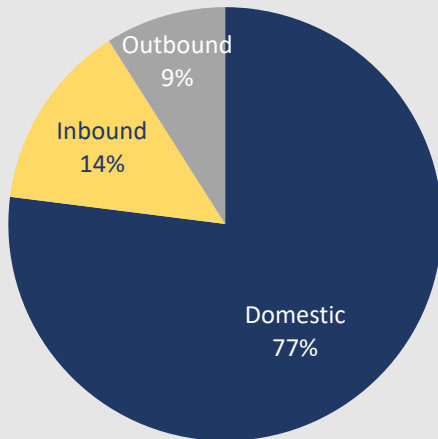


## LCC still has large room for development on international markets

- ▶ International aviation markets see great growth potential since the volume of international passengers in Vietnam surged by 26% in 2016 and could rocket by 30% in 2017. The number of international travelers arrived in Vietnam (inbound customers) was higher than that of passengers in Vietnam travelling abroad (outbound customers).
- ▶ Competitors of Vietnam carriers in this segment are both international FSC and LCC. FSC model in Vietnam (HVN) has no competitive advantages compared to international carriers, while LCC model (VJC) can compete with these peers due to cheaper tickets compared to international FSC model, better services compared to international LCC model and the ability to penetrate into low competition markets. Market share of VJC in international flight segment is growing at a high rate, while that of HVN is experiencing a slowdown.

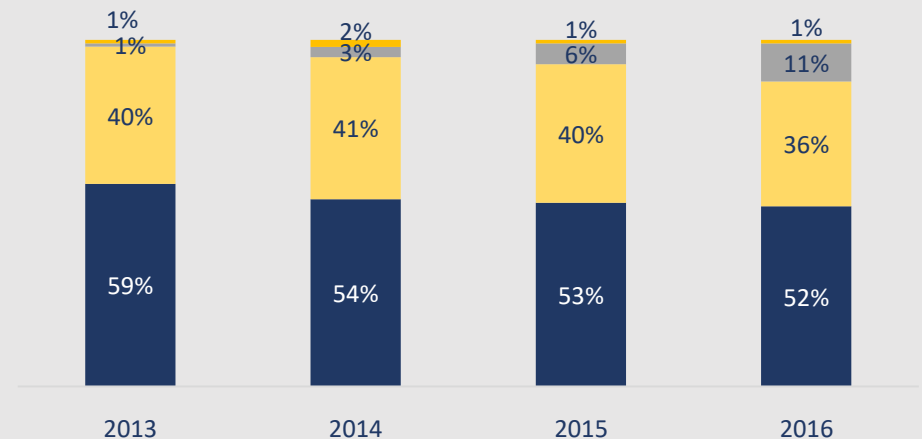
**Airline customer structure 2016**

Source: GSO



**International flight market share (inbound & outbound)**

■ Foreign Airlines ■ Vietnam Airlines ■ Vietjet Air ■ Jetstar



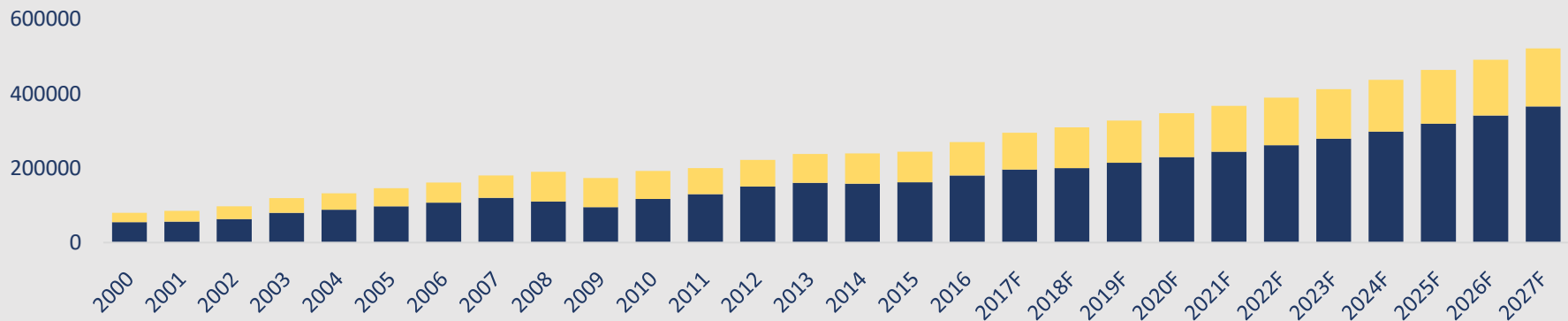
## International flights will raise ancillary revenues

- ▶ On international flights with longer routes, passengers tend to use ancillary services
- ▶ Total spending of inbound customers almost twice as much as that of outbound customers. The difference is forecast to increase in the future. This is because most of inbound customers are tourists who tend to use services to discover Vietnamese culture and cuisine. Meanwhile most of outbound customers travel for business, so they hardly use ancillary services to save costs.
- ▶ Spending of inbound customers in 2017-2027 is forecast to grow by 7%/year, while that of outbound passengers is forecast to rise by 4%/year.
- ▶ Growth in customers' spending along with the rise in the number of passengers will raise ancillary revenues on LCC's flights. With low initial cost, these services will significantly boost the profit margin of airline carriers.

### Spending of inbound and outbound passengers (bil VND)

Source: WTTC

■ Inbound ■ Outbound

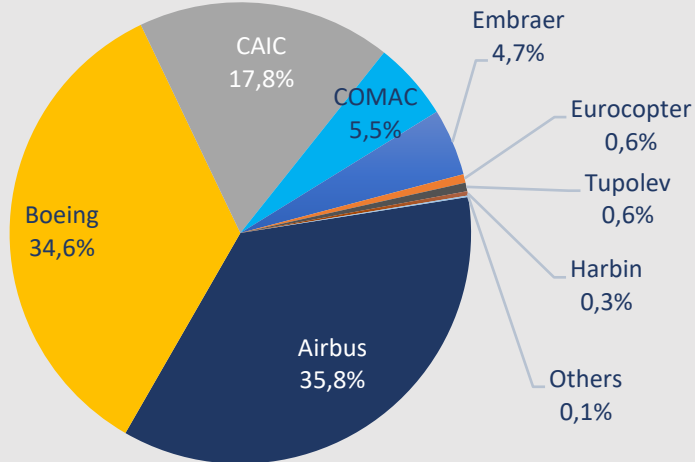


## There are only two commercial aircraft manufacturers

- ▶ Airbus and Boeing are holding most of the world commercial aircraft's market share, creating an Oligopoly. CAIC focuses on military aircraft segment and Embraer focuses on producing jet aircraft.
- ▶ Airbus dominates Vietnam and some Asia markets as their aircrafts' design is more compatible with low-cost model.
- ▶ Without any alternative suppliers in the medium term, the position of Airbus in Vietnam could threat airplane carriers when changes in costs occurs and Airbus has to raise prices of aircrafts and spare parts.

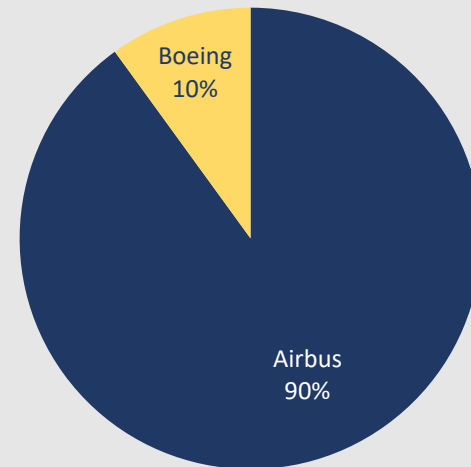
**Market share of world's aircraft manufacturers**

Source: CAPA



**Market share of aircraft manufacture in Vietnam**

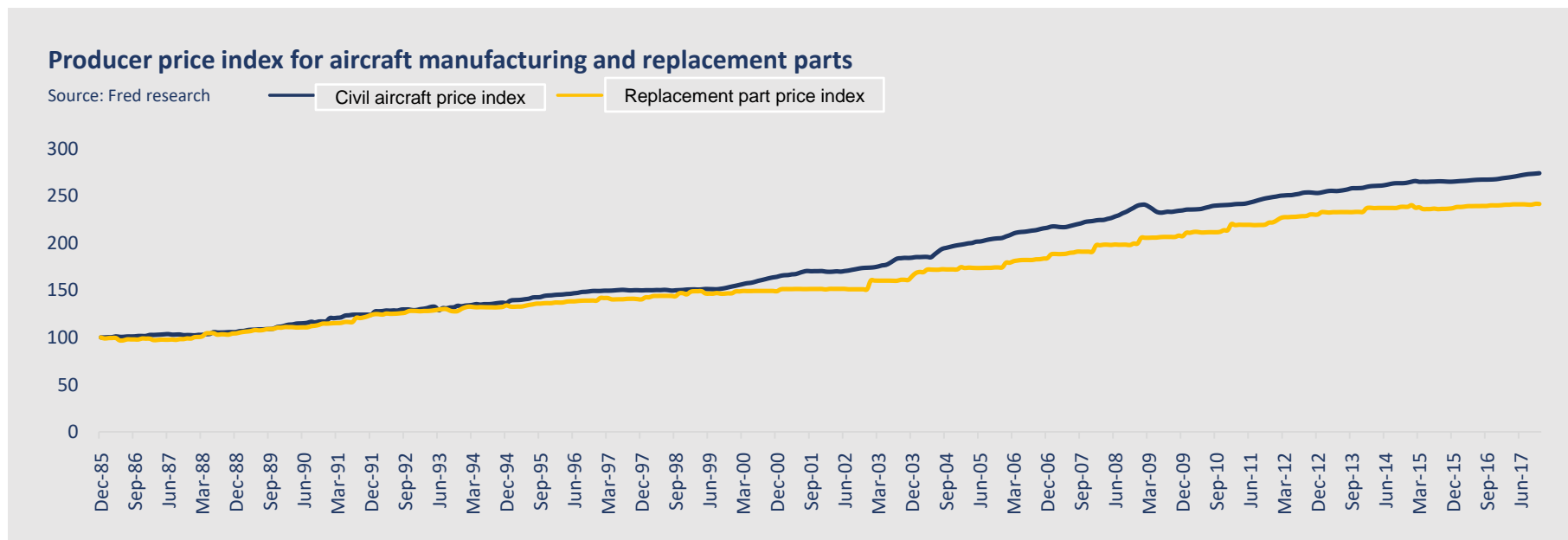
Source: compiled by BVSC





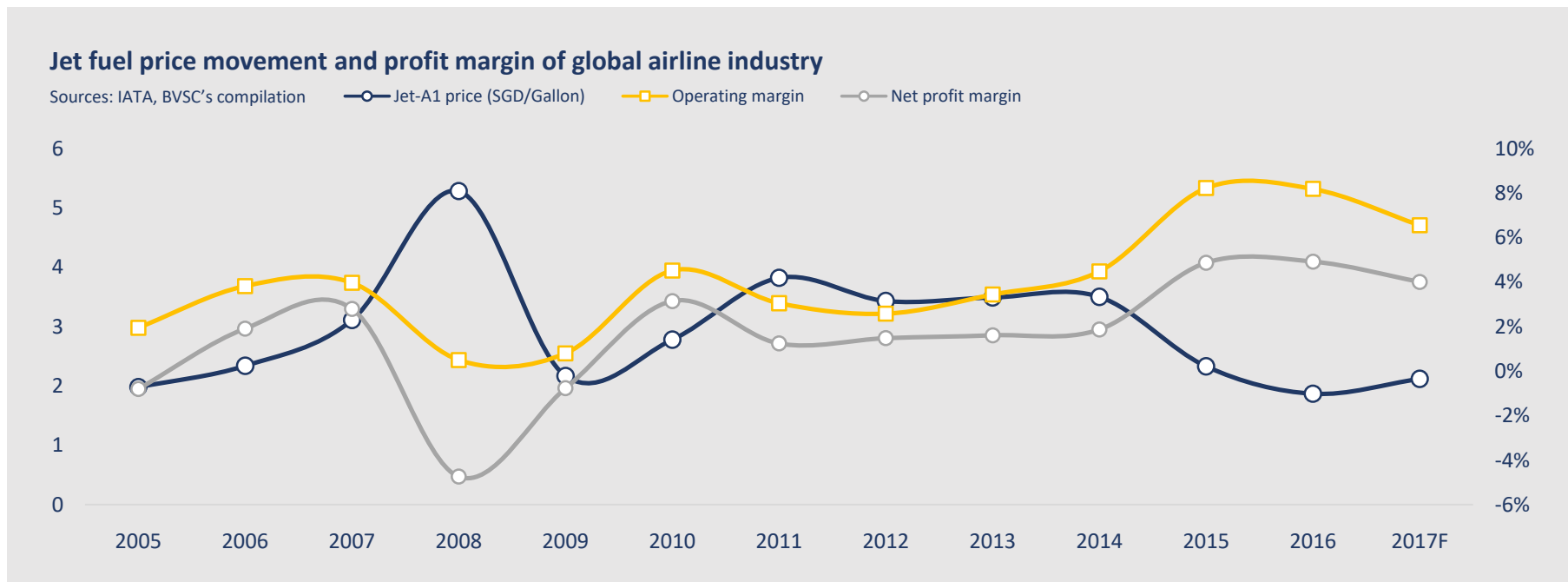
## Airplane prices keep increasing

- ▶ Average growth rate of aircraft prices in 1985-2017 was 3.2%/year. Overall, continuous rise of aircraft prices place a burden on airline carriers. However, as the growth pace and growth rate remain steady and predictable, airline companies can estimate this growth to draw up development plans.
- ▶ Replacement parts in maintenance period are priced when an aircraft is purchased. In other words, prices of replacement parts are set three years earlier. Therefore, there is a slowdown in the price increase of replacement parts compared to the aircrafts.
- ▶ Price negotiation for airplane fleet relies on the prestige and size of the airline carrier. The larger and more prestigious the carriers are, the higher the discount they are offered.



## Aviation fuel has major impact on earnings result

- ▶ All Vietnam airline carriers use Jet-A1 Fuel.
- ▶ Jet fuel is mostly imported from Singapore with a preferential tax rate of 10% (cut from 20%) since 2016.
- ▶ Overall, Jet-A1 price is unpredictable and uncontrollable. Fuel price has recovered since 2016 in line with the movement of gasoline prices.
- ▶ Low-cost carriers like Vietjet Air suffer more serious impact of fuel price growth than standard carriers as LCC's fuel cost accounts for a large proportion of the operating cost structure (41-46% for Vietjet Air compared to 25-30% for Vietnam Airlines).



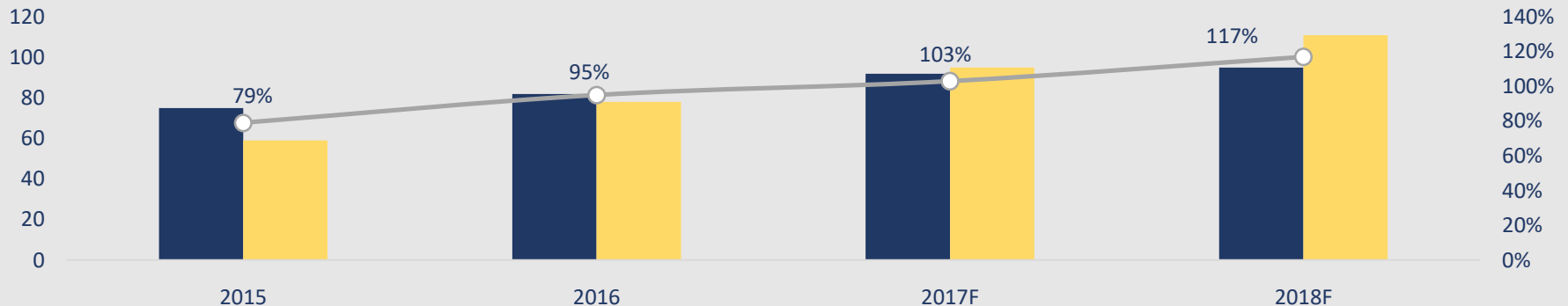
## Service charges have climbed due to short supply

- ▶ Airport service charge has increased by 5% since October 2017 and would rise by 10% in July in accordance with the roadmap approved by Ministry of Transport
- ▶ Unlike other low-cost carriers in the region or in the world, there is no low-cost airport for Vietnam's LCC to cut this service charge.
- ▶ Customers have to incur charges for passenger services, security screening and some ground services such as boarding bridges, etc. when the costs increase. These charges make up a small percentage of FSC ticket price, but account for a high proportion of LCC ticket price. Thus, the increase of these charges will have a significant impact on the performance of Vietnam's LCC.
- ▶ Strong growth of Vietnam's aviation industry has required further rapid expansion of ACV. In 2016, ACV expanded Tan Son Nhat airport's capacity (Phase 1) and constructed Cat Bi international airport, raising airport capacity by 10% to 82 million passengers. By the end of 2020, ACV is predicted to increase airport's capacity to 132 million passengers after expanded Tan Son Nhat, Cam Ranh, Da Nang, Phu Quoc airports, etc.

### Airport exploitation of ACV

Source: ACV

■ Designed capacity ■ Passenger volume —○— Productivity

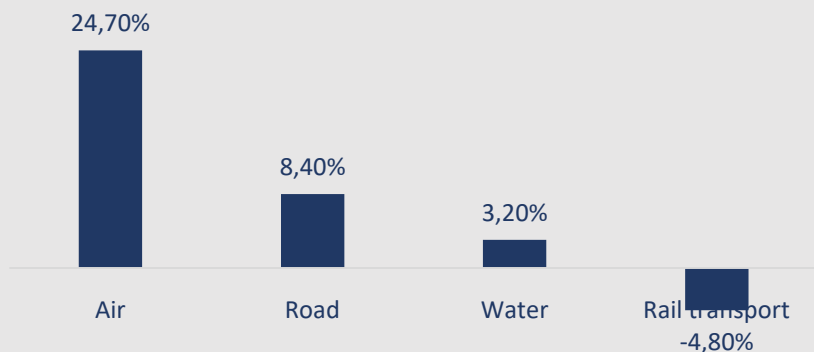


## Customers hold high position, the risk of alternative products is low

- ▶ Tourism is major purpose of most air passengers. This is not an essential need, but helps improve the quality of life only. Thus, these customers are sensitive to changes of flight ticket prices. Unlike other essential products that consumers must purchase at any prices, if flight tickets are higher than their willingness to pay, they will hold off on purchases.
- ▶ As a result, flight tickets hardly increase and even drop sharply since the advent of LCC. Airline carriers have to generate revenues from other sources and optimize costs.
- ▶ On short-haul flights, customers hold higher position due to a wide range of alternative products. However, with LCC model, extremely cheap tickets make air travel the best option.
- ▶ On long-haul flights, travelling by air is an optimal option but not a vital service, so flight tickets need to remain competitive to stimulate customers' purchases.

### Growth of modes of transport in VN 2013-2016

Source: compiled by BVSC



### Different modes of transport and prices of VJC tickets booked 1 month in advance

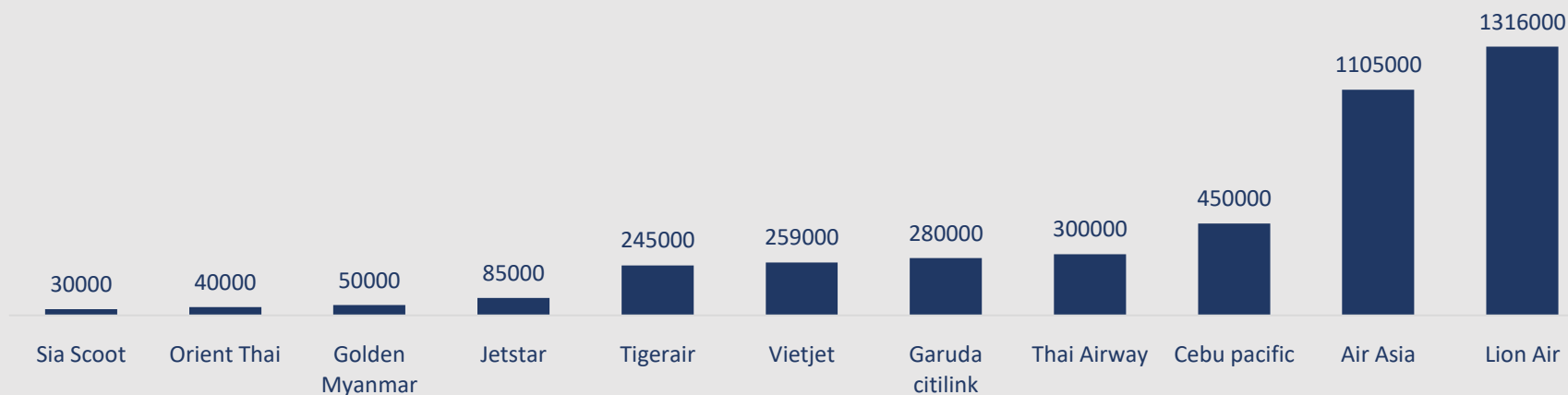
Modes of transport	Hanoi – Danang		Hanoi - HCM	
	Duration	Ticket price	Duration	Ticket price
Air	1.5 hours	1,031,800	2 hours	1,478,800
Road	15 hours	432,000	35 hours	750,000
Rail	17 hours	850,000	34 hours	1,200,000

## High risk of new competitors penetrating the market

- ▶ Barriers to entry, especially conditions and policies, will be gradually lifted as Vietnam's aviation is oriented towards regional liberalization. In addition, as Vietnam is considered the most attractive aviation market in the region, the nation would witness the penetration of many major regional airline carriers in the near future.
- ▶ Air Asia has set up a joint venture in Vietnam and applied for necessary licenses for the operation in Vietnam from 2018. Air Asia, the second largest airline company in Southeast Asia, has operated upon low-cost model for years. This carrier is a fierce competitor for Vietnam's aviation companies, especially VJC.
- ▶ Lion Air, a low-cost carrier having the largest scale in Southeast Asia (with 49% of market share), has set up a joint operation with a Vietnam partner since late 2016 and applied for necessary business licenses.

**Southeast Asia LCC seat capacity per week in 2016**

Source: CAPA



## VJC – Robust growth in international markets

- ▶ **Growth in domestic market is still positive but weakening.** As LCC penetration rate in Vietnam is almost equal to that in Southeast Asia, VJC's growth in domestic market will be promoted only by taking Jetstar Pacific's market share and by the overall growth of aviation industry in the next few years. In 2018, from our view, domestic market share of VJC would rise by 3% amid a 10% increase of domestic passengers and VJC's revenue from domestic customers would grow by 13.3%.
- ▶ **Robust growth in international markets.** VJC is holding merely 11% of this segment's market share which is dominated by international carriers with 51%. In 2018, VJC will open new international air routes, mostly to China, after opening 7 routes in Q4/2017, raising total international air routes to 45 in 2017. Revenue from foreign passengers is estimated to jump by 165% in 2017 and 75% in 2018. VJC will concentrate on sustaining this high growth rate in these markets. Due to longer duration, passengers tend to use ancillary services, thereby boosting ancillary revenue to 40% in 2018 and raising gross profit margin of VJC due to low operating cost of these services.
- ▶ **SLB revenue can drop, but profit may increase.** In 2018, VJC will record 15 more SLB transactions (sale and lease-back) on the back of 10 new international routes. Compared with 17 SLB transactions in 2017, SLB revenue of VJC will decline in 2018, thereby reducing revenue growth rate. However, profit quality could improve and gross profit margin can rise by 0.4 percentage points to 13.75%.

## VJC - Robust growth in international markets

**Attractive valuation.** We use EV/EBITDAR method to evaluate VJC share since this method eliminates tax difference which is an advantage of airlines in the world, and eliminates the difference amongst lease models. In our calculation, regional aviation carriers are trading at an average EV/EBITDAR of 5.76x, so the corresponding value of VJC share is estimated at VND174,000/share in 2018. We rate **OUTPERFORM** on VJC.

### PROJECTED EARNINGS RESULTS OF VJC

Norm	2015	2016	2017F	2018F
<b>Revenue (bil VND)</b>	<b>19,839</b>	<b>27,526</b>	<b>42,007</b>	<b>46,595</b>
- Domestic passengers	6,724	8,574	10,589	11,997
- International passengers	481	801	2,122	3,714
- Aircraft lease	1,336	2,632	4,737	6,395
- Ancillary services	2,532	3,810	5,448	7,627
- SLB	8,766	11,709	19,111	16,862
<b>Cost of goods sold</b>	<b>17,735</b>	<b>23,597</b>	<b>36,392</b>	<b>46,588</b>
<b>Gross profit</b>	<b>2,104</b>	<b>3,929</b>	<b>5,615</b>	<b>6,938</b>
<b>Profit after tax</b>	<b>1,170</b>	<b>2,496</b>	<b>3,625</b>	<b>4,480</b>
<b>EPS (VND/share)</b>	<b>2,592</b>	<b>5,530</b>	<b>8,031</b>	<b>9,925</b>
<b>P/E (x)</b>	<b>54.9</b>	<b>25.7</b>	<b>17.7</b>	<b>14.4</b>
<b>ROE (%)</b>	<b>75%</b>	<b>73%</b>	<b>43.7%</b>	<b>45.3%</b>
<b>EBITDAR</b>	<b>4,141</b>	<b>7,431</b>	<b>10,780</b>	<b>13,112</b>

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